

State of the forests report 2010—2012



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Acronyms

AFIS	Active Fire Information System
AFWC	The African Forestry Wildlife Commission
APAP	Agricultural Policy Action Plan
ARISE	African Rural Initiatives to Sustainable Environments
ASGISA	Accelerated and Shared Growth Initiative-South Africa
BBBEE	Broad-based Black Economic Empowerment
BEE	Black Economic Empowerment
CFA	Committee for Forest Access
CoE	Centre of Excellence
CSFM	Committee for Sustainable Forest Management
COFO	Committee on Forestry
CSIR	Council for Scientific and Industrial Research
CTHB	Centre of Excellence in Tree Health Biotechnology
DAFF	Department of Agriculture, Forestry and Fisheries
DBSA	Development Bank of Southern Africa
DEA	Department of Environmental Affairs
DEXCO	Departmental Executive Committee
DFID	Department of International Development (of the UK)
DG	Director-General
DPSIR	(Driving forces-Pressures-States-Impacts and Responses) framework
DRDLR	Department of Rural Development and Land Reform
DST	Department of Science and Technology
dti	Department of Trade and Industry
ECDC	Eastern Cape Development Corporation
ECOSOC	Economic and Social Council
EIA	Environmental Impact Assessment
FABI	Forestry and Agricultural Biotechnology Institute
FPARMS	Fire Protection Associations Registration Management System
FAO	Food and Agriculture Organisation of the United Nations
FED	Forestry Enterprise Development
FP & M	Fibre Processing and Manufacturing Seta
FPA	Fire Protection Association
FSA	Forestry South Africa
FSC	Forest Stewardship Council
FTIS	Forest Technical and Information Services
GDP	Gross Domestic Product
GHG	Green House Gases
GIS	Geographical Information Systems
ICFR	Institute for Commercial Forestry Research
IDC	Industrial Development Corporation
IUCN	The World Conservation Union
IPAP	Industrial Policy and Action Plan
IFF	Intergovernmental Forum on Forests
IPF	Intergovernmental Panel on Forests
JBCC	Joint Bilateral Commission for Co-operation
LETCEE	Little Elephant Training Centre for Early Education
MDGs	Millennium Development Goals
MODIS	Moderate-resolution Imaging Spectroradiometer
MoU	Memorandum of Understanding
MTO	Mountain to Ocean
MTSF	Medium Term Strategic Framework
NARYSEC	The National Rural Youth Service Corps



NCV	National Certificate Vocational
NCT	Natal Co-operative Timbers
NDP	National Development Plan
NEMA	National Environmental Management Act, 1998 (Act 107 of 1998)
NEPAD	New Partnership for Africa's Development
NFA	National Forests Act, 1998 (Act 84 of 1998)
NFAC	National Forests Advisory Council
NFAP	National Forestry Action Programme (1997)
NFI	National Forest Inventory
NFDRS	National Fire Danger Rating System
NGP	New Growth Path
NLC	National Land Cover
NRF	National Research Foundation
NTFP	Non-Timber Forest Products
NVFFA	National Veld and Forest Fire Act (Act 101 of 1998)
NVIS	National Veldfire Information System
OSD	Occupation Specific Dispensation
PCI(s)	Principles, Criteria and Indicators
PDI(s)	Previously Disadvantaged Individuals
PTC	Permanent Technical Committee
RoD	Record of Decision
RSA	Republic of South Africa
SADC	Southern African Development Community
SANBI	South African National Biodiversity Institute
SAPPI	South African Pulp and Paper Industries
SARB	South African Reserve Bank
SARS	South African Revenue Services
SAWS	South African Weather Services
SDGs	Sustainable Development Goals
SFM	Sustainable Forest Management
SMME	Small, Medium and Micro Enterprises
SOF	State of the Forests
TPCP	Tree Protection Cooperative Programme
UNCSD	United Nations Commission on Sustainable Development
UNEP	United Nations Environment Programme
UNCBD	United Nations Convention on Biological Diversity
UNFCCC	United Nations Framework Convention on Climate Change
UNFF	United Nations Forum on Forests
UNISDR	United Nations International Strategy for Disaster Risk Reduction
WoF	Working on Fire Programme
WfW	Working for Water Programme
WULA	Water Use License Applications





Message from the Minister's desk

I am particularly pleased to present to Parliament and the people of South Africa, the third edition of the triennial State of the Forests report. The report presented is in compliance with the legislative requirement emanating from section 6(3) of the National Forests Act, 1998 (Act No. 84 of 1998). The legislation requires us to collect information on the status of our precious natural resources, forests in all three types, namely natural forests, savannah woodlands and commercial plantations and share it with the Cabinet and the general public. The report follows on the footsteps of the 2009 State of the Forests report (2007–2009), and covers the years 2010, 2011 and 2012.

South Africa has recently introduced an outcome-orientated performance measurement framework. Whereas the DAFF contributes to several other government policy outcomes (Medium Term Strategic Framework: 2009–2014), there are three Outcomes which are particularly relevant to the department. These are Outcomes 4,7 and 10; dealing with 'Decent Employment through Inclusive Economic Growth'; 'Vibrant, Equitable, Sustainable Rural Communities Contributing towards Food Security for All'; and 'Protect and Enhance our Environmental Assets and Natural Resources', respectively.

It is based on these outcomes that performance of government and the department, in particular, is monitored and measured.

It is important that while reflecting on our forestry achievements for the past three years, that we also, remain relevant, focus on our current and medium term framework objectives and outcomes. Firstly, for every success, however, it feels as if there is another roadblock: the fact that during the period under review, direct employment provided by the forest timber growers decreased from about 77 000 to 62 700, which is a worrying phenomenon. Despite the negative trend, indirect employment of about 30 000 people remained unchanged. The Sawmilling sector also saw a significant decrease in the number of direct employees from 10 000 in 2009 to 7 000 in 2011. This is attributed to the decrease in the number of sawmills in the country from ±250 (1994) to only about 150 mills. We are particularly worried about this negative development. We will continue contributing to the fight against the triple challenges of poverty, unemployment and inequality facing our young democracy. In this light, the department will implement in earnest, the soon to be finalised Agricultural Policy Action Plan. This plan takes into account the imperatives of the DAFF Integrated Growth and Development Plan, IPAP, the NGP and the National Development Plan. We are confident that once we implement our plan, we will make a decrease in unemployment, thereby creating decent jobs and job opportunities for our people, especially those from rural areas and the poor. Since the identification of virgin land of over 100 000 hectares (ha) with forestry potential in KwaZulu-Natal and the Eastern Cape, Environmental Impact Assessments (EIAs) covering an estimated area of 13 000 ha were done in 2011. I am pleased to announce that through DAFF facilitation, the Department of Trade and Industry provided funding for the assessments of about 1 200 ha. Afforestation of such land will create the much needed jobs.

Afforestation is crucial for the creation of the over 15 000 jobs envisaged in the Eastern Cape and Kwazulu-Natal provinces. With our strategic partners, we need to move with speed and determination and implement our afforestation strategy to show that we are serious about pushing back the frontiers of poverty, unemployment and inequality.

Secondly, the next Outcome relevant to us is on creation of Vibrant, Equitable and Sustainable Rural Communities Contributing towards Food Security for All. On this front, the department will continue to support formation and management of SMMEs to ensure their sustainability. I am proud to announce that in the past two to three years many projects benefiting from our interventions across the country were implemented. The department and its strategic partners continue with the planting of one million trees through the Presidential One Million Trees Project. We will continue to seek to improve on this achievement to ensure that the lives of as many communities as possible are improved. This intervention further fits well into the mitigation strategies intended to reduce the effects of climate change, a new global phenomenon posing a threat to our developmental aspirations.

Despite criticism from some in the industry, when the afforestation trajectory was first announced, over 8 000 ha of land were afforested in the Eastern Cape as part of the afforestation programme, which resulted in few communities starting to own planted forests for the first time in their lives. It is anticipated that these projects, with assistance from government and established companies will be sustainable. The planting of more trees will inevitably contribute towards climate change mitigation and adaptation.

Since the restructuring of certain categories of commercial plantations, notably in the Eastern Cape and KwaZulu-Natal,



Mr Senzeni Zokwana



the department has been collecting millions of rands in rental revenue from forest lessees as per Lease Agreements. These funds were never disbursed, pending the process of verifying legitimate beneficiaries by the Department of Rural Development and Land Reform. It is with a sense of great pride to report that in 2011, President Jacob Zuma transferred a total of R91 985 996 to communities (beneficiaries) in the Eastern Cape and KwaZulu-Natal. It is without doubt that this money will contribute to uplifting the lives of the receiving communities. It is anticipated that further funds will be disbursed to beneficiaries once the due process of verifying beneficiaries, where disputes exist, has been completed. The department and other relevant stakeholders are in a process of developing a Settlement Model that will be agreed upon by all parties for use in future disbursement of rental funds.

Thirdly, there is a need to “Protect and Enhance our Environmental Assets and Natural Resources” because of the indispensable role our natural resources played and continue to play in improving the lives of our people, particularly the rural poor. Forests have been providing and continue to provide goods and services to the people of the world. Guided by the motto of the government, that of doing things better, faster and smarter, we will endeavour to vigorously implement the strategies we developed recently, which seek to protect our forests and enhance their management and development. These include the National Sawlog Strategy for sustainable supply of timber; Integrated National Forest Protection Strategy for the sector; Small, Medium and Micro-Enterprise Strategy; Forest Sector Research and Development Strategy; and the Climate Change Strategy. On this front, the department is reviewing its policies on funding mechanisms to ensure alignment, as well as comprehensive and equitable support to all its sectors, namely, agriculture, forestry and fisheries.

We can do much more and better to protect our woodland type of forests which have long been overlooked as compared to commercial plantations and natural forests. The latter enjoys much protection in that all indigenous trees and forests are declared protected in terms of the National Forests Act of 1998 irrespective of where they occur.

Finally, we hope that while reading this report, you will notice the work we are doing as both the department and our strategic partners (stakeholders) in ensuring that this very important resource is protected, promoted, developed and managed sustainably. In doing so, I trust you will also appreciate that more work still has to be done to ensure that the industry continues to contribute to the socio-economic upliftment of our people.

To this end, I further trust that this report will stimulate creative thinking among all stakeholders and help steer the industry towards the achievement of the developmental agenda of our country, particularly in our mission of creating a better life for all people of South Africa, the SADC region, the entire African continent and indeed, the world.



.....
MR S. ZOKWANA, MP
MINISTER OF AGRICULTURE, FORESTRY AND FISHERIES



Executive summary

SOUTH AFRICA'S FOREST BASE

South Africa's forest land covers just over 40 million ha, about 36, 7% of the country's 122 million ha surface area. South Africa's forests are divided into three categories, namely, natural forests; savannah woodlands; and commercial plantations. Commercial plantations occur predominantly in Mpumalanga, KwaZulu-Natal, Eastern Cape, Limpopo and the Western Cape and they cover about 1,3 million ha (about 1,4%). Natural forests make up about 496 000 ha, about 0, 4% of South Africa's land surface whereas the bulk of the forest land area (some 40 million ha) is occupied by woodlands, that is, between 35% and 40% of the country's surface area. While woodlands are found throughout South Africa, natural forests are predominantly in the Eastern Cape and KwaZulu-Natal, with the southern part of the Western Cape having a fair share.

SOUTH AFRICA'S FORESTS CONTRIBUTE TO THE ECONOMY AND LIVELIHOODS

The commercial forestry's contribution to South Africa's gross domestic product has been steady in the past few years at an average of 1,1%. South Africa is a net exporter of forest products and the export of forest products has increased from R9, 5 billion in 2001 to R15 billion in 2011. The forestry sector is a reliable source of employment, particularly in rural areas. Currently, the sector employs more than 166 000 people; approximately 93 000 in forestry operations and a further 73 000 in down-stream processing plants. It is estimated that the dependants of forest sector employees are approximately 558 000 people. However, there has been a decrease in the number of people employed in the sector from 170 000 to 166 000.

Woodlands continue to serve as a safety net for most rural people by providing several benefits. The most prominent benefits include fuelwood where between 9 and 12 million people benefit, medicinal plants for health care to 27 million people, wild fruit and other foods, wooden utensils, watershed protection and carbon storage. Approximately 800 000 people operate in the craft industry, which is heavily reliant on woodland resources and up to 100 000 households in South Africa engage in small-scale trade in forest products from woodlands. The economic contribution of woodlands has been estimated to contribute approximately R17, 03 billion to the annual GDP of the country. With regard to natural forests, it is estimated that 20 million tons of medicinal plants sourced from natural forest are traded at a street value of approximately R270 million.

FORESTS CONTRIBUTE TO SOUTH AFRICA'S BIODIVERSITY BUT ARE ALSO A THREAT TO BIODIVERSITY

South Africa is among the 17 countries in the world with the richest biodiversity. It hosts 10% of the world's total known plant species, and about 7% of the world's vertebrate species. Many mammals, birds, reptiles and amphibians are endemic, making South Africa the fifth-richest country in Africa and the 24th-richest in the world in this regard. South Africa is also the only country in the world with its own plant kingdom, and three internationally recognised "biodiversity hotspots" of high concentrations of biological diversity under serious threat: the Cape floral kingdom, the Maputaland-Albany Region (shared with Mozambique and Swaziland) and the Succulent Karoo (shared with Namibia). Moreover, the Succulent Karoo biome is one of the only two arid biodiversity hotspots in the world (the other being the Horn of Africa). Forests, as a habitat for many plant and animal species contribute significantly to South Africa's rich biological diversity as some species are endemic to forest environments.

However, South Africa's biodiversity faces a number of direct and indirect pressures related to habitat conversion and economic activities. These include agriculture, manufacturing, mining and mineral processing, urban settlement development and overexploitation by forestry and fisheries. External factors such as invasive alien species and climate change also have increasingly been important. Timber plantations establishment is considered one of the most important threats to the grassland biome as a result of their capacity to virtually result in total transformation of the ecosystem.

EFFORTS TO PROTECT AND CONSERVE BIODIVERSITY ARE UNDER WAY

Since the declaration of the Kathu forest in the Northern Cape as the first protected woodland forest under the National Forests Act in 2009, efforts have been made to declare even wider areas of the property by way of gazetting additional areas in 2012.

Following the completion of the national forest type classification in 2002 a continuous process was initiated to develop a systematic protected area planning framework for the forest biome in 2004. A national target of 23% was set for all natural rainforests. Priority areas in Mpumalanga have been identified to be protected as nature reserves. Nine state forests in Mpumalanga have been earmarked for declaration as forest nature reserves. The declaration of forests as nature reserves provides an extra layer of protection.

The commercial forestry private sector in partnership with SANBI is implementing a project whereby formal recognition of sites on forestry estates that have high ecological value, either as "nature reserves" or "protected environments" will be granted. Three sites on forestry estates (private land) have been declared nature reserves and 33 more sites have been targeted for formal conservation protection. All these efforts are aimed at improving the management of wetlands, grasslands and functioning ecosystems found on the forestry estates across South Africa.



AFFORESTATION GAINING MOMENTUM

After scepticism by some in the industry on the prospects of Afforestation in South Africa when the project was announced, some progress has been registered recently. Through facilitation by DAFF, the Department of Trade and Industry provided funding to conduct Environmental Impact Assessments of about 1 200 ha identified with afforestation potential in the Eastern Cape. This will pave the way to issue water-use licences and afforestation permits. Over 8000 ha of virgin land was planted since the signing of the Forest Charter in 2009, the bulk of which is owned by communities.

SOME LAND REFORM BENEFICIARIES FINALLY RECEIVE THEIR RENTAL FUNDS

In 1990, government decided to restructure and devolve its forestry plantations and processing plants outside its former self-governing states. These were grouped into five packages and the state has since sold four and leased the land on which the plantations are located for a period of 70 years. The leased packages are: (a) the Northern Eastern Cape Forestry package sold in 2001 to Singisi Forest Products (Pty) Ltd, (b) the KwaZulu-Natal Forestry package sold in 2001 to SiyaQhubeka Forestry (Pty) Ltd; (c) the Southern and Western Cape Forestry package sold in 2005 to MTO Forestry (Pty) Ltd, and (e) the South Eastern Cape package sold in 2005 to Amathole Forestry Company (AFC). Rental funds are collected in January each year by government.

In 2011, President Jacob Zuma transferred a total of R91 985 996 to communities in the Eastern Cape and KwaZulu-Natal, during a historical moment where, for the first time, land claim beneficiaries benefited from the forestry restructuring process.

CONDITIONS OF FOREST WORKERS DETERIORATE TO AN ALL TIME LOW

Despite the denial from involved industries, reports from independent auditors commissioned to monitor compliance with the international Forest Stewardship Council (FSC) certification tool as well as forestry magazines and print media show that forestry workers work and live under difficult conditions. Since 1997, conditions of forestry villages, standard of services and provision of amenities have been declining steadily. Clinics that used to provide primary and secondary healthcare to forest workers were phased out not only because outsourced companies could not afford to maintain them anymore, but also as a result of new government regulations. Crèches have been closed and some forest houses are deteriorating in standards. The situation is so bad that some journalists or authors used captions such as “Spectre of Marikana looms over forestry” in one or two of their reports in 2012.

Since the outsourcing of labour came into force, the majority of forestry workers (87%) have been receiving a wage of about R1 429 a month. Only about 13% of workers employed by the forestry companies are permanent, earning about R2 093 a month. One of the important things the industry undertook to deliver in terms of the Forest Sector BBBEE Charter was to develop a set of Codes of Conduct within one year of gazetting of the Charter in 2009. These included a Code of Conduct on Employment Practices and Code of Conduct on Forestry Contracting, Code on Grower Schemes and Code on Charcoal Contracting. While a Code of Contracting in Forestry has been developed recently through the Forest Charter Council, the Code on Employment Practices was set aside for the time being.

While DAFF wages are better than those offered by the private sector, the housing and sanitation services in many of its forest villages and foresters’ houses are of unacceptable standard. Some forest villages and foresters’ houses in certain estates are without running water, sanitation and electricity.

HEALTH AND VITALITY OF SOUTH AFRICA’S FORESTS

The health and vitality of South African forests are still incredibly vulnerable to the ravages of pests and pathogens. Apparently there are increasing numbers of these damage-causing agents. This is strongly influenced by the increasing influx of people and products into the country. However, a great deal of effort has been expended during the past three years to reduce these threats. The effort has largely come from initiatives of the private sector. A major accomplishment during this period has been the development of the South African Forest Protection Strategy, an initiative of the Department of Agriculture, Forestry and Fisheries and its strategic partners, formulated by the Institute for Commercial Forestry Research (ICFR) together with support from the private sector. The private sector invests a significant amount of money towards research and development whereas government contributes about 10% to this important initiative.

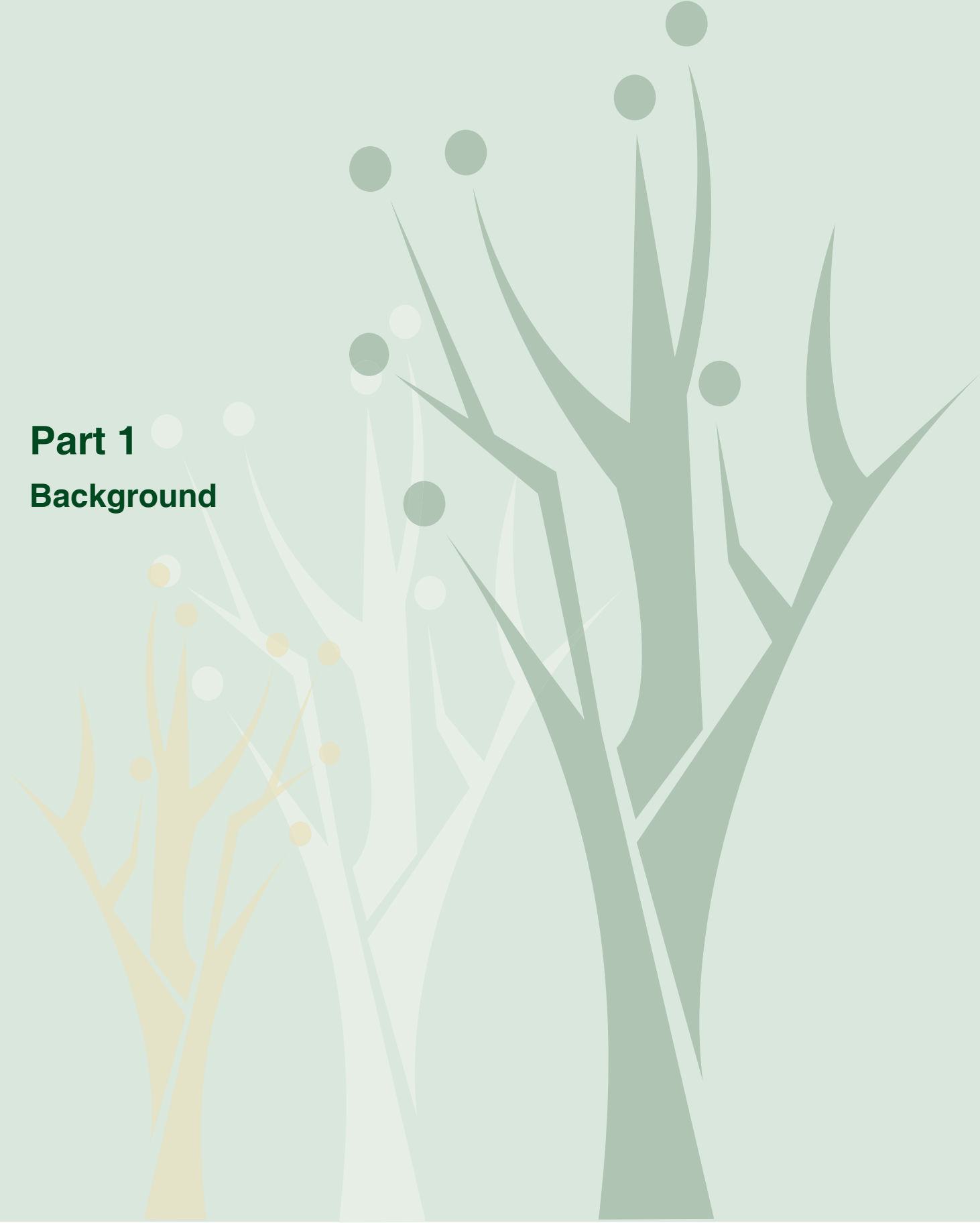
The most important pathogen affecting commercial forestry is still the pitch canker fungus *Fusarium circinatum*. This pathogen was found for the first time in South Africa in a single pine-growing nursery in 1991. It has subsequently spread to all pine nurseries in South Africa and its impact has become dramatic. The three insect pests that can be considered most important are still the Sirex wood wasp (*Sirex noctilio*) that is devastating pine plantations in virtually every part of South Africa; the bronze bug *Thaumastocoris peregrinus* that can seriously defoliate *Eucalyptus* spp. and the eucalypt gall wasp (*Leptocybe invasa*), relatively newly discovered in South Africa and now resulting in substantial damage to young eucalyptus plantations. Notably, there are still plantations in the area between Piet Retief and Louis Trichardt where *Sirex* has not been recorded yet.



South Africa is moving towards a national forest certification standard to ensure even more forests are sustainably managed. South Africa has the highest plantation area in the world with FSC certification in terms of proportion of planted area. More than 82% of South Africa's plantation area is certified, meaning that sustainable forest management is practised in these areas. To ensure that even smaller growers are brought on board, the department and industry developed a National Certification Standard. This local standard was submitted to the Forest Stewardship Council Board for approval in 2009. Forestry South Africa, in conjunction with the SANBI Grasslands Programme, has started a project that seeks to declare areas of high ecological value within planted areas as nature reserves. Three estates have been declared as such while 33 others have also been identified for declaration as nature reserves.



Part 1
Background



Background

Section 6(3) of the National Forests Act, 1998 (Act No. 84 of 1998) requires DAFF to collect information and share it with the Cabinet and the general public on the status of our precious natural resource, forests in all three types, namely natural forests, savannah woodlands and commercial plantations. The Forestry and Natural Resources Management Programme aims to ensure the sustainable management of natural resources, including all three forest types, namely, indigenous (natural) forests, wooded savannahs (woodlands) and plantations and their commercial and livelihood use to achieve ecological, social and economic benefits; and to advance rural development, through policy development, regulation, facilitation, monitoring and evaluation. The forest resource base, that is, indigenous forests, commercial plantations and woodlands, is spread over some of the poorest areas in South Africa and therefore plays a significant role in terms of poverty alleviation, through job creation, supply of basic needs and ultimately acting as a safety-net. Consequently, the forestry initiatives fit into the global agenda and government's broader agenda on rural development and land reform and poverty reduction in many ways. The National Development Plan (NDP) places infrastructure development as one of the cornerstones for South Africa's development. Roads and rail infrastructure are particularly important for forestry to thrive and contribute meaningfully to the country's economy. According to the study on forestry infrastructure, the roads in forestry towns have deteriorated and need serious interventions. Investment in infrastructure should inevitably lead to creation of local jobs and facilitate timber trade and transportation.

The NDP further calls for an inclusive rural economy wherein rural areas are spatially, socially and economically well integrated and coordinated, where residents are economically active and food secure as a result of agrarian transformation and infrastructure development programmes. By 2030, agriculture should create close to 1 million jobs, contributing significantly to reducing overall unemployment.

DAFF has prepared a draft Agricultural Policy Action Plan (APAP) which is aligned to the New Growth Path (NGP) and the NDP through the Medium Term Strategic Framework of outcomes 4,7 and 10. The APAP further seeks to make the Integrated Growth and Development Plan (policy framework) a reality.

