STATE OF THE FORESTS REPORT

2018 South Africa

forestry, fisheries & the environment

Department:
Forestry, Fisheries and the Environment
REPUBLIC OF SOUTH AFRICA

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STATE OF THE FORESTS REPORT: 2018 SOUTH AFRICA

DEPARTMENT OF FORESTRY, FISHERIES AND THE ENVIRONMENT

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ACRONYMS

AET	Adult Education and Training
AMESD	African Monitoring of the Environment for Sustainable Development
AFOLU	Agriculture, Forestry and Other Land Use
AHEG	Ad Hoc Expert Group
AFC	Amathole Forestry Company
AFWC	African Forestry and Wildlife Commission
APFC	Asia-Pacific Forestry Commission
ARC	Agricultural Research Council
AU	African Union
AUC	African Union Commission
BBBEEA	Broad-based Black Economic Empowerment Act, 2003 (Act No. 53 of 2003)
BCM	Buffalo City Metropolitan Municipality
BRIC	Brazil, Russia, India and China (grouping)
CFAs	Community Forest Associations
CGRFA	Commission on Genetic Resources for Food and Agriculture
C&I	Criteria and Indicators (for Sustainable Forest Management)
CIFFC	Canadian Interagency Forest Fire Centre
CITIES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
COFO	Committee on Forestry
COP	Conference of the Parties
CPA	Community Property Association
CPF	Collaborative Partnership on Forests
CSI	Corporate Social Investment
CSIR	Council for Scientific and Industrial Research
CTRPRP	Commercial Timber Resources and Primary Roundwood Processing in South Africa (report)
DAFF	Department of Agriculture, Forestry and Fisheries
DALRRD	Department of Agriculture, Land Reform and Rural Development
DARDLEA	Department of Agriculture, Rural Development, Land and Environmental Affairs
DEA	Department of Environment Affairs
DFFE	Department of Forestry, Fisheries and the Environment
DIRCO	Department of International Relations and Cooperative Governance
DPE	Department of Public Enterprises
DRC	Democratic Republic of the Congo
DRDLR	Department of Rural Development and Land Reform
DWS	Department of Water and Sanitation
ECOSOC	Economic and Social Council of the United Nations
EFC	European Forestry Commission
EME	Exempted Micro Enterprises
ENECE	United Nations Commission for Europe
EPWP	Expanded Public Works Programme
EWG	Expert Working Group
FABI	Forestry and Agriculture Biotechnology Institute
FAO	Food and Agriculture Organization of the United Nations
FLEGT	Forest Law Enforcement, Governance and Trade
FMU	Farm Management Unit
FPAs	Fire Protection Associations
FPO	Fire Protection Association
FRA	Global Forest Resources Assessment
FSA	Forestry South Africa
FSC	Forest Stewardship Council
FSCC	Forest Sector Charter Council
FP&M	Fibre, Paper & Manufacturing Sector Education and Training Authority
GDP	Gross Domestic Product
GEF	Global Environment Facility

GEO	Group on Earth Observation
GFFFN	Global Forest Financing Facilitation Network
GFGs	Global Forest Goals
GHG	Greenhouse Gas emissions
GOF	Global Objectives on Forests
GPA-FGR	Global Plan of Action- Forest Genetic Resources
GPA	Global Plan of Action
HLPF	High Level Political Forum
IAF	International Arrangement on Forests
ICS	Incident Command System
IDC	Industrial Development Corporation
ICFR	Institute for Commercial Forestry Research
IFF	International Forum on Forests
IFM	Integrated Fire Management
IPCC	International Panel on Climate Change
IPF	International Partnership on Forests
ITTO	International Tropical Timber Organization
ITWG-FGR	Intergovernmental Technical Working Group-Forest Genetic Resources
IUCN	International Union for Conservation of Nature
JICA	Japan International Cooperation Agency
KZN	KwaZulu-Natal
LAFC	Latin and the Caribbean Forestry Commission
LDARD	Limpopo Department of Agriculture and Rural development
LULUCF	Land Use, Land-Use Change and Forestry
MAI	Mean Annual Increment
MAR	Monitoring, Assessment and Reporting
MDGs	Millennium Development Goals
MESA	Monitoring for Environment and Security in Africa
MLE	Medium and Large Enterprises
MoU	Memorandum of Understanding
MTO	Mountain to Ocean (Forestry Company)
NAFC	North American Forest Commission
NCCRS	National Climate Change Response Strategy
NCOP	National Council of Provinces
NDC	Nationally Determined Contribution
NEFRC	Near East Forestry and Range Commission
NEMBA	National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004)
NFA	National Forests Act, 1998 (Act No. 84 of 1998)
NFAC	National Forests Advisory Council
NFIS	National Forest Information System
NFMIS	National Forest Monitoring and Information System
NFRF	National Forest Research Forum
NFSRDS	National Forest Sector Research and Development Strategy
NQF	National Qualification Framework
NTFP	Non-timber Forest Product
NVFFA	National Veld and Forest Fire Act, 1998 (Act No. 101 of 1998)
NWA	National Water Act, 1998 (Act No. 36 of 1998)
OAU	Organisation of African Unity
OLI	Organization-led Initiative
PEFC	Programme for Endorsement of Forest Certification
PFM	Participatory Forest Management
PSHB	Polyphagous Shot Pole Borer
PSP	Professional Service Provider
PPP	Private Public Partnership
PTT	Permanent Task Team
QSE	Qualifying and Small Enterprises
R&D	Research and Development
RECs	Regional Economic Communities
REDD+	Reducing Deforestation and Forest Degradation in developing countries
RoDs	Records of Decision
SA	South Africa
SADC	Southern African Development Community
SADT	Southern African Development Trust
SAFAS	South African Forestry Assurance Scheme
SAFCOL	South African Forestry Company Limited
SAFORGEN	Sub-Saharan Africa Forest Genetic Resources

SARS	South African Revenue Service
SASCP	South African Sirex Control Programme
SDGs	Sustainable Development Goals
SETA	Sector Education and Training
SFM	Sustainable Forest Management
SFP	Singisi Forestry Products
SFRA	Stream Flow Reduction Activity
SGP	Small Grants Programme
SMME	Small Medium and Micro Enterprises
SOFI	State of Food Security and Nutrition in the World
SOFO	State of the World's Forests
SoW-FGR	State of the World's-Forest Genetic Resources
SQF	SiyaQhubeka Forest Products
TPCP	Tree Protection Co-operative Programme
TUP	Temporary Unplanted Areas
UFPA	Umbrella Fire Protection Association
UNCBD	United Nations Convention on Biological Diversity
UNCCD	United Nations Convention to Combat Desertification
UNDP	United Nations Development Programme
UNECE	United Nations Economic Commission for Europe
UNFCCC	United Nations Convention on Climate Change
UNFF	United Nations Forum on Forests
UNFI	United Nations Forest Instrument
UNSPF	United Nations Strategic Plan for Forests: 2030
UP	University of Pretoria
USA	United States of America
VNCs	Voluntary National Contributions
WoF	Working on Fire Programme
WUL	Water Use Licence

GLOSSARY OF TERMS

Natural forest – a generally multilayered vegetation unit dominated by trees (largely evergreen or semi-deciduous), whose crown combined strata have overlapping crowns (that is, the crown cover is 75% or more), and where grasses in the herbaceous stratum (if present) are generally rare.

Plantation – a group of trees (usually large farm or estate) cultivated for exploitation of the wood, bark, leaves or essential oils in the trees.

Woodland forest – a group of indigenous trees which are not natural forest, but whose crowns cover more than five percent of the area bounded by the trees forming the perimeter of the group

Biome – a large region of earth that has certain climate and certain types of living organisms, large and small

Silviculture – a practice of controlling the growth, composition/ structure, and quality of forests to meet values and needs, specifically timber production.

Recommissioning – means putting back to service, forestry land which was previously withdrawn from forestry operations

Biodiversity – a variety of plant and animal life in the world or in a particular habitat, a high level of which is usually considered important and desirable.

Afforestation – the process of planting trees or sowing seeds, in a barren land devoid of any trees to create a forest.

Mean Annual Increment – refers to the average growth per year a tree or stand of trees has exhibited/ experienced to a specific age.

Alien Invasive Plants – refers to plants that are not native in a country and have been brought into a country from another. They are species whose introduction and/ or spread outside their natural distribution threaten biological diversity.

Agroforestry - Agroforestry is a land use management system in which trees or shrubs are grown around or among crops or pastureland.

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FOREWORD BY MINISTER

This report, the fifth edition of the State of the Forests Report (2018) has been prepared to meet the requirements of the National Forests Act of 1998 (Act No. 84 of 1998) (the Act). Section 6 of the Act mandates the Department to conduct forest monitoring, which includes, the monitoring of the maintenance and development of forests with reference to:

(a) forest resources;
(b) biological diversity in forests;
(c) health and vitality of forests;
(d) productive functions of forests;
(e) protective and environmental functions; and
(f) social functions of forests.

Forests are widely known as the world's largest repository of terrestrial biodiversity, for example, South Africa is home to over 95 000 known species and accounts for 7% of the world's reptiles, birds and mammals, 10% of the world's plant species, and 15% of the world's coastal marine species. The forest biome in South Africa has the highest species per unit area, more than 400 species per hectare in some places. Forests also play a vital role in global climate change mitigation and adaptation and contribute to water and soil conservation in many fragile ecosystems.

The contributions of forests to the well-being of humankind are extraordinarily vast and far-reaching. They play a fundamental role in combating rural poverty, create much needed decent jobs and deliver vital long-term environmental services such as clean air and water, conservation of biological diversity and prevention of flooding and soil erosion. Forests contribute significantly to food security and quality nutrition in many ways. Millions of people depend on food from forests and they further contribute to rural livelihoods and poverty alleviation through income generated by employment in the production of goods and services.

Globally, it is estimated that approximately 1.2-1.5 billion people, just under 20% of the global population are forest dependent. In South Africa, some 149 000 people are directly employed in the forestry sector and its value-chains. Some 505 000 people are dependants of those working in commercial forestry and 654 000 depend on commercial (plantation) forests for their livelihoods. These people access the forests for products such as medicinal plants, carving, bush meat as well as fruits and edible insects.

Given the significant role played by forests and trees outside the forests, on the economies of countries and the livelihoods of millions of people in the world, it is important that we manage and develop our forest resources in a sustainable way for the benefit of current and future generations. However, the existence and sustainability of forests are continuously threatened by a variety of factors, natural and anthropogenic. Wildfires, developments, land-uses, climate change as well as pests and diseases continue to pose a serious threat to forests.

In South Africa, the *Euwallacea fornicates,* Polyphagous shot hole borer (PSHB) is one of the recent tree pests to be detected in South Africa. In 2017, the Polyphagous shot hole borer was detected on London Plane trees in the KwaZulu-Natal National Botanical Gardens in Pietermaritzburg for the first time. The beetle is native to Southeast Asia and Carlifornia, and it has a symbiotic relationship with the fungus *Fusarium euwallaceae,* which serves as a food source for the adults and their larvae. The beetles can attack a wide range of living exotic and indigenous trees including avocado, macadamia nut, peach, orange, grapevine and pecan trees. The beetle is yet to be spotted in exotic timber plantations but it is more prevalent in exotic tree species planted as ornamentals (maple, holly, wisteria, oak and camellia), crops and trees outside forests.

To ensure that forests continue to play an important role in guaranteeing food security, promoting sustainable development, preserving biodiversity and contributing to the Green Economy, it is important that target specific strategies are applied. The relevant pro-active and responsive strategies can only be developed and applied if constant monitoring assessment and reporting are done to determine facts and trends. Accordingly, this report provides data and information on forestry facts and trends in South Africa for the period 2016-2018.

I hope you will enjoy reading this fifth edition of the State of the Forests report and more importantly, that it would stimulate new ideas on the multiple relationships between people and forests and how we can pull together, resources and expertise on their advancement in order to leverage their productive capacities and sustainability for the benefit of our people and the environment.

Ms Barbara Creecy, MP

Minister of Forestry, Fisheries and the Environment

Date:

Statement by Deputy Minister

The role the country's forests and its value chains play in uplifting the conditions of our people through employment creation is significant. Our forests offer a platform for cultural and spiritual connectivity thereby creating serenity and tranquillity. They provide goods and ecosystem services and further play a major role in climate change adaptation and mitigation. They are the lungs through which the earth breathes.

Paradoxically, our forests are exposed to constant threats ranging from land invasion, land restitution and redistribution, and uncoordinated policy development, existing and emerging pests and diseases, alien invasive species, and fire and theft. Since the 1980s, 600 000 ha of timber has been burnt by forest fires, both natural and as a result of arson.

The National Development Plan (2030) puts forestry as one of the sectors that require more investments and unlocking of opportunities for them to realise the full potential and meaningful contribution to the country's developmental aspirations. The report and other studies have shown us that despite their small area size, the commercial (plantation) forestry sector continues to sustain the country through the high productivity resulting from advanced research and development and the sustainable management practices under which production is carried out.

However, for the plantations to maintain this sustainability and thrive, it requires all key stakeholders to develop strategies and programmes for ensuring the protection and development of the resources. This is particularly important because we note in the report that the area for commercial forests has been steadily decreasing over the past few years. We need to move with speed to ensure that we urgently bring the conditions of State plantations to levels where we can say they are managed sustainably. Reducing the Temporary Unplanted areas in State plantations should be government's priority while equally expediting the planting in areas, which were initially decommissioned in the Provinces of the Western Cape and Mpumalanga. While concentrating on bringing these plantations to optimal productivity, we should not lose sight of the role played by our natural forests and woodlands in the bigger scheme of things. These, equally require attention in that we need to expand the areas of woodland forests under protection while strengthening the protection status of natural forests by ensuring that we enhance the compliance and enforcement capacity under the Act and under the National Veld and Forest Fire Act 1998, (Act No. 101 of 1998).

We further need to expedite processes for resolving the array of issues plaguing the forestry sector. These include the unresolved matter of forest villages in the Western Cape and elsewhere in the country where communities living next to our forests, have raised similar concerns. Finally, we need to expedite the finalisation of claims lodged on forestry land, as this poses a serious threat to the very existence of our forests. In achieving all this, we need to put in place policies and strategies aimed at empowering our people, particularly the rural poor who are living within and around the forests.

_____

Ms Maggie Sotyu, MP

Deputy Minister of Forestry, Fisheries and the Environment

Date:

EXECUTIVE SUMMARY

This report, the State of the Forests Report (2018) is the fifth edition prepared to meet the requirements of section 6(3) of the National Forests Act of 1998 (Act No. 84 of 1998). It is a mandatory triennial report seeking to present facts and trends on forests in the country and it covers the years 2016, 2017 and 2018 but overlaps slightly into 2019, particularly on matters pertaining to Regional and International Cooperation.

South Africa's forests, like the world's forests continue to play an important role in the lives and livelihoods of the country's estimated population of 57.7 million people (Statistics South Africa, 2018). Forests in South Africa are divided into three main categories, namely, natural (indigenous) forests, wooded savannahs (woodlands) and industrial (plantation) forests covering just over 40 million hectares of the country's 122 million (about 32.7%) land surface area. The bulk of the country's forestland is covered by woodlands at approximately 39 million hectares (depending on classification used) and 1.19 million hectares is occupied by introduced commercial (plantation) forests of native species and are predominantly in the Provinces of KwaZulu-Natal, Eastern Cape, Western Cape, Mpumalanga and Limpopo. Natural forests are minute at just under half a million (492 700) hectares.

Forests, trees on farms and trees outside forests play an important role in the livelihoods of people, particularly the rural people. They provide employment, energy, food, shelter and a wide range of goods and ecosystem services. Forests and trees outside the forests (e.g., farms and in urban settings)play a significant role in socio-economic upliftment of the peoples of the world, especially those exposed to abject poverty in rural areas in developing and less developed countries. In 2018, 58 900 people were directly employed in plantation forestry while 27 000 had indirectly employment from the sub-sector. The forests sub-sector and its value-chains provides a combined 105 600 direct employment and 43 500 indirect employment benefitting some 149 100 persons. A further 505 000 people are dependants of those working in the commercial forestry sectors. A further 654 000 people depend on products from commercial timber plantations for their livelihoods.

Globally, it was estimated that approximately 1.2-1.5 billion people, just under 20% of the global population are forest dependent (Chao 2012, cited by FAO, 2014a; Agrawal et al, 2013). In South Africa, more than 800 000 people operate in the craft industry, which is heavily reliant on woodland resources and up to 100 000 households engage in small-scale trade in forest products from woodlands. This includes people who access the forests for products such as medicinal plants, carving, bush meat as well as fruits and edible insects. The role that forests play on food security and nutrition is particularly important because for decades, the number of hungry people in the world had been declining but this is not true anymore. The State of Food Security and Nutrition in the World (SOFI, 2019) published by the FAO in July 2019 indicated that 821 million people in the world were subjected to some form of hunger. SOFI 2019 confirmed a rise in world hunger for a third year in a row as there were these 821 million chronically undernourished people in the world in 2018, up from 811 the previous year. One in nine people in the world faced hunger. Africa was the region with the greatest prevalence of hunger in the world – the figure changed to one in five people hungry in Africa. Hunger was also on the rise in Western Asia. The upward trend of world hunger – after decades of steady decline – yet again underscored the immense challenge of achieving the Zero Hunger target by 2030. The number of hungry people in the world was back up to where it was nearly a decade ago. The world was not currently on track to meet the goals of ending hunger and ensuring access to food for all.

Conflict and the climate crisis constituted the greatest drivers of hunger. Hunger had increased in many countries where the economy had slowed or contracted, mostly in middle-income countries. However, the greatest threat was where there was a combination of drivers – conflict, climate change and economic marginalisation

Although plantation forestry occupies a small area (1.19 million ha) the sector plays an important role in the economy of South Africa. In 2018, the sector contributed (0.9 %) to the GDP, 0.9% in 2017 and 0.6% in 2016, averaging 1.0% over the three year period. However, the plantation area has been on steady decline from 1.22 million ha in 2016 to 1.19 million ha in 2018. South Africa consistently posted a positive trade balance of forest products since 2012, having posted a positive trade balance to the value of R8.4 bn in 2018 on exports and imports (exports R29.7 bn and imports R21.3 bn). Trade balance increase in forest products from 1992 to 2018 stood at R3.9 billion in 2018 in real terms, whereby increase in imports was R14.5 billion (210%) and increase in exports was R18.4 billion (162%) over the period. Exports of forest products in 2018 was R 848 million or 2.9% more than in 2017.

South Africa is ranked as the third (3rd) most biodiverse country in the world and it is recognised for its high levels of endemism and a home to 95 000 known species. Endemism levels in South Africa can reach 56% for amphibians, 65% for plants and 70% for invertebrates. Although it occupies only 2% of the world's land surface area, SA is home to 10% of the world's plant *spp.* and 7% of its reptile and mammal *spp*. The country harbours some 15% of the world's marine species.

The country experienced its worst fires in 2017, particularly the Western Cape Province. The Western Cape Province saw 17 000 fires for the 2016/17 fire season, resulting in 142 fatalities. Of the 17 000 fires, 2 000 were reported in informal settlements affecting 5 900 people (News 24, June 20, 2017). On 7 June 2017, the Knysna Fire in the Western Cape erupted and caused devastation and destruction on a scale that has never been experienced within a local municipality in this country. Sadly, the horrific inferno led to losses of life, destruction of properties and bulk service infrastructure worth millions of rands. Following the initial deployment of the Working on Fire Riversdale Team, Working on Fire had at the peak of the fire, dispatched 485 fire fighters, 12 management staff, 12 light Delivery Vehicles, 11 fire frucks, six crew busses, four Huey Helicopters, four fixed Wing Spotter Planes and two 802 AT water bombers to provide firefighting services to the Knysna and Plettenberg Bay fires. This deployment of the Working on Fire resources together with Local, District and Provincial

firefighting resources and volunteers became the largest deployment to a single fire incident in the South African history. The fires occurred over a 12 Days period; damaged hundreds of properties and seven people lost their lives. The damage caused by the fires to the environment and biodiversity is difficult to quantify.

South Africa continued with programmes aimed at protecting and expanding the forest estate in the country. The lists of protected tree species and champion trees were published as required by the forestry law and greening projects including the annual celebration of Arbor Month and urban greening continued with more indigenous and fruit trees planted over the period. The Department identified forest reserves and published them for public comments with the intention of declaring them as forest nature reserves for them to gain an extra layer of protection under the Act.

Slow rate of transformation, despite the existence of the Broad-based Black Economic Empowerment Forest Charter remains a big concern. While some progress has been on areas such as skills development in the commercial forestry sector, there has been little or no movement on forest ownership and management, particularly on the top echelons of the companies.

This lack of transformation in these two key areas is attributed to the structures of the companies, which are predominantly white male dominated and vertically structured, preventing entry of new participants.

South Africa continued to play a significant role on the Regional and International arena, where the key objective is to ensure sustainable development with the Sustainable Development Goals and the United Nations Forum on Forests (UNFF) Strategic Plan for Forests 2017-2030 as the key frameworks guiding Global Discussions, Implementation, Monitoring, Assessment and Reporting. South Africa participated on at least more than 40 Sessions organised by the United Nations and Regional bodies. The country, as and when required, submitted the reports as part of its obligations and further made inputs to strategic processes over the period. A comprehensive list of the sessions at which the country participated is attached as Annex 2 of the report.

The report further provides challenges (existing and emerging) which pose a serious risk to the existence, stability and sustainability of forest resources. These include (a) the perceived reluctance from forestry companies to embrace and implement transformation in the sector; (b) the slow pace of land restitution and redistribution; (c) wildfires and pests and diseases;(d) the regulatory environment for commercial forestry which is perceived as hostile by the industry; (e) recommissioning and refurbishment of State plantations; and (f) high levels of timber theft and criminal activities in the forests.

The report makes recommendations on each of the challenges. These include, but not necessarily limited to the following:

(a) Halting timber theft and criminal activities: The Department needs to consider procuring on an urgent basis, the services of armed security forces to secure the plantations in which illegal timber harvesting is taking place noting that the syndicates may take their modus operandi to other plantations, which are currently not under attack. It is important to barong on board the South African Police Service and the Justice Department to assist with possible arrests and prosecutions of the perpetrators of these heinous crimes, which can also be characterised as economic sabotage.

(b) Restoration of State Plantations and Recommissioning: The State needs to bring its category B and C plantations and the Mpumalanga and Western Cape recommissioned areas to full production as soon as possible. The Department needs to make more resources available and prioritise reduction of Temporary Unplanted Areas in its category B and C plantations, as the levels (TUPs) are unacceptably high.

(c) Expeditious land reform and restitution: The Department of Forestry, Fisheries and the Environment should engage its sister Department (the Department of Agriculture, Rural Development and Land Reform), and finalise the newly developed Settlement Model for immediate implementation.

(d) Transformation and Restructuring: There is no data demonstrating any changes on ownership in the sector and very little progress has been made management echelon, which saw a few Africans, youth and women occupying management positions. It recommended that the suggestions contemplated by stakeholders which include among others, creating a database of forestry companies to enable the FSCC to track progress against complying and non-complying companies, considering a levy for non-compliant companies, creating incentives for companies making significant progress and developing regulations to provide further guidance on what is expected of the companies should be taken forward.

(e) The regulatory environment (perceived as hostile): The raging conflict between the industry and government, particularly between the industry and the Department of Water Affairs and Sanitation is not conducive for business to thrive as it hampers investment in the forest sector. The impasse needs to be resolved as a matter of urgency. The resolutions taken and agreed to at the Bosberaad of April 2016 should form the basis for engagements between all stakeholders.

The country has also recently (2019) experienced brazen timber theft of unprecedented scale, particularly in State owned plantations where it is free for all, with enforcement authorities doing virtually nothing on the situation. Accordingly, the recommendations in this report puts this at the apex as far as their implementation is involved. This is particularly important because there is a potentially high risk of the criminal activities of these unprecedented magnitudes spiralling out into the private sector, thus compromising sustainability of this important resource. The long-standing, unresolved issue of former forestry workers and dwellers, especially in the Western Cape needs urgent attention as it poses a risk to the industry. Finally, government needs to ensure that there are Integrated Fire Management Protocols in place to expedite cooperation with adjoining countries. Accordingly, pending Memorandums of Understanding (MoUs) with some countries should be concluded and Permanent Task Teams (PTTs) be established to operationalise existing Agreements.

PART 1

WHY THE STATE OF THE FORESTS REPORTS

1. INTRODUCTION

The State of the Forests report, produced every three years seeks to present facts and trends on all types of forests as well as the performance of the commercial forests sector and, as far as possible, its value-chains. Forests contribute towards sustainable development and the green economy but data is usually not available to express the full potential of forestry contribution on a wide range of areas of development including ecosystem services. The State of the forests report seeks to collect data to establish the extent to which forests and trees outside the forests contribute towards the livelihoods of people and ecosystem services to uplift the living conditions of people. Forests, trees on farms and trees outside forests play an important role in the livelihoods of people, particularly the rural people. They provide employment, energy, food, shelter and a wide range of goods and ecosystem services. Forests and trees outside the forests (e.g., farms and in urban settings)play a significant role in socio-economic upliftment of the peoples of the world, especially those exposed to abject poverty in rural areas in developing and less developed countries. Managing forests responsibly and sustainably requires a balanced approach encompassing the three pillars of sustainability – economic, social and environmental (FRA, 2015). To measure these, universally agreed sustainability indicators are used. Sustainability indicators are science-based measures that provide a consistent approach to define, assess, monitor and report progress on sustainable forest management to a wide range of stakeholders and institutions, including governments, the private sector, non-governmental organisations, donor organisations can be useful to identify the changes in forest management practices required to maintain and healthy forests. The Sustainable Development Goals (SDGs), with the Millennium Development Goals (which ended in 2015) as its precursor, committed countries to carry out several actions aimed at reducing hunger, poverty and inequality cross the world. The deadline for achieving the set targets of the seventeen Sustainable Development Goals is the year, 2030. The SDGs have 230 Indicators used to monitor the seventeen (17) Goals and 169 Targets of the Sustainable Development Goals framework agreed to by the United Nations (UNSPF: 2030, 2017). South Africa, as a signatory to the United Nations system has an obligation to monitor, assess and report on the role of forests and other sectors towards the achievement of the SDGs. The African Agenda 2063, a blueprint of Africa's development and sustainability recognises the role forests and trees play in the alleviation of poverty, hunger and inequality amongst the peoples of the continent. In this regard, the African Union Commission developed a Forestry Strategy aimed at the realisation of the aspiration of SDGs.

Accordingly, South Africa is expected to implement the strategy, monitor, assess and report on the performance of the sector, hence the State of the Forests report is one of the mechanisms implemented by the country to provide the requisite data on forests and the performance thereof. The National Development Plan: 2030 also recognises the roe forests can play in ensuring job creation and development of the country, thus data needs to be collected and analysed to determine performance of the sector against the set targets and indicators. Finally, the Southern African Development Community (SADC) Protocol on Forestry and the implementation plan thereof seeks to implement sustainable forest management practices on regional level and it is expected of South Africa to report on how forests are improving or not improving the conditions of the people in the region.

2. LEGISLATIVE MANDATE AND OBJECTIVES OF THE REPORT

2.1 Legislative Mandate

The mandate for forestry in South Africa primarily emanates from the **Constitution of the Republic of South Africa (1996),** which is renowned globally as one of the most progressive legislative frameworks. The Constitution, as the supreme law of the country, requires of government to ensure and uphold the protection of South Africa's environmental assets for present and future generations. Section 24 of the Bill of Rights in the Constitution in particular states that, "*everyone has the right-*

(a) To an environment that is not harmful to their health or wellbeing; and

(b) To have the environment protected for the benefit of present and future generations, through legislative and other measures that-

(i) Prevent pollution and ecological degradation;

(ii) Promote conservation; and

(iii) Secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development".

The White Paper on Sustainable Forest Development in South Africa (1996), is a policy created to meet government obligations (the Bill of Rights) contained in the Constitution. The White Paper provides the broad aim of the policy direction aimed at welding together the three strains of commercial forestry (plantations), conservation forestry (indigenous forests) and community forestry (woodlands). The overall goal of government is to promote a thriving forest sector, utilised for the lasting and sustained benefit of the total community, and developed and managed to protect and to improve the environment. It aims to redress the legacy of apartheid practices of the exclusion of certain categories of the population and moves towards fostering a spirit of stewardship of forest assets irrespective of whether they are owned publicly, privately

or communally. The Policy defines the role of Government in dealing with the forest sector. It is set within a framework of overarching policies, including macroeconomic, trade, industrial development and human resources development policies. The forest policy directs, facilitates and regulates the actions of players in the sector, taking into account several factors. The Policy articulates the role of Government as two-fold, namely, investing in infrastructure and provision of basic services and creating a conducive environment for local economic development that will encourage rural people to develop entrepreneurial skills and promote appropriate markets that will implement local economic development.

The **National Forests Act 1998, (Act No.84 of 1998) (NFA) and the National Veld and Forest Fire Act 1998, (Act No. 101 of 1998)** (NVFFA) are legislative instruments for achieving the Constitutional obligations. In passing the National Forests Act, Parliament recognised that:

(a) everyone has the constitutional right to have the environment protected for the benefit of present and future generations;

(b) natural forests and woodlands form an integral part of that environment and need to be conserved and developed according to the principles of sustainable management;

(c) plantation forests play an important role in the economy;

(d) plantation forests have an impact on the environment and need to be managed appropriately;

(e) the State's role in forestry needs to change; and

(f) that the economic, social and environmental benefits of forests have been distributed unfairly before the dawn of democracy in South Africa.

The NFA seeks to balance use and protection of the forest assets taking into account the legacy of the past prior to the democratic dispensation whereby previously disadvantaged persons were denied access to the forests. The NFA has multiple purposes including (a) promote sustainable management and development of forests for the benefit of all; (b) create the conditions necessary to restructure forestry in State forests; (c) provide special measures for the protection of certain forests and trees; (d) promote the sustainable use of forests for environmental, economic, educational, recreational, cultural, health and spiritual purposes; (e) promote community forestry; and (f) promote greater participation in all aspects of forestry and the forest products industry by persons disadvantaged by unfair discrimination prior to the installation of a democratic state in 1994.

Forest monitoring and reporting is necessary to establish whether the objectives of the Act are realised through a variety of practices, policies and programmes. Section 6 of the NFA provides for a duty to monitor forests and disseminate information on matters articulated in sub-section 4(6) which deals with criteria and indicators for sustainable forest management (SFM). The Criteria and indicators for SFM include but are not limited to those determining:

(a) the level of maintenance and development of:

(i) Forest resources;

(ii) biological diversity in forests;

(iii) the health and biodiversity of forests

(iv) the productive functions of forests

(v) the protective and environmental functions of forests; and

(vi) the social functions of forests

(b) the level of provision of socio-economic benefits; and

(c) the status and appropriateness of the policy and the legislative and institutional framework for forest management in the country.

The reporting on these aspects or part thereof is done through the State of the Forests which is compiled every three years as contemplated in s6(3) of the NFA. The report, in terms of the NFA, must provide facts and trends emerging from forest monitoring, indicate whether the trends are of national importance, the measures taken to mitigate negative effects, as well as reporting on any other matter deemed significant or of national interest.

In passing the National Veld and Forest Fire Act 1998, (Act No. 101 of 1998) (NVFFA), parliament considered the negative effects veld and forest fires have on the economy of the country, risk to ecosystems and food security as well as damage to property and loss of life. The NVFFA further seeks to address the constitutional requirement of a clean and harmless environment. The main purpose of the law is to prevent and combat veld, forest and mountain fires throughout the Republic. It takes an integrated fire management approach thereby providing for a variety of institutions such as fire protection associations (FPAs) and Umbrella Fire Protection Associations (UFPAs), methods and practices for achieving the purpose.

Chapter 2 of the NVFFA provides for formation and registration of fire protection associations (FPAs) which are community based voluntary organisations established to collaborate on matters of integrated fire management. Section 6 of the NVFFA provides for FPAs to appoint a fire protection officer (FPO), who serves as the Chief Executive Officer of the association. Regulation 17(1) of Chapter 2 of the NVFFA states that "*a registered fire protection association must submit*

an annual report to the Minister by 30 June of every year on its activities and the achievement of its objectives, provided that the Minister may at any time request a registered fire protection association to report on any other matter as related to the Act". Regulation 17(2) states that the Minister must make available within a reasonable time to any interested party the information about veld fire management, in accordance with the requirements of the Promotion of Access to Information Act, 2000 (Act No. 2 of 2000)

2.2 Objectives of the report

It is important that forests and trees outside the forests must continue to provide the necessary goods and services to the peoples of the world in a sustainable manner. Forests monitoring, evaluation and reporting is therefore necessary to ensure sustainability of the natural resources for present and future generations. In South Africa, the State of the forests report, produced every three years seeks to present facts and trends on the performance of the sector. The forestry legislation mandates government to put in place a system of Principles, Criteria, Indicators and Standards for Sustainable Forest Management. It is against these Criteria, Indicators and Indicators that sustainable management is measured. The Criteria and Indicators (C&Is) system is based on the three pillars, namely economic, social and ecological (environment) imperatives. The C&Is can be summarised into seven main elements focusing on the forest resource itself, forest biodiversity, forest health and vitality, forest productivity, protective functions of forests including their environmental functions, social functions of forests, socio-economic benefits and forest policy and legislation . It is a global practice to conduct forest monitoring to determine the level of compliance and the main objectives of the State of the Forests reports include mainly the following:

i) presentation of facts and trends on forests statuses;
ii) highlighting and negative trends which may hamper the capacity of forests to fulfil their functions;
iii) measures taken to address any negative impacts;
iv)determining the relevance of forest policy and legislation;
v) to report on any related matters of national interest or importance; and
vi) make recommendations on interventions required to mitigate any negative trends or propose measures for ensuring efficiency and efficacy including the development or review of forest policy and programmes.

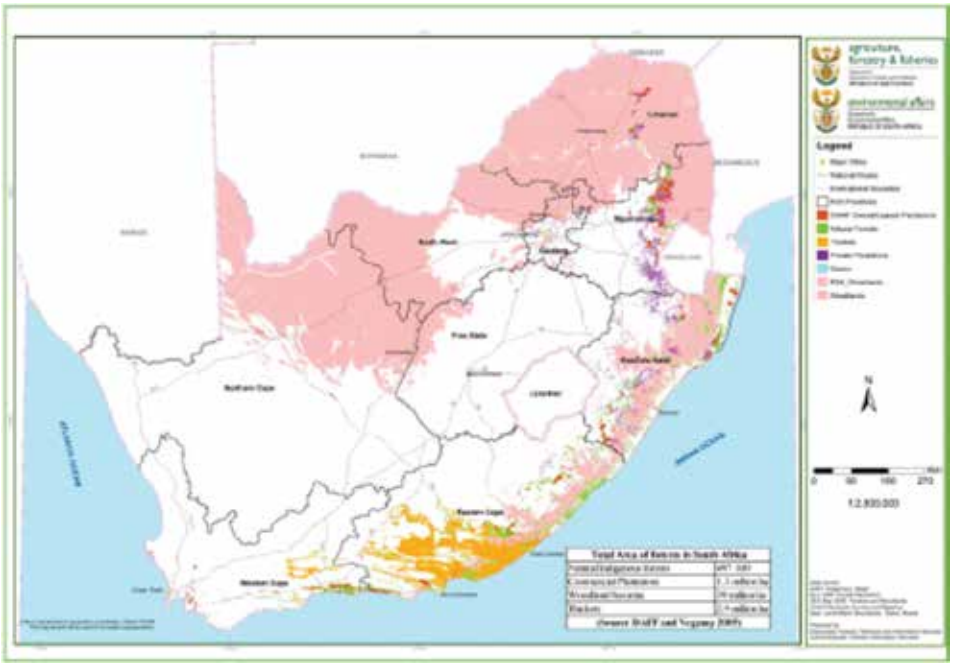
PART 2

FORESTRY PROFILE AND SECTOR PERFORMANCE

1. HOW MUCH ARE OUR FORESTS, AND WHERE ARE THESE IMPORTANT RESOURCES

South Africa is located at the southernmost tip of the African continent, marked by several distinct ecosystems. Inland safari destination Kruger National Park is populated by big game (the big five). The Western Cape and KwaZulu-Natal offer beaches, lush winelands are found around Stellenbosch and Paarl, craggy cliffs at the Cape of Good Hope, forest and lagoons along the Garden Route, the Drakensberg mountain stretching from KwaZulu-Natal right through to the Limpopo Province, commercial plantations predominantly in the Eastern Cape, Western Cape, KwaZulu-Natal, Mpumalanga and Limpopo Province. The North West Province has a minute share of about 300 ha of commercial forestry plantations, which are woodlots (figure 1).

Figure 1: Locality map of South African forests



Source: Department of Forestry, Fisheries and the Environment

forestry, fisheries & the environment
Department:
Forestry, Fisheries and the Environment
REPUBLIC OF SOUTH AFRICA

There are three main classes of forests in South Africa, namely, woodlands (39 million ha), commercial plantations (1.19 million ha) and indigenous forests (492 700 ha).

There is no commercial forestry plantation footprint in three of the nine provinces of South Africa. These three provinces include Gauteng, Free State and the Northern Cape.

The country has a population size of approximately 57.7 million (World Bank, 2017), of which 51% is male and 49% female. South Africa has a surface area of 1 219 912 square kilometres (1.22 million km²). This is approximately 122 million hectares. Forests cover just over 40 million hectares (ha) of the country's land surface area of 122 million hectares (equivalent to about 32.7%). Forest extent and distribution is depicted in figure 1. South Africa is generally regarded as a "low forest cover" country. However, wooded vegetation covers more than a third of the countries land surface area. Despite its "low forest cover" status, South Africa ranks as the third most biodiverse country in the world. The natural forest biome, although the smallest (covering less than 500 000 hectares) and most fragmented of all the seven biomes, has the highest plant diversity per hectare at 418 species per unit area compared to 98 species per ha for the fynbos biome. The country's forestland covers just over 40 million ha, about 36.7% of the country's total land area of 122 million hectares. The country with the highest forest area is the Russian Federation at 814 million ha. Table 1 shows the Top 10 countries by forest area in 2015. 67 percent of the world's forests is concentrated in the ten countries.

FIGURE 1: Top ten countries by forest

	Country	Forest area (000 ha)	%of country area	% of global forest area
1	Russian Federation	814 931	48	20
2	Brazil	493 538	58	12
3	Canada	347 069	36	9
4	United States	310 095	32	8
5	China	208 321	22	5
6	DRC	152 578	65	4
7	Australia	124 751	16	3
8	Indonesia	91 010	50	2
9	Peru	73 973	58	2
10	India	70 682	22	2
	Total	**2 686 948**		**67**

Source: FRA, 2015

1.1 Woodland forests

The Woodlands (wooded Savannahs) constitute the bulk of the South African forests, about 39 million hectares (about 32%). The economic contribution of woodlands was estimated at R17.03 billion to the annual GDP of the country (2010). About 5.7 million hectares of the woodlands are in protected areas. In 2010, it was estimated that about 20 million tonnes of medicinal plants sourced from natural forest are traded at a street value of approximately R270 million. At present, approximately 300 tonnes of fern fronds are exported each year earning foreign exchange income to the annual value of more than R20 million annually.The woodlands and natural forests are also inhabited by impressive wildlife that forms the corner stone of game farming and eco-tourism. All natural forests in South Africa are protected in terms of the National Forests Act 1998, (Act No. 84 of 1998). Through the Act, local communities especially those living in and around 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 them are managed for conservation purposes, with an element of eco-tourism.

1.1.1 Ownership, distribution and management objectives of Woodlands

Wooded savannahs also referred to as woodlands form the bulk portion of South Africa's forestland covering some 39 million hectares, about one third of South Africa's total land area. They mainly occur in communal land and about 5.7 million hectares of woodlands are in protected areas. Woodlands or Savannahs are owned and managed by a diverse range of role players. Woodlands, covering over one-third the area of South Africa are well developed over the lowveld and Kalahari region of the country and they are the dominant vegetation in Botswana, Namibia and Zimbabwe. The biome is defined by a well develop grassy layer with a prominent woody layer of trees and shrubs. Figure 2 depicts a typical woodland forest.

FIGURE 2: Typical woodland forests

Source: google.com

Together with natural forests, 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. Woodlands continue to provide for people living in and around the forests. Many people are involved in woodcarving and other wood-based ornamentals derived from woodland forests. They provide safety net for many communities, as they are the most accessible forest resource for poor communities. The most prominent benefits include fuelwood for energy and sterilization of water through boiling whereby more than 12 million people benefit. They also provide medicinal plants for health care with approximately 27 million people accessing products from them. Woodlands also provide fruits and other foods, wooden utensils, watershed protection and carbon storage. More than 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. Due to their extent and vastness, woodland forests are neither adequately managed nor protected. As a result, wooded savannahs are heavily exploited. The rate of deforestation and degradation is currently unknown since there are no recent studies conducted to determine their statuses. However, it is common knowledge that deforestation and forest degradation are prominent in natural forests (moist forests) and open woodlands of the tropics, with the latter as the most affected due to poor protection from legislation and lack of enforcement and compliance capacity.

1.2 Plantation forests

Commercial plantation forests cover 1 191 638 hectares (2018) a decrease of 20 745 ha (-1.7%) from 2017 when the area was recorded as 1 212 383 ha (Annual CTRPRP report, 2017/18). Figure 3 shows a typical plantation forest. In 1990, the world had 4 128 million ha of forest; by 2015 this area has decreased to 3 999 million ha (FRA: 2015, 2015). This is a change from 31.6% of global area in 1990 to 30.6% in 2015. There was a net loss of some 129 million ha of forest (natural and planted) from 1990 to 2015, representing an annual rate of -0.13 percent and a total about the size of South Africa (FRA: 2015). Still, this should be understood in context: the net annual rate of loss has slowed from -0.18% in the 1990s to -0.08% over the last five year period from 2010 to 2015. Between 2010 and 2015 there was an annual loss of 7.6 million ha and an annual gain 4.3 million ha per year, resulting in a net annual decrease in forest area of 3.3 million ha per year. The biggest forest area loss occurred in the tropics, particularly in South America and Africa, although the rate of loss in those areas has decreased substantially between 2010 and 2015. Average per capita forest area declined from 0.8 ha to 0.6 ha per person from 1990 to 2015.