The NGP is South Africa's vision to place jobs and decent work at the centre of economic policy. As a result, infrastructure and agriculture in particular, have been identified as a foundation for more jobs and addressing rural underdevelopment. Of relevance to the agricultural sector, the NGP identifies the following as the main job drivers:

- Infrastructure development
- Green economy
- Fostering rural development and regional integration.

Forestry contributes significantly to the agro-processing sector, according to APAP. However, forestry is constrained by stringent water regulations (because it is listed as a streamflow reduction activity), underinvestment in long-rotation sawlog production, and the need to find a strategic, coordinated approach involving the State, the private sector, restitution communities and the forestry parastatal (SAFCOL).

The APAP identified the following value chains as strategic in meeting the objectives of the NGP, NDP and IPAP, namely, contribution to food security, job creation, value of production, growth potential and potential contribution to trade balance (including via export expansion and import substitution). It is without doubt that forestry has a huge role to play in all these value chains.

The National Forests Act (NFA), provides for sustainable forest management (SFM). It encompasses principles to guide decisions affecting forests as well as the promotion of certification programmes that encourage SFM. Both certification and Principles Criteria Indicators and Standards (PCI&S) aim to achieve sustainable forest management but do this through different processes and are directed from different spheres of influence.

The Department of Agriculture, Forestry and Fisheries started to conduct PCIs-based audits on its estates in 2006 and continue to do so. Following the process of reviewing PCIs framework and its conclusion in 2009, a new refined set was printed and made available during 2012 and is implemented. In the same year, second and third party audits were done to help managers to comply and ensure sustainable forest management.

Although the woodlands are included in the definition of a forest in the NFA, PCI&S pertaining to woodlands is not mandated; hence the country does not have a set of PCI&S for woodlands. However, the department is committed to the sustainable management of woodlands even though the progress is slow owing to various reasons. These are discussed later in this document.

The first State of the Forests Report for South Africa covering the years 2004 to 2006 was published in 2007. The second report, which covered the years 2007 to 2009, was published in 2011. This report covers the years 2010–2012.

1.1 PURPOSE OF THE REPORT

The purpose of this report is five-fold, namely to:

- Provide information to the public to assess progress in achieving SFM
- Provide a report to policy makers as required under the National Forests Act [Part 2 Section 6(3)]
- Report on forestry progress in translating the Political Programme (Manifesto) and MTSF into outcomes



- Provide a progress report on the extent to which the Forest Sector implements the NDP and other relevant national goals
- Recommend to policy makers certain proposals to create an enabling environment to assist the forestry branch to meet relevant outcomes as enshrined in the government policy of a developmental state.

1.2 OBJECTIVES

Compiling regular reports on the state of the forests and the state of the environment is a general practice worldwide. The objective of compiling regular State of the Forests (SoF) reports is to provide an up-to-date overview of the current status of the forest industry, with specific reference to the sustainable management of forests. South Africa has followed this global trend. In terms of the National Forests Act (Act No. 84 of 1998), the Minister is obliged to monitor South Africa's forests and to compile a report on the state of this resource at least once every three years. The key objectives of the SoF report are to:

- Present the facts and trends revealed by the monitoring process to Parliament, decision makers and the public
- Present the possible implications of the trends considering whether or not these are in the national interest
- Report on measures being implemented to address negative trends; and any other relevant issues relating to South African forests
- Make recommendations on specific actions and future directions required to advance South Africa's progress towards SFM.

1.3 REPORT LAYOUT

This edition builds on the 2009 SoF report without significant changes to the structure.

The first part of the report sets the scene by providing the background to the report, the purpose, aims and objectives of the report.

The second part provides an overview of the extent and distribution of all types of forests in South Africa. The indicators used to assess SFM are derived from global practices, supported by the legislative mandate and are grouped into three categories: Environmental, Economic and Social aspects. For each main category, the report assesses the state, trend and response measures to trends that are in the national interest and adequacy of information:

The third part takes a broader view by discussing developments in the international arena. It provides an overview of several forestry and environmental protocols in which South Africa participates or supports, including those under the leadership of other sister departments such as the Department of Environmental Affairs (DEA). It also covers institutional, forest policy and legislative framework that guides and informs decision making in Forestry.

The fourth part of the report describes strategic policy responses and interventions towards protecting the environment and developing the forest sector and describes measures that the forestry and natural resources management branch is undertaking to translate the Manifesto and MTSF into outcomes.

The fifth part of the report provides an analysis of the sector in terms of its contribution to sustainable development and management using the Driving forces-Pressures-States-Impact and Responses (DPSIR) framework.

The sixth part concludes the report and provides recommendations that seek to promote SFM and development.



A stylized illustration of a forest scene. The background is a light green gradient. In the foreground, there are several trees represented by simple, geometric shapes. One tree on the left is a warm yellow-orange color, while the others are in various shades of green. The trees have thin, branching trunks and are topped with small, solid-colored circles (white, light green, dark green, and yellow) that represent foliage or fruit. The overall style is clean and modern.

Part 2

Profile of the South African forest sector

2.1 EXTENT AND DISTRIBUTION OF FORESTS IN SOUTH AFRICA

South Africa is generally regarded as a “low forest cover” country. However, wooded vegetation covers more than a third of the country land surface area. Despite its “low forest cover” status, South Africa ranks as the third most biodiverse country in the world. The forest biome has the highest plant diversity per hectare, although it is the smallest and most fragmented of all the biomes. The country’s forest land covers just over 40 million ha, about 36,7% of the country’s total land area of 122 million ha.

Forest resources play a large role in the supply of basic needs to a number of poor people. Firewood, building poles, medicinal plants, and edible fruit sourced from forests are all critical to the livelihood of the rural poor. The forest sector remains well positioned to increase its contribution to South Africa’s development goals and especially those of Accelerated and Shared Growth Initiative of SA (AsgiSA) and the National Development Plan: 2030.

Wooded savannahs (woodlands) and natural forests: this forms the bulk portion of South Africa’s forest land covering some 40 million ha, which is about one third of South Africa’s total land area. About 5,5 million ha of the woodlands are in protected areas. Woodlands provide a great variety of forest goods and environmental services, from which a large number of the country’s population benefit directly and indirectly. The most prominent benefits include fuelwood where between 9 and 12 million people benefit, medicinal plants for health care (27 million people), wild fruit, edible insects and other foods, wooden utensils, watershed protection and carbon storage. Approximately 800 000 people operate in the craft industry, which is heavily reliant on woodland resources and up to 100 000 households in South Africa engage in small-scale trade in forest products from woodlands. The economic contribution of woodlands has been estimated to be approximately R17,03 billion to the annual GDP of the country. With regard to natural forests it is estimated that 20 million tonnes of medicinal plants sourced from natural forest are traded at a street value of approximately R270 million. At present, approximately 300 tons of fern fronds are exported each year, earning foreign exchange income to the annual value of R20 million annually. The woodlands and forests are also inhabited by impressive wildlife that forms the cornerstone of game farming and ecotourism. These areas also boast the highest biodiversity per unit area (0,418 species per ha). All natural forests in South Africa are protected in terms of the NFA. Through the NFA, local communities especially those living in and round the forests have controlled access to protected forests for various goods and services. Although there is some commercial timber harvesting allowed in natural forests, the majority of these are managed for conservation purposes, with an element of ecotourism.

Wooded savannahs (woodlands) also provide essential resources for sustaining the livelihoods of rural people, especially in the communal areas of South Africa. Products utilised from the woodland include wood and non-wood products, among others fuel, building material, household utensils, traditional fencing as well as a variety of food and medicinal items. Woodlands are also characterised by their rich biodiversity that often provides opportunities for tourism. Furthermore, woodlands render valuable environmental services, which include soil protection and carbon storage. Maintenance of these ecosystem services, protection of the biodiversity in woodlands and ensuring the continued flow of wood and non-timber forest products is therefore an important measure that would support the wellbeing of the South African society, especially poor rural people living in close proximity to woodland areas.

However, the intensive use and consequent degradation as well as transformation of woodlands remain challenges that government and stakeholders should address, but there is no information to ascertain the severity of the threats. The status of woodlands in the country was determined from the data provided by the Vegetation Map (2005). The Vegetation Map is the most current available data so far. Map 3 on p.66 illustrates the distribution of woodlands throughout the country.

Since there has been no comprehensive national forests assessment in the country since 2005, it is not possible to establish trends or the change rate in woodlands and indigenous forests.

South Africa is a relatively dry country, covered by dry savannah woodlands or woodlands scrub. Most natural evergreen forests are found in areas of higher rainfall, along the southern and eastern coastline and in the country’s mountainous regions towards the eastern borders with Swaziland and Mozambique. According to the National Forest Inventory, the indigenous (natural) forests cover 495 666 ha. It is important to note that new patches of natural forests have been discovered in recent times and these are still to be quantified and mapped.



Although Indigenous forests make up less than 2% of the land surface in South Africa, this biome encompasses extensive areas and contains valuable resources. Indigenous forests are valued for biodiversity, ecotourism, timber production and non-timber forest products. They are predominantly located in the Eastern Cape and KwaZulu-Natal. Since the last report, there has not been a comprehensive resource assessment to determine the trends. Map 1 on p.64 illustrates the distribution of natural forests throughout the country.

Commercial plantations have been identified as one of the important economic sectors that receive investment and growth by government and the private sector. In 2011 the total investment in the forestry industry amounted to R25, 6 billion. This investment comprises 54, 9% in trees, 22, 8% in land, 13,4% in roads, 6,1% in fixed assets and 2,8% in moveable assets. With regard to the investment in the forest products sector by type of processing plant for 2011, the total book value of investments amounted to R15, 2 billion. This investment comprised 82,1% in pulp and board plants, 12,8% in sawmills and veneer plants, 1,0% in pole plants, 0,2% in mining timber and 3,9% in other plants. Plantation forestry consisting mainly of non-native tree species contributes about 1,1% to the South African gross domestic product (GDP) (more than R21,4 billion).

The export of forest products has increased from R9,5 billion in 2001 to R15 billion in 2011. The forestry sector is a reliable source of employment, particularly in rural areas. Currently, the sector employs more than 166 000 people—approximately 93 000 in forestry operations and a further 73 000 in downstream processing plants. It has been calculated that the dependants of the forest sector employees are approximately 558 000 people.

Commercial plantations: cover approximately 1,3 million ha of the country and over 80% of these occur in the Eastern Cape, Mpumalanga and KwaZulu-Natal. The forest sector produces more than 22 million m³ of roundwood annually from commercial plantations, contributing about R7 billion to the economy each year. 82% of all commercial plantations in South Africa have achieved Forest Stewardship Council (FSC) certification for compliance with sustainable management practices. This is the highest percentage of certified plantations in the world in terms of proportional area. Some of the government-owned plantations have undergone a process of restructuring in which these were transferred to the local communities and commercial companies were given an opportunity to lease these from the local communities. Map 2 on p.65 and Table 1 show the extent and distribution of commercial plantations in the country.

Table 1: Extent and distribution of plantations area (ha) in South Africa

Province	2005	2008	2011
Eastern Cape	156 847	153 380	141 413
Free State	0	0	0
Gauteng	0	0	0
KwaZulu/Natal	539 910	486 020	503 213
Limpopo	51 986	47 982	48 284
Mpumalanga	525 143	510 263	518 689
North West	101	126	304
Northern Cape	0	0	0
Western Cape	59 576	59 570	61 454
Total	1 333 563	1 257 341	1 273 357

Source: DAFF, commercial timber resources annual reports

2.2 TRENDS IN PLANTATION COVER

Plantation statistics are collected annually. From a national perspective, from 2010 to date, the plantation area remains stable with insignificant increases. This may be attributed to the fact that there has been very little new afforestation during the period under review hence the data could remain stable. The data indicate that hardwood areas are picking up slower than softwood during the period under review. This trend is shown in Table 2.



Table 2: Trends in plantation area (ha) by species

Province	2005	2008	2011
Softwood species	721 358	660 265	650 888
<i>Eucalyptus</i> species	496 521	491 934	516 407
Wattle species	108 549	95 571	100 606
Other species	7 134	9 570	5 225
Total all species	1 333 562	1 257 340	1 273 357

Source: DAFF, commercial timber resources annual reports

The little expansion can be attributed to afforestation that occurred mainly in the province of KwaZulu-Natal. Nevertheless, more expeditious expansion is expected to take place once the government-supported environmental impact assessment processes have been concluded. The reduced time lag for the issuing of water use licences should also expedite the afforestation process. Of the total 1 273 357 million ha plantation area in South Africa during the 2010/11 season, Mpumalanga maintained last season's lead by accounting for the largest area with the provincial total ownership of 518 689 ha even though the province experienced a slight decline between the two seasons. At the same time, softwood is most planted in the same province and its plantation area seems to be on the rise at the expense of hardwood as the two commodities compete for the declining plantation area in the province. There is only a slight difference in the planted area between Mpumalanga and KwaZulu-Natal, the latter province posted 503 213 ha during the 2010/2011 season with hardwood dominating or as the main focus area. The Cape region (Western and Eastern Cape combined) had the lowest total timber plantation area (see Table 3 below).

Table 3: Plantation areas by species/regions

	2009	2010	2011
Species/region	Area ('000 ha)	Area ('000 ha)	Area ('000 ha)
Softwood species	650	648	650
Mpumalanga and Limpopo	333	333	334
KwaZulu-Natal	141	137	138
W and E Cape	174	176	177
<i>E. Grandis</i>	314	307	306
Mpumalanga and Limpopo	122	118	117
KwaZulu-Natal	178	176	176
W and E Cape	13	12	12
Other eucalypts	200	208	210
Mpumalanga and Limpopo	94	96	97
KwaZulu-Natal	96	102	103
W and E Cape	9	9	9
Wattle species	104	101	100
Mpumalanga and Limpopo	15	15	15
KwaZulu-Natal	86	83	82
W and E Cape	2	2	2
Other species	5	5	5
Mpumalanga and Limpopo	3	3	3
KwaZulu-Natal	1	1	1
W and E Cape	0,9	0,9	0,8
Total	1 274	1 271	1 273

Source: DAFF, commercial timber resources annual reports

2.3 AFFORESTATION IN THE COUNTRY

The National Industrial Policy Framework identified forestry as a high-potential growth sector of the economy. Economic growth can be realised in the Forest Sector only if new plantations are established. The data reveals a declining trend between the current and previous periods from as much as a total new afforestation average of 3002,67 ha between 2007 and 2009 to an average of 1345 hectares planted between 2010 and 2011, despite the



year-on-year increase from 2010 to 2011. This decline in average between the two periods under consideration was mainly the result of a sharp fall in the plantation of hardwood among other things. Fig. 1 below shows the highest level of hardwood new afforestation of 3 993 ha in 2008 to post a mere 908 ha and 1 178 ha in 2010 and 2011, respectively, a decrease of about 77% between 2008 and 2010. The decline could be attributed to the global economic recession, which caused a slowdown in demand and investment in the forest sector. In 2008, the rise in the area of new afforestation among other factors was mainly directed by the increase of 11% in the value of sales in the preceding year, which raises the expectation of farmers, prompting them to expand their level of afforestation.

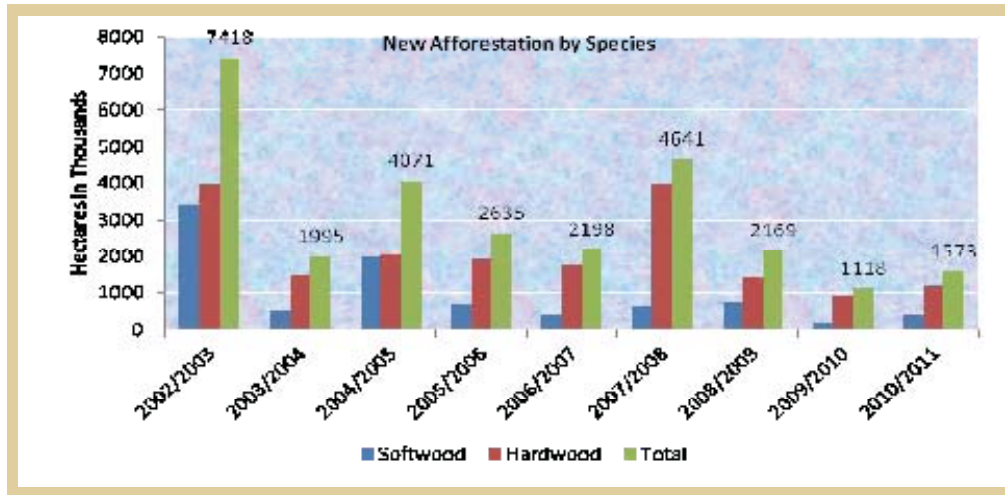


Figure 1: New afforestation by species

Source: DAFF, commercial timber resources annual reports

In addition, Table 4 shows that the reduction in the average new afforestation area recorded in KwaZulu-Natal between the two periods negatively contributed in the declining of new afforestation levels of hardwood in the country. The private sector remains the main contributor to new afforestation in the country, with KwaZulu-Natal taking a lead once again in the 2010/11 period by posting 1 114 ha, followed by Mpumalanga and Limpopo combined at 455 ha and Western Cape and Eastern Cape having a combined total afforested area of merely 4 ha. According to the recent statistics, the public sector managed to add at least 4 ha in Mpumalanga in 2011. The table shows some change in the number or level of new afforestation in the country, even though all the five main commercial forestry provinces showed some improvements in the 2010/11 period. There are various reasons attributed to the trend, including declining suitable forestry land, strict water licensing procedure and insufficient investment.

Table 4: New afforestation by provinces in hectares

Year	Mpumalanga and Limpopo	KwaZulu-Natal	W and E Cape	Total
2002/2003	1272	5842	304	7418
2003/2004	574	1371	50	1995
2004/2005	3636	290	145	4071
2005/2006	797	1838	0	2635
2006/2007	706	1492	0	2198
2007/2008	293	4348	0	4641
2008/2009	414	1751	4	2169
2009/2010	437	876	3	1316
2010/2011	455	1114	4	1573

Source: DAFF, commercial timber resources annual reports

Softwood species continue to be the most planted in South Africa as it occupied up to 51% of the area in 2011, despite the recent trend. Mpumalanga and Limpopo had softwood species area at an average of 334 208, 5 ha between 2010 and 2011 from 339 266,7 ha between 2007 and 2009, a decline of 1,5%. Western and Eastern Cape occupied the second place after recording a decrease of 3, 2% between the same periods under consideration. *E. grandis*, other eucalyptus species and wattle species are most planted in KwaZulu-Natal according to the recent data. This is after the province has recorded an increase of 1,2%, 17,9% and 1,1% in terms of average planted area of *E. grandis*, other Eucalypts and Wattle species, respectively between the current and previous periods. The noted increase in the planted area of hardwoods can be as a result of the



demand for pulp and mining timber. The plans to expand production at the Ngodwana Pulp Mill by 69%, in order to supply global pulp demand attests to this. Despite the demand, companies want quick returns on investments as eucalypts are fast-growing and require short-rotation.

In the Eastern Cape, forestry projects started to take off after scepticism from some in the industry when the government first announced it was targeting some 100 000 ha of new afforestation. Sappi is playing a significant role in the establishment of community-owned forest projects in the Eastern Cape and the company was targeting an expansion of 30 000 ha (SA Forestry magazine, August 2012). The dti provided funding for Environmental Impact Assessments (EIAs) of about 1 200 ha which also paved a way for the processing of water-use licences and planting permits.

However, temporary unplanted areas (TUP) in DAFF plantations are of serious concern. TUPs in category B and C plantations are close to 34% as measured against the industry norm of 3 to 4%. This means that some 21 000 ha of DAFF's 61 000 ha plantation area is not planted and will inevitably result in abnormal age class distribution, which will make sustainable yield regulation almost impossible. The TUPs are attributed to underfunding; hence DAFF management should intervene and make funds available to implement projects aimed at mitigating the situation. Replanting of the 8 473 ha in the Western Cape as a result of a reversal of a Cabinet decision to exit these areas should create some of the much needed jobs in the province.

2.3.1 Addressing the afforestation challenges

DAFF has developed a strategy on afforestation and established a task team to oversee the process of afforestation. As a way of addressing the water-use licence backlogs which also affect afforestation, the Letsema Project was initiated in October 2009. Since the introduction of the project, the Department of Water Affairs (DWA) has been able to eradicate some of the backlogs in the licence application process. This initiative brought together resources within the DWA to deal with water-use licence applications in a concerted effort. As a result, a total of 1 111 ha water use licenses (WUL) accounting for 14 270,958 ha in 2010 were issued compared to the 389 WUL issued between 2000 and 2009. According to the statistics provided by the DWA, 1 164 licences were issued in 2010, 76 in 2011 and 30 in 2012. Tables 5, 6 and 7 illustrate the number of licences approved, areas covered and the regions over the period.

Table 5: Water use license applications issued since January 2010 to March 2011

Regions	Number of WULAs issued	Area (ha)
KZN	1 080	3 142,25
Eastern Cape	84	11 000*
Total	1 164	14 142,25

* Genus or area exchange applications

Source: DWA

Table 6: Water use license applications issued from April 2011 to March 2012

Regions	Total WULAs issued		Area (ha)	
	Genus/area exchange	New licenses	Genus/area exchange	New licences
KwaZulu-Natal	11	50	874,63	561,3
Eastern Cape	11	1	326	106
Mpumalanga	5	0	3201,44	0
Limpopo		25	0	158,1
Total	27	76	4 402,0	852,5

Source: DWA

Table 7: Water use license applications issued from April 2012 to October 2012

Regions	Total WULAs issued		Area (ha)	
	Genus/area exchange	New licenses	Genus/area exchange	New licences
Eastern Cape	2	1	84,7	13,18
KwaZulu-Natal	0	29	0,0	54,05
Total	2	30	84,7	67,23

Source: DWA



South Africa's afforestation potential is very small with only the provinces of KwaZulu-Natal and the Eastern Cape having a potential to expand to new areas. The reason for this is that the country has a scarcity of water and the stringent nature of the regulatory environment for afforestation.

2.4 FOREST PROTECTION

Chapter 5 of the NDP addresses the pillar on ensuring environmental sustainability and an equitable transition to a low-carbon economy. The plan states that by 2030, SA's transition to an environmentally sustainable, climate change resilient, low-carbon economy and just society will be well under way. Forestry is an integral part of the environment, hence it has to develop and/or implement adaptation strategies informed by national policies, particularly as they pertain to climate change and disaster preparedness as well as conservation and rehabilitation of ecosystems and biodiversity assets as called for by the NDP.

The NDP espouses sustaining South Africa's ecosystems and using natural resources efficiently and this flows from the Constitutional requirement of the need to safeguard the environment to ensure that citizens are not exposed to harmful environmental elements. The plan therefore calls for maintenance of ecosystem services such as those providing food and clean water, regulating climate and diseases, supporting crop pollination and nutrient cycles and delivering cultural benefits such as recreational opportunities. Forestry is at the centre of all these imperatives, it contributes towards food security, plays a role in the provision of clean water, particularly in catchment areas, acting as carbon sinks, thereby contributing to climate change mitigation and adaptation. Forests are also good tourist destinations because they provide several goods and services to the tourism industry.

Expansion of the forest resource base and efficient management of the ecosystem will go a long way towards contributing meaningfully to the developmental aims of government. The DAFF should continue participating in programmes that seek to protect and conserve biodiversity such as the implementation of the Protected Areas Expansion Strategy directed by the South African National Biodiversity Institute. The department should also leverage the historic milestone of declaring the Kathu Woodland Forest (the first woodland type to be declared a protected forest area under the NFA) and protect other woodland forest types to ensure representation in the long run.

In terms of the NFA, all indigenous (natural) forests are protected in South Africa irrespective of whether they occur in private or public land. Natural forests cannot by law be destroyed save in exceptional circumstances where, in the opinion of the Minister; a proposed new land use is preferable in terms of its economic, social and environmental benefits. Therefore, no person may cut, disturb damage or destroy any forest produce in, or remove or receive any forest produce from a protected area without the necessary authorisation to do so.

Only 5 million ha of the approximately 40 million ha of woodlands are believed to have some form of protection status. The woodland forests outside protected areas are usually over-exploited by neighbouring communities for fuelwood consumption and for other community needs. Table 8 shows the status of woodland protection in the country.

Table 8: Protection status of woodlands in South Africa

Woodland class	Actual woodland (ha)	Area protected (ha)	Protected (%)
High altitude acacia	10 234 306	1 205	12
Low altitude acacia	2 351 012	132	32
Ghaap plateau	2 163 103	751 712	0
Kuruman	752 674	3 496	1
Southern renosterveld	18 056	9 410	25
Waterberg	1 224 270	4 582	22
Combretum	7 929 347	267 798	18
Soutpansberg	429 213	1 404	19
Spekboom	801 883	760	11
North succulent	521 366	82 996	2
South succulent	552 637	84 379	7
Mopane	2 324 449	11 652	48
Other	4 700 000 ⁽¹⁾	39 160	n.a.
		1 121	
		037	
		Unknown	
Total area (ha)	34 002 316⁽²⁾	4 986 114	17

⁽¹⁾ Scattered patches of woodlands (including thickets) amounting to approximately 4.7 million ha

⁽²⁾ This total excludes 3 984 570 degraded woodlands

Source: DAFF



DAFF and the South African National Biodiversity Institute identified threatened forest ecosystems as part of the processes required to protect forest ecosystems in a systematic and representative manner as required by the provisions of the environmental laws. Three forest types were listed as endangered and six as vulnerable in the list of threatened ecosystems that was published for comment on 6 November 2009 in terms of the National Environmental Management Biodiversity Act (Act No.10 of 2004). Several individual threatened forest patches of high conservation value were also listed for protection under this Act, which gives such listed ecosystems enhanced status in the Integrated Development Plans of local and regional authorities. Any proposed development or activities that will affect the listed areas trigger the undertaking of EIAs and or biodiversity offsets. Furthermore, mechanisms are in place to ensure protection of unique species.