Contrary to the South African situation whereby commercial plantation area has seen a steady decrease of the years, globally planted forest area has increased by over 110 million ha since 1990 and accounts for 7 percent of the world's forest area. The average annual rate of increase between 1990 and 2000 was 3.6 million ha (FRA: 2015). The rate peaked

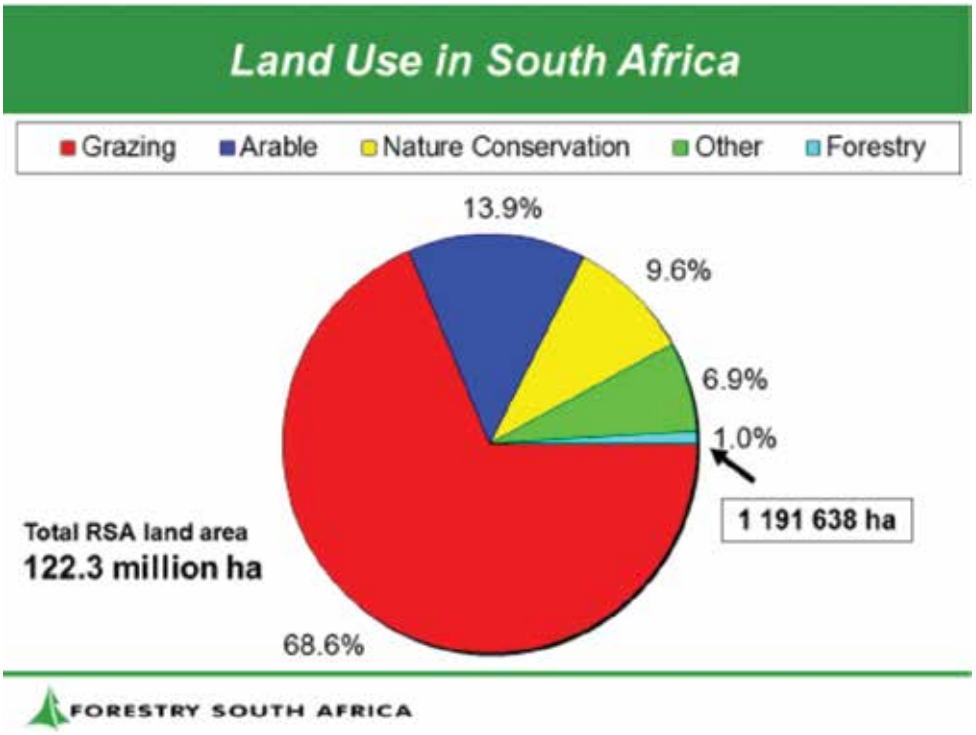
at 5.2 million ha per year for the period 2000 to 2010 and slowed to 3.1 million ha (2010-2015) per year due to planting decrease in East Asia, Europe, North America, South and Southeast Asia.

FIGURE 3: Typical commercial plantations (pine and gum plantations)

Source: Department of Forestry, Fisheries and the Environment

There are a number of factors that could be attributed to the reduced area including, compliance with environmental laws that require planting to be avoided on riparian zones and streams and certain plantation owners not included in the original mailing list. A comparison of the distribution of commercial forestry plantations for the period 2017 to 2018 is provided in Table 2. The table illustrates that there has been a constant decrease in area of the plantation estate over the past few years and the trend is continuing. Plantations are generally grown for a specific purpose, for example, mining, sawn timber or pulpwood. However, the actual sales mix at the time of harvesting invariably includes other forest products. In 2018, Softwood pine was mainly planted for sawlogs (about 75%) and hardwood contributed just over 2% of the sawlogs category. Hardwood (eucalyptus) were mainly for pulpwood (about 87,3%) with softwood contributing about 25% of the product. The proportion of commercial (plantation) forests in comparison to other land uses in South Africa is shown in figure 4.

FIGURE 4: Proportional areas of land uses in South Africa



Source: Forestry Source Africa

Generally, the primary management objective (purpose) of plantations are 57% pulpwood, 38% sawlogs, 2% mining timber and 3% for other purposes. Softwoods (pines) are mainly grown for sawlogs production (75%) whereas 87% of hardwood (eucalyptus) areas are managed for pulpwood production (Annual Commercial Timber Statistics report, 2018).

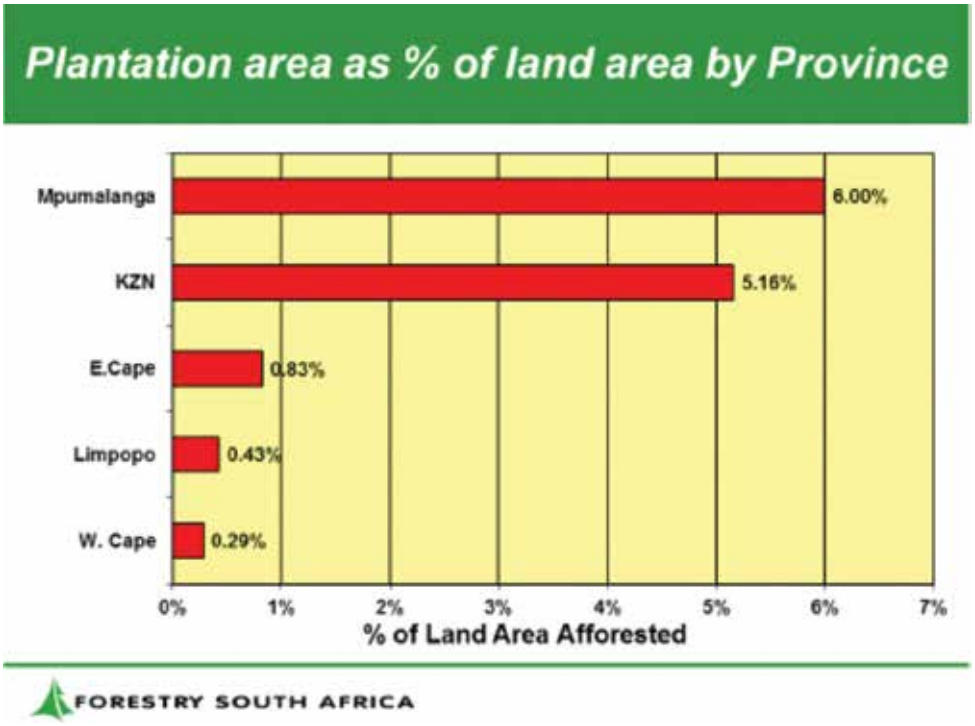
Table 2: Distribution of commercial timber plantations per province

Province	2018		2017		2016	
	Afforested area		Afforested area		Afforested area	
	Hectares	%	Hectares	%	Hectares	%
Limpopo	50 859	4.3	49 126	4.1	53 085	4.3
Mpumalanga	488 769	41.0	493 700	40.7	494 943	40.5
North West	304	0.0	304	0.0	304	0.0
Free State	-	0.0	-	0.0	-	0.0
KwaZulu-Natal	472 425	39.6	484 296	39.9	486 956	39.9
Eastern Cape	141 820	11.9	141 812	11.7	141 408	11.6
Western Cape	37 462	3.1	43 146	3.6	44 030	3.6
Total	**1 191 638**	**100.0**	**1 212 383**	**100.0**	**1 220 726**	**100.0**

Source: DFFE, Annual Reports on CTRPRP

The distribution of plantation forests in South Africa per Province as a percentage of land area by Province is depicted in figure 5. The bulk of the plantations are found in the Mpumalanga Province, followed by KwaZulu-Natal. Table 2 shows the distribution of commercial timber plantations by Province for the years 2016. 2017 and 2018.

FIGURE 5: Plantation area as percentage of land area by Province

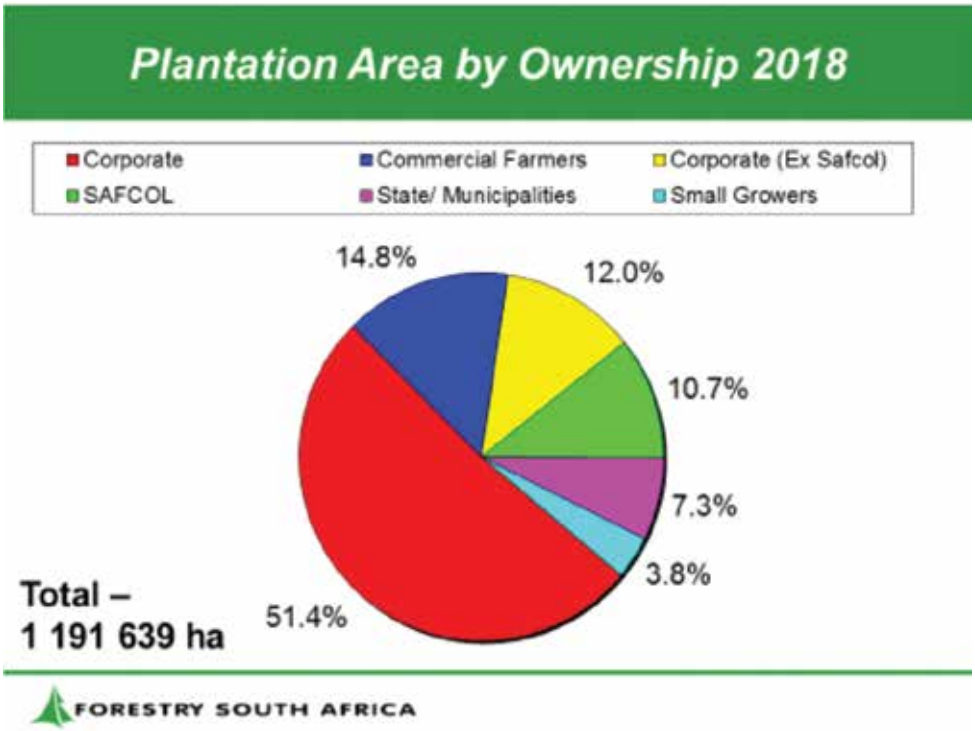


Source: Forestry South Africa, 2018

1.2.1 Plantation ownership

Of all data from reported plantations 972 913 ha (82%) was under private sector ownership with the balance of 218 725 (18%) under public ownership. About 166 469 ha (14%) of the plantation area is owned by 510 individuals, partnerships or family trusts. The out grower schemes, operated by various corporate plantation owners fall within the individual category. This data illustrates that commercial plantations cover about 0.97% of the Republic's land surface area of 122.1 million hectares, a marked decrease from the 1.0% reported in 2016. The total plantation stands at 1 191 639 ha (2018) with the ownership pattern shown in figure 6.

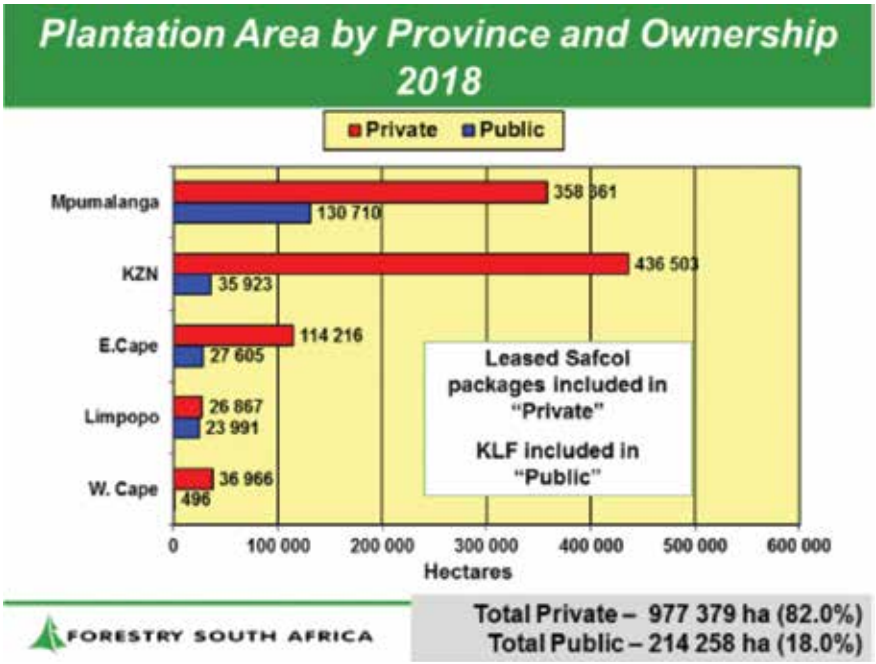
FIGURE 6: Plantation area by ownership



Source: Forestry South Africa, 2018

The area of plantation area by ownership per Province as in 2018 is shown in figure 7:

FIGURE 7: Plantation Area by Province and Ownership



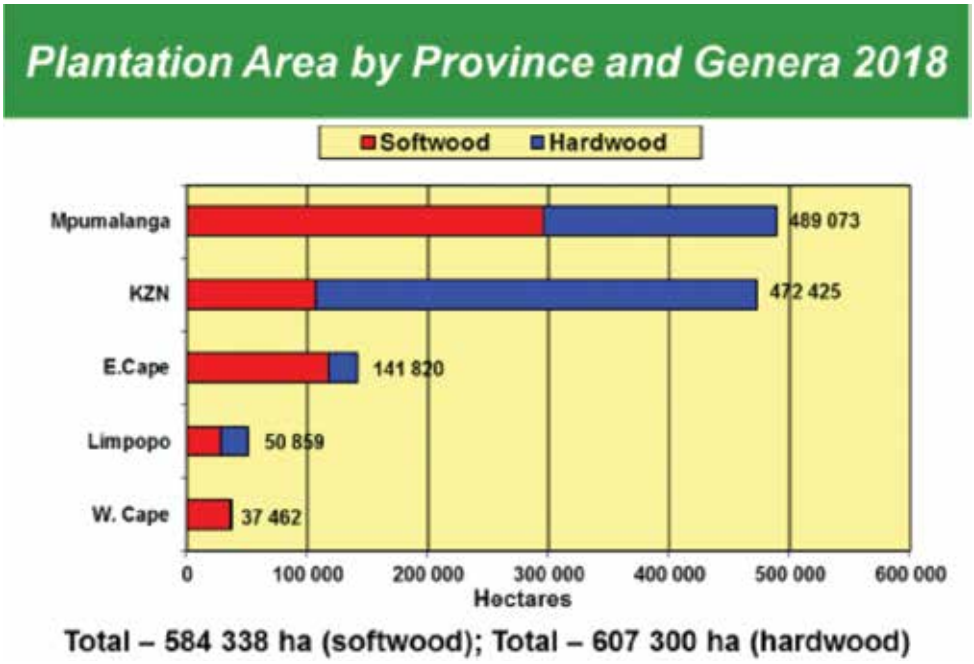
Source: Forestry South Africa

1.2.2 Distribution of commercial forestry plantations

The most planted softwood species in South Africa is *Pinus patula* comprising 286 017 ha or 48.9% of the total softwood area in 2018. It occurs mainly in the provinces of Mpumalanga, KwaZulu-Natal and the Eastern Cape. Hardwoods are mainly grown for pulpwood and mining timber production on an eight to twelve year rotation. The dominant hardwood species in South Africa is *Eucalyptus grandis* accounting for about 40% of the total hardwood area. Hardwoods occur mainly in Mpumalanga and KwaZulu-Natal.

The plantation ownership by Province and Genera is shown in figure 8. Data presented indicates that most of the plantation area is planted with hardwood at 607 300 ha and these are mainly in the Province of KwaZulu-Natal (56.9%). Pine (softwood) plantations occupy 584 338 ha and are predominantly in the Mpumalanga Province (50.6%).

FIGURE 8: Plantation area by Province and Genera



Source: Forestry South Africa, 2018

In 2018, the Northern Regions comprising Mpumalanga and Limpopo provinces accounted for 539 931 ha of commercial plantations in South Africa with 385 228ha in private ownership and 154 701ha under public ownership. The Middle Regions (KwaZulu-Natal) accounted for about 472 425ha of which 436 503 was in private hands and 35 923 under public

ownership. The Southern Regions (Eastern Cape and Western Cape) constituted 179 282 ha of the country's commercial timber plantations. In the same period (2018), 151 182ha was owned by the private sector with the public having a share of 28 101ha.

1.2.3 Plantation area by species

The most commonly planted plantation species in South Africa are the softwoods (pines) followed by hardwoods (eucalyptus) and then wattle. A small portion of the commercial plantation area is comprised of a mix of other species. Table 3 indicates plantation area by species for the years 2016, 2017 and 2018. The table shows there has been a steady area change of 2.4% from 2016 to 2018, equivalent to a net loss of 29 088ha over the period. However, this is based on the data received from plantation owners who participated in the survey.

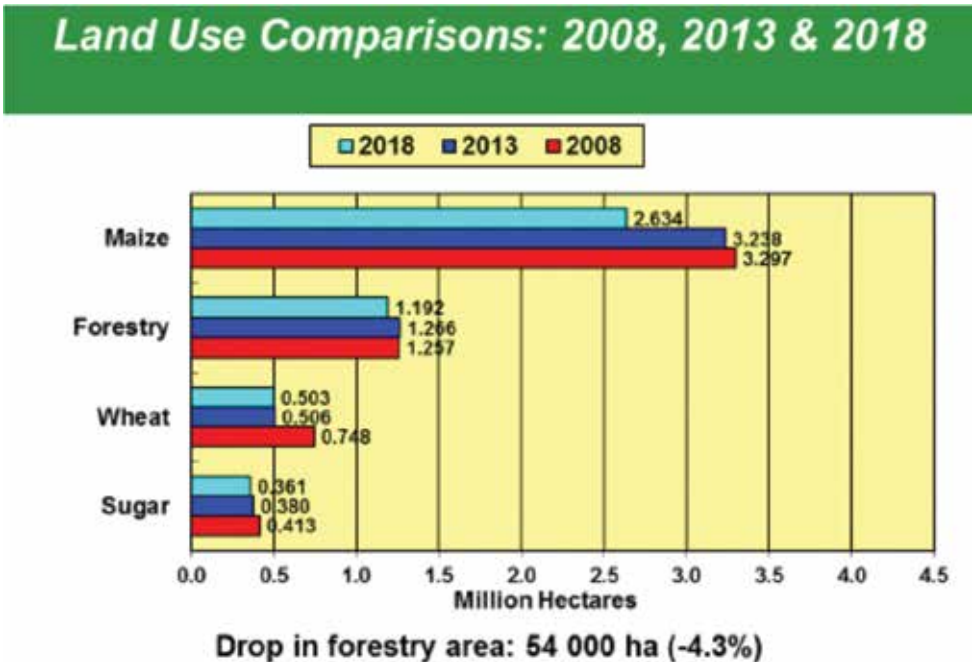
Table 3: Plantation area by species (2016-2018)

Species	Area (in ha)			% change
	2016	2017	2018	
Softwood	607 815	601 176	584 338	-3.9
Eucalyptus	521 347	521 718	521 040	-0.1
Wattle	87 101	85 079	81 943	-3.7
Other hardwood	4 463	4 410	4 317	-3.3
Total	**1 220 726**	**1 212 383**	**1 191 638**	**-2.4**

Source: DFFE, Annual Reports on CTRPRP in South Africa

The plantation forests area has been steadily decimating over the years. A total of 54 000 ha has been lost from 2008 to 2018, equivalent to (-4.3%) as indicated in figure 9. However, it appears that all the main commodity land uses (maize, wheat and sugar) followed the same downward trend over the period.

FIGURE 9: Land Use Comparisons 2008, 2013 and 2018

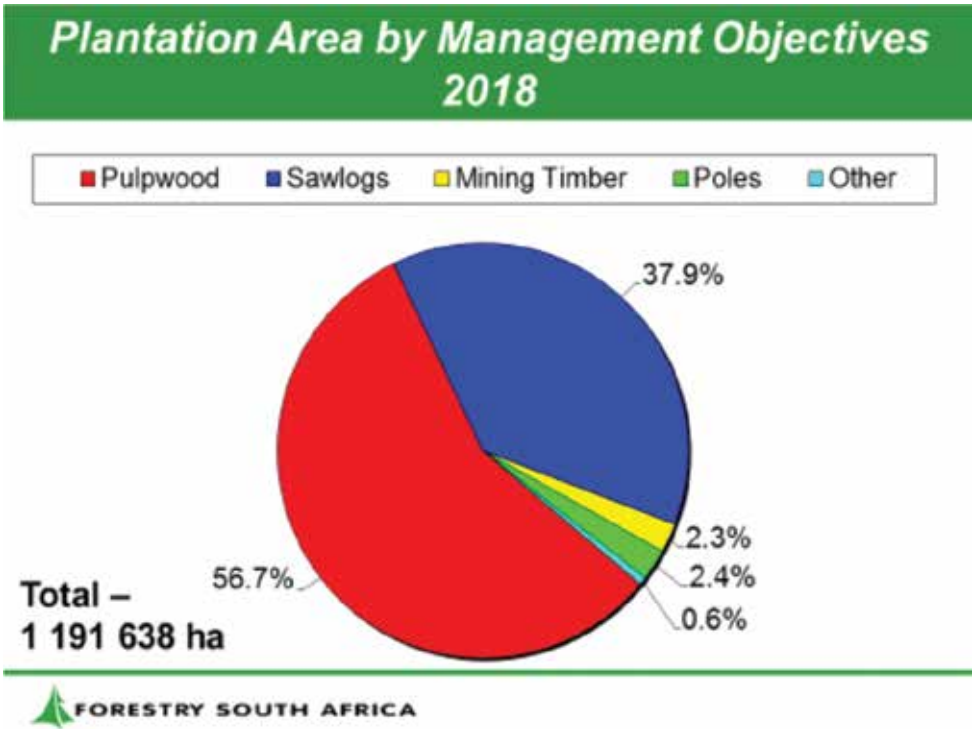


Source: Forestry South Africa, 2018

1.2.4 Management Objectives for plantation forests

The South African plantations are managed for four main objectives, namely, sawlogs, mining timber, pulpwood and poles as shown in figure 10. As at 2018, pulpwood accounts for the major share of commercial forestry management objectives as 56.7% of the industrial timber production goes to pulpwood and 37.9% for sawlog production. A small quantity of timber production, 0.6% is used for a variety of other purposes.

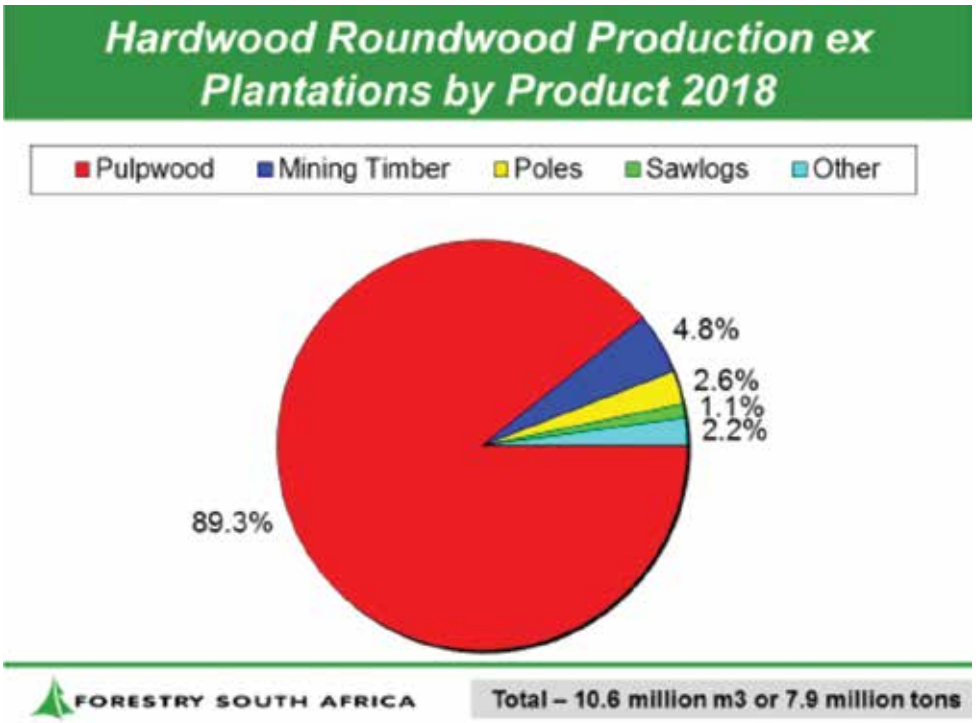
FIGURE 10: Plantation area by Management Objectives



Source: Forestry South Africa, 2018

In 2018, a big portion of hardwood production was for pulpwood at 89.3% (figure 11), mining accounted for 4.8%, Poles 2.6% and sawlogs accounted for 1.1%.

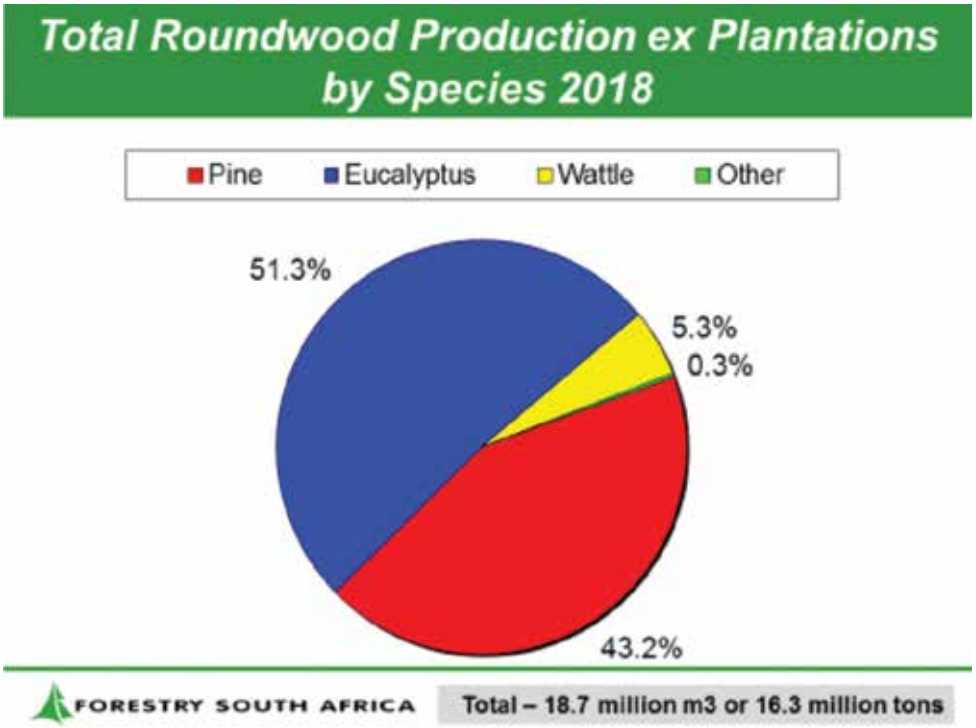
Figure 11: Hardwood Roundwood Production ex Plantations by Product



Source: Forestry South Africa, 2018

Figure 12, indicates the total Roundwood production ex plantations by species for 2018. A total of 18.7 million cubic meters of roundwood was produced during 2018. This amounts to about 16.3 million tonnes. Eucalyptus accounted for the most products (51.3%), followed by pines at 43.2%. This was 2.14% up from the 18.3 million cubic meters (15.7 million tonnes) in 2017 and 12.4% of the 16,4 cubic meters (14.2 million tonnes) produced in 2016.

FIGURE 12: Total Roundwood Production ex Plantations by species

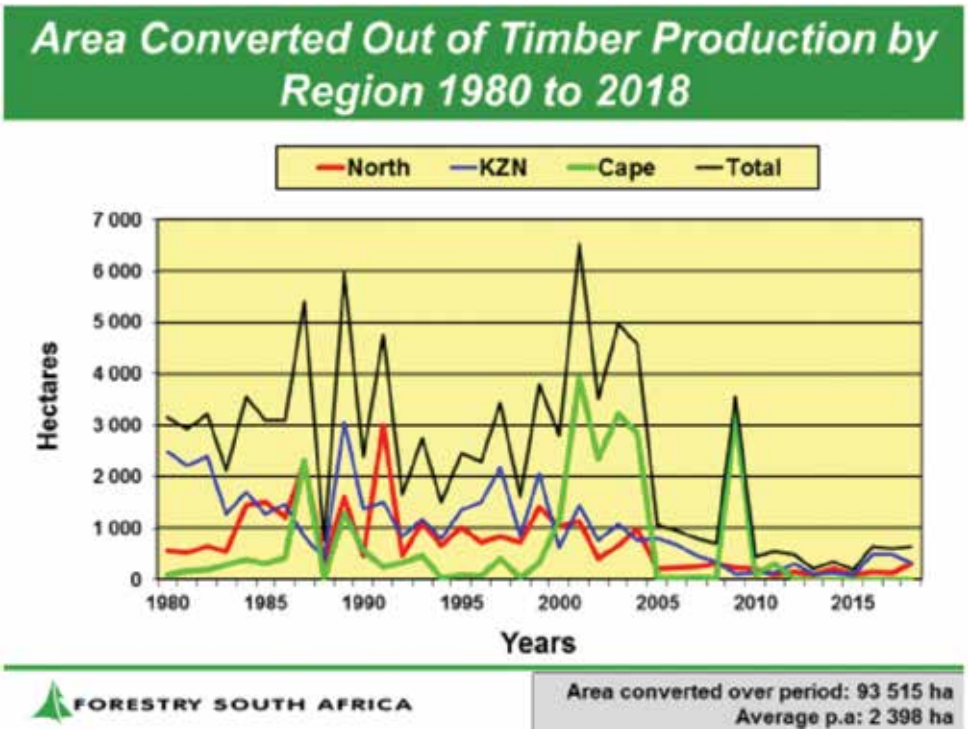


Source: forestry South Africa, 2018

1.2.5 Conversion of existing plantations

Although plantations are established for a particular purpose (management objective), often the owners switch from one species to the other without necessarily making any significant changes on the land use, which is production forestry. The market and other conditions, which compel owners to convert portions of their plantation land to other uses, dictate the conversions. In the 2018 reporting conversions from one timber species to another was 9 413 ha (11 481 ha in 2017) and conversion from timber production to other uses amounted to 646 ha (613 ha in 2017). A large portion of the area converted from timber to agriculture and other land uses is triggered by environmental considerations, forest certification conditions that promote restoration on riverine and wetland areas within and around plantations. Figure 13 indicates area converted out of timber production by region from 1980 to 2018

FIGURE 13: Area converted out of timber production by region (1980-2018)



Source: Forestry South Africa

1.3 Indigenous Forests

The natural (indigenous) forests are the smallest biome occupying less than 0.4% of the country's land surface area (about 492 700 ha), making this the smallest biome. Natural forests are restricted to frost-free areas with either high winter or summer rainfall. They occur from sea level to above 2 100m. Together with the woodlands, natural forests provide traditional medicines to billions of the peoples of the world. Many estimates of the number of people using traditional medicine have been produced over the past three decades. For example, in the 1980s, two prominent studies suggested that about 80% of the world's population relied solely or largely on traditional remedies for primary health care (Bannerman, 1982; Farnsworth, Akerele and Bingel, 1985) in SOFO 2014. South Africa is also in the same range of about 80% using medicines from our forests. Lambert, Srivastava and Vietmeyer (1997), estimated that over 4 billion people in developing countries used herbal medicines, suggested a similar figure in the mid-1990s.

1.3.1 Ownership, distribution and management objectives of indigenous forests

A natural forest is a generally multi-layered vegetation unit dominated by trees (largely evergreen of semi-deciduous), combined strata have overlapping crowns (75% or more) and where grasses are generally rare. Fire does not normally play a major role in forest function or dynamics except at the fringes (Shackleton, 1999).Natural forests are also referred to as indigenous forests and figure 14 depicts typical natural forests.

FIGURE 14: Typical natural (indigenous) forests

Source: Department of Forestry, Fisheries and the Environment

The forest biome is the smallest biome at just under 0.5 million ha (492 700 ha), about 0.1% of the country. They consist of many small, fragmented and widely distributed patches. The largest and most famous natural forests in South Africa are the Knysna and Tsitsikamma forests of the Southern Cape. The Knysna forest is the largest forest complex not only in South Africa but in the Southern Africa, and covers an area of about 60 500 ha and they survive largely unchanged for centuries. In contrast, the bulk of the world's forest is natural forests, amounting to 93% of global forest area or 3.7 billion ha in 2015 (FRA: 2015). The Congo Basin on the other hand is Africa's largest contiguous forest and the second largest tropical rainforest in the world, covering 695 000 square miles and covering portions of Cameroon, Central African Republic, Republic of Congo, Equatorial Guinea and Gabon. Most other forests in South Africa are very small and isolated and include dune forests in KwaZulu-Natal and mountain forests, for example, on the slopes of Table Mountain and the Drakensberg, the Eastern Cape, Limpopo and Mpumalanga. They are found from sea level to above 2 0 00 metres and they grow in areas with high rainfall and no frost. The land ownership of natural forests in South Africa is not known but can be inferred, to some extent, by level of protection. It is assumed forest patches that do not have some form of protection have either communal or private ownership. Almost half of all natural forests in South Africa are found on private property or land under communal tenure. The State, through the Department of Forestry, Fisheries and the Environment is managing about 189 696 ha of indigenous forests. The bulk of these are in the Eastern Cape with an area of 132 000 ha (46%), followed by KwaZulu-Natal at 32 611 ha (29%), Mpumalanga at 15 029 ha (7%) and Limpopo at 6000 ha (5%). Indigenous forests, although they are very small in South Africa have the highest biodiversity per unit area (418 species/ha). They are mainly managed for biodiversity conservation and protection of soil. They also provide recreational outlets for all people to enjoy. The benefits provided by forest ecosystems include goods such as timber, fuel and bio-products; ecological functions such as carbon storage, nutrient cycling, water and air purification and maintenance of wildlife habitat (www.nrcan.gc.ca, 28 February 2018). Social and cultural benefits derived from natural forests include recreational and traditional uses. The use of natural forests as sources of building material, fuelwood, food and medicine is increasing with an estimated 80% of South Africa's population still using medicinal plants most of which are sourced from natural and woodland forests (DAFF, IGDP: 2011-2031).

From 2010 to 2015, natural forest decreased by a net 6.6 million ha per year (8.8 million ha of loss and 2.2 million ha of natural forest gain). This is a reduction in net annual natural forest loss from 8.5 million ha per year (1990 to 2000) to 6.6 million ha per year (2010 to 2015). In South Africa, it is unknown how much natural forests are lost per year since no studies were commissioned to establish this in the past years.

In 2015, about 30 percent of the world's forest was designated as production forest, a slight increase from 1990 (28%). Forest designated as multiple use increased from 23% of the total forest area to 26% between 1990 and 2015. Multiple use forest provides timber, range, NWFPs, water, recreation and wildlife management values. In South Africa, only about 1% of the forest is designated for production, which is serviced by plantation forestry.

1.3.2 Biological Diversity in the Forests

South Africa's forests are a home to a number of fauna and flora as well as plant and animal species (spp.) and their healthy functioning (biodiversity). The country boasts a diverse range of biomes, from forests to deserts, estuaries and marine systems. The diversity and uniqueness of South Africa's species and ecosystems makes it one of the world's nations – countries that together contain more than two thirds of the world's biodiversity. South Africa is one of the world's

17 megadiverse nations (South Africa Environmental Performance Review, 2013). The country is ranked as the 3rd, most biodiverse country in the world and it is recognised for its high levels of endemism and a home to 95 000 known species. Endemism levels in South Africa can reach 56% for amphibians, 65% for plants and 70% for invertebrates. Although it occupies only 2% of the world's land surface area, SA is home to 10% of the world's plant spp. and 7% of its reptile and mammal spp. The country harbours some 15% of the world's marine species. Biological Diversity or Biodiversity underlies all the ecosystem processes that make life possible and is crucial to ecological stability of our planet. Biodiversity refers to all the variety of life that can be found on Earth (plants, animals and micro-organisms) be it terrestrial, marine or other aquatic ecosystem as well as to the communities that they form and the habitats in which they live. Diversity can be within species, between species and of ecosystems. Biodiversity boosts ecosystem productivity where each species, no matter how small, all have an important role to play. Biodiversity and healthy ecosystems provide humankind with essential services- pollination of crops, supply of clean water and air, prevention of flooding and soil erosion. This therefore means a larger number of plant species means a greater variety of crops and greater species diversity, which ensures natural sustainability of all forms of life.

The Department recognises the importance of biodiversity and the role played by forests and trees outside forests on the functioning of our ecosystems. Several strategies and programmes are implemented by the Department to ensure the protection and conservation of biological diversity in the country including working with other organisations and organs of State. These include:

(a) Declaration of forest nature reserves

Notices were published in the Government Gazette in 2019 for the declaration of five forest nature reserves in Mpumalanga, for public comment. Notices were being prepared for the final declaration of these forest nature reserves. Once declared as forest nature reserves, the forests receive an extra layer of protection in that all activities in them need to be regulated through licences or permits thereby conserving the biological diversity within them.

(b) Biodiversity offsets

As a result of biodiversity offsets that were set as a condition of licences issued for the destruction of protected trees for land use change, three nature reserves were proclaimed since 2016 in similar veld types as those affected. These are two nature reserves of about 4 600 hectares in total as offset for the expansion of Sishen mine in the Northern Cape Province, and a 600 ha nature reserve proclaimed in similar veld type as that affected by a solar farm at Kathu, Northern Cape.

(c) Licensing

Control over the harvesting and clearance of protected trees and natural forest for land use change is exercised through a licensing system. As a result, mitigation measures to reduce the impacts of land use change on biodiversity has been effected, as well as changes to layouts to avoid impacts on natural forests. Since 2016 about 420 hectares of natural forest was saved by having land use layouts changed.

(d) Enforcement

Enforcement by forest officers in all the regions (Provinces) is aimed at limiting illegal activities such as the cutting of protected trees or natural forests without a licence. These include joint operations with other enforcement agencies such as the South African Police and government departments implementing environmental legislation. The department also trains on an ongoing basis, external stakeholders to ensure and bolster knowledge of forestry and environmental legislation. The Minister also appointed External stakeholders Peace Officers. Once appointed as Peace Officers, the individuals are conferred powers to enforce the relevant provisions of forestry legislation, thus increasing the coverage and protection of forests and by extension the biological diversity within and around them.

1.4 Forests Health and Vitality

Forests, to continue to provide essential goods and services sustainably, it is important that their health and vitality remain intact. However, forests are constantly threatened by various factors both biotic and abiotic including fire, pests, insects and diseases, poor harvesting practices, poor management, uncontrolled grazing, invasive alien species, mining and development, air pollution and extreme climate events such as drought, storms, frost, landslides and floods. In South Africa, woodlands and natural forests seem to be more resilient to negative effects compared to the monoculture exotic commercial plantations.

Commercial forestry plantations are an important and valuable segment of the South African economy and forest owners are required to maximise and sustain forest productivity. Various damaging agents are constantly hampering forest health and thus decrease productivity. It is important therefore to detect the presence and spread of these agents within plantations. Remote Sensing is one form of detecting forest health and vitality in the country.

The NVFFA provides for systems, institutions and processes for integrated fire management to curb the scourge of wildland fires. Formation of fire protection associations and Umbrella FPAs are voluntary organisations formed by landowners with the common purpose of managing fires are important structures for safeguarding forests and other natural resources. The fire danger rating system established in terms of chapter three of the NVFFA is an early warning system informing

landowners and the public on the likelihood of wildfires occurring and the intensity thereof. This is important as it seeks to ensure preparedness.

The country also has a world-renowned research and development capability, which leverages productivity, and helps with early detection and control of damaging pests and diseases. With the control of alien invasive species, the country has several programmes such as the Working for Water, Working for Wetlands and the Working on Fire, which are all geared to contribute towards sustainable development and protection of natural resources and ecosystems. The Working on Fire Programme also has a High Altitude Team, which controls alien invasive plants on difficult terrains. Moreover, through the National Forest Sector Protection Strategy and the National Forests Research Forum, the country is better positioned to manage many of these damaging agents.

Part of the potential annual timber volume increment across all forest types is destroyed by biotic and abiotic factors including fires, climatic factors, insects, pests and diseases, alien invasive plants, mining, developments and illegal loggings. In 2017/18, plantation area damaged or lost amounted to 29 443 ha whereas 25 682 ha was lost or damaged in the 2016/17 reporting period and 27 802 ha was lost in 2015/16.

1.4.1 Veld and Forest Fires

Fires play a major role in certain ecosystems such as on grasslands where the majority of plantations have been established. Farmers and foresters also use fires as a management tool, for example, to manage fueload and for integrated fire management purposes. However, uncontrolled veld and forest fires can also be devastating to the economy, the environment and the lives and livelihoods of communities. The affect the health and vitality of forests posing a risk to sustainable forest management and the development of the resources. Fire damage may lead to opportunistic agents (pests and diseases) attacking burnt trees and ultimately resulting in catastrophic event whereby trees may die in large numbers. South Africa has seen a number of devastating fires during the period 2016 to 2018, particularly in the Western Cape Province.

The recorded number of fires that occurred in plantations in 2017/18 was 2 306, a bit lower than 2016/17 which were 2 793. Plantation damaged was 17 265ha in 2018 (16 145 in 2017). The plantation damage by fires and other causes and areas affected for the years 2016, 2017 and 2018 are indicated in Table 4.

Table 4: Plantation area damaged by fires and other causes

Causes of fires	2015/16		2016/17		2017/18		Total area (ha)
	Area (ha)	% affected	Area (ha)	% affected	Area (ha)	% affected	
Natural	747	5	5 232	32	4 681	27	10 660
Accidental	4 652	33	3 356	21	4 049	23	12 057
Arson	3 254	23	2 188	14	4 563	26	10 005
Unknown	5 570	39	5 368	33	3 972	23	14 910
Total	**14 223**	**100**	**16 144**	**100**	**17 265**	**100**	**47 632**

Source: DFFE Annual CTRPRP Reports 2016, 2017, 2018

A total of 47 632 ha of plantation area was damaged by fires and other causes during the three year period. Most damages areas were from unknown causes (14 910 ha), followed by accidental forest fires which accounted for 12 057ha.