2.4.1 Protected trees

In 2004, DAFF declared a list of 47 tree species as protected under section 12 of the National Forests Act. The list is republished each year. These include species such as the camel thorn (*Acacia erioloba*) and leadwood (*Combretum imberbe*) which are currently under pressure in some areas owing to harvesting for braaiwood and charcoal markets, rare species such as the Barberton sugarbush (*Protea comptonii*), keystone species important to the functioning of ecosystems such as the black mangrove (*Brugueria gymnorhiza*) and species of great cultural and use value like the marula (*Sclerocarya birrea*). In terms of section 7 of the NFA, all trees in a natural forest are also protected. As stated elsewhere in this document, no protected trees or forest trees may be cut down or damaged or their products transported, sold or exported without a licence.

Licences to cut protected trees or collect their products are currently only issued for the harvesting of dead trees. In the event that conditions specified in licences are violated or harvesting found to be not sustainable, a licence can be revoked. No harvesting of rare tree species is allowed and is allowed only for limited quantities of dead wood of the more common protected species.

2.4.2 Declaration of Champion Trees

Declaration of Champion Trees takes place under the auspices of the Champion Trees Project. The project is aimed at identifying and protecting individual trees of national conservation importance under the NFA. In terms of section 12 of the Act, the Minister can declare individual trees or groups of trees as protected, apart from the protection of tree species. Trees can be nominated on the basis of their size, age, aesthetic value, cultural-historic value or importance for tourism. Currently, more than 70 trees and groups of trees have been declared by the department as Champion Trees compared to the 44 reported previously. These trees are declared as protected by notice in the Government Gazette and in national newspapers. Once listed as protected by notice, champion trees have special protection status in terms of the legislation. No such trees may be cut down, disturbed or damaged without a licence. A strict approach is taken to their protection, and licences are issued only under exceptional circumstances, such as a tree that poses a danger to life or property. The Champion Trees Project does not only serve to protect trees but it also attracts renowned global tree climbers to the country who endeavour to take measurements of many of the identified magnificent trees.

2.4.3 Woodland type conservation

Section 3(b) of the NFA requires that a minimum of each woodland type forest should be conserved. However, the process to implement this section has been deferred because of lack of funds. An integrated land-use assessment project with a view of assessing the extent and distribution of all woodland types in the country is also suspended owing to the same reason of budgetary constraint. Notwithstanding this constraint, there is now a shift on focus from conservation to enforcement and compliance. To date, guidelines on biodiversity offsets and control of development on forestry areas have been developed to save the forests and trees threatened by development. These guidelines are currently in use.

2.4.4 Woodland rehabilitation

Woodlands, constituting the bulk of the forest land, over 40 million ha in South Africa, are currently the most vulnerable and overexploited forest type. Woodlands are exploited for a variety of uses/ benefits, including firewood, wood for building and fencing, utensils and harvesting of fruit and edible insects. It is believed that only 17% of woodlands have some form of formal protection. These occur in the proclaimed nature/game reserves. Although DAFF developed a Strategy for Woodland Management in South Africa, the strategy is yet to be implemented. Deforestation and woodland forest degradation are, however, continuing at an alarming rate despite lack of tangible evidence to support this statement. However, the department is collaborating with other organisations such as the South African National Biodiversity Institute (SANBI) in efforts to conserve forests and forest biodiversity. The DAFF, through the Land Use and Soil Management unit implements a programme aimed at rehabilitating landscapes, including woodland areas. The Working for Woodlands Programme, a multi-government programme, forming part of the Extended Public Works Programme (EPWP) is doing some work towards woodland rehabilitation. This initiative endeavours to draw a diversity of funding streams towards an investment into the rehabilitation of degraded and transformed woodlands. There are currently two projects that, together, constitute Working for Woodlands namely African Rural Initiatives to Sustainable Environments (ARISE) and the Subtropical Thicket Restoration Projects. Since 2004 Coastal Forest of the Eastern Cape and



Riverine Thicket of the Letaba River covering 3500 ha were successfully rehabilitated. The Forestry and Natural Resources Management Branch still does not have a programme focused on woodland rehabilitation owing to financial constraints. The focus is on state indigenous forests.

2.5 FOREST OWNERSHIP IN SOUTH AFRICA

2.5.1 Plantation ownership

Since the process of restructuring public assets commenced in the early 2000s, commercial forestry public ownership decreased from 24% to 17% over the years. Generally, the ownership of plantations is mainly in the hands of corporate growers and individual commercial farmers (83%). However, there is a rapid development of black ownership and management in the form of Outgrower timber schemes, supported by the private sector. Outgrower timber schemes are community-based plantations, normally in the form of small woodlots occurring in patches operated by private companies such as Mondi, Sappi and the SA Wattle Growers' Union. Most of these are sustainably managed as the Chain of Custody principle of the Forest Stewardship Council (FSC) ensures that the large buyers of timber from small growers are obliged to buy from sustainably managed forest operations. In this regard, data indicates that 3,5% of plantation ownership was in the hands of emergent growers in 2011. Table 9 and Fig. 2 below show the breakdown in plantation ownership.

Table 9: Trends in plantation ownership structure

Institution/Organisation	2008	2011
	Extent in ha %	Extent in ha %
Public ownership	215 838 ha (17%)	216 078 ha (17%)
<i>State/Municipalities</i>	6,90%	7,00%
<i>Safcol/KLF</i>	10,20%	10,00%
Private ownership	1 041 501 ha (83%)	1 057 279 ha (83%)
<i>Commercial farmers</i>	22,80%	20,10%
<i>Emergent growers</i>	–	3,50%
<i>Corporatives</i>	48,70%	48,10%
<i>ex. Safcol</i>	11,40%	11,30%
Total	1 257 341 ha	1 273 357 ha

Source: DAFF, commercial timber resources annual reports

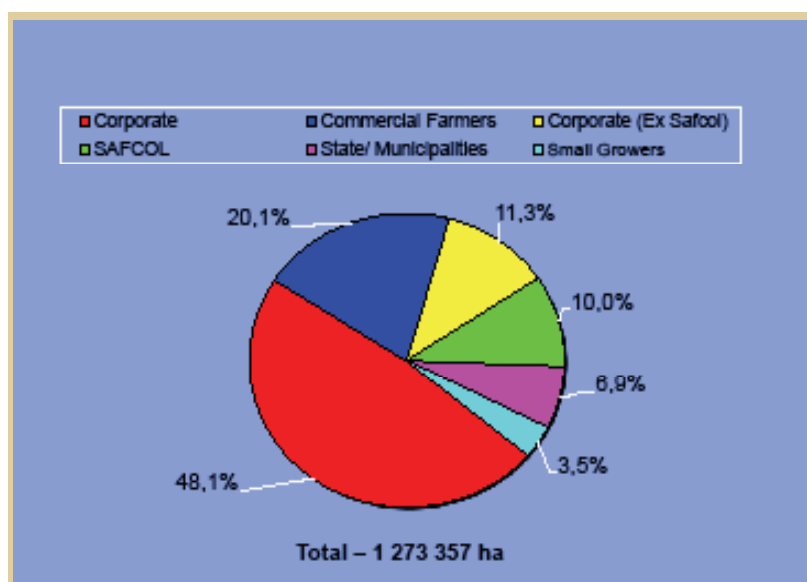


Figure 2: Plantation area by ownership 2011

Source: FSA, 2013 based on DAFF, commercial timber resources annual reports

2.5.2 Land ownership of natural forest areas and woodlands

Landownership of natural forests in South Africa is still not known with certainty because there has not been an extensive natural forest resource assessment since the last report. Based on the National Forest Inventory that was done in 2002 (Department of Water Affairs and Forestry), the public ownership accounts for 219 922 ha of the



497 101,23 ha natural forest resource base. It is assumed that this figure remains constant for the different years under review. This will mean that 277 179,23 ha, which is the remainder, can be attributed to private ownership. Woodland ownership is also unknown in the main but most of this resource occurs on communal land.

2.6 BIODIVERSITY IN SOUTH AFRICA

2.6.1 Status of biodiversity

South Africa is recognised as one of the world's 17 megabiodiverse nations. It hosts 10% of the world's total known plant species, and about 7% of the world's vertebrate species (OECD, 2013). Many mammals, birds, reptiles and amphibians are endemic, placing South Africa as the fifth-richest country in Africa and the 24th richest in the world in this regard. South Africa is also the only country in the world with its own plant kingdom, and three internationally recognised "biodiversity hotspots" of high concentrations of biological diversity under serious threat: the Cape floral kingdom, the Maputaland-Albany Region (shared with Mozambique and Swaziland) and the Succulent Karoo (shared with Namibia). Moreover, the Succulent Karoo biome is one of the only two arid biodiversity biomes in the world (the other being the Horn of Africa). Forests and forest land and the streams and riverine areas running through them are a home to many of these species. Deforestation and forest degradation or any other disturbances will have a ripple effect on the capacity of forests and forest land to accommodate these species in a sustainable manner. Certain species are endemic to forest habitat. According to the OECD Environmental Review, South Africa (2013), South Africa's biodiversity faces a number of direct and indirect pressures related to habitat conversion and economic activities, particularly agriculture, manufacturing, mining and mineral processing, urban settlement development and over exploitation by forestry and fisheries. External factors such as invasive alien species and climate change also have increasingly been important. Timber plantations, particularly commercial afforestation is considered one of the most important threats to the grassland biome as a result of the virtual total transformation of the ecosystem. Whereas forestry plays an important role in job creation and the economy of the country, forestry development should be rolled-out in such a way as to keep to the bare minimal, any adverse effects such a development may bring to the ecosystem, and subsequently, the status of the ecosystem to sustainably maintain fauna and flora.

2.6.2 Status of biodiversity protection

Forests and woodlands in South Africa provide a range of ecosystem services. They are regarded as the protector of land, soil, vegetation, water, climate, wildlife, landscape, aesthetics and outdoor recreation. Forests policy emphasis is on protecting and maintaining the forest for the benefits of all South Africans. Because South Africa is ranked the third most biodiverse in the world, it is important that the health and vitality of these ecosystems is protected.

Seven major terrestrial biomes, or habitat types, exist in South Africa: forest, fynbos, grassland, Nama Karoo, succulent Karoo, savannah and thicket. According to the DEA, 403 formally protected areas (national parks, provincial reserves or equivalents) constitute some 6% of the land surface area, placed under the control of 13 different management agencies, and falling under some 11 pieces of national legislation (DEAT, 2001). According to the Register of Protected Areas, in November 2010, 18 of the 403 formally protected areas were forest protected areas under DAFF covering some 20 748 ha.

2.7 THREATS TO FOREST HEALTH AND VITALITY

2.7.1 Pests and diseases of natural forests

Trees are incredibly vulnerable to the ravages of pests and pathogens. It might be argued that the most vulnerable are native trees. Professor Wingfield (2013) asserts that with the increasing movement of people and products globally, pests and pathogens that have evolved with them are able to move across these boundaries of separation reasonably easily. The result is that these agents of disease can recognise trees that have not evolved resistance to them and the so-called "naïve hosts" can be entirely wiped out.

Very little was known regarding the health status of native woody plants in South Africa prior to 2004. This is in contrast to the situation where some considerable research has been carried out on pests and pathogens that damage commercially propagated woody plants. This serious and unfortunate shortfall was clearly the result to the fact that commercial tree growers were reluctant to fund research on trees not considered to be of economic value. From early in the 1900s, woody ecosystems in many countries have collapsed owing to the accidental introduction of insect pests and pathogens.

The most important change relating to native tree health in South Africa came with the establishment of the Department of Science and Technology (DST)/ National Research Foundation (NRF) supported Centre of Excellence (CoE) in Tree Health Biotechnology (CTHB). This CoE was one of six centres established in 2004 and its focus is on the health of native woody plants (trees and shrubs) in South Africa. The research of the CTHB has led to the discovery of new pathogens of native trees in South Africa. For example, during the past three years, a new and devastating disease has been found killing native *Rapanea melanophloes* (Cape beech) in the Western Cape. The origin of the pathogen (a fungus) is unknown, but the damage that it is causing, suggests strongly that it has been introduced into South Africa. In addition, the research team, now operating from centres at Universities in Pretoria, Johannesburg, Bloemfontein, Stellenbosch and Grahamstown has also developed



a substantially deeper understanding of serious diseases caused by pathogens previously known to occur in South Africa. Important examples include the following: (a) *Phytophthora cinnamomi* that appears to have been introduced into the country killing Proteaceae and notably silver trees (*Leucadendron argenteum*) on the Cape Peninsula, and (b) *Armillaria mellea* introduced into Cape Town, apparently by early Dutch settlers and which the research team has now shown to be moving into the natural woody forests on the slopes of Table Mountain.

Research by the CTHB and investigators working in this field prior to the establishment of this CoE has led to the understanding that native pathogens are moving from native trees to those grown in plantations. This is most obvious for *Acacia* spp. and *Eucalyptus* spp. and less so for *Pinus* spp. It is believed that the reason for this difference lies in the fact that South Africa has native plants related to *Acacia* spp. and *Eucalyptus* spp., but not to pines. Numerous pathogens and at least one insect pest native to South Africa that appear to have undergone unexpected host shifts to infect non-native plantation-grown trees have been noticed. Some of the best examples that have emerged are the fungus *Ceratocystis albifundus*, native on many trees in South Africa that can cause a devastating wilt disease on *Acacia mearnsii* and *Chrysoporthe austroafricana*, now believed to be native on native Myrtaceae, which has emerged as an important canker pathogen of *Eucalyptus*. The insect example is of the cossid moth *Coryphodema tristis*, believed to be native (but thus far not encountered on native trees) that has developed the capacity to infest only *Eucalyptus nitens*.

Other than the apparent host shifts that are being observed, the research team of the CTHB is considering various diseases of native trees that appear to be linked to climate change. A vivid example can be found in the dramatic die-off of *Euphorbia ingens* in parts of South Africa. Very little is known regarding this and similar problems in the country and intensive research is ongoing to understand these problems more clearly. An important question also lies in understanding differences between host-jumps, range expansion of pests and pathogens and whether these organisms are native or are alien and accidentally introduced into the country.

2.7.2 Pests and diseases of plantation forests

Disease and insect pest problems are well-known in South African plantation forestry. New insect pests and pathogens have continued to appear in South African forestry plantations at regular intervals since the establishment of forestry in the country. A matter of greater concern is the increasing numbers of these damage-causing agents arriving. This trend must be strongly influenced by the increasing influx of people and products into the country. Consequently, there is a great and growing need for increased quarantine measures to stem the flow of pests and pathogens arriving. Research on pests and pathogens of plantation-grown trees also represents a crucially important element of the efforts to ensure the long-term sustainability of commercial forestry. Research relating to diseases and pests damaging commercial forestry operations is almost exclusively carried out by the Tree Protection Cooperative Programme (TPCP), a 24-year-old programme funded collectively by private forestry companies in South Africa together with the University of Pretoria (www.fabinet.up.ac.za).

On the disease front, the most important pathogen affecting commercial forestry is still the pitch canker fungus *Fusarium circinatum*. This pathogen was found for the first time in South Africa in a single pine-growing nursery in 1991. It has subsequently spread to all pine nurseries in South Africa and its impact has become dramatic. This is not only owing to damage to seedlings in nurseries, but more importantly to the fact that plants die off in the field, shortly after establishment. The pathogen has made it extremely difficult to propagate *P. patula*, the most commonly planted pine species in South Africa. Over and above the damage that *F. circinatum* causes to seedlings, incidences of “full-blown” pitch canker on established trees have appeared in plantations with increasing frequency during the last few years. As mentioned in the last report, the first incidence of pitch canker on established trees was noted in 2008 in Tokai (Western Cape). There are now centres of infection in many parts of the eastern seaboard of South Africa, south of Durban.

During the past ten years, the number of new insect pests damaging plantation forestry has increased dramatically. These are largely due to accidental introductions and the increased number, as in the case of pathogens is linked to increased movement of people and products. In addition, insect pests known to occur in South Africa for many years have in some cases begun to cause more damage than they did in the past. The reasons for this change are not clear. It could be the result of climate change, planting of tree genotypes without resistance to the pests or the result of new cryptic species of pests that have been mistaken for those known to occur here for a long time. An example of the latter situation is found in the case of the *Eucalyptus* snout beetle *Gonipterus scutellatus*, which after successful biological control many years ago, ceased to be a problem. The new problems being experienced could be linked to the fact that the insect in South Africa represents more than one species.



For the last three years and therefore the period for which this report is relevant, three insect pests would be considered most important. These are the Sirex wood wasp (*Sirex noctilio*) that is devastating pine plantations in virtually every part of South Africa; the bronze bug *Thaumastocoris peregrinus* that can seriously defoliate *Eucalyptus* spp. and the Eucalypt Gall Wasp *Leptocybe invasa*, relatively newly discovered in South Africa and presently resulting in substantial damage to young Eucalyptus plantations. According to Institute for Commercial Forestry Research (ICFR), Sirex has spread through the pine growing areas of South Africa from Cape Town to Louis Trichardt over the past 18 years. Even though the spread is noted, there are still plantations in the area between Piet Retief and Louis Trichardt, where Sirex has not yet been recorded. Fig.3 below illustrates the spread of the Sirex.

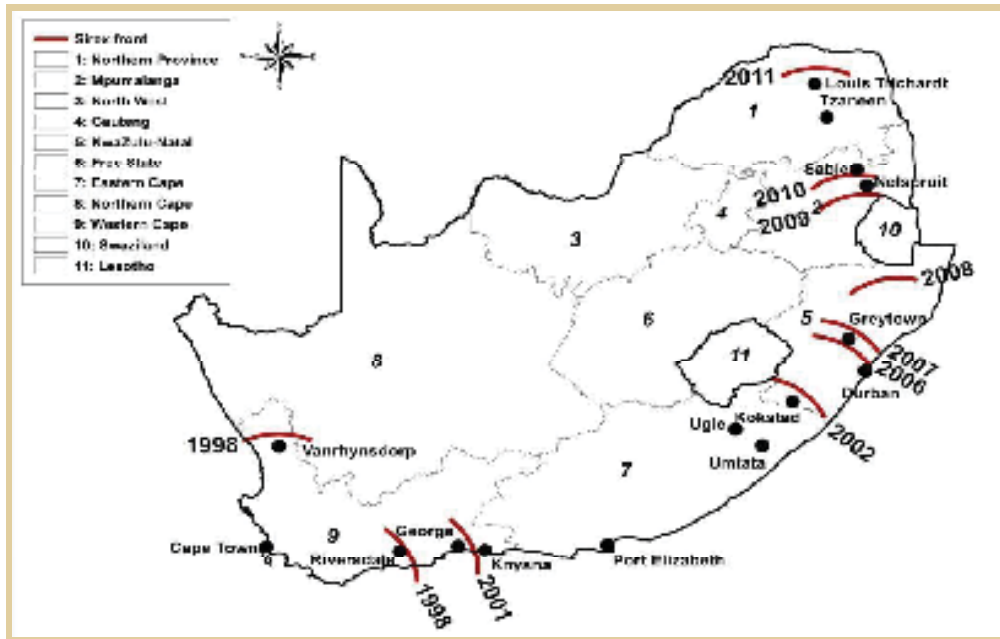


Figure 3: Sirex infestation across all pine-growing areas (2011)

Source: ICFR, 2012

Options to control diseases and insects in forests and forestry depend strongly on a particular situation. In the case of trees in natural woody ecosystems and where disease problems have emerged due to the introduction of an alien invasive pathogen, there is very little that can be done. These diseases usually end up dramatically changing the natural landscape. For disease and pest problems in commercial forestry, there are many options to reduce damage, especially where non-native trees are being propagated, such as in the case of South Africa. Thus, planting alternative species as well as breeding and selection for disease or pest resistant planting stock is routinely used. These approaches have been used effectively by the South African Forestry Industry during the past three years, and also before this time. For invasive alien insect pests, another option to reduce damage is biological control. There has been a number of biological control “success stories” linked to commercial forestry in South Africa in the past. During the past three years, intensive efforts and substantial investment have been made in biological control programmes to reduce the negative impacts of *Sirex noctilio*, *Leptocybe invasa*, *Gonipterus scutellatus* and *Thaumastocoris peregrinus*.

A great deal of effort has been expended during the past three years to reduce these threats. These have largely come from initiatives of the CTHB and the Tree Protection Cooperative Programme (TPCP) and the various organisations that support these programmes at the University of Pretoria. The department works together with private companies and representatives from FABI and the ICFR in a bid to deal with the spread of pests and diseases in plantations. South African Sirex Control Programme is one such intervention to deal with pests in plantations. Although the Control Programme was initiated with funding from the private sector, the last three years have seen significant financial support from the Department of Agriculture, Forestry and Fisheries. A major accomplishment during this period has been the development of the South African Forest Protection Strategy, an initiative of the Department of Agriculture Forestry and Fisheries and formulated by the ICFR together with support from the TPCP and CTHB team. This document seeks, for the first time, to capture all the key issues underpinning tree protection in South Africa, and proposes a funding model to ensure long term security of forests and forestry in the country. Acknowledging that the threat from *Sirex noctilio* will remain with pine growers into the future, experts advise that there is a need for high vigilance into the future to ensure that South Africa does not experience a “Green Triangle” situation again. Not only have the number of newly reported pests and diseases increased, but the area affected by pests and diseases have also increased (Table 10).



Table 10: Summary of plantation area (ha) damaged

Year	Cause of damage	
	Disease	Insects
2007/2008	142	1 086
2008/2009	652	619
2009/2010	508	1750
2010/2011	1098	567

Source: DAFF commercial timber resources annual reports

A matter of concern is the impact that climate change could have on the spread and introduction of new pests and diseases into South Africa. There have been numerous examples where climate change has resulted in range expansion of insect pests.

2.7.3 Woody invasive plants

Invasive alien species increased dramatically in recent decades. They pose both ecological and economical challenges for the country. Invasive alien vegetation, including various species of wattle, pine, poplar, weeping willow, gum trees, hakea and prickly pear, among others, pose a serious threat to South Africa's water supply, as well as the country's agricultural potential and biodiversity. In 2010, invasive plants were estimated to cover 20million hectares of land. At the time, Dr Christo Marais of Working for Water Programme (WfW), estimated that 25 years is needed to clear the infestation based on the findings of a national assessment of invasive alien plants completed during April 2010¹. The assessment has been done per quaternary catchment.

2.7.4 Veld and forest fires

Veld and forest fires are a common feature of the South African landscape and also an inevitable consequence of the country's fire-prone vegetation and warm, dry weather. Unmanaged, veldfires are among the main contributors to socio-economic threats and environmental degradation in South Africa. South Africa very often battles with unplanned runaway fires. In 2012, the Northern Cape battled with devastating veld fires in the Ghaapse Plato region which resulted in the destruction of 100 000 hectares of veld². In 2007/08 the highest area losses were incurred in the country as a result of devastating veldfires as illustrated in Fig. 4 below.

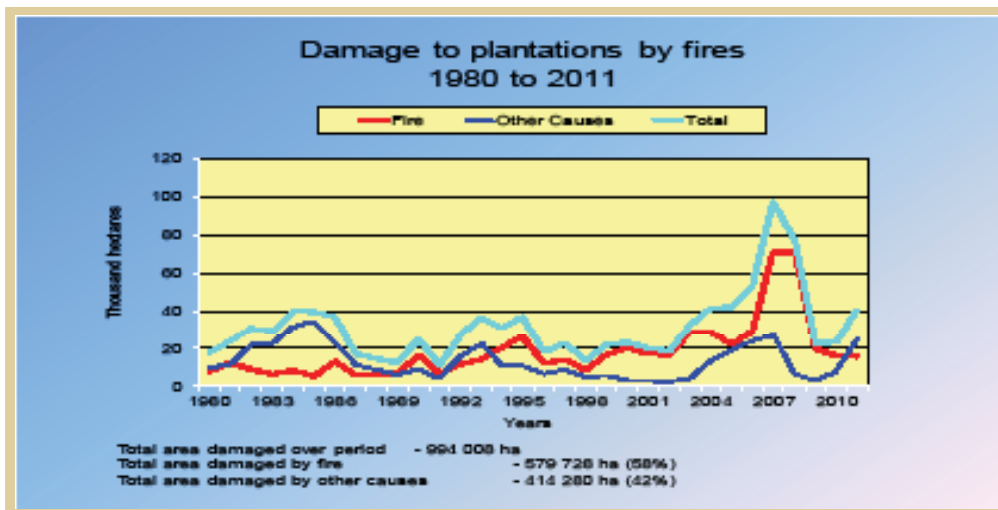


Figure 4: Illustration of fire damage to plantations from 1980–2011

Source: FSA, 2013

¹ Source: <http://www.iol.co.za/news/south-africa/invasive-alien-plants-shock-for-water-affairs-1.671043>

² Source: <http://news.howzit.msn.com/runaway-fires-in-the-northern-cape>



Table 11: Fires that outstripped the resource capacity of FPAs during 2011/2012 and warranted external support from working on fire

Province	No. of FPAs per province	No. of fires that outstripped resource capacities of FPAs	Total area (ha) extinguished by Working on Fire
Eastern Cape	55	82	9 284
Free State	60	142	94 866
Gauteng	22	170	83 583
Limpopo	25	207	208 720
KwaZulu-Natal	22	419	137 468
Mpumalanga	12	405	98 286
Northern Cape	19	47	26 463
North West	19	62	38 305
Western Cape	27	3	200
Total	261	1537	697 175

Source: DAFF, 2012

Table 12: Illustration of burnt areas per province for the period 2012

Province	Burnt areas as hectares	
	2009	2012
Northern Cape	115725,3	466728,18
Western Cape	197117,53	138187,5
Eastern Cape	325689,4	307681,63
KwaZulu-Natal	520299,46	571265,54
Mpumalanga	408678,22	491941,69
Limpopo	254257,95	343363,88
Gauteng	97137,82	104641,92
North West	264392,75	291235,94
Free State	169145	264660,69
Total	2 352 443.43	2 979 706.97

Source: DAFF, *AFIS report, 2009 and 2012*

It can be seen from Fig. 4 that fires are a major cause of damage to plantations. It shows that significant plantation areas were damaged in 2007 and 2008. It also shows that fire incidents started to increase once again in 2010. The department, in partnership with the Working on Fire Programme, the Fire Protection Associations and other partners work together to control fires. As such, in 2011, the occurrences of fires during this time were such that local Forest Protections Associations (FPA's) were unable to extinguish the fires (see Tables 11 and 12).

2.8 BIODIVERSITY PROTECTION AND PROTECTION OF NATURAL FOREST RESOURCES

The biodiversity of South Africa has been discussed in 2.6. The Department has made strides in ensuring protection of biodiversity and natural forest resources in the country especially against the key drivers of biodiversity loss like mining and urban expansion. These are discussed below:

2.8.1 Forest biodiversity conservation planning

Following the completion of the national forest type classification in 2002, a continuous project was initiated to develop a systematic protected area planning framework for the forest biome in 2004. An overall national target of 23% was set for all natural rainforests. Certain forest types, however, are under-represented in protected areas, and will receive priority in future protected area network planning. Since the last report, priority areas in Mpumalanga have been identified to be protected as nature reserves. In the same breath, the branch identified nine state forests in Mpumalanga for declaration as Forest Nature Reserves. The declaration of forests as nature reserves provides an extra layer of protection. (See box on p.23 for description of the protected area planning framework.)



Box: Listing of threatened and protected forest ecosystems

In 2006 the SA National Biodiversity Institute initiated a process to identify threatened and protected ecosystems. The National Environmental Management Biodiversity Act No 10 of 2004 (NEMBA) determines that “threatened ecosystems” listed under this Act must be taken into account in Integrated Development Plans of local authorities, and that a basic assessment is required for the removal of any amount of natural vegetation of such listed ecosystems. This imposes stricter control over activities that may affect these ecosystems both in forward planning and development control (the EIA Regulations R385, R386 and R387 of 2006 under the National Environmental Management Act No 107 of 1998 only requires a basic assessment for removal of more than 3 hectares of natural vegetation, apart from other listed activities). The Act also makes provision for the establishment of “bioregional plans”, which contain measures for the effective management of biodiversity and the components of biodiversity in the region. Listed threatened ecosystems will be reflected in these plans as part of the “critical biodiversity areas” to be accounted for in planning and conservation, and monitored. The Act makes provision for a second category of “protected ecosystems” which are under threat, but not in immediate danger. Such ecosystems have to be monitored and will also be reflected in bioregional plans.

The process started with a national workshop with stakeholders where it was decided to develop one set of criteria for identifying threatened or protected ecosystems for terrestrial biomes, but to develop a separate set for the forest biome and the riverine and marine systems due to their uniqueness. A working group was established to develop these criteria for forests, and workshops were held with stakeholders with the aim of identifying forest types and forest patches to be listed as threatened and protected ecosystems.

The criteria developed have thresholds to determine whether forest types or individual forest patches must be listed as Critically Endangered (CE); Endangered (E) or Vulnerable (VU). Only forest types and forest patches determined to be Critically Endangered or Endangered will be listed as threatened ecosystems, while those determined to be Vulnerable will be listed as protected ecosystems.

The criteria developed are:

- A1. Irreversible habitat loss;
- A2. Ecosystem degradation & loss of integrity;
- B. Rate of loss of natural habitat;
- C. Limited original extent & imminent threat;
- D. Threatened species associations;
- E. High Conservation value forest patches under imminent threat.

Forests are categorised as endangered or vulnerable.

Endangered category

KwaZulu-Natal Coastal Forest
Mangrove Forest
Western Cape Milkwood Forest

Vulnerable category

Low Escarpment Mistbelt Forest
Lowveld Riverine Forest
Eastern Scarp Forest
Pondoland Scarp Forest
Swamp Forest
Transkei Coastal Scarp Forest

2.8.2 Awareness raising on biodiversity

The United Nations declared 2011 as the International Year of Forests (IYF). During this year, countries around the world undertook certain activities to make people aware of forests and why it is important to protect them. The DAFF published a book on South Africa's forests titled “The Green Heritage” that was launched in 2011 as part of the activities for celebrating the IYF. This book introduces the reader to the origin of commercial forestry in South Africa, the types of forests in South Africa, their extent and ownership right through their conservation and management. An article on the importance of forests was also published in the Mini Mag, the magazine for children used in schools as a teaching aid. This magazine compliments school curricula and it has achieved great success in the classroom. Several conferences were hosted by the department which also added to attempts raise awareness throughout the country. The main theme of Arbor Week in September 2011 was the protection of forests.

2.8.3 Veld and forest fire prevention

Veld and forest fires destroy vast areas of land in the country and inevitably destroy fauna and flora. Fire protection and management is crucial in conserving biological diversity. In South Africa, integrated fire management is governed by the National Veld and Forest Fire Act, 1998 (NVFFA). This legislation provides for systems, processes and institutions for veld and forest fire management, including mountain fires.



(a) FIRE PROTECTION ASSOCIATIONS

Chapter two of the Act provides for the establishment and registration of Fire Protection Associations (FPAs). These are voluntary, community-based natural resource management organisations for the collective management of veldfires, using local knowledge within the framework provided by the Act that will collaborate in preventing and controlling veldfires at the local level. The Act provides for the establishment of FPAs due to the fact that veldfires often become emergencies that threaten life and assets on the property where they have started or when they spread or threaten to spread, beyond the boundaries of any one property, and require cooperation to manage the conditions that determine their occurrence. A number of FPAs may collaborate and form an Umbrella FPA from which they can receive common services such as Incident Command services, weather information and training and capacity building. There are 138 umbrella FPAs to date which are recognised in terms of the NVFFA.

The Working on Fire (WoF) Programme, a multi government funded programme operating as a Public Private Partnership entity operates on umbrella level. Falling within the ambit of the Government's Expanded Public Works Programme, WoF has established FireWise teams in most communal areas where communities are vulnerable and assets, livelihoods and lives are at stake. Training of basic fire fighting and use of relevant equipment to fight fires was provided to members of the communities, this initiative is in line with the United Nations International Strategy for Disaster Risk Reduction (UNISDR) whereby government in partnership with the private sector empowers vulnerable communities so that they can be in the fore front when protecting their assets and livelihoods.

In 2010, 27 FPAs were registered, 20 FPAs were registered in 2011, and another 13 registered in 2012 bringing the total number of registered FPAs in the country to 252.

Table 13: Registered FPAs from 2010—2012

Province	2010	2011	2012
Eastern cape	13	14	4
Western Cape	4	1	1
Gauteng	1	1	0
North West	2	3	2
Northern Cape	3	0	0
Kwa Zulu Natal	2	0	3
Limpopo	1	0	1
Mpumalanga	0	0	2
Free State	1	1	0
Total	27	20	13

Source: DAFF 2012

The FPAs annual reports indicate challenges faced by these organisations. Lack and/or insufficient financial support, lack of compliance by the Fire Protection Officers and lack of commitment by government departments and municipalities were identified as major challenges facing the FPAs. To address these challenges, the Department in turn conducts assessments for all registered FPAs to check whether they are functioning and provide assistance and guidance. The Department is currently developing a funding policy and model that will assist the FPAs. Once the policy is agreed upon internally within the department more assistance will be channelled to indigent FPAs.

(b) THE NATIONAL FIRE DANGER RATING SYSTEM

The department is responsible for the preparation and maintenance of a National Fire Danger Rating System for South Africa as provided for in the National Veld and Forest Fire Act. Following the Memorandum of Understanding that was signed in 2005 between the former Department of Water Affairs and Forestry (DWAF) and the South African Weather Services (SAWS), the DAFF, commissioned the Council for Scientific and Industrial Research (CSIR), to determine a fire danger rating system that will be suitable for the country, while taking into account all the provisions of the Act. Some progress has been made as the thresholds have been adjusted by CSIR. The system has been tested daily at SAWS and close monitoring of trends from its output compared. The system became operational in April 2012 and piloted from August 2012. Based on the results of the pilots, the Lowveld model was adopted and prepared for gazetting to become South Africa's official fire danger rating system.

The Department appointed the CSIR in August 2009 to revise the national veldfire risk profile (classification) which was completed in 2010. This profile facilitates strategic planning aimed at mitigating veldfire risk in South Africa, and specifically support a bioregional approach for regional specific integrated veldfire management. It is utilised as a tool to guide veldfire risk reduction by various stakeholders as it clearly characterises the veldfire risk in terms of low, medium, high and extreme categories. Since 2010, the department continuously liaises with



municipalities countrywide to make them aware of the classification so that they note areas at high risk and plan towards putting more resources in such areas in order to mitigate the risks.

Technological developments in the field of veldfire research have advanced in the recent years and various tools are now available to assist decision makers in the management of veldfires and the associated risks. Satellites have a role to play in detecting, monitoring and characterising fires. In this regard, the department acquired the Active Fire Information System in 2010 from Eskom which is in operation. The system captures the information using the Moderate-resolution Imaging Spectroradiometer (MODIS) to indicate where active fires are occurring in real time as well as the burnt scars. The MODIS active fire and burned area products contain information unique to understanding the timing and spatial distribution of fires and their characteristics. The availability of this information enhances the collection of fire occurrence data in the future. Furthermore the data can be compared to actual field data of fire occurrences to enhance the product.

Cooperation with stakeholders is one of the key elements in integrated fire management. The Department continues to work together with the Working on Fire Programme which is one of the means used by government and its strategic partners to ensure better cooperation by stakeholders.

In an attempt to deal with issues of veldfires in the country and across the borders, South Africa also embarked on a process of entering into bilateral agreements on mechanisms for the management of cross-border fires with the countries bordering the Republic (see African Agenda for more on bilateral agreements).

(c) ENFORCEMENT AND COMPLIANCE

The NVFFA gives powers to enforce to Fire Protection Officers, Forest Officers, Police Officers and Chief Fire Officers. Since the Department is a stakeholder involved in the enforcement of the Act, it actively builds capacity of other stakeholders through information sessions, and these have been conducted in all the provinces throughout the country. In this light, the department in conjunction with the Justice College also participates in the information sessions that are designed to assist the Prosecutors and Magistrates to be acquainted with the provisions of the Act and thereby ensure that offenders are convicted accordingly. It is the responsibility of the department to create a conducive environment for the implementation of the legislation; this includes policy reforms or amendments that are currently under review in consultation with communities and stakeholders. These amendments are necessary and must be effected to ensure successful implementation of the Act and also to ensure that the Act speaks to the reality of the situations on the ground and that it is in line with the Constitution of the country.

Regarding the administration of the National Forests Act, the department has embarked on an ongoing initiative to raise compliance of the Act through the gazetting of list of protected trees, champion trees and training of peace officer/forest officers and other law enforcement agencies. In 2012, several litigation cases and admission of guilt fines were opened for destruction of forests and protected trees.

2.9 SOCIO-ECONOMIC BENEFITS OF SOUTH AFRICA'S FORESTS

South Africa's forests are important for spiritual, aesthetic and cultural reasons. Forests have multiple values, for example, they provide shelter to people, habitat to biodiversity; they are a source of food, medicine, clean water; and play a vital role in maintaining a stable global climate and environment.

2.9.1 Recreation

Citizens use forested areas for a wealth of outdoor activities, including usage of hiking trails, bridle trails, viewpoints; mountain biking, horse riding, orienteering, bushwalking, bird watching, camping, ecotourism, chalets, guided walks, canopy slide, burial sites (site of the Zulu Chief Dingaan in Hlatikulu Forest), Khoi rock paintings, old historic houses, big tree viewpoints, remains of a historic fort and old friezes recovered from demolished buildings, Southern Cape Treetop Chalets and include sacred forests (sacred forest in Thate Vondo-Limpopo), all contributing to the yet to be quantified revenue generation.

2.9.2 Forestry's contribution to poverty alleviation

The world is devising means and strategies to fight poverty under the leadership of the United Nations. Of note are the Millennium Development Goals (MDGs) which aimed to halve poverty by 2014. The soon coming Sustainable Development Goals (SDGs) are envisaged to build on MDGs to ensure poverty reduction. Nationally, the democratic government introduced a comprehensive programme to alleviate poverty in rural areas in an integrated manner. Forests are mainly in rural areas and continue to serve as a safety net for the rural poor.

(a) CONTRIBUTION TO EMPLOYMENT

In 2011, the industry provided employment to about 96 700 employees (Forestry South Africa, 2012). This is a remarkable decrease on direct employment as compared to 106 844 reported in 2009. This decrease is allegedly attributed to shrinkage in the forestry area over the period and a change in the genera mix noting that wattle uses more labour than Eucalyptus and Pinus species. (Godsmark, 2013, Personal communication). The replanting of the over 8 000 ha in the Western Cape as a result of reversal of Cabinet decision on exit areas in the province will contribute towards creation of a few decent (permanent) jobs. But this will depend on the approach taken when sourcing labour, that is, permanent workers vs. outsourcing of labour.



The Sawmilling subsector also saw a significant decrease in the number of direct employees from 10 000 in 2009 to 7 000 in 2011 (Roy Southey, 2013, Personal communication). This could be attributed to the fact that most sawmills were closed due to the ever-increasing shortage of raw material (sawlogs) and virtually no export of sawn board and much reduced volumes of other wooden products. This has resulted in the decrease in number of sawmills in the country from about ± 250 in the early nineties to only about 150 mills in 2012 and had therefore a negative impact on employment. Employment in the forestry sector is illustrated in Table 14 below.

Table 14: Forest sector and related employment in South Africa in 2011

Sub-sector	No. of employees		Total Employment
	Direct	Indirect	
Forestry	62 700	30 000	92 700
Pulp and Paper	13 200	10 800	24 000
(1)Sawmilling	7 000	3 000	10 000
Timber Board	6 000	n.a.	6 000
Mining Timber	2 200	n.a.	2 200
Other	11 000	n.a.	11 000
(2)Government (DAFF)	2908	n.a.	2908
Total	115 100	43 800	145 900

Source: FSA 2012

(1) Source: Sawmilling South Africa, 2013

(2) Source: DAFF

As a large portion of the South African Forest sector is located in rural areas and serves the rural community, the impact either negative or positive is directly experienced by these rural communities. Similarly, as employment has decreased in rural areas that are reliant on the forest sector, the number of households dependent on forestry has also decreased significantly from an estimated total of 2,3 million in 2009 to a mere 652 000 in 2011. Significant declines are noticed in Kwazulu-Natal, Mpumalanga and the Eastern Cape. Fig. 5 below indicates the number of people dependent on the forestry sector.

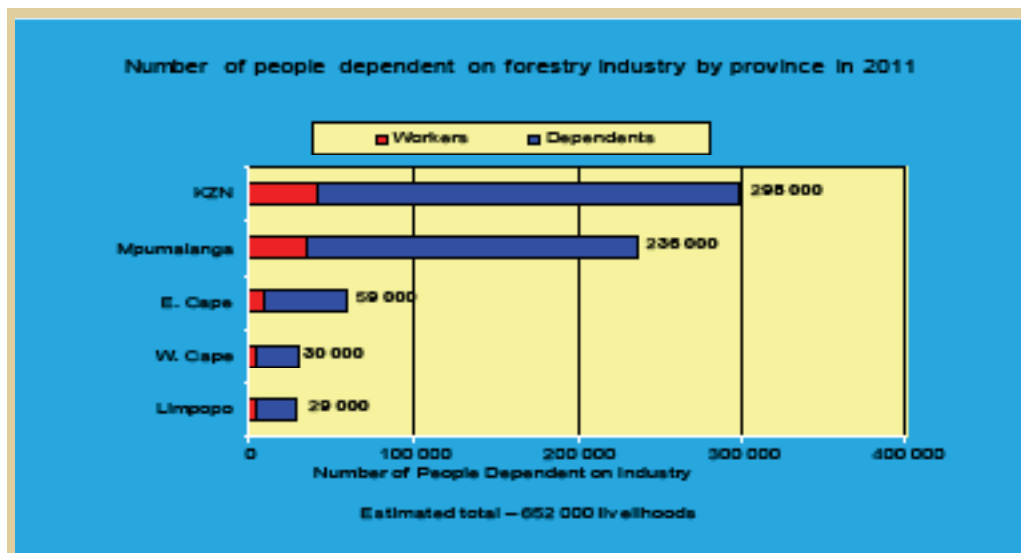


Figure 5: Total number of people dependent on forestry industry, 2011

Source; FSA 2013

The department has created a number of jobs, notably in Kwazulu-Natal during this period while other job opportunities were mainly created under the auspices of the governments' Expanded Public Works Programme through enhancing the implementation of labour-intensive programmes such as Working for Woodlands (to rehabilitate degraded woodlands), Working for Water (a programme for removing invasive species and value added industries), Working on Fire (fire fighting capacity) and now the development of the Working for Energy Programme (which will look at biofuels). Through these programmes, appropriate accredited training courses are offered by the relevant authorities. In these identified forestry projects, equitable representation of unemployed youth, women and disabled people will be sought to satisfy social, as well as environmental needs. These fields of training are structured in such a manner that provides high chances of employment once the persons exit



their employment. As at August 2009, South Africa has announced a major public investment programme of approximately R787 billion over the three financial years to March 2012 to assist in these processes. According to the Charter Council annual report, in 2010, a total of 420 jobs were created in the Eastern Cape through the Wattle Jungle Conversion Programme in Catha village, and 200 jobs in Limpopo's Rossbach plantation through a rehabilitation programme funded by the Expanded Public Works Programme resulting in a total of 620 jobs being created.

(b) FORESTS AND PEOPLE'S WELFARE

Marula (*Sclerocarya birrea*) is an extremely important source of food for poor households in a third of the country, for this tree produces nutritious fruit that are used in various products, including home brew beer and commercially marketed liquor. Baobab (*Adansonia digitata*) fruit also supports an industry producing a range of products, including tartare used as a food ingredient. The fruit of more than 30 other tree species are used by poor rural households in relatively small quantities to supplement food such as the Kei apple (*Dovyalis caffra*) and Dune medlar (*Ancylanthos monteiro*). There are also clear indications that it is the poorer and more isolated communities, as well as households that are less well off or headed by women, which are more dependent on these resources.

2.9.3 Forests and food security in the context of climate change

Throughout the world, people depend on forests for food security, nutrition and livelihood. This is done through consumption of forest products or selling of harvested products for economic purposes. In South Africa, forests play a significant role towards food security and livelihood in the form of Non-Timber Forest Products (NTFPs). According to Shackleton and Shackleton (2004) the most commonly used products are wild spinaches, fuelwood, wooden utensils, grass hand-brushes, edible fruit and twig hand-brushes. Other important products that are used are Honey, Seven Weeks Ferns, Pine grown Mushrooms, Marula Fruit, Mopane worms, edible insects, bush meat, reeds for weaving and Medicinal Plants. Even though people use NTFPs for survival, Prof Labadarios (2013) argues that more than half of South Africans do not have regular access to enough food in South Africa. It is estimated that about 26% experience hunger.

The department contributes to the efforts to fight hunger by integrating greening with food security. This is done by integrating trees in food gardens, planting of fruit trees and mini orchards and the promotion of Trees Programme throughout the country. The department coordinates the Million Trees Programme, which calls on the public, organisations and institutions to plant at least a million trees annually. This is done in line with the United Nations Plant for the Planet Programme, which aims to plant at least a billion trees annually. Moreover, through the annual national Arbor week campaigns, more than 300 000 trees were planted during the reporting period (2010–2012) countrywide. Besides highlighting the trees of the year, planting of other tree species for different purposes is also encouraged. These are chosen based on departmental priorities like Zero Hunger and Food Security. Consequently, achieving the one million trees target means that the country is contributing in the fight against global climate change, poverty and food security.

Several studies concur that Climate Change could potentially interrupt progress towards a world without hunger. Despite shortcomings in the climate change future projections, it is clear that the country's forest and food security will be impacted in a variety of ways. The Long-term Adaptation Scenarios (LTAS) study predicts that Climate Change impacts on South Africa are likely to be felt primarily through its direct impacts on water resources, agriculture, forestry and fisheries. Climate Change and rising atmospheric carbon dioxide will change the suitability of the environment for South Africa's nine different biome types, with some biomes thriving and expanding under the changing conditions and other biomes shrinking as a result. It is noted that the most threatened biome, regardless of climate scenario, is the grassland biome. This is because of its structural integrity which makes it endangered by the invasion of woody plants. Furthermore, according to Dr Emma Archer Van Garderen (Personal Communication, 2013) climate change will affect the natural forests, more especially afrotemperate forests. This will have an impact on food security as medicinal plants and Mopane worms among others will be negatively affected. According to the 2012 South Africa environment outlook, the forestry sector in South Africa is at risk to climate changes. In terms of projected impacts, models predict drying out of the Western Cape resulting in the drastic decline in plantation forestry in the south-west of the country.

The studies have concluded that, in the medium to longer-term, the total area of potential afforested land is projected to increase due to the wetting trend over the eastern seaboard and adjacent areas. The adverse impacts of climate change on South Africa's biomes will be made worse by loss of habitat driven by land use change. Climatic changes will result in the environment no longer favourable for certain species endemic to forests and thus leading to their extinction. These will therefore inevitably have an adverse impact on communities who rely on forests and NTFPs for their livelihood resulting in food insecurity.

South Africa is putting in place strategies and plans to mitigate the effects of climate change and to ensure sustained food and livelihoods derived from forests. In 2011, the Department of Environmental Affairs developed four climate change adaptation frameworks for biodiversity, water, agriculture and forestry. There is still a massive need to develop climate resilient forestry options and diversify livelihood skills.



2.9.4 Forestry social responsibility

Forestry companies make a significant contribution towards the upliftment of communities adjacent to their area of operations. They particularly contribute in the area of education, health, job creation, conservation and environment.

(a) EDUCATION

Schools: The South African Pulp and Paper Industries (SAPPI), for example, promotes technical literacy and education for students in grades 10, 11 and 12, with the main aim of increasing the skilled human resources base focused on Engineering, Science and Technology. The programme kick-started in the year 1995 and is accessed by up to 1700 pupils per year through nine centres. Since then, Sappi contributed a total of R18,4 million to date and committed R1,8 million during the 2011/2012 financial year.

The Kwadukuza Resource Centre, supported by SAPPI, opened in the year 2000 also provides educational resources as well as access to computer and internet facilities for over 90 schools and 70 000 learners. To date, R70 million has been spent on this project and R600 000 has been committed for the 2011/12 financial year. The Umjindi Resource Centre opened in the year 2005 provides computer services and study facilities to 46 schools. To date, Sappi has contributed R2,06 million to this project and R300 000 is committed for 2011/2012 to continue with this initiative

Natal Cooperative Timbers (NCT) on the other hand, supports special schools such as the Harding Special School for the physically-challenged, formed in 1990. This is a boarding establishment for 155 physically disabled children aged 6 to 18 (Grade 1 to 7) and Nkanyiso Special School found on the outskirts of Vryheid for mentally and physically-challenged learners. It also supports the Grove Intermediate School which is a rural school in Mooi River that provides education to 100 learners with limited resources. Ozwathini Primary School is another supported school outside Greytown that caters for over 300 learners with limited resources. NCT does not only support schools but also crèches in the Kranskop area.

Libraries: Sappi supports the efforts of community libraries to promote culture and literacy among the younger generation. The company also supports the National Library Week and the National Book Week by donating books to 45 community libraries. Magazines have also been donated in the previous years. From 2000 to 2009 Sappi has donated approximately R3,95 million and R140 000 was planned for 2011/12. NCT on the other hand works with the Little Elephant Training Centre for early Education (LETCEE), based in Greytown to set up toy libraries in rural communities and work towards improving young children's access to early learning and cognitive stimulation.

(b) CONSERVATION AND ENVIRONMENT

SAPPI has a greening and tree growing programme known as Sandiso Imvelo/GreenForBlue. Through this programme, thousands of indigenous trees are planted in KwaZulu-Natal and Mpumalanga, mostly with business partners. SAPPI also donates and plants hundreds of trees during the national Arbor Week. Sappi is the conservator of many bird species. Through the Aquariums and Beach clean-up programmes, Sappi supports the Two Oceans Aquarium in Cape Town with the 'Sappi River Meander' and the 'Sappi Seal Platform' adjacent to the aquarium in the harbour (R2 million) and participates in clean-up activities at selected beaches.

Komatiland on the other hand has a Green Energy Project. This project is set out to determine the most effective way to apply forestry and related waste streams for the production of renewable energy. It aims at contributing towards the establishment of a sustainable model for the production of renewable energy, thereby positively contributing to the establishment of alternative energy generation techniques which not only has the advantage of addressing issues around energy shortages, but also adding considerable value to the local and national economy.

(c) JOB CREATION AND SKILLS DEVELOPMENT

SAPPI has a project known as Project Grow, which was started in 1983 and assisted almost 4 000 black people to grow trees on 15 000 ha of their own and community land. The assistance includes provision of seedlings, technical advice, loan and guaranteed market access for the first two harvests. It is estimated that 80% of the workforce employed in the cultivation of these trees are woman. To date, R50 million has been invested in this project.