Zululand Fire Protection Association has recorded a total expenditure of R10 173 772 in 2016, 16 158 645 in 2017 and 17 841 778 in 2018. There were four causalities and nine structures were destroyed in 2018. The Association saw a total of 1 974 fires in 2018 of which 1 023 were from forests (timber plantation fires). The area burnt in 2017 was 46 174ha and 852ha of plantation was affected.

North West FPA recorded the value of losses because of veldfires at R15 000 000, R5 000 000 and R9 701 000 in 2016, 2017 and 2018, respectively.

The Eastern Cape Fire Protection Association estimated a damage to the value of R643 899 839 over a three year period (2016-2018), loss of 210 livestock, 3 vehicles and 82 structures. The categories of the causes of fires in the FPA area are indicated in table 5.

Table 5: Fires in the Eastern Cape FPA by causes

Cause	Number of fires			Total
	2016	2017	2018	
Human	103	43	32	178
Natural	33	3	9	45
Mechanical	6	5	-	11
Other (unknown)	13	86	8	107
Total	**152**	**137**	**49**	**338**

Source: Eastern Cape Fire Protection Association annual reports

1.4.2 Integrated Fire Management in South Africa

Tree and crop farms in South Africa, like elsewhere in the world are constantly vulnerable to disastrous wildland fires. Wildland fires, wreak havoc whenever they occur leading to loss of lives, property and causing damage to the environment. Every year fires cause massive losses to the in plantation forests impacting negatively on the economy of the country, employment and the livelihoods of the people who depend on forests for goods and services.

The country has the National Veld and Forest Fire Act, 1998, (Act No. 101 of 1998). (NVFFA) as a legal instrument for managing veld, forest and mountain fires in the Republic. The objective the legislation is to prevent and combat veld, forest and mountain fires throughout the country. The NVFFA takes an integrated fire management approach thereby making provisions for the creation of institutions (fire protection associations and Umbrella fire protection associations); systems (the national fire danger rating system) and processes and programmes (such as the Working on Fire Programme) for achieving the objective. Some of the major fires ('Mega-fires') recorded in South Africa from 1990 to 2018 are reflected in box 1.

Box 1: Some of the recorded South African "Mega fires", 1990-2018

1990/91

- Fires in KwaZulu-Natal increased from 210 to 350 (1990) and to 510 in 1991- large forest fires were not recorded during these years.

1992/93

- Year of serious drought in summer rainfall areas.
- Fires increased to 792 but losses were lower (only 9 333ha) than during 1991.
- No major fire events recorded.

1994

- Few serious wildfires occurred in industrial forests and in surrounding grassland in the Mpumalanga and KwaZulu-Natal provinces. Towards October 1994, three major plantation fires started in the Sabie District, Mpumalanga destroying more than 1 000 ha in each case.
- During one fire in a SAFCOL plantation in the area, ten fire fighters lost their lives and two firefighting vehicles were also burned out. Combined losses for the district in terms of timber losses exceeded US$1 million.

1995

- 5 500 ha of timber plantations were destroyed in the Melmoth District of the KwaZulu-Natal Province but no lives were lost.
- During December 1995 a bushfire spotted into a heap of 15 000 tons of sulphur belonging to an explosives and chemical company was overwhelmed by toxic fumes. Two thousand five hundred people had to be evacuated, and 500 patients had to be treated in the trauma unit of a nearby hospital and two persons died.

1996/97

- Numerous grassland fires were reported in the Summer Rainfall region of South Africa. However, higher rainfall prevented serious moisture deficiencies from occurring and subsequently area burnt remained relatively small. During both years rainfall days extended well into the June/ July period, and long seasonal drought was avoided.

1998

- A dry summer prevailed in the Cape regions. An early start of hot Bergwind conditions during March/ April caused extreme five weather conditions in these areas in the Fynbos biome, and in some adjoining industrial/ plantation forests. Two serious two serious fires occurred in the Tsitsikamma region, Eastern Cape. In one of them 60 000 ha of fynbos were burned and 4 000 ha of industrial forests were destroyed. Six people lost their lives in this fire and 250 were left homeless. Damage to standing timber alone exceeded US$1 million. However, the ecological impact of the fire on the fire-adapted fynbos was not that serious, although some of the older fynbos fynbos sub-communities experienced excessive fire temperatures that may have led to some localised erosion problems on steep slopes.
- In the summer rainfall area, the fire season started extremely early in April and by May 30 000 ha of grassland grazing areas were lost in wildfires in the Eastern Free State, and one fire blackened 20 000 ha of a nature reserve in the region. A tragic loss of life occurred indirectly as a result of a grassland fire in the Gauteng Province during June. Twenty people lost their lives in a traffic pile up caused by thick smoke on a highway from nearby grassland fires.
- Also in the Summer Rainfall area, four people lost their lives in one of the numerous grassland wildfires in Mpumalanga, while wildfires in the industrial forests caused losses exceeding 1 000 ha of standing timber in the Northern Cape and Mpumalanga Provinces and in Swaziland. In the North West Province, where wildfires are seldom experienced, a grassland fire burned down some farms and homesteads and killed two police officers.

1999

- In the Southern Cape and Tsitsikamma regions, more wildfires burned through thousands of ha of fynbos vegetation, burning down homesteads in the Plettenberg Bay area as well as a few thousand hectares of timber plantations and farmland. These fires occurred during extremely dry Bergwind conditions. Wildfire damage in the form of grazing resources and timber plantations were also experienced in the Summer rainfall region and in Swaziland.

2000

- During January 2000, the Cape Peninsula was devastated by a serious fynbos wildfire, which burned 8 000 ha of fynbos vegetation. Elsewhere in the Western Cape Province an additional 10 000 ha of fynbos burned. In the Cape Metropolitan area, 70 houses were destroyed or damaged by the fire and 200 shacks of informal settlement were razed in the process. Total fire suppression costs exceeded US$3 million, while insurance claims were expected to exceed US$0.5 billion. Fortunately, no lives were lost.

2017

- The Western Cape Province saw 17 000 fires for the 2016/17 fire season, resulting in 142 fatalities. Of the 17 000 fires, 2 000 were reported in informal settlements affecting 5 900 people (News 24, June 20, 2017).
- On 7 June 2017, the Knysna Fire, Western Cape erupted and caused devastation and destruction on a scale that had never been experienced within a local municipality in this country and sadly led to loss of life and destruction of properties and bulk service infrastructure worth millions of rands.
- Following the initial deployment of the Working on Fire Riversdale Team, Working on Fire had at the peak of the fire, dispatched 485 fire fighter, 12 management, 12 light Delivery Vehicles, 11 Fire Trucks, six Crew busses, four Huey Helicopters, four fixed Wing Spotter Planes and two 802 AT water bombers providing firefighting services to the Knysna and Plettenberg Bay fires.
- This deployment of Working on Fire resources together with Local, District and Provincial firefighting resources and volunteers became the largest deployment to a single fire incident in South African history.
- The fires occurred over a 12 Days period, damaged hundreds of properties and infrastructure and seven people lost their lives.
- The damage caused by the fires to the environment and biodiversity is difficult to quantify.

1.4.3 Fire Protection Associations

Fire Protection Associations (FPAs) are community-based, voluntary organisations established in accordance with the conditions set out in chapter 2 of the fire legislation. FPAs are formed by landowners with more or less similar vegetation types and level of veld and forest fire risk who seek to cooperate in integrated fire management (IFM). Integrated Fire management is a concept resulting from extensive and in-depth research in the field of fire behaviour. The approach is built on the notion that wildfires can be managed, if dealt with proactively, rather than reactively and that quality resources (the necessary equipment, vehicles, trained firefighters) should be available should a fire occur. This approach drastically minimises the loss of life, property and the environment. A million years ago early humans began to utilise fire and for the last 100 000 years modern humans have used veldfires for hunting and for managing their environment. Today, fire is still employed in the management of veld and forest, to control grazing and habitats, and as a tool in the prevention of uncontrolled fires. However, small fires frequently escalate into disastrous, uncontrolled wildfires.

The elements of integrated fire management include fire prevention, protection, combatting and where necessary, rehabilitation (recovery). About 70% of the ecosystems covering South Africa are fire-adapted. They need to burn in order to maintain their ecological integrity. But because of human activity there is a need to manage fire in a manner that is appropriate for the land-use and land-type, while maintaining natural processes and patterns as far as possible. Fire protection Associations and other stakeholders such as Disaster Management Centres and the Working on Fore Programme play a vital role in integrated fire management in the country.

Fire protection associations develop and present their veldfire management strategies to obtain registration from the Minister as required by the NVFFA. Once registered, FPAs are granted certain powers and responsibilities to carry out their fire management activities including powers to enter properties of their members to assess compliance with the provisions of the act (fires readiness) and the rules they set for themselves. There are 225 registered fire protection associations as per table 6. However, most of these associations are not as functional as they are expected, primarily due to lack of resources (funding) despite the legislation making provision for the Minister to provided assistance, particularly to those in indigent communities. More than two decades since the promulgation of the NVFFA, the Department is yet to make available, the funding and the criteria for the disbursement to needy FPAs and landowners. The NVFFA further makes provision for two or more FPAs with common interest to form an Umbrella Fire Protection Association (UFPA) to provide common strategic services such as on incident command system (ICS). Umbrella FPAs are established on District or Provincial levels although this is not restrictive as per the Policy on Formation of Umbrella Fire Protection Associations. There were eight UFPAs registered as at 31 December 2019, namely, Gauteng, North West, Eastern Cape, Western Cape, Mpumalanga, Limpopo, Free State and KwaZulu-Natal Umbrella FPAs.

Table 6: Fire Protection Associations in South Africa as at December 2019

Province	No. of registered FPAs
Eastern Cape	48
Free State	42
Gauteng	21
KwaZulu-Natal	24
Limpopo	25
Mpumalanga	15
North West	20
Northern Cape	24
Western Cape	06
Total	**225**

Source: Department of Forestry, Fisheries and the Environment

1.4.4 Working on Fire Programme

Working on Fire is a government-funded, job-creation programme, focused on implementing Integrated Fire Management IFM) in South Africa. It is an Expanded Public Works Programme (EPWP) aimed at providing work opportunities to young men and women. The Programme resides under the Department of Forestry, Fisheries and the Environment. Working on Fire Programme (box 2) was launched in September 2003 as part of the South African Government's initiative to create jobs and to alleviate poverty.

Box 2: The Working on Fire Programme in Brief

- Working on Fire (WoF) is a national capacity to address integrated fire management in South Africa.
- It has 188 bases in eight Provinces (2 x bases in the Northern Cape managed by North West), with an employment of 4599 staff and Fire-fighters. It is also administering the 25 High-Altitude Teams (HATs) clearing invasive plants in water catchment areas (443 people), the 6 Forestry Support Teams (425 people) and the 6 Drought Relief Teams (185 people), as well as Value-Added Industries research (21 people).
- The prevention of fires (through fire-breaks, block burns, clearing of invasive plants, and research on fire-prevention options through value-added industries) is a critical intervention that offsets the need to fight fires at the levels that might otherwise occur, and is a major component of WoF's various foci.
- WoF reports a 100% record in fighting fires (with aerial and ground capacities), when called out.
- WoF also assists with the use of fire for ecological functioning, and the productive use of land. Whilst this is successfully done, the service provided is only 31% of what is needed in the country.
- The HAT teams are doing essential work for both water security and fire management, in the clearing of invasives in mountains. The Drought Teams are similarly focused on priority catchments of dams. The Forestry Support Teams are protecting State plantations from wild fires. The VAI programme is researching and testing fire-proof structures (using 75% invasives, which are usually a threat for fires).
- WoF provides an essential service, as the devastating wild fires in Knysna, George, Somerset West and many other areas have shown over the past few years. Its excellence is internationally recognized.
- Whilst the returns on investment are difficult to quantify, an earlier assessment by Forestry South Africa was that the intervention by WoF in wild fires in the winter fire season areas could have saved the industry about R3.6 billion.

The Working on Fire Programme recruits and trains young men and women from across South Africa, with a strong focus on marginalized communities and people with disabilities. There are currently more than 5000 participants in the Programme, 94% of whom are youth, 31% are women (the highest level in any comparable fire service in the world) and 3% disabled. WoF participants are trained in fire awareness and education, fire prevention and fire suppression skills. In addition, they are also trained in skills such as first aid, carpentry, cooking, health and safety and communications. A Working on Fire team typically consists of a crew of twenty-five firefighters, led by a Crew Leader and are stationed in more than 200 bases throughout South Africa.

The Programme addresses the prevention and control of wildland fires to enhance the sustainability and protection of life, properties and the environment through the implementation of Integrated Fire Management solutions.

WOF participants are given the opportunity to progress within the Programme, from firefighters to Crew Leaders, Base Managers and Regional Managers. There are also various other positions available within the Programme that are most often filled by participants who have moved up the rank from firefighter level. The Working on Fire Crews are kept busy throughout the year because South Africa has two fire seasons according to rainfall patterns, the dry summer months in the Western Cape, and the dry winter months in the rest of the country and the teams are deployed at these regions based on the fire season. Moreover, the Programme has High Altitude teams, which control alien invasive plants in mountainous areas of the country. These operations are particularly important as they contribute towards biodiversity protection and conservation of natural resources such as water. Working on Fire has a Food Security Programme, which commenced in 2012 as a direct response to the socio-economic realities of participants, which included the challenge of food insecurity. During the 2018 WoF Social Development review and strategic planning the proposal was made for the expansion of the Food Security Programme. The focus of the expansion was on the set up and support of Organic Nurseries throughout South Africa.

The Working on Fire Programme has aviation (aerial) resources, which complement its ground resources in firefighting. Working on Fire Aviation is a trusted supplier of aerial firefighting services to key role players within the wildland firefighting industry in South Africa and elsewhere in the world. It flies an approximate 4,000 hours and responds to an average of 300 fires annually. WoF Aviation is most renowned for providing aerial support to the South African Government's Department of Forestry, Fisheries and the Environment (DFFE)'s Working on Fire Programme. In so doing, WoF Aviation assists with combating life destructive and unwanted wildfires during fire seasons.

Table 7 shows the fires that the Working on Fire Programme attended to in the years 2016, 2017 and 2018 and the resources deployed. The Programme attended to 161 fires during the period under review and the total area burnt was 4 155 ha. In 2016, Limpopo lost the most area at 869 ha followed by Mpumalanga with 466 ha. In 2017, KwaZulu-Natal lost the highest area at 788 ha on fires attended by the WoF Programme while in 2018, Mpumalanga lost the most area at 587 ha, followed by the Eastern Cape at 392 ha.

Table 7: Fires attended by Working on Fire (2016 - 2018)

Losses due to fires					
No of Fires 2016	**No of Resources Dispatched**	**Area Burnt (ha)**	**Livestock**	**Lives**	**Buildings**
Eastern Cape	3	111	-	-	-
Free State	0				
Gauteng	0	-	-	-	-
KwaZulu-Natal	11	334.9			
Limpopo	17	869.28	-	-	-
Mpumalanga	16	465.7	-	-	-
North West	0	-	-	-	-
Western Cape	0	-	-	-	-
Totals	**47**	**1780.88**	**0**	**0**	**0**
Losses					
No of Fires 2017	**No of Resources Dispatched**	**Area Burnt (ha)**	**Livestock**	**Lives**	**Buildings**
Eastern Cape	0	-	-	-	-
Free State	0	-	-	-	-
Gauteng	0	-	-	-	-
KwaZulu-Natal	39	778.4	-	-	-
Limpopo	5	48	-	-	-
Mpumalanga	10	83	-	-	-
North West	0	-	-	-	-
Western Cape	0	-	-	-	-
Totals	**54**	**909.4**	**0**	**0**	**0**
Losses					
No of Fires 2018	**No of Resources Dispatched**	**Area Burnt (ha)**	**Livestock**	**Lives**	**Buildings**
Eastern Cape	3	252.1	-	-	-
Free State	0	-	-	-	-
Gauteng	0	-	-	-	-
KwaZulu- Natal	20	234	-	-	-
Limpopo	16	392	-	-	-
Mpumalanga	21	586.6	-	-	-
North West	0	-	-	-	-
Western Cape	0	-	-	-	-
Totals	**60**	**1464.7**	**0**	**0**	**0**

Source: WoF Programme

The Programme continued to be a vital fire suppression resource within and outside the Republic, particularly in the Western Cape, which has seen several disastrous fires in the recent years. The Knysna fires of June 2017 led to the largest deployment of firefighting resources in the South African history and the WoF Programme was involved in fighting these fires. 985 fighters, 78 fire vehicles, six Oryx military helicopters, four Working on Fire helicopters and two fixed wing bomber aircraft were deployed to battle the Knysna blaze, which lasted several days (WoF, 2017). Between June 6 and June 10, fires destroyed more than 600 structures in Knysna and Plettenberg Bay when gale force winds exceeding 90 km/h made firefighting extremely difficult. Some 28 fires were reported in the area on June 8, 2017. The devastating Knysna and Plettenberg Bay fire disasters in June destroyed hundreds of properties, claimed seven lives and burnt through thousands of hectares of land *(African News Agency, September 2017)*.

FIGURE 15: One of the properties damaged during the June 2017 Knysna and Plettenberg Bay fires, Western Cape fires.

Source: African News Agency, June 2017

Preliminary assessments estimated roughly R136million worth of infrastructure damage. However, insurers estimated the damage to private property to be between R4bn and R5bn. Communication trough mobile gadgets was near impossible during the fire occurrence because the fires destroyed communication towers resulting in disrupted cellular communication for more than 20 hours.

The Working on Fire Programme also assisted in fighting the Canada wildfires in May 2019. A group of 40 Working on Fire firefighters and five senior managers arrived at OR Tambo International on 30 July, after spending nearly 30 days fighting the huge Chuckegg Creek fire in the province of Alberta in Western Canada. The WoF Team was commended by the High Commissioner of Canada in South African, Sandra McCardell, who was also part of the committee welcoming the team back to the country. She said at the time: "*On behalf of Canada, but also as a proud Albertan, I wish to thank you very much for the hard work that you've done over the past weeks in coming to the assistance of Canadians and responding to them in their time of need. We are very grateful, and thanks to your efforts this fire is now contained.*"

The deployment of the WoF Team followed a request by the Canadian Interagency Forest Fire Centre (CIFFC), which was made in terms of an existing memorandum of understanding (MoU) between the South African government and the Canadian Department of Natural Resources. The MoU allows either country to request urgent support from the other with regard to wildfire management.

The 40 firefighters, including 12 women (30%), came from all nine provinces in South Africa. The team left South Africa on 24 June to join firefighters from Canada, the United States of America (USA) and Mexico in the mammoth operation to combat the raging wildland fires. Minister Creecy said: "*What is most heartening to hear is that because of your efforts, the boundary line remained unbreeched by the fire. You stood with 1,180 firefighters from all over Canada, Mexico and the USA and said 'this far and no further'. The camaraderie built through your morning Working on Fire parade will stand you in good stead in years to come. Almost all of you have reported benefitting greatly from the exposure to new techniques, approaches, equipment and the novelty of fighting underground fires.*"

The deployment was the third successful WoF Programme dispatch to Canada, reflecting the importance of heightened cooperation, resource-sharing agreements put in place by the international firefighting community, and this proves beyond doubt, the significant role the WoF Programme is playing in the field of wildland fire suppression and management.

1.5 Pests and Diseases

Pests and diseases continue to threaten the vitally and health of forests and trees across the globe including South Africa. The country's commercial plantation area is very small at just over 1.2 mil hectares (about 3% of the country's forested area). This means that the forests, particularly industrial plantations need to be subjected to a vigorous research and development programme to maintain and sustain their competitiveness and more importantly to ensure that they continue to provide the necessary goods and services.

There are many pests and diseases attacking most plantation species such as the *Eucalptus* gall wasp, Red gum lerp psyllid, the Bronze bug, Eucalyptus snout beetle, Cossid moth, the Pitch canker fungus and *Phytophthora* diseases. However, most of these are easy to control and manage. New pests and diseases continue to threaten

forestry in South Africa and established pests continue to present challenges. During 2015, the damaging leaf and shoot pathogen *Teratosphaeria destructans* was recorded in the country for the first time. In addition, a new form of the *Eucaluptus* gall wasp, *Leptocybe invasa* was detected. The pine and eucalypt pests, *sirex noctilio* is currently the recent pest ravaging commercial plantations but significant progress is being made by the Tree Protection Co-operative Programme (TPCP) to know more about it and to introduce integrated pest management solutions. This is currently the focus while several other pests and diseases are also under surveillance to mitigate any outbreak.

Commercial (plantation) forestry, based on non-native tree species has been pursued actively for more than 100 years to provide for the wood and wood products demand of the country and to ensure that native tree species are not overly exploited and driven to extinction. During the period, the focus of research has been strongly geared to improvement of growth and yield and South Africa is renowned worldwide of its world-class forestry research and development. However, with the introduction of new and emerging pests and diseases in plantations, the focus has expanded to managing these threats.