Komatiland has several projects that contribute to job creation and skills development. It has a Bee-Keeping project. The Bee-Keeping Project in the Vhembe District, Limpopo was initiated in partnership with the Development Bank of Southern Africa (DBSA) with the objective of developing specialist skills within a community and to establish a pilot Bee-keeping site in Limpopo to produce and sell honey in a sustainable manner. There are two cooperatives established with six Bee-keepers each which make use of plantations and the provision of pollination services to farmers to produce honey.

The KZN Department of Agriculture is set to unveil an ambitious programme aimed at giving 28 000 rural people jobs as part of the EPWP (The New Age, 03 May 2012). The employees will also plant indigenous trees and fruit trees across the province. If this model was to be replicated in other provinces, more job opportunities could be created for many people and improve their lives in the process.



(d) COMMUNITY SUPPORT

The forestry company, Merensky provides training, education, health and housing mainly to its employees, children and relatives. In addition, they have land use agreements with communities which range from cattle grazing; honey harvesting, crop cultivation, habitation and thoroughfare.

SAPPI runs fire awareness campaigns in rural areas with an aim to educate children on how to prevent or avoid veld fires and their dangers mainly in the Mpumalanga province.

NCT runs a project known as Assist Orphans in Pietermaritzburg which caters for homeless toddlers, abandoned and children living with HIV/AIDS. Moreover, it supports the Izulu Orphan Projects in Empangeni, set up home-run crèches, training educators in early childhood development and provides the tools to carry out their tasks. There are also several projects ranging from early childhood development and food gardens that benefit from the NCT's social programme, including the Pietermaritzburg Community Chest.

2.9.5. Conditions of forestry workers in public and private sectors

Although the wages for government forestry workers are better than those of most big private forestry companies, the conditions under which the workers live are poor. The condition of the DAFF forestry infrastructure has deteriorated over a long period of time and as such requires that DAFF turn them around to satisfactory levels. An Internal Investigation was carried out in March/ April 2012 on the condition of infrastructure in the DAFF managed forests in the provinces of Limpopo, Mpumalanga, Kwazulu-Natal and the Eastern Cape. Recommendations made from such studies should be implemented gradually in order to reverse the situation.

The investigation focused on a variety of aspects such as housing for workers and staff, sanitation, electricity, road network, water and communication infrastructure. Although, the conditions in some plantations were fairly acceptable, the situation in many stations was unacceptable due to the poor to extremely poor condition of the housing for workers where in some cases there would be no running water, sanitation or electricity. The road condition in many cases was also in a bad state except in some few cases. The estate managers pointed to lack of funding that led to the deterioration in the condition of these assets. Lack of policy, guidelines and maintenance programmes (plans) also contributed to the bad state of the assets. It would therefore be necessary for the department to start investing on rehabilitation of its forestry assets in a phased approach and accordingly prioritising the projects. This should help to raise the value of DAFF's forestry assets, in lieu of the restructuring intent of the department, particularly for category B and C plantations.

The private sector also has its fair share of challenges and non-compliance. The Business Report (23 November 2012) reported that steady deterioration of living conditions of forestry workers has been highlighted by auditors and specialists who conduct certification assessments for the international Forestry Stewardship Council (FSC). Such certifications, show that basic standards are adhered to, which are required by a number of importing countries. It was further reported that since 1997, condition of forestry villages, standard of services and provision of amenities has been steadily declining. This is because clinics that used to provide primary and secondary healthcare to forest workers were phased out not only because outsourced companies could not afford to maintain them but also as a result of new government regulations. Crèches have been closed and some forest house deteriorating in standards.

The headline in SA Forestry magazine in October 2012 titled "Spectre of Marikana looms over forestry" shows that all is not well in the industry. The minimum wage which is the going rate for forestry workers is R1 429 per month, a fraction of the R12 500 the Marikana workers are demanding (SA Forestry magazine, October 2012). While industry has a good record of embracing voluntary standards and compliance mechanisms, it seems there is not much intent on addressing labour issues such as abandoning outsourcing of labour, low wages and employment benefits and job security. Large private companies appointed only 6% workers on employment, leaseholders 31% compared to the 41% in Komatiland Forests (KLF). This means the companies only have 13% workers on permanent basis who are earning on average R2 093 per month since these are unionised (SA Forestry magazine, August 2012).

One of many reports highlighting the conditions faced by forestry workers points out that, in fact, and despite government claims to the contrary, conditions for many workers on the land are today worse than they were under apartheid (Business Report, 23 November 2012). This particularly applies in the forestry sector, where generations of families have often lived in single "forest villages" far from town and amenities. Their conditions have worsened in the past decade as labour outsourcing became widespread. Of the many thousands employed in forestry, only 4 774 have permanent jobs and the benefits attached thereto. However, it is said that in certain instances, some of these challenges which brought about unintended consequences were created by labour and workers themselves, for example, the scrapping of meals was as a request from workers backed by labour. The workers requested that money, instead of meals, should be provided. Studies have also revealed that in terms of the Sectoral determination policy, many companies stick to the minimum wages set and make less or no effort to improve wages to living levels. If this is true, government should therefore set the minimum wages higher if the employers fail to improve the living conditions of the workers, voluntarily. SA Forestry magazine (October 2012) indicated that so long as contracting rates are based on the minimum wage and do not include allowances for employment benefits, the minimum wage becomes the maximum wage for almost all but a small minority of directly employed workers that still engage in wage negotiations and contractors are unable to afford higher wages or provide employment benefits. Ideally, there is a dire need for the industry to level the playing field to ensure that equivalent jobs get rewarded equally



2.9.6 Contribution of forestry to the economy

Worldwide, forests are a cornerstone of most of the economies of many nations. Similarly, the forest industry is a significant contributor to the economy of the country, both through the supply of renewable raw materials and through value addition in a range of primary and secondary processing operations.

(a) CONTRIBUTION TO GDP

South Africa's annualised and seasonally adjusted Gross Domestic Product (GDP) at market prices rose by 3,1%, 3,5% and 2,5% on yearly basis from 2010 through to 2012, respectively. During the same period, the forestry sector disappointed by posting a decline of 4,5% in 2010 and then picked up significantly to record an improved 0,2% in the following year. The sharp forestry decline in 2010 was mainly due to slowing production of plantation forestry products and poor demand as a result of fragile global economy among other things. However, the forestry sector is equally important because of its backward and forward linkages with other sectors of the economy and its role in the preservation of the environment.

Commercial plantations and associated processing plants are the major contributors to the economy despite covering a relatively small share of the land. Fig.6 below indicates that in real terms, the country's forestry sector improved its value of GDP to R7,24 billion in 2011 from R7,22 billion in 2010, an increase of 0,23% which is mainly attributed to the rise 0,5% in total hectares planted during the same period under consideration.

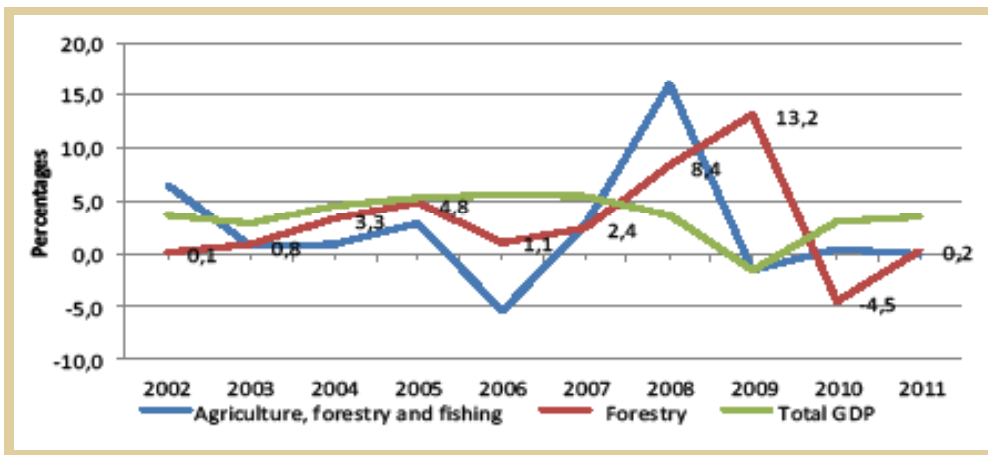


Figure 6: Trends in the real GDP growth and the growth in the real value by the forestry sector.
Source: Stats SA

Fig.7 below illustrates that the growth trend of the sector has been consistent and positive throughout the previous years but a notable first decline in the history of the sector of up to 4,46% took place in 2010 mainly as a result of decreasing forestry plantation as mentioned above. On the other hand, South Africa's real value of GDP at market prices peaked at R1,9 trillion in 2011 from R1,84 trillion in 2010.

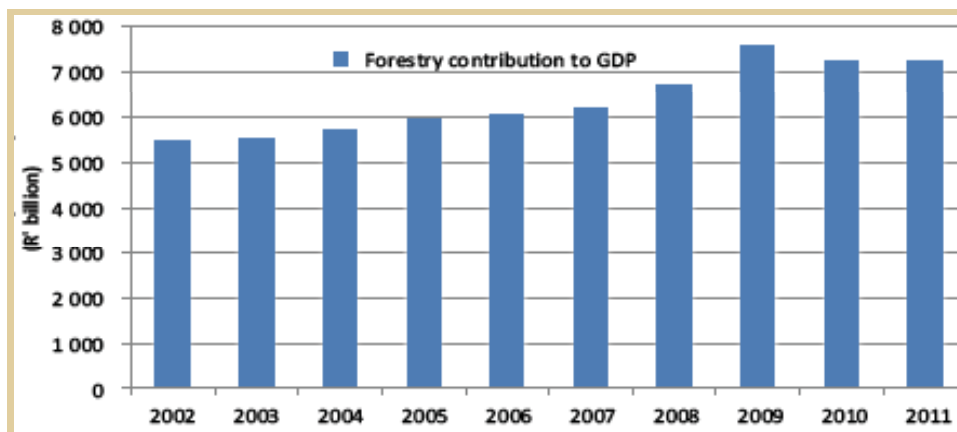


Figure 7 Trends in the real value added by forestry sector
Source: Stats SA



(b) CONTRIBUTION TO FOREIGN TRADE

Imports and exports: South Africa's trade balance on forest products rose by 8,9% from R4 billion in 2010 to reach R4,5 billion in 2011 and then fell significantly by 50% during 2012.

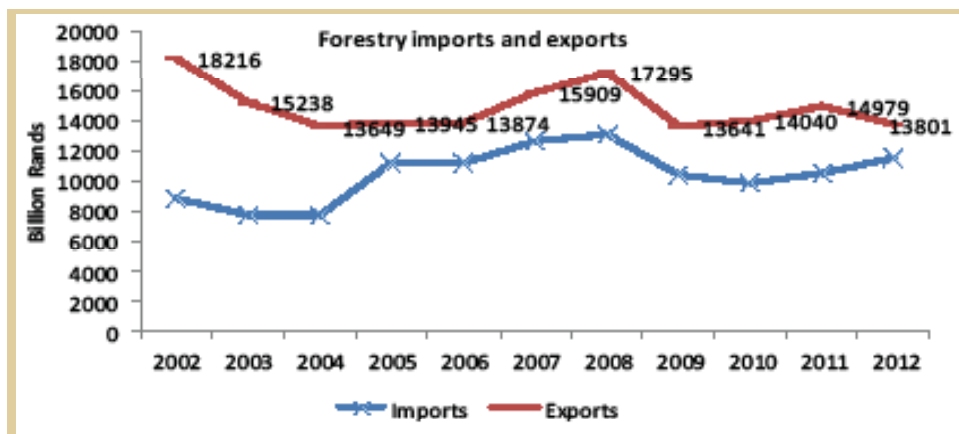


Figure 8: Trends in forestry imports and exports
Source: Stats SA

The improvement in the trade surplus in 2011 was driven mainly by the growth of 6,7% in the exportation of forest products as compared to the import growth of 5,8%, a notable difference of 0,9%. Export of forestry products increased to R15,0 billion in 2011 while imports rose to R10, 5 billion in the same year. In addition, Pulp exports experienced a significant rise in 2011 after recording the highest figures in history which boosted the total export of forestry products by contributing up to 47,16%. More importantly, Fig.8 above depicts that over the last years export of forestry products has been dominating its import. This trend shows that the country continues to be a net exporter as exports of forest products significantly exceed imports. On the other hand, a reduced 2012 trade surplus of R2,2 billion can be attributed to an improvement in import (R11,6 billion) as compared to a declining export during the same year. Export decreased significantly by 7,4% in 2012 hitting R13,8 billion compared to R15,0 billion in 2011 and such decline appears to be a temporary shock; hence we expect better performance in the coming year.

The data reveals that South Africa's paper industry is import dominated. In 2004, the industry entered an era of poor performance after recording a trade deficit of R278 million and notably the downward trend has been maintained over the past years to post a trade deficit of R3 billion in 2011, an increase of 24% between 2010 and 2011. However, the deficit was slightly reduced by 2,8% in 2012. Over the last few years, solid wood has been on the brink of posting a trade deficit. However, the industry seems to have it all under control as it continued to avoid the deficit even in 2012. On the other hand, the country's pulp industry seems to be in good economic condition after recording a trade surplus of R6,5 billion in 2011 from R5,3 billion in 2010, a yearly rise of up to 23% despite slipping in 2012 to R5,4 billion (see Fig.9 below).

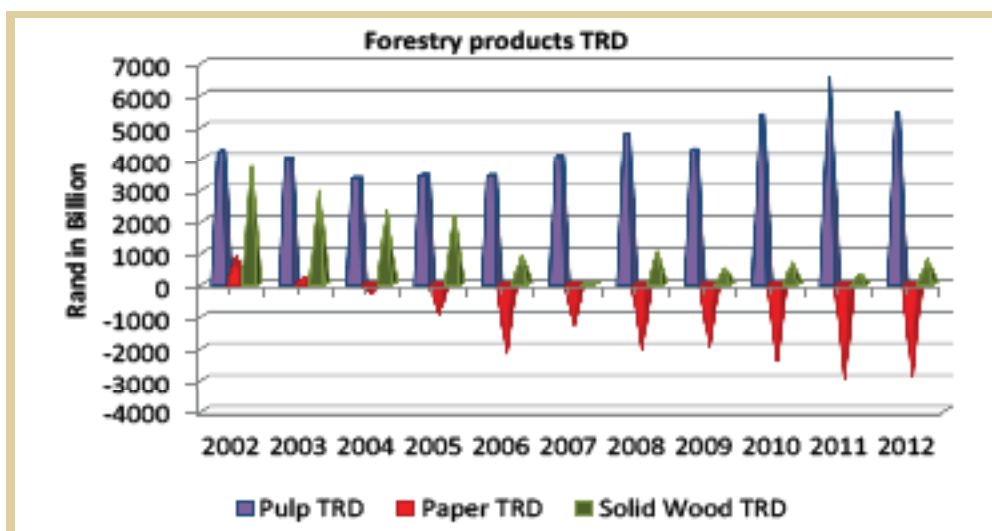


Figure 9: Forestry products trade balance
Source: Stats SA



2.9.7 South Africa's trade with other BRICS countries

In December 2010, South Africa officially joined the BRIC (Brazil, Russia, India and China) group of major emerging markets as Africa's champion after being formally invited by the BRIC countries to join the group.

According to the SARS, among the BRICS countries, China and India are among the top ten exporters of forest products in terms of value (see Table 15 below). Nevertheless, South Africa is increasingly seen as an attractive place to source timber. This is mainly because the quality of South Africa's sawn timber is generally on par with equivalent grades in New Zealand, Australia, Chile and Brazil. South African sawlog prices are also the lowest in the world, with the exception of Brazil. However, virtually no sawn timber or sawlogs are exported from the country because of local supply and demand constraints.

Throughout the years, South Africa exports significant volumes of mostly non-coniferous fuel wood in chips, particles, sawdust and waste wood to China since 2003. Since 2008, volumes of fuelwood, in logs, in billets, in twigs, in faggots or in similar forms were exported to India. Coniferous wood in the rough is mainly exported to India and Jordan. China further receives a share of South Africa's pulpwood along with other Asian countries.

Table 15: Value of exports wood products (Chapter 44) in 2012

Country	Exports (R)
Brazil	107 964
China	33 751 166
India	2 430 330
Russia	104 884

Source: SARS, 2012

China is the largest importer of wood in general. The main imported products are industrial logs, sawn wood and plywood. China also imports significant amounts of pulp and paper products every year, which account for a higher Roundwood equivalent than other timber products. Brazil only became the major supplier of veneer sheets and plywood from 2008. Zimbabwe has been a major supplier of plywood and veneered panels, followed by Brazil and China and other countries. However, since 2006, the supply from Zimbabwe decreased with China becoming the major supplier. In 2007, the country received volumes of bamboo plywood from China. The rapid economic growth and rising incomes have driven an increase in timber consumption for infrastructure development, building construction and interiors and furniture manufacturing. As a result of this growth, combined with a serious shortage of domestic timber supply, China has become an increasingly important player in world timber trade. South Africa is an importer of processed forest products like Paper and Paperboard. In 2012, data indicates that South Africa received the most imports from China followed by Brazil, India and the Russian federation. This is illustrated in Table 16 below.

Table 16: Value of imports (Chapter 44) from BRICS countries in 2012

Country	Imports (R)
India	10 595 710
Russian Federation	6 378 696
China	541 525 169
Brazil	280 190 761

Source: SARS, 2012

South Africa trades more with Zimbabwe and Gabon within the continent and with China and Brazil within the BRICS countries. Apart from the trade, South African paper manufacturing companies' highest investment is in the Russian federation.

2.9.8 South Africa's trade within Africa

Like any other country, South Africa trades forest products with several countries in the continent and the world at large. Data illustrates that the country trades less with other African countries than the rest of the world.

Exports: In 2012, the total value of exports to Africa was R1 621 051 131. In 2009, South Africa's wood and articles of wood exports were valued at R 4 245 480 000, with only 3% exported to Mozambique and the bigger share went to the rest of the world. Significant volumes of coniferous wood sawn or chipped lengthwise are also exported to Mozambique (see Table 17). Recent data also indicates that volumes of medium density fibre board and particle board wood are exported to Zimbabwe. Furthermore, Sawn wood and wood in the rough is exported to Zambia, Tanzania and Mozambique. Coniferous veneer sheets and plywood is exported to islands of Seychelles and Reunion whilst the rest mainly goes to Spain. Reunion gets a share of wood charcoal too.

Even though the South Africa's export of cork and articles of cork are dominated by European markets, Mauritius received 5,6% of the share. Despite the prevailing economic conditions, Zimbabwe is the fifth largest importer



of South Africa's cork and cork related articles. As mentioned earlier, pulp and paper are the main commodities the country trades, in 2009, Nigeria, Zimbabwe and Kenya received 3,5%, 3,2% and 2,9%, respectively of these commodities.

Table 17: Value of exports to top trading partners in Africa

African trading partners (exports)	Exports (R)
Zimbabwe	149 788 244
Mozambique	172 043 329
Tanzania	68 837 023
Zambia	66 115 938

Source: SARS, 2012

Imports: The total value of imports from Africa was R832 705 909 in 2012. The data indicates that there is a gradually increasing trend of sawn wood imports since 1998. Gabon, Zimbabwe and Zambia are the main suppliers of sawn wood to the country. Beside the sawn wood, South Africa continues to import most of its coniferous fuel wood from its neighbouring country, Zimbabwe. Malawi is among the main importers of coniferous wood fuel. Zimbabwe continues to be a major supplier of coniferous "wood continuously shaped". Zimbabwe is also the major supplier of wood charcoal. Since 2007, Mozambique also began to supply volumes of wood charcoal to the country. South Africa receives volumes of particle board of different kinds mainly from Zimbabwe in the continent. Plywood and fibreboard of different density and thickness is also from Zimbabwe and Malawi. Gabon also supplies the country with veneer sheets. The current statistics indicate that the major trade partners on imports of forest wood products are Gabon, and Zimbabwe. This is illustrated in the Table 18 below.

Table 18: Value of imports from top African partners

African trading partners (imports)	Imports (R)
Gabon	123 262 691
Zimbabwe	64 942 139
Malawi	38 977 490
Ghana	25 160 122

Source: SARS, 2012

2.9.9 Forestry education and training

(a) FORESTRY EDUCATION

Literature reveals that forestry education has been happening in the country since the 1900s. In 1997, the white paper on sustainable forest development in South Africa also acknowledged the existence of adequate capacity for the training of forestry professionals and technicians for South Africa's needs at the time. The white paper further noted the significant progress achieved by the institutions concerned in adapting the curricula to meet the needs of the country then and in the future.

Countrywide, there are a variety of state universities and colleges that offer forestry training from Diploma to PhD level. These are:

- University of Stellenbosch offers programmes in Forest and Resource Management and wood products sciences up to the PhD level.
- Nelson Mandela Metropolitan University (Saasveld Campus) situated in George offers a 3 year diploma and a 4 year degree in forestry.
- University of Venda offers a 4 year BSc Forestry degree.
- Fort Cox College focuses mainly on social forestry and teaches forestry to diploma level. The College has been accredited, again after a long time, to present the National Diploma in Forestry and forestry legislation (NFA & NVFF) are included in the college's diploma curriculum.
- University of Pretoria offers a Forest Science Postgraduate Programme. There are two masters options offered: the traditional Masters of Forest Science by research and a new part taught and research MSc Option: Forest Management and the Environment. Students can also register for a PhD Degree in Forest Science in their chosen area of specialisation.

(b) FORESTRY TRAINING

The White paper (1997) asserts that sustainable development of the forest sector and a competitive forest economy depend on a dynamic, skilled and competent workforce, whose members are satisfied with their employment conditions, able to grow in their jobs, and motivated to improve the competitiveness of the sector. Some strategies have been put in place to raise the profile of forestry and to ensure that forestry becomes a career of choice in the country. Collaboration between the DAFF and the Department of Basic Education resulted



with the integration of forestry into environmental education in primary school education curriculum. This helps encourage learners to be aware of forestry as a discipline and should stimulate the interest of learners to future career opportunities in the forestry sector as a result addressing the reported skills shortage in the sector.

The Fibre Processing and Manufacturing (FP & M) SETA is also playing a significant role in capacity building. The SETA offered the DAFF funding for 562 learners participating in all ABET levels (both DAFF employees and communities). The beneficiaries completed their programme at the end of 2012. Moreover, the SETA in collaboration with PAMSA is funding learners who study National Certificate Vocational (NCV): Process Plant Operations: Pulp and Papermaking Technology levels 2,3 and 4. These learners are guaranteed full time employment in the forestry sector through PAMSA.

The Sector Skills Plan for the period 2011 to 2016 is continuously being reviewed to ensure that skills gaps are identified and addressed accordingly. Furthermore, the National Rural Youth Service Corps (“NARYSEC”) of the Department of Rural Development and Land Reform (DRDLR) provides training and skills development to rural youth. To date, 12 000 youth are part of the NARYSEC Programme.

All industry subsectors continue to have the best interest of the industry at heart by contributing to the Wood Foundation. In this endeavour, the subsectors are jointly providing funding for the development and incorporation of forestry into the national schools curriculum.

The department on the other front, through assistance from the Justice College offers training on forestry law to law enforcement agencies such as members of the South African Police Service, Prosecutors, Magistrates and persons appointed as Peace Officers in accordance with the National Forests Act. It is anticipated that these capacity building interventions will result in better administration, compliance and ultimately the enforcement of the two forestry legislation and other environmental laws. To date, 120 people (staff and FPO’s) have been trained as peace officers in 2012. The department continues to maintain a strong relationship with the Justice College and the arrangement sees provisions of forestry laws presented to magistrates and prosecutors at their annual Environmental Crimes workshops.

One area to highlight is that the Forestry Branch in collaboration with the Fort Cox Forestry College has initiated an annual training program on the NFA Foundation course for its forestry students. This is running for the second year and will continue for many years to come.

(c) BURSARIES

The private sector plays a prominent role in forestry education to ensure that there is a sustained supply of foresters, environmental specialists, technicians and managers of timber processing industries. This is done through providing bursaries to deserving students. For example, the Hans Merensky Foundation offered about 1000 bursaries in the past and approximately 100 bursaries in 2012. The number of forestry beneficiaries of the External Bursary Scheme from 2010 to 2012 totalled 68, with six masters’ forestry students and one who registered PhD in Forestry during the same period. The scheme reduced the number of beneficiaries by up to 50% between 2010 and 2011 and the trend continued to 2012. The scheme has seen the total number of graduates of 46 between 2010 and 2012. Although bursary holders are guaranteed an internship within the department after graduation, there have been instances whereby some graduates could not get internships. This raises the question whether the country produces forestry professionals of quality not required by the employers or whether there are other underlying factors which may necessitate an investigation. On the other hand, the number of forestry beneficiaries of the Departmental Bursary Scheme from 2010 to 2012 reached 47, with only 15 bursary holders completing their qualifications and the majority graduates with certificates. An observed trend is that the internal bursary holders opt to study towards business or commercial qualifications than forestry.

Like, the rest of Africa, South Africa’s supply of trained foresters does not meet the demand of the sector. This is despite the fact that the Saasveld campus produced 4 798 foresters since 1912 to 2012, and Stellenbosch University produced 1 467 foresters from 1932 to 2012 (Wood and Timber Times, January 2013, Vol 38 No 3). Fort Cox College, on the other hand produced a total of 79 graduates (social forestry) from 2010 to 2012 (37 of which were females)

Many government bursary holders who have the technical competence leave the public sector to private sector, allegedly due to better salaries among other reasons. The unavailability of the Occupation Specific Dispensation (OSD) for Forestry Scientists in the public sector may also be contributing to the exodus. The SADC Forestry Protocol also noted the dearth of trained personnel in the region, especially to perform specialist functions such as GIS Inventory.