The Tree Protection Co-operation Programme (TPCP) was established in 1990 and is currently accommodated in the Forestry and Agricultural Biotechnology Institute (FABI) at the University of Pretoria has a universal reputation and is a single largest global project focused specifically on tree health. It is a multi-stakeholder Programme constituted by the Forestry industry, Government, Select Universities and other partners responsible for serving the forestry pest and diseases needs which include knowledge generation, training of specialists, development and support for integrated pest management solutions for pest challenges facing South Africa and the globe.

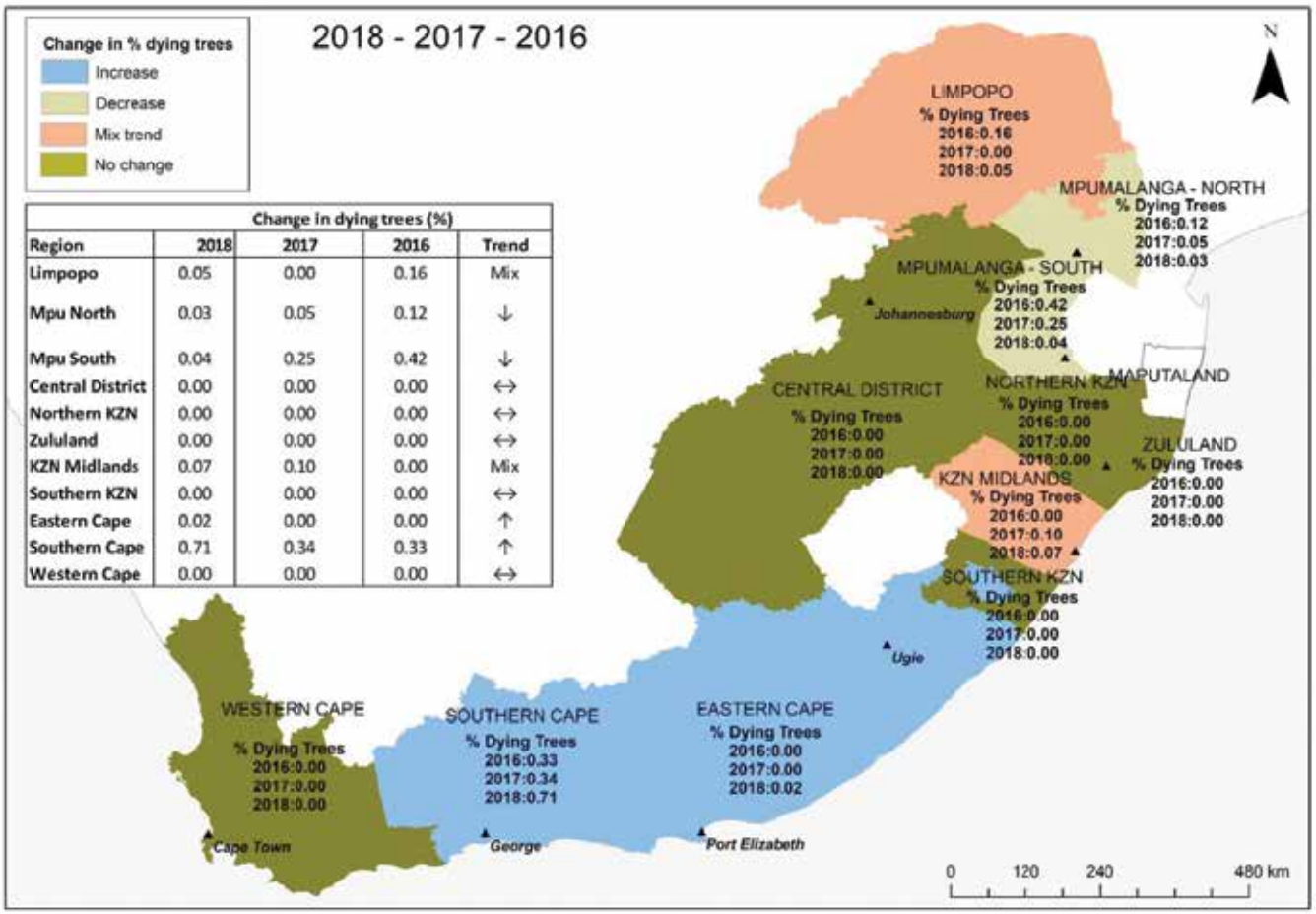
1.5.1 The South African Sirex Control Programme

The core focus for the research of the Tree Protection Co-operative Programme is to contribute to the development of integrated management options for major tree pests and pathogens for the South African forestry industry. The TPCP also actively engages in and pursues new global research collaborations since tree pest problems are not confined to a specific geographic location. Several parallel interventions are in place to understand and manage pests that were introduced to South Africa in the recent past such as the highly threatening leaf and shoot pathogen Teratospharia destructans. Prior to its detection in South Africa, the pathogen was known only in Asia where it was first found in Indonesia and it is now one of the greatest threat to eucalyptus forestry in that region. However, the main focus in South Africa is the Sirex pest which was first detected in the country in 1994. Under the auspices of the TPCP, the South African Sirex Control Programme (SASCP) has been developed and is being implemented throughout the country.

Sirex noctilio is one of the most serious invasive insect pests of Pinus species globally. It is a wood boring wasp native to Eurasia and northern Africa regions where it is little known due to the fact that in those regions it attacks dead or dying trees only. The Sirex wood wasp was accidentally spread to several regions globally and in many of these regions, together with its fungal symbiont Amylostereum areolum, it kills living trees.

Sirex wasp was first detected in Cape Town, South Africa in 1994. Over the past two decades, the Sirex wasp has spread across all pine plantation areas from Cape Town to the Louis Trichardt area in the Limpopo Province. In 2007, Forestry South Africa made an assessment of the damage caused by the Sirex wasp and estimated the risk to pine plantation loss at R153 m. Figure 16 indicates the spread of and changes in % dying trees between 2016 and 2018 because of the Sirex noctilio from Cape Town right through to Louis Trichardt. Figure 17 indicates the mortality of Pinus patula trees in the Kwazulu-Natal in 2005 caused by Sirex noctilio.

FIGURE 16: Changes in *sirex noctilio* damage – 2016-2018



Change in dying trees (%)

Region	2018	2017	2016	Trend
Limpopo	0.05	0.00	0.16	Mix
Mpu North	0.03	0.05	0.12	↓
Mpu South	0.04	0.25	0.42	↓
Central District	0.00	0.00	0.00	↔
Northern KZN	0.00	0.00	0.00	↔
Zululand	0.00	0.00	0.00	↔
KZN Midlands	0.07	0.10	0.00	Mix
Southern KZN	0.00	0.00	0.00	↔
Eastern Cape	0.02	0.00	0.00	↑
Southern Cape	0.71	0.34	0.33	↑
Western Cape	0.00	0.00	0.00	↔

Source: Map © ICFR

FIGURE 17: Mortality of *Pinus patula* trees in the KwaZulu-Natal Province in 2005 caused by *Sirex noctilio* (Photo: BP Hurley, FABI, UP).

Source: Department of Forestry, Fisheries and the Environment

Through the interventions of the South African Sirex Control Programme (SASCP), the potential risk of *Sirex noctilio* has been substantially reduced through the proactive monitoring and deployment of two biological control agents, namely, the nematode *Deladenus siridicola* and the wasp *Ibalia leucospoides*. There are still plantations within the pine growing area that have recorded little or no *Sirex noctilio* damage. Tress older than 10 years and drought stressed trees are more susceptible to the Sirex wasp attack. Although significant progressed has been made with management of the wasp,

it was concerning that increased numbers of *Sirex noctilio* females per log were observed in several regions, namely, KwaZulu-Natal Midlands, Southern KwaZulu-Natal and Eastern Cape. The risk posed by the Sirex wasp remains high and continued monitoring and the acquisition and deployment of biological control agents need to continue.

1.5.2 Polyphagous shot hole borer

Euwallacea fornicates (figure 18); the Polyphagous shot hole borer (PSHB) is one of the recent tree pest to be detected in South Africa. In 2017, the Polyphagous shot hole borer was detected on London Plane trees in the KwaZulu-Natal National Botanical Gardens in Pietermaritzburg for the first time. The beetle is native to Southeast Asia and Carlifornia, is about 2mm in size and it has a symbiotic relationship with the fungus *Fusarium euwallaceae* which serves as a food source for the adults and their larvae. The beetles can attack a wide range of living exotic and indigenous trees including avocado, macadamia nut, peach, orange, grapevine and pecan trees. PBHB has not been spotted in exotic timber plantations yet but it is more prevalent in exotic tree species planted as ornamentals (maple, holly, wisteria, oak and camellia), crops and trees outside forests.

FIGURE 18: *Polyphagous shot hole bore*

Source: Forestry and Agricultural Biotechnology Institute, University of Pretoria

The pest was again detected in early 2018 in Gauteng Province near Sandton, Johannesburg. The adult female pest bores the stem creating tunnels beyond the cambium of the tree where it inoculates the living wood with the fungus. The fungus then spreads along these tunnels and becomes food source for the larvae and the beetles. In susceptible trees, the fungus slowly kills the tree whereby the tree's vascular system begins to fail; leaves begin to thin on the ends of the branches, eventually tuning brown leading to the branch and eventually the tree dying. The PSHB infestation in South Africa has reached Johannesburg, Durban, Richard's Bay, George, Knysna and Hartswater with Johannesburg been hit particularly hard as a result of its dense urban forests. The recent study on the pest by Paap T et al., 2018 showed that the PSHB is an important invasive pest killing avocados and other trees in Israel and the United States. In the same paper, it has been recommended that the pest be listed invasive species under South Africa's National Environmental Management Biodiversity Act: Alien and Invasive Species (NEMBA:AIS) Regulations, and that immediate surveys to determine the extent of PSHB presence in South Africa should be undertaken to assist in the development of management actions to mitigate the risk posed by the pest. In 2018/19, there was no chemical products registered for use against PSHB in the country and there were media queries on what government was doing to address the emergency.

A Committee consisting of representatives from affected government Departments, namely, Department of Environment, Forestry and Fisheries, Department of Agriculture, Land Reform and Rural Development, the forestry industry (Forestry South Africa), local government (municipalities) and academic / research institutions, including the Forestry and Agricultural Biotechnology Institute (FABI) at the University of Pretoria to deal with matters relating to PSHB. The Committee is considering various options including policy and legislation, which will ultimately lead to the listing of the pest as an alien invasive species, amongst other interventions. The DALRRD initiated processes for the listing of PSHB as alien invasive species.

1.5.3 Financial Support to the South African *Sirex* Control Programme

The private sector initially funded the Control Programme but it has recently received significant support from Government through the Department of Forestry, Fisheries and the Environment (DFFE). DFFE has disbursed approximately R 9m during the period 2016 to 2018. The Memorandum of Understanding (MoU) between DFFE and Forestry South Africa (FSA), however, ended in 2019 and efforts to renew it were underway. The funding has enabled a multi-disciplinary, fully integrated control programme to operate efficiently and effectively and it is important that this remains in place in order not to compromise the gains achieved thus far.

2. FOREST EXPANSION IN SOUTH AFRICA

2.1 Afforestation/ New afforestation

Afforestation refers to the establishment of industrial plantations on the land that was never planted before (virgin land). Feasibility studies conducted throughout the country in the recent years indicated that there were no more areas for potential expansion of the commercial forestry estate except in the Eastern Cape and KwaZulu-Natal. In Limpopo, the areas that were identified as having the potential for afforestation were found to be very small and in patches which would not be economically viable. New afforestation in South Africa has declined considerably in the recent years due to various factors. These include unavailability of suitable forestry land, the tightening of the procedures for acquiring the necessary water use licences for afforestation, proximity of suitable land to the market and inadequate funding to conduct environmental impact assessments. All new afforestation for the period under review was carried out by the private sector. An indication of afforestation uptake for the period 2016 to 2018 according to species and purpose is presented in Table 8:

Table 8: Afforestation uptake per species and purpose

Species	Area (ha)			Total area per *spp.* (ha)
	2016	2017	2018	
Softwood spp.	526	983	793	2 302
Eucalyptus spp.	112	349	289	750
Wattle	464	461	508	1 433
Other Hardwoods	5	5	5	15
Total Area	**1 107**	**1 798**	**1 595**	**4 500**

Source: DFFE, Annual CTRPRP Reports (2016-2018)

From the table (Table 8), it can be deduced that only 4 500 ha was planted over a period of years. The industry has over the past years experienced too little or no afforestation at all. This poses a risk to sustainability of the sector. Government and the private sector need to get a common ground to stabilise the regulatory environment since there are currently perceptions of hostile regulatory environment, which is blamed for the unacceptably low levels of afforestation in the country.

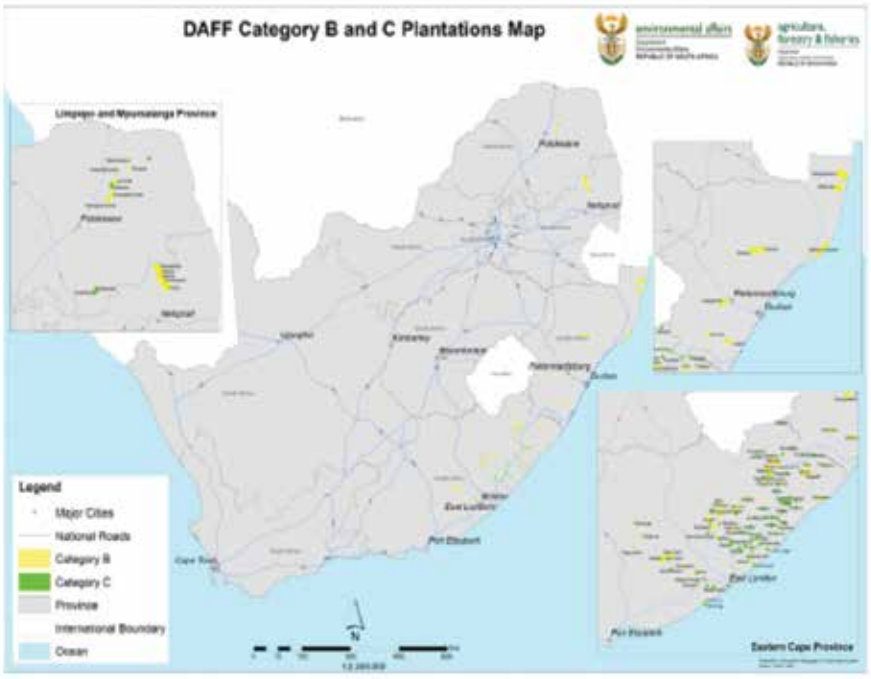
Afforestation is considered as a Stream-Flow Reduction activity in South Africa. Land developers are required to apply for a licence, which involves among other issues, conducting the costly Environmental Impact Assessment (EIAs) studies to determine water availability and the impact of the development to the quality and quantity of the resource. In order to assist small growers in KwaZulu-Natal to develop their land for establishment of plantations, the Department conducted and covered the costs for the EIAs for an area of approximately 5 000ha. The result has been positive Records of Decision (RoDs) for an area of approximately 2 400 ha. This will lead to issuance of water use licences for planting on the approved areas. In addition, the planting of the area will create economic and employment opportunities for surrounding communities

3. MANAGEMENT OF STATE PLANTATIONS

In 2018, the public sector ownership of forestry plantation area in South Africa was 214 258 (18%) of the total 1 191 638 ha land for commercial forestry production. These commercial forestry plantations are under the management of various public authorities including the South African Forestry Company Limited (SAFCOL), Government Departments and municipalities (local authorities).

The State, through the Department of Forestry, Fisheries and the Environment (DFFE) directly owns and manages about 64 350 ha of plantation forestry occurring in the Provinces of Limpopo (3 938 ha), Mpumalanga (4 091 ha), KwaZulu-Natal (29 292 ha), Eastern Cape (27 957 ha) and the North West (206ha). These are plantations which were not leased to third party companies during the restricting of the first batches of plantations in the early 2000's and are referred to as category B's and C's. Figure 19 indicates the distribution of State's Category B and C plantations.

FIGURE 19: Locality map of State (Category B and C) Plantations



Source: Department of Forestry, Fisheries and the Environment

The intention then was to refurbish them and make them economically viable before devolving them to other management authorities or communities. However, an assessment of these plantations indicates that they are poorly managed and pose a serious liability to the State due to various reasons. These include lack of adequate resources (funding) for operations, ageing workforce which is unable to complete their daily task, procurement processes and lack of protection of the forest estates due to contracted number of security personnel. It was also reported that the average age of workers in State plantations was 54 years in 2019. Due to lack of adequate budget, there has been a moratorium on appointment of personnel in the Department (former Department of Agriculture, Forestry and Fisheries) in the past five or so years, and this exacerbated the situation. The Temporary Unplanted areas (TUP) in these plantations was 19 955 ha in 2019 (31.0%), whereas the industry norm for TUP is 3%. Table 9 shows the list of DFFE managed plantations and their stocking statuses: The living conditions of forestry workers have deteriorated in the past few without any sign of improvement, leading to some workers, particularly in the Eastern Cape vacating the forestry quarters (forestry villages) to seek alternative accommodation in the adjacent communities.

Table 9: DFFE Commercial (Plantation) Forestry Areas 2018/19

Province	Commercial Area (ha)	Non-Commercial Area (ha)	Total Area (ha)	TUP (ha)
Eastern Cape	27 956.54	22 657.00	50 613.54	6 471.12
KwaZulu-Natal	28 291.72	18 266.97	46 558.69	9 741.87
Mpumalanga	4 090.88	2 408.82	6 499.70	2 937.45
Limpopo	3 937.61	2 629.26	6 567.04	780.12
North West	206.13	261.67	467.80	24.08
TOTAL	**64 349.89**	**46 356.72**	**110 706.77**	**19 954.64**

Source: Department of Forestry, Fisheries and the Environment

4. RESTRUCTURING OF STATE FORESTRY PLANTATIONS

The Department of Forestry, Fisheries and the Environment (DFFE) is responsible for the management of about 64 350 ha of State commercial (plantation) area and 46 757 ha non-commercial areas in South Africa. The total area under state plantation forestry amounts to about 110 707 ha. These are referred to Category B and C plantations and they remained during the initial restructuring process of the early 2000's. The first category of plantations, Category A were leased to private management entities and those, which could not be restructured successful, were incorporated into State plantations previously managed by SAFCOL based on their economic viability. During the restructuring process, five packages were established and four were successfully handed over to four companies, namely, Singisi Forest Products, Siyaqhubeka Forests, Mountain to Oceans and Amathole Forestry Company. Management control over these forests now vests in the relevant forestry company for the duration of the lease contract (70 years and renewable).

The fifth packaged is still being managed by SAFCOL and a decision has been taken that this package will not be privatised. The private companies, as stated elsewhere in this report, have signed a Lease Agreement with Government and they pay rental fees to government, which in turn disburses the monies to land, claims beneficiaries, where the claims have been successfully concluded.

The remaining state forest plantations managed by DFFE referred to as Category B and C are located within the former homeland areas and are all on land held in Trust for communities by the State. This means that in terms of Government's tenure policy, the underlying rights to land ownership vests in the communities that were the intended beneficiaries of the Trust. The funds that were invested by the State in the development of these plantations were largely sourced from the South African Development Trust (SADT). These are funds which were earmarked for the beneficiaries of the Trust, namely, the black people who lived in the former homelands and self-governing territories.

Several Category B Plantations and a few Category C plantations are subject to land claims in terms of the Restitution of Land Rights Act, 1994 (Act No. 22 of 1994). Due to the underlying rights in terms of land ownership, there was an expectation that land claims would have been lodged to these plantations. However, the pattern has been for communities to submit land claims only in those instances where there are competing claims over land ownership or where people have been forcefully resettled to provide for the development of the plantations. Where this is not the case, communities anticipated that their rights would be confirmed through the Department Agriculture, Rural Development and Land Reform's tenure reform programme.

DFFE currently manages about 64 350 ha of category B and C plantations and half of these are located in the Provinces of KwaZulu-Natal and the Eastern Cape. However, most of these are currently not economically viable due to a variety of challenges, ranging from poor management, inadequate funding, ageing workforce, their locality to markets right through to high levels of Temporary Unplanted Areas (TUPs) which were steadily at around 21.3% (higher than the 3% industry norm) in the past decade or so. However, the TUP has seen a sharp increase of about 9% in the 2019/20 financial year and stood at 30.0%, the highest ever experienced in State plantations. This ten-fold the industry norm on temporary unplanted areas per farm unit and it is extremely unsustainable. The exponential rise in TUP in State plantations was attributed to the termination and/ or non-renewal of contracts for security services, which resulted in massive timber theft in the recent period.

Category C plantations comprised of 78 woodlots, ranging from 5.0 ha to 500 ha and were established in the former homelands, primarily to supply rural communities with a local source of fuel wood and building materials. They covered an area of approximately 11 054 ha but these have since been incorporated into the category B plantations and managed as single Farm Management Units. The summary of DFFE managed plantations per province is presented in table 9. The discrepancy on the total area for the DFFE managed plantations between tables 9 and 10 was attributed to improvements in reporting with the migration from COMPAS to Microsoft System. The plantation areas in the past were understated and areas size for production forestry increases with the turnaround interventions. Accordingly, the plantations under management of the DFFE stood at 64 350 ha as at 31 December 2019. The Department has since moved from the categorisation of its plantations into B's and C's (Table 10) to using Farm Management Units (FMUs). This means with the current classification of FMU; one would find that a Management Unit has the remnants of the previous category B and C plantations classification.

Table 10: Summary of Plantation Areas Managed by DFFE and Persons Employed

Province	Area (ha)	No. of Employees
Eastern Cape	27 956.54	424
KwaZulu-Natal	29 291.72	216
Limpopo	3 937.61	118
Mpumalanga	4 090.89	169
North West	206.13	4
TOTAL	**64 349.89**	**931**

Source: Department of Forestry, Fisheries and the Environment

Due to their low Mean Annual Increment (MAI), geographical spread, distance from timber markets and inadequate standard of management, it is not possible for the woodlots (Category C plantations) to be commercially viable. This category comprises of 81 woodlot plantations (most of them very small them very small) with a total area of about 11 462 ha. The size of these woodlot plantations ranges between 5.0 ha to 500. Although the woodlots generally continue to play an important role in terms of subsistence use of fuel energy and timber produce, they are underutilised and poorly maintained and this has resulted in some of them becoming forest jungles.

Currently DFFE plantations do not meet the mandate, standards and industry norms. The unacceptably high rate of temporary unplanted areas (TUP) has a major negative impact on the long term potential of the plantations. There is a

concern that DFFE is falling further behind in replanting these areas due to the financial capacity and non-availability of labour and challenges with procurement processes.

The damage suffered by the plantations through fires during the past ten (10) years has added to the very high TUP percentage. However, the recent fires experienced in forestry areas threaten sawlogs production and supply in light of the high demand therefore it is necessary that the DFFE plantations should continue to supply saw logs to small saw millers and poles preservers. The DFFE is fully aware that its plantations are not fully utilised to their full potential. The unacceptable high levels of TUPs, waste of timber during harvesting operations due to lack of efficacy and efficiency, criminal activities in State plantations including timber theft, pests and diseases and poor planning require interventions and resources to turn them around, and ensure their economic viability before their evolvement to other entities or communities.

There are more than 68 land claims lodged on DFFE plantations lodged before the 1998 cut-off date. To date ten (10) land claims have been settled and the land transferred to the land restitution beneficiaries (table 11). The land restitution process has some challenges and these include delays in respect of the settlement of restitution claims. These delays results in some of the communities losing patience and hope in the process and inevitably invading some patches of the land before the process could be finalised. This poses a serious threat and has the potential of setting a precedence, which may result with widespread land invasions across the country if the process of land restitution is not expedited and prioritised.

Table 11: Summary of land claims by Province

Province	No. of claims lodged	No. of Claims Settled	No. of claims Outstanding
Limpopo	7	1	6
Mpumalanga	5	1	4
KwaZulu-Natal	14	-	14
Eastern Cape	42	6	34
Total	**68**	**10**	**58**

Source: Department of Forestry, Fisheries and the Environment

In terms of personnel, the average age of the DFFE forestry workers is 54 years and most are sickly. There is also a skewed match of skills to the work required to be performed. There is a high percentage of drivers and security staff compared to the production workers. Due to the limited budget, infrastructure in the plantations has not been attended to as timeously and as frequently as it should be. This has resulted in poor condition of accommodation and the workers refusing to stay in the provided forestry residential quarters, as they are required to pay rent of R900.00 per month notwithstanding the poor conditions of the houses. The impact of this is felt during the fire season when there is no staff available in and around the plantation for standby duty and firefighting.

Fire Management is also one of the challenges identified as many plantations are not fire ready, fire breaks are not maintained and/ or inadequately maintained, there is lack of or inadequate functional fire equipment, poor participation in and membership to the Fire Protection Associations as required by the national fire legislation.

Safety and security in State forests has become a huge problem on state managed plantations and natural forests estates due to their location and inadequately trained and armed security personnel. As a result, there is an increase in timber theft, burglary and vandalism.

The Department has a limited budget for rehabilitation and maintenance of infrastructure and the forest assets. Over many years, the Forestry branch has initiated processes to secure additional funding but with little or no success. In the midst of all these challenges, the Department acknowledges the importance played by plantation forests on provision of goods and services and has commenced with the processes of rehabilitating the Category B and C plantations with the intention of reinstating them to the level of economic viability before they are transferred to competent individuals, communities or companies.

Commercial forestry (plantation forestry production) is a business and through the 1996 White Paper on Sustainable Forest Development in South Africa, government sought to reposition itself as a regulatory body to create a conducive environment for business to thrive. As a result, government decided to completely withdraw from plantation forestry operations and to transfer its forest assets to competent authorities and individuals to run them as business concern. The primary focus of government is therefore to create an enabling environment therefore concentrating on regulatory functions. To complete the process of complete withdrawal from commercial forestry operations, government through the DFFE initiated a process of developing models for the transfer of Category B and C plantations in consultation with relevant stakeholders. Draft models were developed during 2018 and 2019 and the process of consultation was underway to finalise them. The four models of transfer considered for the disposal of category B and C plantations are:

4.1 Public Private Partnership

Public Private Partnership (PPP) is a contract between a public sector institution/ municipality and a private party, in which the private party assumes substantial financial, technical and operational risk in the design, financing building and operation of a project. PPPs are known to enable the public sector to harness the expertise and efficiencies that the private sector can bring to the delivery of certain goods and services traditionally procured and delivered by the public sector. In this arrangement, specialist skills are developed and transferred to the public sector.

4.2 Management by the South African Forestry Company Limited

South African Forestry Company Limited (SAFCOL) is a state owned company under schedule 2 of the Public Finance Management Act 199, (Act No. 1 of 1999). The company is under the administration of the Department of Public Enterprises (DPE) and manages all State forestry interests in the private sector space. Government to conduct forestry activities such as plantation establishment and maintenance, timber harvesting, processing and related activities domestically and internationally entrusts it. It was established that SAFCOL is ideally situated to manage certain DFFE plantations, particularly those are adjacent to their existing plantations. This would reduce overheads and make the management easier as current SAFCOL management structures and policies on the neighbouring plantations would be easier to implement.

4.3 Community Forestry Agreement

Community Forestry Agreements (CFAs) are entered into in terms of section 29 to 31 of the National Forests Act, 1998, (Act No. 84 of 1998). Section 29 (1) of the Act allows communities that wish to engage in community forestry to make an offer to the Minister to enter into a Community Forestry Agreement with him or her whereas on the other hand section 29 (2) allows the Minister to invite communities to submit offers to enter into such agreements in respect of a particular State forest or forests.

4.4 Management Contract

A management contract is an arrangement under which operational control of an enterprise is vested by contract in a separate enterprise that performs the necessary managerial functions in return for a fee. The feasibility study conducted recognises that various models are required for various forest assets, for example, the study by Louis Heyl and Associates, commissioned by DFFE and the Industrial Development Corporation (IDC) in 2014 on the recommissioning of the State plantations in the Western Cape recommended the following factors should be considered in designing packages for the disposal of the State plantation assets:

- suitable size and regionally representative to allow participation of local communities and small and medium enterprise
- combining poor and good plantation areas into one package to make it a feasible business unit
- location of plantation areas
- manageable business unit and economies of scale
- possible interest in plantation areas as expressed by local small and medium forestry or timber processing players in a particular region.

The objectives of the models are to:

(a) promote sustainable forest management;
(b) contribute to rural development and improve livelihoods;
(c) improve production and economic viability in the plantations by reducing TUPs;
(d) job creation and contribution to the GDP; and
(e) contribute to the transformation of the sector

The principles in table 12 underpinned development and selection of the management models:

Table 12: Principles Guiding the Development of the Future Management Models for DFFE Plantations

Principle	Motivation/ Attributes
No change in land use	• Opportunity to increase land under forestry is minimal in the country due to competing land uses and water availability constraints. It is important to retain the land under forestry and strive to plant the targeted 147 000 ha of new forestry areas. • New afforestation has diminished over the years as a result of shortage of suitable land, where expansion is allowed within the parameters of environmental and water policies.
Recognition of people's land rights	• The National Forest Act, 1998, (Act No. 84 of 1998). provides for the transfer of rights in State forests by way of licences, servitudes, lease agreements and agreements to sell forest produce. Section 22 (1) of the Act makes provision for the rights (a) to use, manage, control and operation of; and (b) the forest produce in, State forests, vest in the national executive of the Republic, represented by the Minister, despite any other law but subject to (i) this Act, (ii) an order of the Land Claims Court restoring or granting rights in a State forests to claimant in terms of the Restitution of Land Rights Act, 1994 and (iii) rights protected in terms of the Interim Protection of Informal Land Rights Act, 1996 Act No. 31 of 1996).
Define the role of DAFF	• White Paper on Sustainable Forest Development (1996) states that the State should withdraw from the management of plantation forestry, reposition itself as a forestry sector leader and a regulator of the sector.
Consultation	• The development and implementation of the models would be executed in consultation with relevant stakeholders, including affected and recipient communities, organised labour and government departments.
No one model is suitable for all the plantations	• The uniqueness of the plantations must be taken into consideration e.g. geographical locations and status of land claims

5. PROTECTION AND CONSERVATION OF FORESTS AND TREES

5.1 Protected trees

South Africa's natural forests and trees are protected under the National Forests Act, 1998 (Act No. 84 of 1998). Section 12 of the Act prohibits persons to cut, disturb, damage, destroy, remove or transport any protected trees or parts thereof without a valid permit. The Minister follows a normal procedure for declaring protected trees, which involves giving notice of the proposal to protect a tree or group of trees to invite comments within a specified period and consider them thereafter. As required by the Act, the Department of Forestry, Fisheries and the Environment publishes a list of all protected trees annually and by 2018, the department had declared at least 47 tree species as protected. The list of protected trees is published every year, although the Act is under review with the intention of publishing it once every five years and/ or when necessary. This is because, although attempts were made to declare some trees as protected over the last few years on an annual basis, the list remained unchanged. Trees are also protected under section 7 of the Act, which prohibits the destruction of indigenous trees in any natural forest without a licence. Generally, South Africa has a good biodiversity protection system. Protected areas have grown by 10% since 2994; in 2011 they accounted for 6.5% of the total territory. Biodiversity stewardship programmes enable protected area expansion at a fraction of the cost of traditional land acquisition approaches (South Africa Environmental Performance Review, 2013). These programmes support land owners to conserve important habitats using instruments such as tax deductions and other financial incentives. Other related legislation such as the NEMBA assist forestry in protection of biodiversity. South African biodiversity laws and policies such as the National Environmental Management: Biodiversity Act 2004, (Act No. 10 of 2004) provides for protection of the diversity of species and ecosystems, sustainable use of indigenous biological resources, and the fair and equitable sharing of benefits. The actions thereof are guided by the 2005 National Biodiversity Strategy and Action Plan, which establishes measurable objectives and targets, and assigns responsibility for their achievement.

5.2 Champion Trees of South Africa

The Department and its key stakeholders continued with the work of identifying and valuating trees, which were nominated for consideration to be listed as the Champion Trees of South Africa. Champion Trees selected and declared based on their attributes such as extraordinary diameter, height and crown spread, age of tree and cultural heritage. The main objective of the champion trees project is conserving individual trees or group of trees considered to be of national conservation importance as provided for by s12 of the national forests legislation. The Act requires that the Minister must, before making a declaration under section 12-

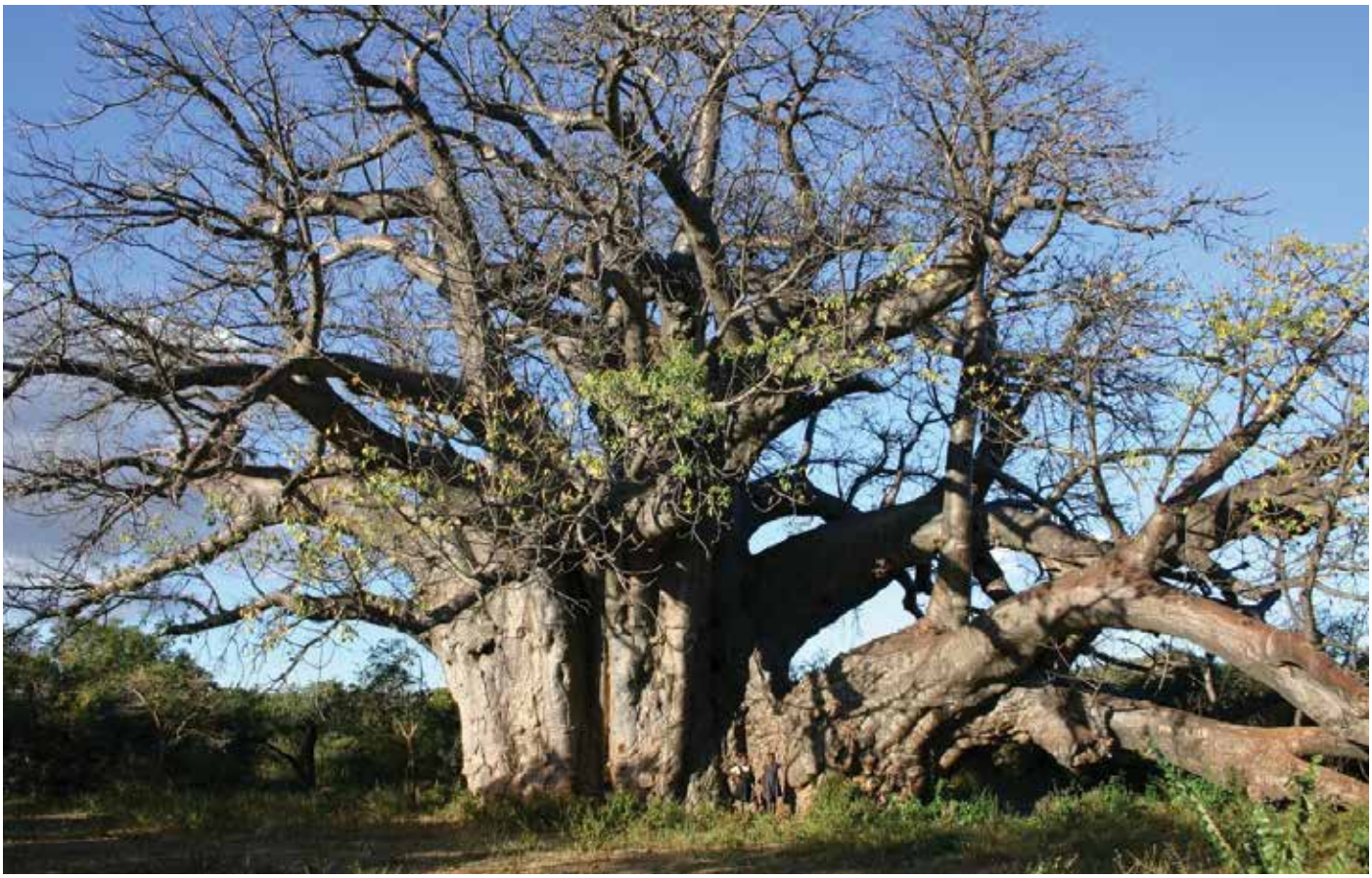
a) give notice of the proposal to protect a tree, group of trees, woodland or species and invite comments and objections within a specified period; and

b) consider the comments and objections received in response to the notice.

The notice is published in a government gazette (government newspaper) and in two newspapers circulating in, and is aired in two radio stations broadcasting in the vicinity. Eleven more trees were declared as Champion Trees from 2016-2019 bringing the total national number of Champion Trees to 93. The eleven trees that made it to the Champion Tree list include: *Sequoia sempervirens* (Californian redwood) in the Western Cape; *Ficus elastica* (rubber tree), Western Cape; *Ficus sur* (broom cluster fig), Limpopo; *Ficus burkeii* (common wild fig), Western Cape; *Eucalyptus viminalis* (manna gum tree), Free State; *Eucalyptis saligna (*Saligna gum), Western Cape; *Adansonia digitata* (baobab), Limpopo; *Corymbia ficifolia* (Red flowering gum), Western Cape; *Ficus anulata* (Anulata fig), Western Cape; *Ficus benghalensis* (Banyan tree), and *Eucalyptus camaldulensis* (River red gum), Western Cape.

Champion Trees, once listed as such, 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 National List of Champion Trees is attached as Annexure 1 of the report. Figure 20 is the Sagole baobab Champion tree in Limpopo.

FIGURE 20: The Sagole baobab Champion tree in Limpopo



Source: Department of Forestry, Fisheries and the Environment

The tallest Champion Tree in the country is the *Eucalyptus grandis* (rose gum) in Satico plantation near the Louis Creek in Mpumalanga at 72.3 m, followed by *Eucalyptus saligna* (saligna gum) in the Woodbush State forest, Magoebaskloof Limpopo at 71.0 m with *Eucalyptus paniculata* in Middelkop plantation, Magoebaskloof area, Limpopo occupying the third spot at the height of 70.0 m.

All the Champion Trees with the biggest stem diameter are found in the Limpopo Province. The Champion on stem diameter is *Adansonia digitata* (baobab) in the farm Glencoe, Hoedspruit in Limpopo at 15.9m, followed by *Adonsonia digitat*a (baobab) at sagole in Limpopo at 10.8 m with the third spot occupied by *Adonsonia digitata* (baobab) found in Platland near Modjadjiskloof in Limpopo at 10.7 m.

The tree with the biggest crown diameter in South Africa is *Ficus salicifolia* (Wonderboom fig) in the Wonderboom Nature Reserve, Tshwane (Pretoria), Gauteng at 56.0 m. The second spot is occupied by *Ficus macrophylla* (Moreton Bay fig) at 41.4 m. popularly known as The Zoo Giant, the tree is found in the National Zoological Garden in Pretoria, Gauteng. Standing with a crown diameter of 41.0 m, *Ficus macrophylla* (Moreton Bay fig) occupies the third position on the biggest crown diameter. It is found at the premises of the University of Cape Town, as a landmark tree at the campus.

5.3 Conservation of Forest Genetic Resources in South Africa

We depend on forests for our survival, from the air we breathe to the wood we use. They provide habitats for animals and livelihoods for humans; they further offer watershed protection, prevent soil erosion and mitigate climate change. For forests to continue to provide these goods and serves, they need to be conserved. Paradoxically, forests are over-exploited and their biodiversity continues to decline rapidly, while millions of people living around biodiversity-rich forests continue to suffer from poverty, inequality and unemployment. Many important but vulnerable tree species are not conserved in protected areas, and it is essential that viable populations be maintained in production forests.

Silviculture and harvesting of timber and have to consider long-term productivity. The availability of non-timber forest products (NTFPs) is threatened due to loss of forest cover. Research is needed to understand why accepted principles and practices such as sustainable forests management are either not implemented or do not produce the expected outcomes when applied. It is equally important to explore new management approaches at multiple scales to achieve sustainable production from forest and tree resources in order to benefit the poor peoples of the world.

There are three ways of conserving forest and tree resources, namely, (a) resorting to alternative sources of energy that are renewable, (b) recycling of unwanted and waste products and (c) by passing laws and abiding by it (including awareness raising on conservation of natural resources).

Conservation of forest genetic resources is particularly important for South Africa as a dry country and having a very small forest biome. South Africa has forest reserves, national parks and game reserves, which serve to conserve the forest genetic resources in situ. Forest genetic resources (FGR) in the country are conserved in three main forest types, namely: natural (indigenous) forests, woodlands and commercial plantations. The Natural forest is the smallest biome making up approximately 0,4% of the land surface area of the Republic. However, the biome contains valuable resources and has the highest biodiversity of any temperate forested region in the world. South Africa is home to more than 1 700 indigenous species of trees and shrubs. Some of the species are threatened due to their rarity as well as the pressure of commercial and subsistence use. The main tree species occurring in natural forests and have economical or medicinal value are:

a) Curtisia dentata,
b) Encephalartos villosus,
c) Ocotea bullata,
d) Podocarpus falcatus,
e) Podocarpus latifolius,
f) Cassipourea gerrardii,
g) Cryptocarya latifolia,
h) Prunus Africana,
i) Acacia erioloba, and
j) Combretum imberbe,

Savannah woodlands provide essential resources for sustaining the livelihoods of rural people, especially in the communal areas of South Africa. The main woodland tree species vary greatly from area to area, for there are different sets of indicator species for each of the woodland types. Generally, *Acacia erioloba* (Camel thorn) is very prominent in the Northern Cape Province, *Sclerocarya birrea* (marula) is prominent in parts of the Lowveld areas, *Adansonia digitata* (baobab) are prominent in the far northern bushveld, *Colophospermum mopane* (mopani) in some of the eastern and northern parts, *Acacia karroo* (Sweet thorn) occur in many of the tree stands in the central grassland areas, and *Acacia sieberiana* (Paperbark thorn) is common in the KwaZulu-Natal midland areas and foothills. In the thicket biome, *Portulacaria afra* (Spekboom) is famous as an indicator of good veld condition.