A stylized graphic of a tree with multiple branches. The branches are rendered in shades of green and orange. Small circular nodes are placed at various points along the branches, some in green and some in white. The background is a light, solid green color.

Part 3

International and regional cooperation

3.1 INTERNATIONAL CONVENTIONS AND PROCESSES

South Africa is a signatory and party to numerous international conventions, treaties and protocols that relate to wide-ranging aspects involving biodiversity. The impact of these international agreements and conventions on member states is not limited to the obligations they impose in terms of the sustainable use of natural resources. In most cases, they also open up new opportunities for strengthening national and regional economies. Great efforts are taken to translate into various areas of policies and legislation, the resolutions agreed upon in these forums whether legally or non-legally binding. Some of these agreements or conventions are not administered by DAFF but by the Department of Environmental Affairs (DEA), even though they have a bearing on forest management and development. The international platforms of significance to South Africa include:

- *United Nations Forum on Forests (UNFF)*: The UNFF is a high-level intergovernmental policy forum, composed of all United Nations Member States. It was established in 2000 by the Economic and Social Council (ECOSOC) of the United Nations to establish an instrument for the management, conservation and sustainable development of all types of forests and to strengthen long-term political commitment made in the Rio Declaration in 1992, taking into account the Forest Principles, Chapter 11 of Agenda 21, and the outcome of the IPF/IFF processes and other global forestry commitments and agreements. The department actively participates in this forum, which meets biennially and has been part to resolutions taken in the sessions involving forests. The department prepared and submitted the country report on progress made in the implementation of the Non-legally Binding Instrument (NLBI) and the Global Objectives on Forests (GOFs) to the UNFF in 2012.
- *United Nations Commission for Sustainable Development (UNCSD)*: The UN Commission on Sustainable Development was established by the UN General Assembly in December 1992 to ensure effective follow-up of United Nations Conference on Environment and Development (UNCED), also known as the Earth Summit. The commission ensures the high visibility of sustainable development issues within the UN system and helps to improve the UN's coordination of environment and development activities. The rapid degradation of forests and biodiversity negatively affects sustainable development; hence the Commission's Programme of Work has greatly advanced the sustainable development agenda within the international community. Even though it is acknowledged that the forest sector in South Africa can play a major role in the transition towards a green economy with socio-economic and environmental benefits, the DAFF's participation in this forum is very limited.
- *United Nations Framework Convention on Climate Change (UNFCCC)*: This is an international environmental treaty negotiated at the UNCED, informally known as the Earth Summit, held in Rio de Janeiro in June 1992. The objective of the treaty is for the promotion of reforestation to create sinks for greenhouse gases that would ultimately stabilise greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. The department supports DEA and participates in this forum because the latter is the lead department on issues of environmental sustainability. Climate change mitigation and adaptation has already brought in changes in the way forests will be managed and has also spearheaded international debates on how and who will pay for the costs of such management. The signatories (parties) to the convention have met annually from 1995 in the Conferences of the Parties (COP) to assess progress in dealing with climate change. South Africa hosted the Conference of the Parties (COP17) Climate Change Conference in Durban in 2011. The conference provided a platform for negotiations on various climate-related issues, including long-term emission reduction targets, as well as for information sharing through lectures and exhibitions. One of the main agreements reached at the conference was that all countries globally agreed to implement legally binding emission reduction targets by 2020. The level of reductions is up for negotiation, and will be agreed by 2015 (UNFCCC 2012). It was in this historic event that South Africa took a bold position and set a tangible target of decreasing its carbon footprint by 34% below business as usual by the year 2020. The 20th COP is set to take place in Peru in 2014.
- *United Nations Convention on Biological Diversity (UNCBD)*: The UNCBD was another step by the UN system to show further commitment to sustainable development. The UNCBD came into force in December 1993 and represents the world's commitment to conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of benefits derived from the use of genetic resources. Given South Africa's extraordinary wealth of natural resources, the CBD is widely regarded as an encompassing and foundational agreement in the country. The Department also supports DEA and participates actively in this forum.

3.2 OTHER IMPORTANT FORUMS

The Food and Agricultural Organization of the United Nations (FAO): The FAO's mandate is to raise levels of nutrition, improve agricultural productivity, better the lives of rural populations and contribute to the growth of the world economy. This is done through putting information within reach, sharing policy expertise, providing a meeting place for nations and bringing knowledge to the field. The FAO has seven departments of which Forestry is one. There are several bodies under the FAO that enables it to fulfil its mandate. They are:

- *Committee on Forestry (COFO)*: It is the highest FAO Forestry statutory body which convenes every two years. Through this committee, the FAO brings together heads of forest services, senior government officials and non-governmental organisations; and individuals to identify emerging policy and technical issues, to seek solutions



and to advise the FAO and others on appropriate action. The department actively participates in this committee. Continuous participation will ensure that the country benefits from the programmes of the FAO in the region, such as Global Forest Resources Assessments. South Africa has been actively participating in the Global Forest Resources Assessment Programme (FRA), thereby providing the country's inputs towards the global report which provides the latest information on the state of the world's forests. The key findings of the Global Forest Resources Assessment (FRA) 2015 are set to be released during the XIV World Forestry Congress to be held in Durban, South Africa, in September 2015.

- *Commission on Genetic Resources for Food and Agriculture (CGRFA)*: The FAO established the commission in 1983. The commission's initial mandate was to address plant genetic resources for food and agriculture. This mandate was broadened in 1995, to include all components of biodiversity for food and agriculture. At its 11th session in June 2007, the commission acknowledged the urgency to conserve and sustainably utilise forest genetic resources. Member countries were requested to take note of the status of forestry genetic resources in their respective countries. South Africa heeded the call and submitted its report towards the first State of the World's Forest Genetic Resources.

3.3 REGIONAL COOPERATION

The government of the Republic of South Africa committed itself to pursue the objective of contributing to and promoting the creation of a better Africa and a better world, particularly in pursuance of the African Agenda. According to outcome 11 of the Medium Term Strategic Framework (MTSF), Forestry needs to contribute in pursuing African advancement and enhanced international cooperation. This includes consolidation of the African Agenda among other things. In this regard, South Africa plays a key role in promoting sustainable development within the Southern African region and Africa in general.

3.3.1 Southern African Development Community (SADC) Protocol on Forestry

The SADC Protocol on Forestry (2002) remains the encompassing policy framework for collaboration among Southern African member states on forest development that also covers the substantive matters of the UNFF and UNFCCC. The Protocol sets out a number of guiding principles on how Member States should cooperate to protect, manage and utilise their forests to meet both regional and national objectives. Progress has been made since the last report (2009); the SADC Forestry Strategy was adopted by the SADC Council of Ministers of Environment at a meeting held at the Victoria Falls, Zimbabwe, on 16 July 2010. A draft implementation plan for the protocol was subsequently developed but still has to come into force. Presently, the SADC Member States are resolute on improving their individual forest sectors to contribute more to their growing and modernising economies as they participate actively towards regional economic and political integration. For Member States to embrace the principles expressed in the protocol on forestry issues; addressing the issues of forest production, research, value addition; trade, employment creation and governance structures and law enforcement become apparent. South Africa continues to implement the principles of the protocol through its national programmes, for example, several Memorandums of Understanding (MoUs) on cross-border integrated fire management with adjacent countries have been concluded and Permanent Technical Committees (PTCs) are either established or are in the process of being established with individual countries, notably, with the Kingdom of Lesotho.

3.3.2 African Forestry and Wildlife Commission (AFWC)

The AFWC is one of the six regional forestry commissions that were established by the FAO Conference between 1947 and 1959. Every two years, the commissions bring together the Heads of Forestry in each major region of the world to address the most important forestry issues in their regions. Currently, the government continues to play a leading role in all regional forestry initiatives, including the African Forestry and Wildlife Commission. Created in 1959 with five other regional commissions, the AFWC provides a policy and technical forum for African countries to discuss and address forest issues on a regional basis. The department actively participates in this commission and continues to make contributions to ensure that the continent presents a mutual agenda at the Committee on Forests (COFO), at which it also participates. Continuous participation will ensure that the country benefits from the programmes of the FAO in the region such as the Global Forest Resources Assessments (FRA) Programme. South Africa, through the department, liaises closely with this commission in preparation for hosting the 14th Forestry World Congress to be held in September 2015 in Durban.

3.3.3 Bilateral cooperation

South Africa is continually striving to ensure sustainable forest management and development in collaboration with regional and international bodies. Consequently, the country has orchestrated collaboration with the countries in the region and internationally. This is mainly to consolidate the vision of a better Africa and a better world. Some of the bilateral cooperations the country is involved in include: the South-South Cooperation, North-South Cooperation, Participation in the Global System of Governance and Strengthening of Political Economic Relations as it pertains to forestry. This has resulted in the signing of several Memoranda of Understanding (MoUs) pertaining to several forestry areas discussed below.

Integrated Veld Fire Management: Veld fires know no boundaries and are a regular occurrence across political boundaries. Unwanted wild land fires often have the tendency of outstripping the resources of landowners on



particular points of mutual boundaries. It is also highly unlikely that countries will be on the same level of fire management resources capabilities. With this in mind, the only logical approach is for countries to cooperate and exchange technologies and share resources and expertise in the area of integrated fire management. The New Partnership for Africa's Development (NEPAD) and the Southern African Development Committee (SADC) Protocol on Forestry are the two main vehicles mandating countries in Africa to collaborate on mutual veld fire issues and other forestry related matters. In this regard, the department has been engaging the different neighbouring countries, and as a result, an MoU with Swaziland has been signed in 2011 while negotiations are in the final stages with Botswana. MoU with Lesotho was signed in 2007 and a Permanent Technical Committee (consisting of officials from both countries) established to operationalise the agreement. Negotiations towards the same purpose currently are at different stages with the remainder of the countries adjoining South Africa.

In South Africa, in addition to fire prevention and fire combating platforms created by private organisations, the Working on Fire Programme (WoF) is a resource that plays a very important role in complementing fire fighting endeavours in both the public and private sector. The WoF is a government-funded, job-creation programme focusing on integrated fire management in South Africa. It is part of Government's Extended Public Works Programme (EPWP). The WoF fire-fighters are recruited from marginalised communities and trained in fire awareness and education, prevention and fire suppression skills. These young men and women form veld and forest fire fighting ground crews, stationed at bases across the country to help stop the scourge of wildfires which costs the South African economy billions of rands annually.

The multimillion-rand job creation programme is primarily geared towards assisting government to fulfil its job creation and social upliftment promise to the people of South Africa. There are currently more than 5 000 beneficiaries in the programme, 85% of whom are youth and 37% are women (the highest level in any comparable fire service in the world). On average, some 54% of the government funds are spent on wages with an additional 24% spent on indirect employee costs such as training, personal protective equipment (PPE) and transport. This is the highest level of beneficiary benefits in the EPWP and has been confirmed in a recent impact study in which beneficiaries reported significant changes in their lives and their families' standards of living.

In addition, WoF is mandated to implement Integrated Fire Management, which includes supporting the development of the Fire Protection Associations (FPAs) structure under the National Veld and Forest Fire Act administered by the DAFF. The multipartner WoF Programme is implemented by the FFA group of companies, a leading supplier of Integrated Fire Management Services (IFMS) in South Africa. These services include fuel reduction, ground-based fire fighting, aerial fire fighting, training and Incident Command Systems (services). The programme also supplies these services beyond the borders of South Africa. The programme works in partnerships with several organisations and governments through MoUs.

Capacity building: South Africa signed an MoU in 2008 under the ambit of India, Brazil and South Africa (IBSA) cooperation, listing the following priority areas as they relate to forestry as a focus for the cooperation:

- Promotion of cooperation aimed at mutual transfer of knowledge and promotion and development of clean technologies through joint research, projects, seminars and workshops in the field of environment and forestry, including biodiversity
- Strengthening South-South cooperation on relevant aspects of the United Nations Forum on Forests through exchange of information, views and best practices on sustainable forest management; to promote exchange of information and knowledge, technical expertise, best practices and cutting edge technology through undertaking study visits, participation in short-term training courses at reputable institutions of IBSA to contribute to building capacity and expanding relations.

The country is also a recipient of transfer of technology and capacity building through the African Monitoring of Environment for Sustainable Development (AMESD) Programme. The AMESD is a continental, Pan-African project for the development of Geo-information services. AMESD is a partnership between the African Union Commission (AUC), the European Union (EU) and Regional Economic Communities (RECs). The purpose of the project is to increase capacity in information management in African national and regional institutions with mandates for environment-related sectors and to facilitate their access to Africa Wide environmental information derived from earth observation technologies to support decision making. The country benefits from the programme through the use of E stations, AMESD products and services and "training of trainers" among others.

3.4 INSTITUTIONAL, POLICY AND LEGISLATIVE FRAMEWORK FOR THE SOUTH AFRICAN FORESTRY ENVIRONMENT

3.4.1 Institutional framework for forestry

The forestry function in South Africa has evolved over time. Up to 2009 when the 4th Parliament of the democratic South Africa was inaugurated, Forestry was merged with Water Affairs in the former Department of Water Affairs and Forestry. After the 2009 national and provincial elections, government reconfigured the way it used to dispense public goods and services in an endeavour to increase service delivery and to ensure efficiency. As a result, Forestry was merged with Agriculture and Fisheries in the new Department of Agriculture, Forestry and Fisheries (DAFF). Moreover, the configuration was necessary to strengthen linkages between forests and the role they play in food security. DAFF is the custodian of South Africa's forest resources and is primarily responsible for the formulation and implementation of policies governing forestry in the country. A forestry dedicated branch,



namely, Forestry and Natural Resources Management within the department is responsible for administering and ensuring implementation of forestry laws.

At the national level, the DAFF has been charged with formulation of legislation, regulations, systems, policies and guidelines aimed at protecting, promoting and preserving forest resources, balanced with sustainable development and the equitable distribution of benefits derived from forests. Overall, DAFF Forestry has strengthened its capacities by creating and filling new posts at both national and sub national levels.

At sub national (provincial) level, the DAFF has offices in each of the nine provinces of South Africa which are primarily charged with implementation of the two pieces of legislation administered by the department. While the bulk of the sub national work revolves around regulatory functions, DAFF has some commercial plantations of over 62 000 ha under its direct management. These areas are found in the provinces of KwaZulu-Natal, Mpumalanga, Limpopo, Eastern Cape, Western Cape and in the North West at a very small scale (about 300 ha).

The forestry function is a competency of the national sphere of government and administration of natural (indigenous) forests is a concurrent function, hence the management of certain natural forests reserves has been assigned to the provincial authorities.

In compliance with section 33 of the National Forests Act, the National Forestry Advisory Council (a statutory body) is in place and serves to advise the Minister on all aspects of forests and forestry in South Africa. The council has two committees, namely the Committee on Sustainable Forestry Management (CSFM) and the Committee on Forestry Access (CFA). The CSFM advises the Minister on all issues pertaining to sustainable management of the forest resources, which include guiding on the development of, and implementation of principles, criteria, indicators and standards for sustainable forest management. The latter, Committee for Forestry Access's mandate includes advising on promotion of education on forests and ensuring a conducive environment for the general public to have access to forests to derive the cultural, social and economic value thereof.

In addition to the above institutions, the Forestry Charter Council (FCC) has been established to oversee and guide on the implementation of the Forest Sector Broad-Based Black Economic Empowerment Charter. The charter was developed to comply with the requirements of the Black Economic Empowerment Act which seeks to mitigate the adverse effects of the apartheid dispensation whereby certain sections of the society (blacks, women and youth) were marginalised with regard to ownership and management of forestry industries.

3.4.2 Forest policy and legal frameworks

The Constitution of the Republic of South Africa (1996) in section 24 guarantees every citizen a non-harmful environment. This section specifically states that, everyone has a right to:

- an environment that is not harmful to his/her health or well-being;
- have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that:
 - prevent pollution and ecological degradation;
 - promote conservation;
 - secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.

The White Paper on Sustainable Forest Development in South Africa (1996) is the encompassing Forestry Policy developed to bring the Constitutional requirement mentioned above to realisation. This White Paper, which was a result of an extensive consultation process to ensure inclusive contribution by all relevant stakeholders, is premised on an overall goal of government which is "to promote a thriving forest sector, utilised to the lasting and sustained benefit of the total community, and developed and managed to protect and improve the environment".

Over the years, there has been a call for the department to take stock of the progress made regarding the implementation and relevance of the White Paper. As such, the review of the White Paper, as part of the SA National Forest Programme (NFP) was completed during the first quarter of 2010. In order to further effect the provisions of the White Paper, the department developed and promulgated the following Acts:

The National Forests Act (No. 84 of 1998): contains a set of principles that guide sustainable forest management. It is mainly to promote and enforce the sustainable management and development of forests for the benefit of all, the promotion of sustainable use of forests as well as the provision of special measures for the protection of forests and trees. The Act was last amended in 2005. The Forestry and Natural Resources Management branch has started the process to bring further amendments to some provisions of both the NFA and the NV&FFA. Some of the amendments are editorial in nature while some will serve the purpose of closing the existing gaps which were identified during implementation since the last amendments of 2005. These include among other provisions, a need to increase penalties on offences aimed at increasing compliance; and reducing the rate of destruction of forests and trees and enforcement by grading forest officers.

So far, preliminary consultations with the Interested and Affected Parties (I&APs) have been done where national, provincial and local government departments were represented, including industry and traditional leaders. The proposed amendments still need to make their way to the State Attorneys to ensure their constitutionality among other things, before the next formal public participation process.



The National Veld and Forest Fire Act (Act No. 101 of 1998) was put in place to prevent and combat veld, forest and mountain fires throughout South Africa. A variety of institutions, methods and practices are provided for under the Act for achieving the purposes of the Act. This was amended by the National Veld and Forest Fire Laws Amendment Act, 2001 (Act No. 12 of 2001) and another round of amendments took place in 2005. Currently, amendments to the Act are done simultaneously with the National Forests Act amendments.

The National Forestry Action Programme (NFAP) of 1997, later referred to as the National Forestry Programme, (NFP) to put the White Paper into practice was reviewed in January 2004 by measuring it against the PCIs and on the analysis of progress made in the implementation of the actions contemplated in the 1997 NFAP. A South African NFP Framework was therefore compiled during 2004 to meet the country's own requirements. Guiding principles, a vision and goals, an approach and methodology were all included in this NFP Framework. The department has also embarked on a process of developing a series of policies and sector strategies, which have been approved in 2010 and 2012 for implementation.

These are:

- Sawlog Strategy and Implementation Plan for South Africa
- Integrated National Forest Protection Strategy for the Forest Sector
- Small Medium and Micro Enterprise Strategy
- Strategy on Climate Change.

DAFF, in 2012 developed the Integrated Growth and Development Plan covering all three sectors of the department, namely, agriculture, forestry and fisheries. Building on this and to ensure a more realistic plan, the department started the process of developing the Agricultural Policy Action Plan.

Most recently, the Presidency embarked on the development of a long-term strategy for the government entitled the "National Development Plan (Vision 2030)" The highlights of the plan are as follows:

- Identifies Infrastructure Development, Job Creation, Health, Education, Governance, Inclusive Planning and the Fight against Corruption as key focus areas, and determines specific projects for each
- Aims to investigate different forms of financing and vesting of private property rights to land reform beneficiaries that does not hamper beneficiaries with a high debt burden
- Highlights greater need for support for innovative public-private partnerships.

3.4.3 Forest certification standards

The National Forests Act provides for Sustainable Forest Management (SFM). It also encompasses promotion of certification programmes to encourage SFM. The main purpose of certification is to certify the achievement of certain expectations related to SFM, or progress towards these. It is designed to send a market signal to buyers that the products they purchase are derived from forests that are managed to particular environmental, social and economic standards. In addition, it is a procedure of independent evaluation in which a third party makes an evaluation as to whether a set of standards is fulfilled or not.

In 2004 the forestry sector engaged in a national initiative to develop National Forest Certification Standard to be accredited by the Forest Stewardship Council (FSC) to be the FSC standard for South Africa. A National Working Group comprising the Governance Chamber, Social Chamber, Environmental Chamber and Economic Chamber representation was established to oversee the process. On the one hand, a review of the FSC Principles and Criteria by the Forest Stewardship Council was completed. This and the National Forest Certification Standard aimed to further improve forest certification for both natural and plantation forests in exactly the same way. It is anticipated that once the national standard has been ratified and approved, they will be aligned with the FSC P&Cs and they will be approved by the certification body. The National Forest Certification Standard were submitted to the FSC for approval in 2009 and provide a scale of appropriate standards. Another initiative that will improve management of forestry estates in the country focuses on formal recognition of sites on forestry estates that have high ecological value, either as "nature reserves" or "protected environments". Three sites on forestry estates (private land) have been declared nature reserves and 33 more sites have been targeted for formal conservation protection. All these efforts are aimed at improved management of wetlands, grasslands and functioning ecosystems found on the forestry estates across South Africa.

Most plantation areas have been independently certified by the FSC and the certification process is initiated voluntarily by forest owners. Although certification is voluntary, it is market-directed. In 2011, the total area certified under FSC was 1511739 ha including planted and non-planted areas. Altogether 70,8% of certified forests are owned by private corporations while 16,8% is owned by individuals and 12,4% owned by Komatiand Forests (KLF). With over 82% of commercial plantation areas certified, this makes South Africa a country with the highest proportional area globally.

3.4.4 Forest Sector Broad-Based Black Economic Empowerment (BBBEE) Charter

The government of South Africa is committed to improving the lives of its citizens. The Forest Sector Charter was signed on 22 May 2008 in Cape Town. It is the major instrument for development within forestry in the medium term. The Charter outlines the proposed targets and commitments by industry, government and labour in effecting sustainable transformation in and by the sector. The Forest Charter Council (FCC) was subsequently established comprising government, industry, labour and communities to oversee implementation of the charter.



Both the industry and the government undertook to develop and implement a Sector Skills Plan for the Forest Sector through the Fibre Processing & Manufacturing (FP&M) SETA. The FP&M SETA submitted a Sector Skills Plan annual update draft to the Department of Higher Education and Training at the end of August 2012. The Industry Codes of Conduct that will ensure equitable and sustainable contracting and employment practices in the Forest Sector have been finalised and approved by the Council. Access to funds and financial services for emerging black entrepreneurs is being addressed in respect of plantation financing under the Emerging Forest Grower Codes. Even though the department has not committed funds, the Minister undertook to establish a forestry grant for small growers. It is anticipated that the establishment of the forestry grant will give the commercial banks confidence to fund primary sector activities. Furthermore, the DAFF is in the process of establishing a one stop shop facility for funding. Despite this, the industry continues to help small growers through FSA, by having extensive small grower support programmes.

The implementation of the charter requires considerable financial investment by all sector stakeholders to secure the desired outcome. However, a number of the aspects also require non-financial investments, and in some instances could even assist in enduring the financial pressure placed on the industry. Funding remains a major challenge in implementing the Charter. A strong focus of the Charter is to attain a weighted black ownership profile of 30% for the entire industry within 10 years since the signing of the Charter.

3.4.5 Forestry restructuring and transformation

In 1990, government decided to devolve its forestry plantations and processing plants outside the former self-governing homelands. This restructuring of state forest assets to support black ownership in the forest and saw-milling subsectors was one of the means of pursuing transformation and redressing the imbalances of the apartheid system in South Africa. This resulted in the creation of SAFCOL and the conclusion of a Heads of Agreements (HOA) and Interim Agreements (IA) with SAFCOL. The HoAs provided for the transfer of the management, control and operation of State forests vested in the Director-General. To implement the proposed restructuring of state-owned plantations, government in 1998 grouped SAFCOL plantation forests and large state plantation forests into five economically viable packages, which were offered for sale to the private sector. Bidders were invited to bid for one or all packages. The majority shareholding offered to the bidders was 75% and the remaining 25% is held by SAFCOL on behalf of government. Of the 25% shareholding, 10% belongs to the communities affected by restructuring of the state assets. To date, the state has sold four packages and leased the land on which the plantations are located for a period of 70 years. The leased packages are as follows:

- The Northern Eastern Cape Forestry package which was sold in 2001 to Singisi Forest Products (Pty) Ltd.
- The KwaZulu-Natal Forestry package sold in 2001 to SiyaQhubeka Forestry (Pty) Ltd.
- The South and Western Cape Forestry package sold in 2005 to MTO Forestry (Pty) Ltd.
- The South Eastern Cape package sold in 2005 to Amathole Forestry Company (AFC).

In January of every year, the abovementioned forestry companies pay rental monies for the use of the leased land for commercial forestry into the DAFF bank account. The lease rental funds are then transferred and invested with the Public Investment Corporation (PIC) in an interest bearing account. The Limpopo, Mpumalanga and North of KZN Forestry, known as the Komatiland (KLF) forestry package, remain unsold, pending review of Cabinet's decision on privatisation. The Heads of Agreement, Interim Arrangements and supplementary agreements have remained in force over this forestry package. On the other hand, the review of the future role of SAFCOL and its subsidiary Komatiland Forests (KLF) (Pty) Ltd is in progress. The review will be aligned with the government's rural development objective. The Forestry Laws Amendment Act, 2005, (Act No. 85 of 2005) mandates the Minister to establish a trust which would be responsible for management, investment and collection of the rental funds from private commercial forestry companies who have leased land from the state on a long-term basis. Accordingly, the Minister of Agriculture, Forestry and Fisheries has established the Kabelo Land Restitution Development Trust, which has the following objectives:

- Receiving payment of rental funds from the companies who leased state forestry land affected by land reform;
- Investing such funds on behalf of land claimant beneficiaries as part of the trust property;
- Paying rental funds collected plus interest earned to the beneficiaries approved by the Department of Rural Development and Land Reform;
- Paying the balance of all rental funds received together with interest earned to the state or the Ingonyama Trust where applicable, when it is clear that there is no land claim approved for the particular state forest or part of it.

To effect the above, the Minister appointed the trustees who have the responsibility of administering the activities of the trust and to exercise the fiduciary duties with due care, diligence and good faith. The trustees obtained approval from National Treasury to open a bank account in the name of the Trust wherein the rental money should be paid by the tenants. In 2011, President Jacob Zuma transferred a total of R91 985 996 to communities in the Eastern Cape and KwaZulu-Natal, a truly historical moment whereby for the first time, land claim beneficiaries benefited from the restructuring process. The breakdown of the funds disbursed to communities is illustrated in Table 19.



Table 19: Revenue disbursed in 2011 from rental monies accrued from forestry leases

Community	Rental amount received
Mkhwanazi	R 24 574 296,89
Ngunjini	R 8 406 339,34
St. Paul	R 9 592 453,89
Qolombana	R 1 925 975,00
Gqogqora	R 10 122 245,00
Qelane	R 5 465 800,00
Western Shores	R 28 253 726,00
Ndzimankulu	R 3 645 159,85
Total	R 91 985 995,97

Source, DAFF

Currently, the balance at the South African Reserve Bank (SARB) amounts to R184 million and this money is administered by Public Investment Corporation and is invested in an interest bearing account. Furthermore, the Department and other relevant stakeholders are in a process of developing a Settlement Model that will be agreed upon by all parties which will specify the name of the community and what is it that they want to do with future rental monies.

Restructuring of the remaining (Category B and C) state forest plantations still under the jurisdiction of the Department of Agriculture, Forestry, and Fisheries in accordance with the pro-poor development agenda of the government is still the position of government but the current focus is on the rehabilitation of these plantations. With regards to Mbazwana, Manzengwenya and Mabaso (MMM) Transfer, the following has been achieved:

- Temba Mbila Mabaso Development Trust has been established.
- Updated transfer plan was approved in July 2012 by the Trust.
- Labour negotiations regarding the future of the current DAFF employees have been initiated.

A plan for transferring Rossbach plantation has been developed by all the affected stakeholders, namely, the Rossbach land claimants, DAFF and the Department of Rural Development and Land Reform (DRDLR). Dispute amongst the land claimants has been resolved. DAFF is in the process of appointing a consultant to develop a business plan for the claimants.

With regard to the transfer of the Injaka plantation, a memorandum for the approval of 7 land claims on the farms Injaka 267 KU and Waterval 273 KU has been forwarded for consideration and approval of DRDLR Minister. A total of 4337,84 hectares shall be awarded to the Injaka-Waterval Community. The balance of the land has been invaded and plans are in place for a formal township to be established on the invaded land. A task team that involves the municipality and other stakeholders is driving initiatives to deal with the invaded land.

3.5 ASSESSMENT OF TRANSFORMATION IN COMMERCIAL FORESTRY

The Department of Agriculture, Forestry and Fisheries (DAFF) together with representatives of leaders from industry, labour, government and other public sector institutions signed the Forestry Broad Based Black Economic Empowerment (BBBEE) Charter on 22 May 2008.

The broad aim of the charter is to accelerate transformation in the forestry sector by ensuring that opportunities and benefits of the forest sector are extended to black South Africans previously excluded from meaningful participation in the Sector. The signing of the Charter was a culmination of a series of consultations and engagements by all affected and interested parties which started as early as 2005.

The Forest Charter Council (FCC) was subsequently established comprising of government, industry, labour and communities. The Council's primary objective is to ensure that the Charter is implemented effectively and efficiently and to monitor the overall progress in its entirety. The Council is funded by both government (60%) and industry (40%). However, funding for the work of the Council remains a major challenge in implementing the charter. The Charter has a time frame of ten years. It was gazetted as a Sector Code in May 2009 and is therefore binding to all the parties that are signatories to it. The delay in the issuing of water use licenses has been a major stumbling block towards fulfilling the commitment of 100 000 ha afforestation over a 10-year period. The Department of Water Affairs (DWA) initiated the Letsema project which is aimed at fast tracking the issuing of water use licences.

For the period April 2010 to March 2011 the DWA had issued a total of 1,111 water use licenses for 14,271 ha. The number of licenses issued to Historically Disadvantaged Individuals (HDI's) were 997 for 1,520 ha, BBBEE compliance companies was 114 for 12,741 ha. The Chairperson for the FCC was appointed in the same year bringing stability to the functioning of the Council.

In 2011/12, a total of 60 water use licenses were issued for 4 409 hectares. The hectares issued to Historically Disadvantaged Individuals (HDI's) amounts 341,2 (27 Water Use License Applications-WULA's), BBBEE compliance companies 3837 ha (18 WULAs) and non HDI is 231 ha (15 WULAs).



A total of 51 new water use licenses and 2 for Genus/ Area Exchange for 98,5 ha and 85 ha, were issued respectively for the 2012/13 financial year. The Historically Disadvantaged Individuals (HDI's) status for water licenses issued was at 50 for HDI and 3 BBBEE compliant.

However, work is underway to align financial assistance policies so that forestry can have access to development finance packages such as grants and credit that are currently available in the Department. Work is also underway to develop new financial products that will assist small growers.

3.5.1 Summary of achievements on implementation of the Forest Sector Transformation Charter on selected pillars

- Water use licences—A total of 1 222 water use licences covering an area of 18 779 ha were issued for the period under review.
- Funding frameworks—The Micro Agricultural Finance Institutions of South Africa (MAFISA) policy was being reviewed to incorporate forestry, as the DAFF strives to create a One-Stop shop for funding for all projects in the three sectors of the Department.
- Restructuring of the Komatiland forests package to address equity—The restructuring process of Komatiland Forest (KLF) has been put on hold pending the review of the Cabinet decision on privatisation. The review of the future role of SAFCOL and its subsidiary Komatiland Forest (KLF) is in progress and will be aligned with the Government's rural development objective.
- Restructuring of the remaining DAFF managed Category B and C plantations—Mbazwana, Manzengwenya and Mabaso (MMM) Transfer: Temba Mbila Mabaso Development Trust has been established; Updated transfer plan was approved in July 2012 by the trust; and Labour negotiations regarding the future of the current DAFF employees were initiated. Rossbach Transfer: A transfer plan was developed by all the affected stakeholders, namely, the Rossbach land claimants, DAFF and the Department of Rural Development and Land Reform (DRDLR). The Business plan for the plantation was developed and DAFF and the stakeholders are in the process of implementing it. Injaka plantation: The Minister of Rural Development and Land Reform awarded the farms Injaka 267 KU and Waterval 273 KU to the Injaka-Waterval Community. The DRDLR is in the process of transferring ownership of the land, and facilitating its development through the Recapitalisation and Development Programme. A Task Team was set up to identify strategic partners.
- Streamlining of afforestation licensing procedures for the establishment of the identified area of 100 000 ha in KZN and E Cape—Internal and external Guidelines for SFRA water use authorisation process developed. Yield Enhancement guidelines for conversion of jungle wattle to proper plantation were developed. Terms of Reference for the establishment and operation of stream flow reduction activity Licence Assessment Advisory Committee (SFRA-LAAC). The Department has appointed the Professional Service Provider (PSP) to undertake the geo-hydrological assessment study in St. Lucia (Isimangaliso) catchment.
- Secure land right and land holding structures on communal land for new afforestation and restructuring of State Forest assets—Following the publication of the Green Paper on Land Reform in October 2011 the Minister of Rural Development and Land Reform established a National Reference Group ("NAREG") made up of land reform stakeholders comprising of six work streams. The Green Paper on rural development was presented to stakeholders in October 2012 as part of the consultation that is required before the proposals are tabled to Cabinet and was due to be tabled in Cabinet by end December 2012.
- Capacity building and business support for emerging black entrepreneurs- based on the need for DAFF to provide forest enterprises development support services to small, micro and medium enterprises throughout the forestry value chain, DAFF with funding support from the National Forest Programme (NFP) Facility of the Food and Agriculture Organization (FAO) developed the Forest Sector Small, Medium and Micro Enterprises (SMME) Strategy which seeks to identify constraints to the development of the emerging entrepreneurs across the entire value chain, as well as key interventions and delivery mechanisms for easing them. Consultations on the strategy were conducted during this period.
- Access to raw material supply for small scale charcoal producers and domestic fuelwood—A budget of R3 million was allocated to Working for Forests for the 2010/2011 financial year for the conversion of dense stands of invasive alien trees to woodlots and plantations. R1.5 million was allocated to the rehabilitation of category B&C plantations.

In terms of the Forest Sector Charter, the industry has agreed to undertake certain activities to ensure transformation in the sector. One of the important things the industry undertook to deliver on was to develop a set of Codes of Conduct within one year of gazetting of the Charter in 2009. These included a Code of Conduct on Employment Practices and Codes of Conduct on Forestry Contracting, Code on Grower Schemes and Code Charcoal Contracting. While a Code of Contracting in Forestry has recently been developed through the Forest Charter Council, the Code on Employment Practices was set aside (SA Forestry magazine, October 2012). Decisive leadership is required to address these problems and such leadership should come from the industry, failing which, government has to intervene.



A stylized illustration of a forest scene. The background is a light green gradient. In the foreground, there are several trees represented by simple, geometric shapes. One tree on the right is a dark green silhouette with several circular nodes on its branches. To its left, there are lighter green and white trees, also with circular nodes. In the bottom left corner, there is a smaller tree with a yellowish-brown trunk and branches, also featuring circular nodes. The overall style is minimalist and modern.

Part 4

Strategic policy responses to protect the environment and develop the forest sector

4.1 KEY CONCERNS AND STRATEGIC INTERVENTIONS

The forest sector faces various challenges and constraints that may hamper the sector to realise its full potential in terms of its contribution to sustainable development. Investment in forestry, particularly with respect to woodland management remains far below what is required and the capacity to enforce laws and to implement programmes effectively remains weak in the country.

4.1.1 Timber shortage

Over the last few years, there had been several studies that confirmed the fact that the country is now beginning to experience a shortage of timber. This shortage can be expected to affect government's intentions to achieve a 6% economic growth rate. The effects of a shortage of timber is already evident in some parts of the country, where this is having an adverse effect on the sustainability of local sawmilling, pulp and paper operations and subsequently pose a threat to employment opportunities and local economies. It is anticipated that South Africa will not in future be able to meet its domestic demand for timber from the existing growing stock in timber. This will affect the national economy through increased prices and lack of timber products to meet domestic demand. A national Sawlog strategy has been developed and approved in 2012 to address this challenge. The implementation plan to give effect to the strategy is also developed. However, funding to implement the strategy is still sought.

4.1.2 Land restitution

Tenure security is a major requirement for forestry investment and development. The challenge is in defining the rights, roles and responsibilities associated with forest use which are crucial for the poor to receive an equitable share of the benefits from forestry. It is anticipated that the Green Paper on Land Reform published in October 2011 by the Minister of Rural Development and Land Reform will present solutions. Following the publication of the Green Paper, a National Reference Group ("NAREG") was established made up of land reform stakeholders. NAREG is divided into six (6) workstreams focusing on proposals to establish the Land Management Committee, Office of the Valuer General, Land Rights Management Board (Land Tenure Security), 3 Tier Tenure Reform, Communal Land Tenure and Legislative Amendments. Each workstream has developed policy and draft legislation for each of the above areas. The Policy and Legislation for the establishment of the office of the Valuer General and Policy on Foreign Land ownership (as part of 3 Tier Tenure System), and Land Management Commission has been presented to the relevant Cabinet Committees and inputs received after being incorporated where after the policies and legislation shall be forwarded to Cabinet for consideration. For the remainder of the workstreams, it is envisaged that policies and legislation shall be forwarded to Cabinet by end January 2013. A green paper on rural development was presented to stakeholders on 4 and 5 October 2012 as part of the consultation that is required before the proposals are tabled to Cabinet. The green paper was tabled in Cabinet by end December 2012.

4.1.3 Skills shortage in technical forestry

The Forest Sector Transformation Charter identifies the dire shortage of critical, scarce and core skills as well as shortcomings in skills development infrastructure in the sector as key constraints to transformational growth. A concerted and coordinated sector initiative is required to address this challenge. The Charter highlights the need to develop and implement a sector skills plan through the FP and M SETA and the Forestry Paper, Pulp and Timber Chambers. The Department must play an active role through their participation in FP and M and contribute to the sector leadership role initiative. To date, DAFF and Industry has strengthened its participation in FP and M activities. It is anticipated that the restructuring of the SETA landscape will bring the most desired results. Forestry inputs have also been incorporated into the DAFF Education and Training strategy.

4.1.4 Support to communities/ community readiness

Support to communities for forestry development in the form of policies, programmes or technically is inadequate and/ or ineffective. Access to extension support services is critical for the success of emerging entrepreneurs. Industry cooperatives and companies play an important role in providing these services. However, these are focused mainly to ensure the supply of raw material to the corporate forestry companies for processing purposes. The need to extend such services to the entire value chain so that emerging entrepreneurs can enter and benefit along the entire value chain is still apparent. More work is still to be done by the Government to avail these services to fast track access to opportunities in the entire value chain for emerging entrepreneurs and for those growers who do not wish to be linked to a market but want to establish themselves independently.

4.1.5 Research development and innovation

Although the South African forest sector research and development is in good standing, it is facing a number of challenges. The Industry is still funding 90% of the research and implementation through in-house company activities and collectively through FABI and the ICFR. Intellectual property produced by research bodies, often the fruit of private funding, is still not accessible to all. The Forest Sector Research and Development strategy has been approved by DEXCO for implementation but the challenge is funding.



Very limited R&D support exists to deal with land reform, technology transfer, human resource development and other critically related Broad-Based Black Economic Empowerment (BBBEE) questions. Research and Development investment in support of households reliant for their livelihoods on forest goods and services is weak. Little or no consistent attention has been paid to the management of the environmental constraints to forest sector development, including aspects such as biodiversity management, sustainable harvesting of non-timber forest products and fuelwood. Another focus area of concern is the potential impact of climate change on forest sector productivity and even more so, future prospects and sustainability.

Research and monitoring in woodlands and natural forests are deteriorating because of various factors. Several prominent scientists in research on natural forests and woodlands have left the country or are approaching retirement. Funding is harder to obtain for such research, and crime has affected research and monitoring in certain localities. These challenges and a lack of funding for vital applied research and monitoring have resulted in certain project restraints. Human capital, the key resource at the core of R&D, is declining within the sector.

A forest sector R&D strategy needs to be launched and the institutional capacity within DAFF needs to be strengthened to take the lead in this regard. This need has also been highlighted in the Forest Sector Transformation Charter.

4.1.6 Forest conservation and protection

South Africa still lags far behind the 15% target of natural areas under protection, which is globally pursued. Only 6.8% of South Africa's total land area is currently under formal protection. Even where protection measures are in place there remain persistent pressures on protected areas from neighbouring communities, industrial and mining developments as well as urban development. For example, certain forest types are persistently under pressure from resource utilisation and development, such as the coastal and scarp forests.

- **Integrated Forest Protection Strategy:** One of the principles of the NFA is that natural forests may not be destroyed save under exceptional circumstances. It remains a challenge to enforce this principle. Once forests have been degraded, the damage is difficult to rehabilitate and therefore it is vital that forest be maintained and utilised sustainably. Forest protection includes both veld and forest fires and pests and diseases. Annually large plantations areas are lost to fire, insects, pests and diseases which, in turn, has a negative impact on future supply. To ensure protection of the forests, an integrated forest protection strategy has been approved by DEXCO for implementation.
- **Pests and diseases:** All of the scientific evidence available points to an increase in the incidence of forestry pests and diseases in the future. Many of the new pests and diseases present in South Africa will increase in their distribution and impact. Furthermore, evidence points to the fact that additional new pests and diseases will be introduced into South Africa and there is growing evidence that native pests and diseases are adapting to kill commercially grown trees and *vice versa*. Even though the Forest Protection Strategy which deals with fires, pests and diseases was approved in 2012, but it is still not funded. Industry continues to manage this with almost no support from DAFF.

4.1.7 Climate change

This being a new challenge facing the globe, South Africa will also be negatively impacted by this phenomenon. As already mentioned in 2.9.4, the forestry sector in South Africa is at risk to climate changes. In terms of projected impacts, models predict drying out of the Western Cape resulting in the drastic decline in plantation forestry in the south-west of the country. On the other hand, there will be increased rainfall in other areas of the country which may give rise to increased suitable areas for forestry. Overall, it is projected that in the medium and longer term, the total area of potential afforested land will increase due to the wetting trend over the eastern seaboard and adjacent areas. Even though, forests play a crucial role in climate change mitigation as net sink of carbon, the industry sector will, however, be vulnerable to increased frequency of wildfires.

4.1.8 Forestry and regulatory environment

Growth especially in the commercial forest industry is constrained by a wide variety of legal requirements that negatively affect the business environment in South Africa in general and the forestry sector in particular. There have been enormous gains in the regulatory system since 1994, with the 1998 National Forests Act (NFA) designed to promote sustainable use, co-operative governance and stakeholder participation. Despite this, the system remains restrictive in some areas, with excessive bureaucracy and overly constraining regulations. For example, it remains that there are number of challenges for small growers to obtain the necessary licenses for afforestation under the National Water Act. As a result, companies are now finding difficulty in supplying their mills with timber purchased from such small growers without affecting their certification conditions.

4.1.9 National Integrated Land Use Assessment Project

There is an urgent need to kick start this project which has not taken off due to lack of funds. Information is the cornerstone of adaptive management and sound decision making. Reliable and up-to-date spatial and non spatial information forms the basis for much of the operational and strategic planning in Forestry. Forest monitoring depends on the spatial baseline information and provides further quantitative and qualitative information that informs planning and decision making. Specific technical and subject information is further required on the

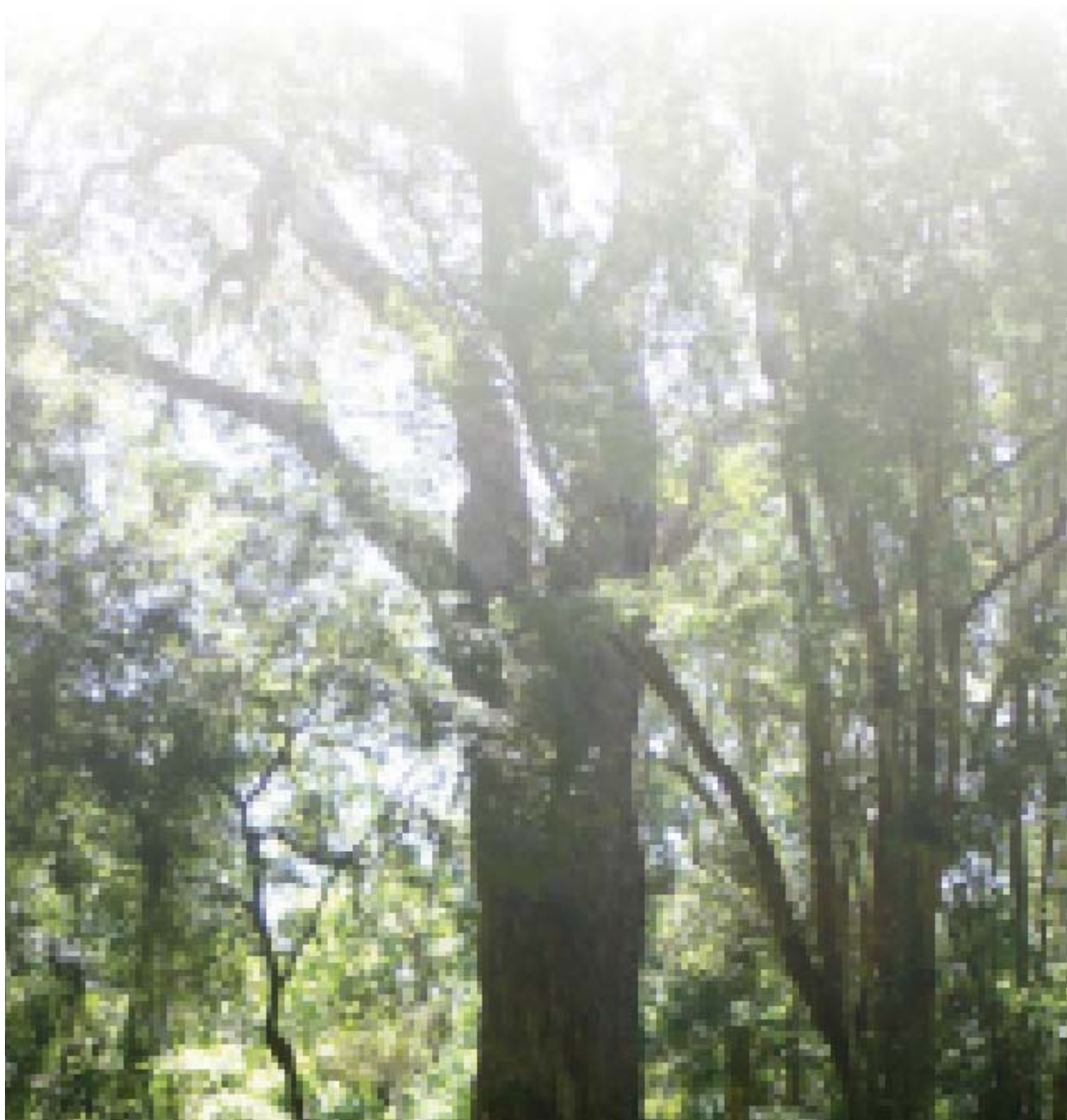


range of forestry applications and technology. The NFA provides a strong mandate for forest monitoring and dissemination of the information generated through monitoring. At present, a set of Criteria, Indicators and Measures (C&I) are available for promoting Sustainable Forest Management. These C&I should also form the basis for forest monitoring. However, the C&I are currently only applicable within DAFF and performance against these instruments of measurement is weak. This undermines the ability of the Department to use this instrument for monitoring the sector as a whole.

4.10 Transformation and development of the sector

The implementation of the Charter is ongoing. Government, industry and labour have joint responsibility to ensure that the various undertakings outlined in the Forest Sector Charter are implemented. These undertakings can be divided into three categories:

- The undertakings by forest enterprises to implement the scorecard targets as outlined in the Charter.
- The undertakings by sector role players (industry, government and labour) to implement a set of instruments to support the achievement of BEE targets by forest enterprises.
- The undertakings by sector stakeholders to implement structures and systems to manage and support the implementation of the Charter.





The background features a stylized tree graphic. The tree has several branches extending upwards and outwards. The branches are rendered in shades of green and orange. Small circular nodes are placed at various points along the branches, some in green and some in orange. The overall style is minimalist and modern.

Part 5

Analysis of the sector in terms of its contribution to sustainable development and management

This section aims to give a detailed analysis of the sector in terms of its contribution to sustainable development and management. The analysis is based on the Driving forces-Pressures-States-Impacts and Responses (DPSIR) framework which is more applicable for compiling reports on the State of the Environment. The DPSIR framework provides an overview of the relation between the environment and humans. According to this framework, social and economic developments and natural conditions (driving forces) exert pressure on the environment and, as a consequence, the state of the environment changes. This leads to impacts on human health, ecosystems and materials, which may elicit a societal or government response that feeds back on all the other elements. This is because the state of the environment report covers a variety of sectors such as land, forestry and biodiversity, mining, waste management, oceans and coasts land, and air quality. The framework might not be wholly applicable to forest reports, hence the assessment will only be confined to the forests but focusing on the elements of the DPSIR framework because forests form part of the environment and they are impacted on by human actions. It can also facilitate the development and evaluation of integrated policy responses to environmental problems.

5.1 TRANSFORMATION IN COMMERCIAL FORESTRY

Drivers

Government's transformation agenda is informed by the quest to redress the imbalances of the past in all sectors of the economy. Like many other selected sectors, commercial forestry ownership and management excluded certain categories of the society, hence it was also subjected to transformational agenda. Subsequently, the Forest Sector BBBEE Charter was developed as a mechanism to address transformation matters in the forestry sector. The broad aim of the charter is to accelerate transformation in the forestry sector by ensuring that opportunities and benefits of the forest sector are extended to black South Africans previously excluded from meaningful participation in the Sector.

Pressures

Because of the slow pace of meaningful transformation in the sector, the image of the industry is not so acceptable to many black people who are trapped in poverty and unemployment. There is a perception that the industry is unwilling to bring about meaningful transformation, instead only complying with the bare minimal requirements set by the state through policies and legislative frameworks.

Status

Government, through DAFF is directly responsible for management of about 65 000 ha of plantation area and about 216 079 ha including SAFCOL (Komatiland). The remainder of plantation area, about 1'057'278 is in private hands. In terms of the Forestry Sector Charter, the industry has agreed to undertake certain activities to ensure transformation in the sector. One of the important things the industry undertook to deliver on was to develop a set of Codes of Conduct within one year of gazetting of the Charter in 2009. These included a Code of Conduct on Employment Practices and Codes of Conduct on Forestry Contracting, Code on Grower Schemes and Code Charcoal Contracting. While a Code of Contracting in Forestry has recently been developed through the Forest Charter Council, the Code on Employment Practices was set aside.

Indicators

Indicators for real transformation will be realised once the previously disadvantaged groups, particularly blacks have a stake in the ownership and management of plantations. However, since the signing of the Charter in 2009, very little has been achieved in this regard. Afforestation in the Eastern Cape and Kwazulu-Natal are regarded as catalysts to this noble cause but the regulatory framework hampered progress. This is more so because water use licenses (WULs) are required before afforestation can take place. Environmental Impact Assessments have to precede application for WULs but lack of financial resources for EIAs has not helped the process. Ultimately, a total of 1 222 water use licenses covering an area of 18 779 ha were issued for the period under review.

Responses

Following the signing of the Forestry Charter, a Forestry Charter Council was established to monitor implementation of the Charter. Through DAFF's facilitation, the DTI has made funding available for EIAs to be conducted. The Micro Agricultural Finance Institutions of South Africa (MAFISA) policy was being reviewed to incorporate forestry, as the DAFF strives to create a One-Stop shop for funding for all projects in the three sectors of the Department. Restructuring of the Komatiland forests package is to be done in a manner that seeks to address equity. The review of the future role of SAFCOL and its subsidiary Komatiland Forest (KLF) is in progress and will be aligned with the Government's rural development objective.

5.2 FORESTRY EMPLOYMENT

Drivers

Global economic recession, shortage of fiber leading to mill closures, slow pace of afforestation due to alleged impediments emanating from the regulatory environment, labour cost, delays in implementing policy decision on replanting of areas initially identified as exit areas are some of the main drivers of employment.



Pressures

Escalating poverty, unemployment and inequality result in unstable families. This may also result in an increase in the rate of criminal activities.

Status

Direct employment in forestry decimated from 106 844 (2009) to about 96 700 (2012) in a period of three years.

Indicators

Job losses—number of jobs (about 10 144) lost during the past three years.

Responses

The Department has developed an Integrated Growth and Development Plan aimed at creating jobs. The Agricultural Policy Action Plan, a plan to action the strategies and plans is about to be completed. It is anticipated that jobs will be created once the plan is implemented. DAFF is also reviewing its funding mechanism to ensure that forestry and fisheries projects get the necessary funding. Dti has provided funding for environmental impact assessments conducted in potential afforestation areas in the Eastern Cape. This paves a way for water use licenses to be processed which should be followed by planting of these new areas, hence the creation of new jobs.

5.3 DETERIORATING CONDITIONS OF FORESTRY WORKERS

Drivers

Cost of production, inadequate investment and labour outsourcing seem to be the three main factors contributing to the ever worsening conditions of forestry workers. The latter is particularly relevant to the private sector since government offer employment on permanent basis for the majority of its workers. Wages in the public sector are also better than those in the private sector. However, government is not investing sufficiently for establishment and maintenance of capital assets.

Pressures

Status—only about 13% of forestry workers in the private sector are permanently employed and substantial employment benefits are only confined to this bracket. Meanwhile, labour is fighting fiercely to see labour broking totally abolished. Reports indicate that conditions of forestry workers are worse than during the apartheid dispensation. Forest villages in both the public and private sectors in the main are said to be having little or no sanitation services, electricity, running water and refuse removal services.

Indicators

Mainly low productivity, poor health and high absenteeism.

Responses

Instead of totally scrapping labour broking, government has taken steps aimed at reviewing labour laws to ensure regulation of labour broking. In accordance with the Forest Sector BBBEE Charter, industry undertook to relook into the social aspects of workers and codes of good practices on labour are to be developed, albeit the process is very slow.

5.4 FOREST HEALTH AND VITALITY

Drivers

The movement of people and timber products in and out of the country are said to be the major contributing factors towards introduction of new forest pests and diseases.

Pressures

Control of pests and diseases requires huge financial resources. Research has to be carried out on an ongoing basis and tracing the origin of the pests or diseases can be a daunting task especially if the biological control mechanism has to be used. Introduction of multiple pests and diseases create a strain towards the already over-stretched resources invested in research and development. Runaway fires also pose a threat to the health and vitality of forests.

Status

For the last three years and thus the period for which this report is relevant, three insect pests would be considered most important. These are the Sirex wood wasp (*Sirex noctilio*) that is devastating pine plantations in virtually every part of South Africa; the bronze bug *Thaumastocoris peregrinus* that can seriously defoliate Eucalyptus spp. and the Eucalypt Gall Wasp *Leptocybe invasa*, relatively newly discovered in South Africa and now resulting in substantial damage to young Eucalyptus plantations. According to ICFR, Sirex has spread



through the pine growing areas of South Africa from Cape Town to Louis Trichardt over the past 18 years. Even though the spread is noted, there are still plantations in the area between Piet Retief and Louis Trichardt where *Sirex* has not yet been recorded. There is often no comprehensive data on the impact of fires nationally. However, in 2012 the Northern Cape battled with devastating veld fires in the Ghaapse Plato region which resulted in the destruction of 100 000 hectares of veld.

Indicators

Devastation by the siren wood wasp in many plantation areas, defoliation of young eucalyptus plantations by the Eucalypt Gall Wasp and the bronze bug induced defoliation *Eucalyptus* spp. Loss of grazing due to fire may be a temporary set back but this may result in loss of biodiversity.

Responses

A National Forest Protection Strategy has been developed to address the challenges posed by pests and pathogens in a proactive manner. The strategy also proposes funding model to ensure sustained work towards monitoring and control of pests and diseases, not only for plantations but for all forest types. Research Teams at various institutions such as the FABI at the University of Pretoria and the ICFR are continuously doing work towards management of the agents that compromise the health and vitality of South Africa's forests. A great deal of effort has been expended from initiatives of the CTHB and the Tree Protection Cooperative Programme (TPCP) and the various organisations that support these programmes. The Department works together with private companies and representatives from FABI and the ICFR in a bid to deal with the spread of pests and diseases in plantations. South African *Sirex* Control Programme is one such intervention to deal with pests in plantations. The Control Programme was initiated with funding from the private sector but the last three years has seen significant financial support from the Department of Agriculture, Forestry and Fisheries. With regard to fire management, DAFF continues to implement the National Veld and Forest Fire Act (No. 101 of 1998). The Act requires formation and registration of fire protection associations, which are community-based voluntary organisations, formed and empowered to cooperate on issues of fire protection, prevention and combating. Chapter three of the said legislation requires the establishment of a national fire danger rating system, a tool used as an early warning system for likelihood of veldfires occurrences and their potential intensities.

5.5 DEFORESTATION AND FOREST DEGRADATION

Drivers

Although there is no regular monitoring of forests to detect any disturbances, there are areas where forest disturbances are detected, particularly in woodlands. Deforestation and forest degradation result from activities such as development, mining, over exploitation of forest resources and products and other agents such as fires, pests and diseases. Excessive recreational use of the forest areas and activities associated with tourism can have impacts on forest regeneration and also on sustainable development.

Pressures

Deforestation and forest degradation have several negative impacts on various aspects of the environment. They cause loss of biodiversity, reduced capacity for forests to protect soils against eroding agents and reduced capacity for forests to sequester carbon, hence impacting negatively on effects of climate change. This also compromises food security and impacts negatively on the provision of goods and services on a sustainable basis.

Status

The pressure on forest area in the heavily populated woodland areas remains high. Forests, particularly the indigenous forests are also under pressure from people who derive medicinal plants for economic purposes. However, the rate of harvesting in this regard is unknown although previous studies indicated that these forests were under tremendous pressure, especially in Kwazulu-Natal and the Eastern Cape.

Indicators

The results of the survey carried out in Gauteng in 2007 to assess the braaiwood market revealed that the firewood market was huge. This wood is mainly derived from woodland forests, particularly the camel thorn and leadwood which are seemingly the preferred species for braaiwood.

Responses

DAFF publishes a list of protected trees annually and such trees cannot by law be tempered with save under exceptional cases. Licenses are required to cut down protected trees or to collect or transport their products. A national Woodland strategy was developed in the past few years but it is yet to be implemented.



The background features a stylized tree graphic. The tree has several branches extending upwards and outwards. The branches are rendered in shades of green and orange. Small circular nodes are placed at various points along the branches, some in green and some in orange. The overall style is minimalist and modern.

Part 6

Conclusion and recommended interventions

From the deliberations in this report, the Department of Agriculture, Forestry and Fisheries is confident that much has been achieved since the last State of the Forests Report (2009). However, it is quite evident from the report that there are a lot of challenges facing the forestry sector. These include aspects of the condition of workers in forestry, forest health and vitality, research and development, forestry transformation, the looming sawlog shortages, implementation of legislation, and right through to issues of climate change. These therefore require a strong and concerted effort from all role players in the sector, namely, government, labour, business and communities to address. In acknowledging the need for the sector role-players to work together in addressing the impediments hampering growth, transformation and development in the industry, the following are proposed strategic interventions (selected) aimed at taking the sector forward:

6.1 IMPROVING CONDITIONS OF FORESTRY WORKERS

In sharp contrast to industry assertion that the conditions of forestry workers are adequate, many reports by auditors and researchers on social and economic aspects of commercial forestry point to the opposite direction. The reality that only about 6% (permanent employment) of forestry workers have satisfactory benefits should not be left unattended, particularly in lieu of the chain of strikes experienced in the mining sector of the economy. It is therefore imperative for DAFF, as sector leader, to constructively engage with all relevant role players and seek solutions to the challenges. These include:

- Dealing decisively with labour outsourcing, thereby ensuring that the envisaged legal framework on labour broking or outsourcing addresses this challenge adequately.
- Influencing the process of sector wage determination to set the minimum wage at the level of permanently employed forestry workers and ensure adherence from Contractors and sub-contractors.
- Engaging both labour and business to relook into the aspect on provision of amenities which were provided in the past before workers demanded cash payment in their replacement.
- DAFF itself has to look into the recommendations of the study tours on Infrastructure and working conditions of its employees and systematically implement them

6.2 BIOLOGICAL DIVERSITY CONSERVATION AND PROTECTION

Plantation forestry and several other sectors such as mining and agriculture are regarded as serious threat to biodiversity in that they cause disturbances in ecosystems thereby replacing the original plant and animal species. In this regard, it is important for the forestry sector to minimise these disturbances as much as possible and create a trade off. In this regard forestry should strive for the following:

- Continue to implement the FSC Principles and Criteria (under review) that seek to expand areas under protection beyond the traditional planted areas to include wetlands within plantations and other areas of high ecological value
- DAFF and the industry to continue to play an active role in the processes geared up for implementation of the National Protected Areas Strategy
- Building on the successes of the Kathu Forest project, DAFF should proactively identify more woodland areas that could be considered for protection under the National Forests Act.

6.3 COMPLIANCE AND ENFORCEMENT

Implementation of environmental law in South Africa has always faced some challenges. This is not only because the environmental sector has to compete with other serious crimes such as murder and rape in the criminal justice system but also because many of the magistrates and prosecutors are not trained on environmental issues. This has led certain government departments such as the DEA and DWA to create internal capacities dedicated to Compliance and Enforcement. DAFF should thus consider the following:

- Finalise the Compliance and Enforcement Strategy which is under development.
- Conduct a feasibility study in lieu of creating a dedicated Compliance & Enforcement Directorate/Unit which could probably include enforcement of other legislation administered by the other sectors of the department, namely, Agriculture and Fisheries.
- Continue with the programme of veldfires and forestry awareness raising and training enforcement agencies on the forestry laws

6.4 SAWLOG SHORTAGES

There are several reasons on the causes of the looming shortage of sawlogs of which some are a terrain of disputes. Irrespective of the accuracy or credibility of the conflicting or disputed reasons, the following are suggested solutions from both government and the sector:

- DAFF, which predominantly provides for long-term rotation, sawlog needs to request from Treasury additional funding to specifically address the backlog on replanting and bring its TUP to the acceptable industry norm. This is very urgent considering that 21 000 ha lie idle.
- Speedy planting of the over 8 000 ha in the Western Cape areas which were previously earmarked for exit will contribute towards addressing the sawlog shortage in the long term.



- DAFF and its partners should continue to lobby for funding for EIAs to be conducted on areas identified for afforestation. But most importantly, there could be conditions that a pre-determined area is set aside for long-term sawlog rotation, particularly in the private sector which holds the bigger share of forest land.
- Proportion of Komatiland package be tied to sawlog timber when the package is finally devolved or restructured.

6.5 FORESTRY RESTRUCTURING AND TRANSFORMATION

Government, through application of several policy and legislative frameworks such as the Forest Sector BBBEE Charter and the Management of State Forests Act sought to create an environment whereby as many as possible of the South African population enjoy the benefits of the forest resource. The broad aim of the charter, in particular is to accelerate transformation in the forestry sector by ensuring that opportunities and benefits of the forest sector are extended to black South Africans and other disempowered groups previously excluded from meaningful participation in the Sector. The Management of State Forests Act on one hand was aimed at devolving management of state owned forests to competent agencies while government sought to focus on its core mandate of regulation. While progress has been registered in certain areas, a lot of work still needs to be done to ensure meaningful transformation and benefits in the sector. As a way forward, the following interventions need to be considered:

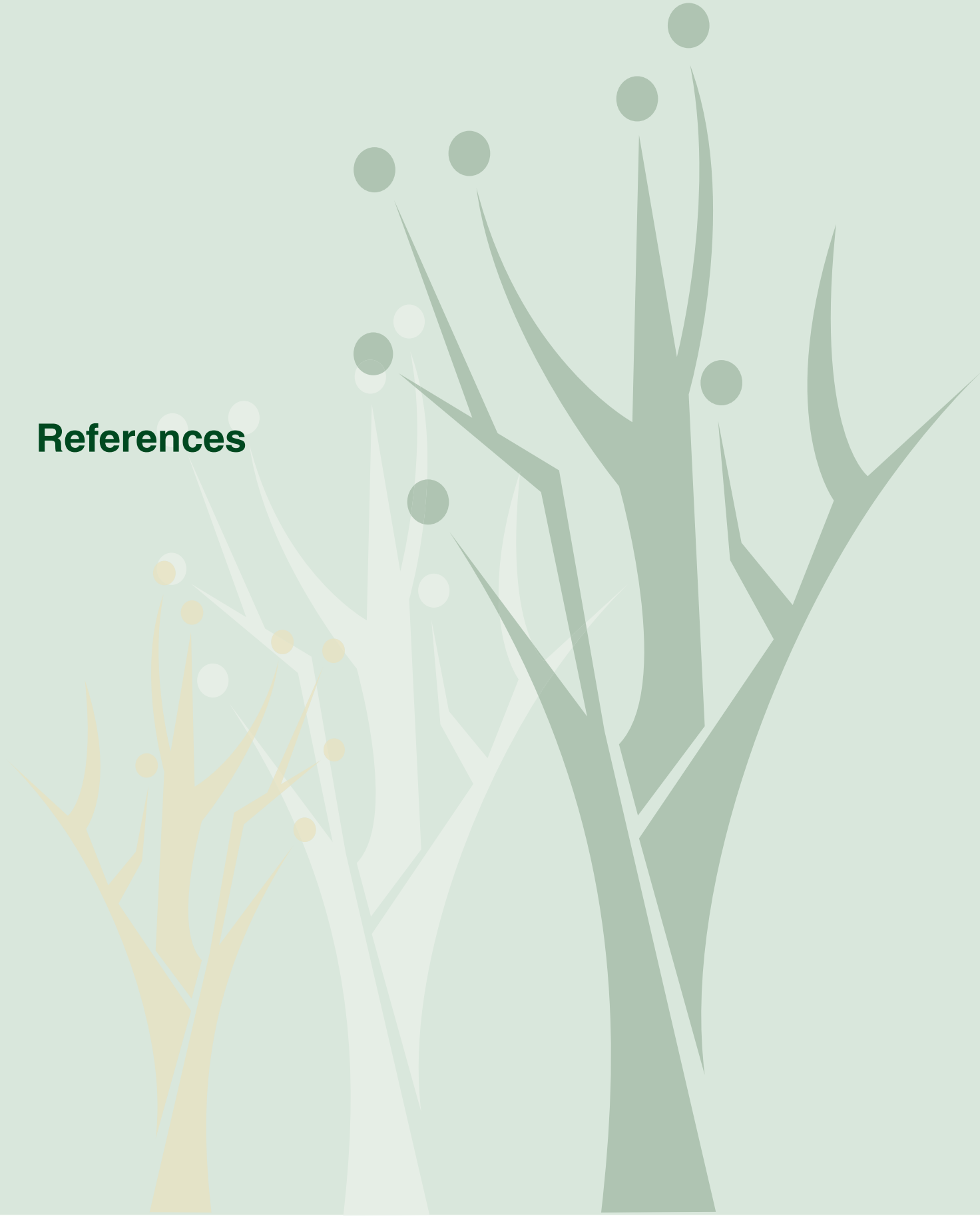
- The issue of transferring ownership to identified categories of the population should be monitored closely and remedial steps taken, where necessary.
- The social aspect in commercial forestry seems not to be given equivalent attention comparable to environmental aspect. The role players, particularly the Forest Charter Council should expose this and recommend corrective action.
- The pace at which afforestation is taking place is not at acceptable level. This calls for all parties involved to proactively address this aspect by mobilising the necessary resources and policy frameworks to expedite the process.
- In order to ensure sustainable disbursement of rental monies to land reform beneficiaries, DAFF should consider creating fixed periods of doing so and communicating such to the relevant structures.
- DAFF also needs to regularly assess how disbursed monies are used and provide assistance where required.

6.6 INVESTMENT IN FORESTRY

Reports indicate that investment in forestry is inadequate and or lacking in some aspects such as areas of research and development, infrastructure development and maintenance as well as funding for forestry projects and extension services. It is therefore recommended that DAFF finalises the review and alignment of its funding mechanisms. Finally, there should be clear and transparent protocol on how financial support will be rendered.



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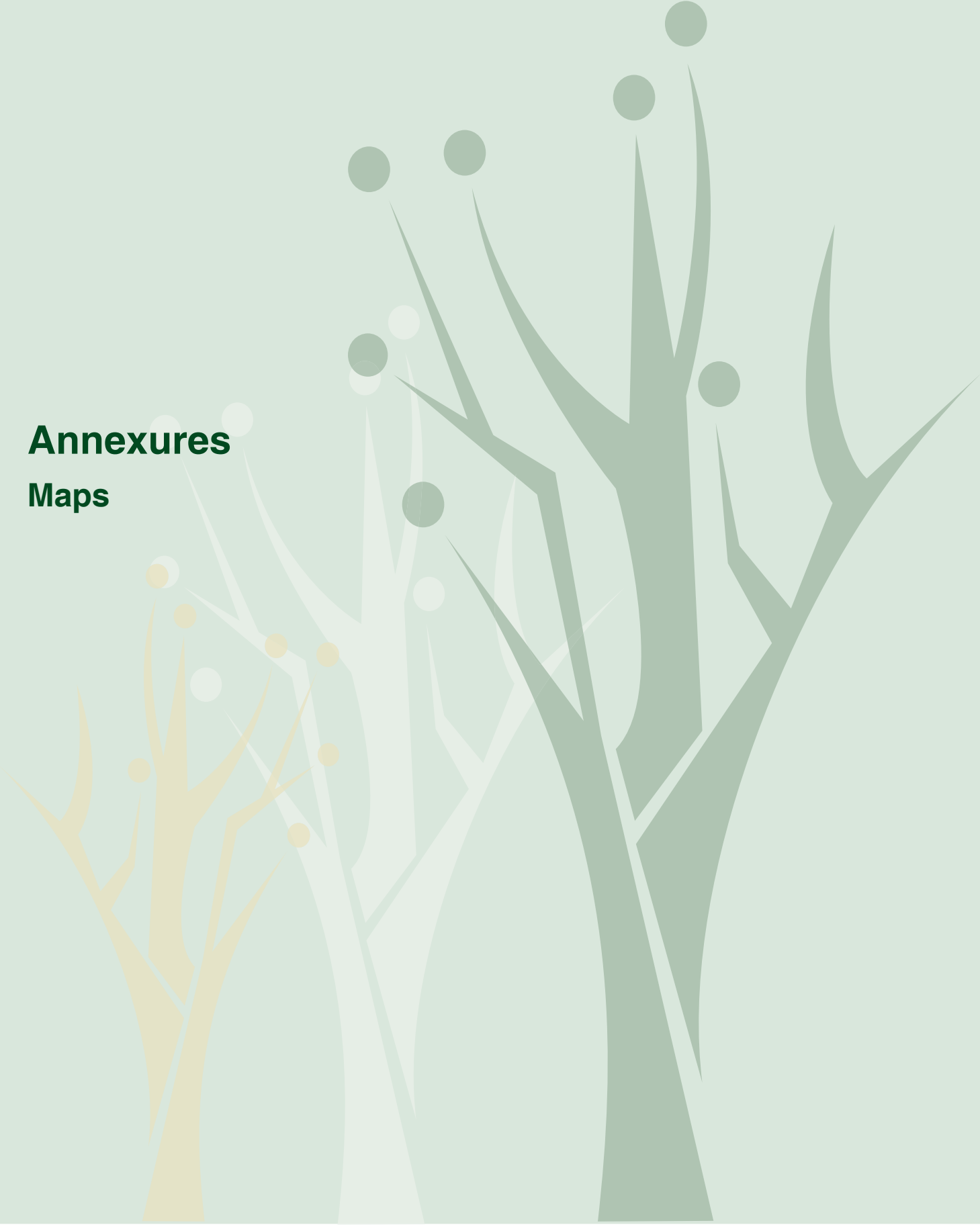
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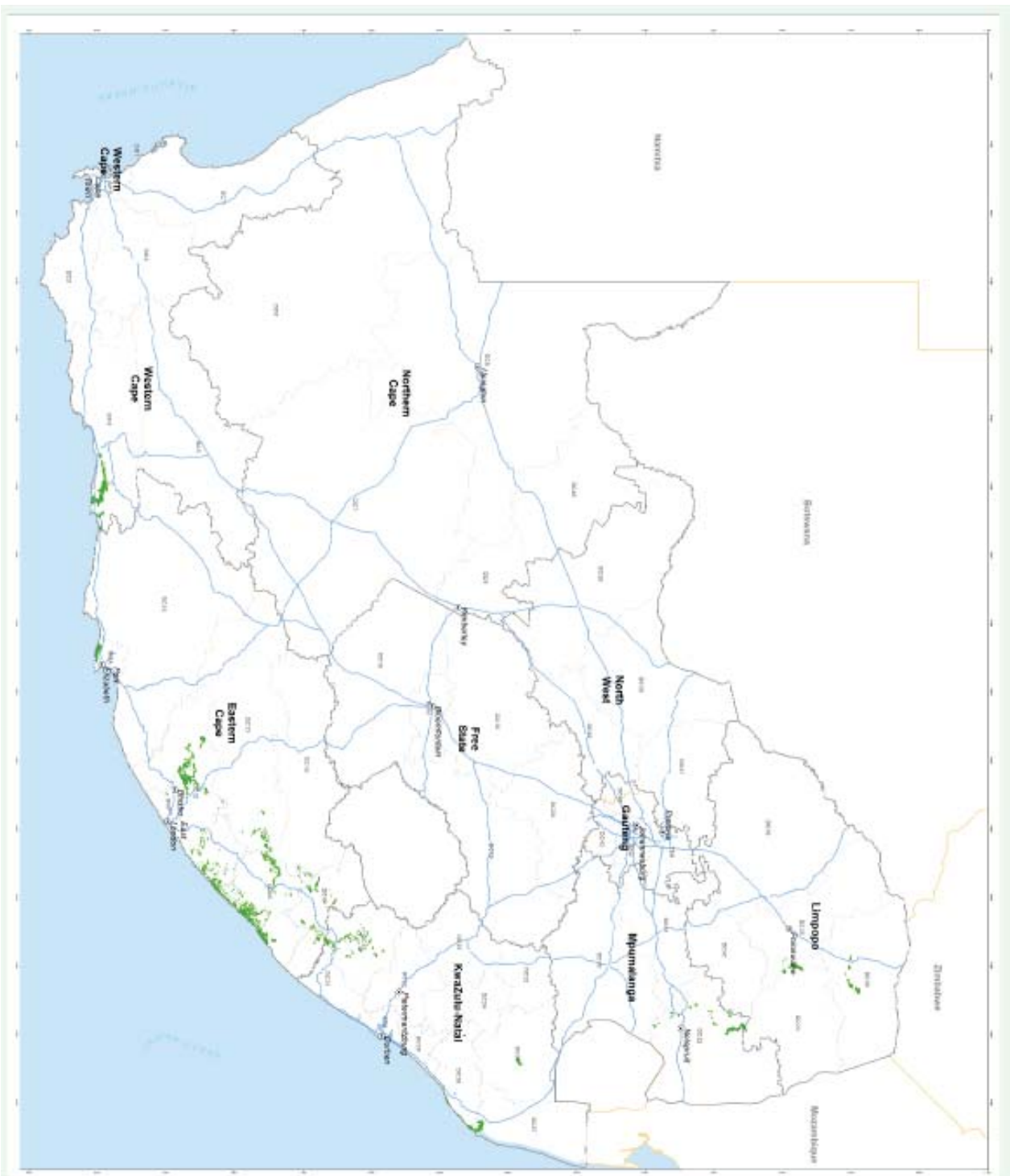
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Annexures

Maps





DISTRIBUTION OF NATURAL FORESTS/ INDIGENOUS FORESTS IN SOUTH AFRICA

Legend

- Major Cities
- National Roads
- District Boundaries
- Provincial Boundaries
- Provincial Boundaries
- National Forest Inventory Indigenous Forest



LOCALITY MAP



The map was prepared using data from the National Forest Inventory (NFI) and the National Forest Inventory Indigenous Forest (NFI-IF) datasets. The NFI-IF dataset is a subset of the NFI dataset and contains information on the distribution of indigenous forests in South Africa. The map was prepared using ArcGIS 10.2.2. The map is a vector map and can be scaled without loss of quality. The map is a work of the Department of Agriculture, Forestry and Fisheries and is in the public domain.