Commercial (plantations) forests were introduced in the country. The main tree species planted in the country are *Eucalyptus Grandis*, *Eucalyptus nitens*, *Eucalyptus macarthurii, Pinus patula, Pinus elliotti, Pinus radiata, Pinus taeda, Pinus pinaster,* Wattle *(Acacia mearnsii)* and Poplars *(Populus x canescens)* Generally, the total timber plantation area has been declining over the past few years due to a variety of reasons.

A network of protected areas is well established and serving to conserve a significant portion of the biodiversity and forest resources in South Africa. Another attempt made in the country through the Department is to protect or reserve some tree species. The Champion Trees Programme and the declaration of a list of protected tree species under the National Forests Act 1998 (Act No. 84 of 1998). are all aimed at conserving genetic resources. The species listed as protected include *Acacia erioloba* (camelthorn) and *Combretum imberbe* (leadwood), which are currently under pressure in some areas as they are used as for braaiwood. There are about 16 sacred forests in the country that do not only enjoy protection status bestowed upon all natural forests in the country but are also protected through a mechanism of beliefs, taboos, prohibitions and restrictions. Well-established ex-situ facilities exist in the country, but Government acknowledges the need for additional attention. These include an assortment of national botanical gardens, 403 formally protected areas, Herbaria, Arboreta, Seed centres and Nurseries.

Since the late 1800 century, forestry research has been conducted in South Africa through ex situ conservation, growth

studies and long-term improvement programmes to ensure sustainability of forest genetic resources. Tree improvement programmes have been the backbone of forestry research in the country since the 1947's. Forestry research is conducted by several institutions including the Council for Scientific and Industrial Research (CSIR), the Plant Protection Research Institute (PPRI – University of Pretoria), Institute for Commercial Forestry Research (ICFR), Institutions of Higher Learning and forestry companies. Most of the forestry companies have significant in-house capacity dedicated for research services. The larger forest growers, namely, SAPPI, MONDI, Komatiland Forests (KLF) and Hans Merensky have their own nurseries with their own seed and clone sources whereas private small nurseries serve co-operatives on a dedicated supplier arrangement.

In the area of education and training, there are currently a few programmes run in different universities and other tertiary institutions that deal with issues related to forest genetic resources. Although forestry training is offered at various institutions in South Africa, there is no formal training offered in tree genetics. However, aspects of tree genetics are offered through most genetics and plant science departments at South African universities. The main obstacle to providing the required education and training is the availability of qualified foresters with adequate forest genetic resource training or tree breeding expertise and passion. Strengthening forestry education on forest genetic resources should remain a priority. South Africa has passed a number of laws especially in the environmental and agricultural sector whose overall effect is to streamline and improve on biodiversity related issues including those relevant to forest genetic resources.

South Africa has a National Protected Areas Expansion Strategy, which is intended at expanding the protected areas for a variety of management objectives. Primarily, the strategy seeks to protect biodiversity to ensure that natural biomes or ecosystems continue to provide their functions for optimal well-being of life. The Department of Forestry, Fisheries and the Environment continued to support the strategy. In 2019, the Department identified and published for public comments, notices in the Government Gazette for the declaration of five forest nature reserves in Mpumalanga. Notices were being prepared for the final declaration of the forest nature reserves covering an area of 4 848 ha.

The Department promotes and encourages the notion of biodiversity offsets in cases whereby it is inevitable to avoid or prevent destruction of natural forests. Because of biodiversity offsets that were set as a condition of licences issued for the destruction of protected trees for land use change, three nature reserves were proclaimed since 2016 in similar veld types as those affected. These are two nature reserves of about 4 600 ha in total as the offset for the expansion of Sishen mine, some 30km away from the town of Kathu in the Northern Cape Province. Sishen mine is one of the largest open-pit mines producing iron ore in the world. Mining at Sishen is carried out as part of Anglo American's Kumba Iron ore operation, accounting for the majority of Kumba's iron ore production. The mining operation at Sishen dates back to 1953 with the first export in 1976. A 600 ha nature reserve was proclaimed in similar veld type as those affected by a solar farm at Kathu in the Northern Cape Province.

Control over the harvesting and clearance of protected trees and natural forests for land use change are exercised through a licensing system in South Africa. As a result, mitigation measures to reduce the impacts of land use change on biodiversity has been effected, as well as changes to layouts to avoid impacts on natural forests. About 420 hectares of natural forest areas were saved by having landuse layouts changed, since 2016.

Moreover, there are enforcement efforts by forest officers in all regions of the country, which are intended to limit illegal activities such as the cutting of protected trees or natural forests without a licence. The Department collaborates with other enforcement agencies and Departments to Joint enforcement operations on regular basis. These operations are aimed at curbing illegal activities, which threaten sustainability of natural resources, for example, sales of fuelwood from protected tree species, unlicensed sales of meat products and transportation of prohibited plant and animal products.

South Africa hosted the 17th Conference of the Parties of the UNCBD in Johannesburg from 24 September to 5 October 2017. The country submitted tree species proposed for CITES listing and on tree protection during this COP. This was an endeavour to ensure that threatened tree species receive the necessary protection on global level.

6. TREE COVER EXPANSION IN SOUTH AFRICA

Trees and forests play a major role in sustainable development. Global Forest Goal 1 of the SDGs encourages nations to reverse the loss of forest cover worldwide through SFM, including protection, afforestation and reforestation, and increase efforts to prevent forest degradation and contribute to the global effort of addressing climate change. Tree planting, within and outside forests is crucial in ensuring that the world's forest carbon stocks are maintained or enhanced and the effort further increase resilience of communities against climate change effects.

South Africa, through the Department of Forestry, Fisheries and the Environment implements a Greening Programme intended to promote tree planting, inclusive of indigenous tree species and fruit trees for food security enhancements. The country has one of the largest Global Environment Facility (GEF) programme portfolios, with projects across both mitigation and adaptation approaches, including the establishment of new renewable energy generation capacity; energy efficiency in households, public buildings, public transport systems and the commercial sector; support for protected areas and creating employment opportunities under communal land; and strengthening the capacity of various productive sectors in mainstreaming biodiversity. UNDP South Africa is also supporting the implementation of the Small Grants Programme (SGP) in the country, which is a programme of the Global Environment Facility that

invests in the development of underprivileged communities impacted by the effects of environmental degradation and climate change mitigation, and forests and trees have a role to play.

The Department and its stakeholders are implementing urban greening, which refers to public landscaping and urban forestry projects that create mutually beneficial relationships between city dwellers and their environments. Urban Greening efforts are linked to the Presidential One Million Trees Programme and the Arbor Month activities. Greening refers to an integrated approach to the planting, care and management of all vegetation in urban and rural areas, to secure multiple benefits for communities. Greening in the South African context takes place in towns, townships and informal settlements specifically because in the past the latter mentioned areas were disadvantaged in terms of planning for parks as well as tree planting in streets and open spaces.

Arbor Month is an annual campaign coordinated by the national Department of Forestry, Fisheries and the Environment in partnership with Total South Africa. The primary objective of the Arbor Campaign is to ensure greening initiatives in the country are implemented. Arbor Month started as Arbor day and it was celebrated for the first time in South Africa in 1983. The Day is a special one set aside throughout the world to raise awareness of trees and the important role that they play in our environment but South Africa has since elevated this to a month long campaign. The day is celebrated on different dates around the world, depending on local seasons and temperature. In South Africa, the day gained momentum, the initial 1-day event was then changed to seven days event called Arbor Week, and it was celebrated annually during heritage month from 1-7 September. The duration of the event was extended in the past few years to run for the whole month of September on yearly basis. Arbor Month is celebrated every year under various theme, which revolve around the relationship between people and trees and between trees and the environment. The Department drives the campaign with various partners all South Africans are encouraged to plant indigenous trees as a practical and symbolic gesture of sustainable environmental management. To ensure food security and nutrition, the planting ceremonies started to encompass planting of two or three tree species in each year. One tree species is indigenous and the other, a fruit tree spp. Arbor Month is very important as it affords government, the private sector, non-governmental and community based organisations and the general public to be involved in "greening" their areas.

To increase the intensity of tree planting in the country, particularly in Municipalities, the Department introduced a competition, Arbor City Awards, for municipalities to plant as many trees as possible. A panel is set up to evaluate performance of competing Municipalities and make recommendations to the Minister on the winning entrant for specific categories, namely, Metropolitan Municipality, Local Municipality and Rural Local Municipality levels.

7. AGROFORESTRY AND ITS BENEFITS

Agroforestry is the management and integration of trees, crops and/ or livestock on the same plot of land and can be an integral component of productive agriculture. It may include existing native forests and forests established by landholders. Agroforestry is particularly important and plays a significant role in ensuring food security and nutrition across nations. The system ensures more efficient recycling of nutrients by deep-rooted trees on the site. It offers better protection of ecological systems including, the reduction of surface run-off, nutrient leaching and soil erosion through impending effect of tree roots and stems of these processes.

Agroforestry systems are particularly beneficial as they can provide a range of environmental services, for example, they can improve soil fertility, protect crops and livestock from wind, restore degraded lands, improve water conservation, limit pests and prevent soil erosion. Moreover, the purpose of agroforestry systems is to keep nutrients and soil from contaminating the water. Windbreaks reduce wind velocity over and around crops. This increases yields through reduced drying of the crop and/or by preventing the crop from toppling in strong wind gusts

7.1 Agroforestry in South Africa

The Department of Forestry, Fisheries and the Environment decided in the past few years to explore intensification of the concept of Agroforestry in the country. This was largely the continuation of existing pilot studies with amendments where new systems were introduced, especially in Mpumalanga. The Agroforestry pilots have been established in the Provinces of Limpopo and Mpumalanga.

7.1.1 Limpopo Province Projects

There are three Agroforestry projects, which were implemented in the Limpopo Province. These are the Bana Ba Makgea in Sekhukhune District Municipality, Dimani Village Project in Thohoyandou and the JMD Keet Project in Tzaneen.

7.1.1.1 "Bana ba Makgea Project", Sekhukhune District Municipality

The Agroforestry system called "Bana Ba Makgea Project" was initiated at the Leeukraal village, Sekhukhune District in Limpopo. The project is an initiative linked to land care and at Peltoforum africanum trees were introduced to stabilise soils in the area. Previously no crops were introduced in between the trees. This allowed the trees to be well established before the crop were introduced. Beans and maize were introduced in between the trees through a system of intercropping and

five local farmers are the beneficiaries of the project. The number of beneficiaries in the project amounts

A fire destroyed a number of trees that were planted in the past few years. Fifty (50) local jobs were created at the project to replace the approximately 200 trees that were destroyed by the fires. The employment were created under the EPWP. The Department provided extension service work to the farmers thereby advising them on the creation of firebreaks to protect their crops from external fires.

The DFFE and the Limpopo Department of Agriculture and Rural Development (LDARD) support the project. The University of Limpopo and the Agricultural Research Council (ARC) are supporting the project with research to identify possible opportunities.

7.1.1.2 "Dimani Village Project", Thohoyandou

The Dimani Agroforestry pilot project is a continuation from the previous year (2018). Initially, groundnuts and vegetables were intercropped with Moringa trees. However, the intercropping of Moringa trees with groundnuts proved not successful. Sequential planting was subsequently recommended and implemented for the year 2019. Intercropping with vegetables continued as it proved to be successful. The Department donated some 216 trees to be planted in the project wheras the ARC distributed vegetable seedlings. It was anticipated that as the Moringa trees grow, the project members will be assisted with various options of accessing the markets, because Moringa is a tree that has been proven to have quite a number of benefits ranging from medicinal products as well as food and other uses. At the point in time, the Dimani project has 39 beneficiaries and 80 job opportunities were created in 2019 through the EPWP. The DFFE, LDARD, University of Limpopo and the ARC project provide support to the project.

7.1.1.3 JDM Keet Plantation Project, Tzaneen

The project is implemented in partnership with the SAFCOL. The trial was introduced in 2019 to test intercropping of Eucalyptus trees with maize, sweet potatoes and ground nuts. It has 10 beneficiaries who are local women from the surrounding village. The Project created 36 jobs through the Expanded Public Works Programme and it enjoys support from the DFFE, SAFCOL, student researchers linked to the ARC and the University of Pretoria.

7.1.2 Mpumalanga Province Projects

The Mpumalanga Province also has three Agroforestry Projects namely MTO Plantations (White River) and two Jabulani Agri-village Projects, in the Mkhondo Local Municipality one dealing with intercropping and the other with animals.

7.1.2.1 MTO Plantations, White River

The project, involving the intercropping of Eucalyptus trees with groundnuts is a continuation of a previous trial. There are about ten beneficiaries from the villages around the Mountain to Ocean (MTO) plantations in the White River area of Mpumalanga Province. The initiative created 36 jobs through the Expanded Public Works Programme. The Department, MTO, and the ARC support the trial. Students from various Institutions of Higher Learning were involved during establishment of the project.

7.1.2.2 Jabulani Agri-village Project 1, Mkhondo Local Municipality

This Pilot Project is an Intercropping initiative to empower the Jabulani Agri-village Communal Property Association (CPA), which has an estimated 110 beneficiaries. The plan was to intercrop Eucalyptus trees with a suitable crop for the area, in this case, dry beans. The Department of Forestry, fisheries and the Environment supplied seedlings of Eucalyptus trees to the CPA. The total area earmarked for the purpose 13 ha. The intention is plant the trees first and allow them to grow before the beans are integrated at a later stage when climatic conditions are conducive for the system.

The DFFE, Mondi Forestry Company Limited, Department of Agriculture, Rural Development, Land and Environmental Affairs (DARDLEA) support the project. The Agricultural Research Council assisted in identifying the suitable crop for intercropping for this project.

7.1.2.3 Jabulani Agri-Village Project 2, Mkhondo Local Municipality

This Project is one of the complex systems of Agroforestry. It involves integrating natural pastures in plantations with animals. Even in countries where it is being practised fully, there are challenges with social dynamics. DARDLEA (pasture scientists), Mondi Forests, DFFE and the ARC support the trial. There is about 100 ha of grazing land that has plantations and grassland. About 230 animals are allowed to graze at the site. The pasture scientists will undertake veld condition assessments periodically to assess whether there is no deterioration of the veld condition. The ARC on the other hand will undertake soil sampling of the project area during 2020 and foresters will assist with the assessments of the forest condition.

The country is exploring various Agroforestry systems with the pilots carried out in these two provinces to establish the feasibility of rolling out these across the country. So far, the following lessons have been learnt with the pilots include:

(a) Agroforestry promotes and enhances Participatory Forest Management (Joint Forestry Management with communities living in and around forests);
(b) Agroforestry provides a platform for the landless grow their crops, in the compartments where planting is feasible;
(c) threats such as uncontrolled veld and forest fires are minimised;
(d) the system benefits land owners by reducing costs for operations such as weeding;
(e) minimises or eliminates issues of competing land uses between forestry and agriculture;
(f) Agroforestry offers opportunities for diversification as some trees can be used as fodder during droughts;
(g) it addresses the needs of small growers by ensuring household food security and nutrition; and
(h) provides opportunities for small enterprises to generate income in the short-term while waiting for final timber products.

The pilots have been implemented in a way that local communities are employed and provided with the incentives through the EPWP. However, there is a risk of unintended consequences of promoting the system where there could be large conversion of forestry land to agriculture.

8. FORESTS BENEFITS AND USES

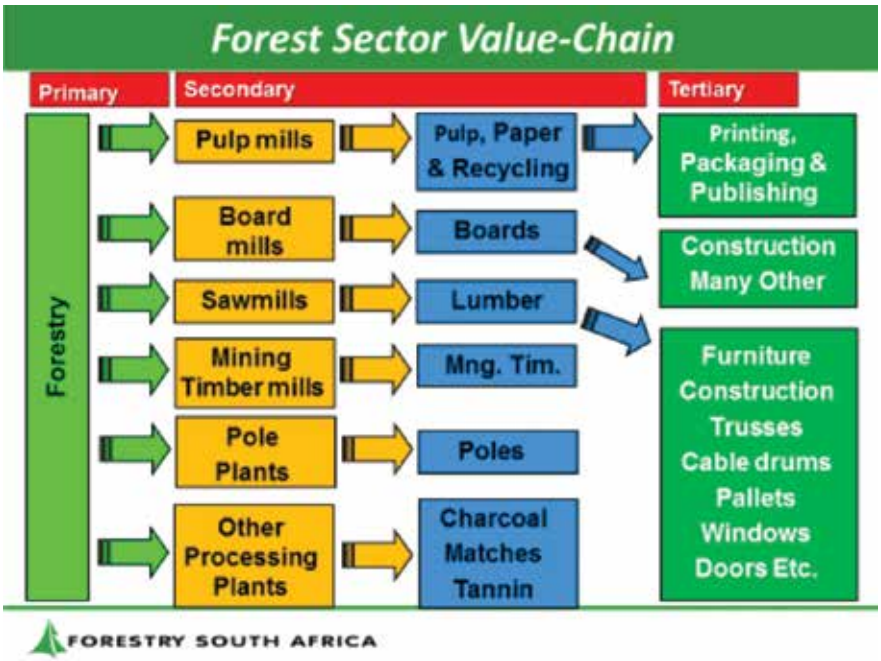
The world's forests play a major role in ensuring growth and development. Forest resources play a large role in the supply of basic needs to a number of poor people. Firewood, building poles, medicinal plants, and edible fruits sourced from plantations are all critical to the livelihoods of the peoples of the World, the rural poor in particular. The forest sector in South Africa, particularly commercial plantations remains well positioned to increase its contribution to South Africa's development goals. Stable and healthy forests play a critical role in mitigating the effects of climate change. They sequestrate (store) carbon during the photosynthesis process. Restoration of the 350 million hectares of degraded land as per the Paris Agreement has the potential to sequestrate up to 1.7 gigatonnes of carbon dioxide equivalent, annually. Forests further, provide clean water and air and provide space for cultural and recreational activities and income.

Globally, 1.6 billion people (nearly 25% of the world's population) rely on forests for their livelihood, many of whom are the world's poorest (SOFO, 2018). Forests provide US$ 75-100 billion per year in goods and services such as clean water and healthy soils. They offer habitats for plants and animals and are home to 80% of the world's terrestrial biodiversity. In South Africa, although

8.1 Socio-economic Contribution of forests to South Africa's development

Consumption benefits relating to energy, shelter, food security and health are recognised as more significant socio-economic benefits, although it is also more difficult to obtain the relevant data (SOFO, 2014). Despite frequent references to social or socio-economic benefits in many disciplines, there is no clear and commonly agreed definition of what exactly this means, universally. For example, these benefits no doubt include some economic benefits, but they may also include more fundamental social benefits, such as: social justice; the preservation of culture; social harmony; freedom; and public security (SOFO, 2014). Socio-economic benefits from forests in SOFO, 2014 are defined as "the basic human needs and improvements in quality of life (higher order needs) that are satisfied by the consumption of goods and services from forests and trees or are supported indirectly by income and employment in the forest sector" (SOFO, 2014). Forestry, and its value chains in South Africa, plays a significant role in the economy of the Republic. It creates the much-needed jobs and contributes towards poverty alleviation and mitigating hunger. Forests serve as a social buffer by providing food to the needy, particularly the poor people residing adjacent to the resources. Figure 21 shows the main value chains that play a role directly and indirectly in the economy of the country and the upliftment of the living conditions of its people.

FIGURE 21: Schematic representation of the Forest Sector Value-Chain in South Africa



Source: Forestry South Africa

8.1.1 Forestry Employment

The Forests sub-sector directly employs 58 900 people (2018). In 2018, the number of people employed in the forests sub-sector was 58 900, a decrease of 900 compared to the 59 800 recorded in 2017. The total number of people employed directly in forestry and its value chain stood at 105 600 in 2018(Table 13). The forestry sector (the forest sub-sector and its value chains directly employed 111 200 persons in 2017 and this number decimated to 105 600 in 2018 equivalent to a loss of more than 11 700 jobs. Forty three thousand and five hundred (43 500) people are indirectly employed in forestry (Table 13) with 10 000 people involved in other forestry related sectors, making the number of people employed in the sector, directly and indirectly to 149 100. Globally, employment in forestry and logging seems likely to decline as productivity increases in most parts of the world. This decline is unlikely to occur in countries with high woodfuel use, where labour-use efficiency is unlikely to change in the foreseeable future (FRA: 2015). In 2014, the formal sector employed some 13.2 million people across the world and at least another 41 million were employed in the informal sector. In the Americas, forest sector employment is more modest, with about 1.1 million employees in North America and 1.3 million in Latin America and the Caribbean (SOFO, 2014).

Table 13: Forestry Sector Employment in RSA, 2018

Forest Sector Employment – RSA 2018

Sub-sector	No. of employees		Total Employment
	Direct	Indirect	
Forestry	58 900	27 000	85 900
Pulp and Paper	11 000	9 000	20 000
Sawmilling	18 000	7 500	25 500
Timber Board	5 500	n/a	5 500
Mining Timber	2 200	n/a	2 200
Other	10 000	n/a	10 000
Total	**105 600**	**43 500**	**149 100**

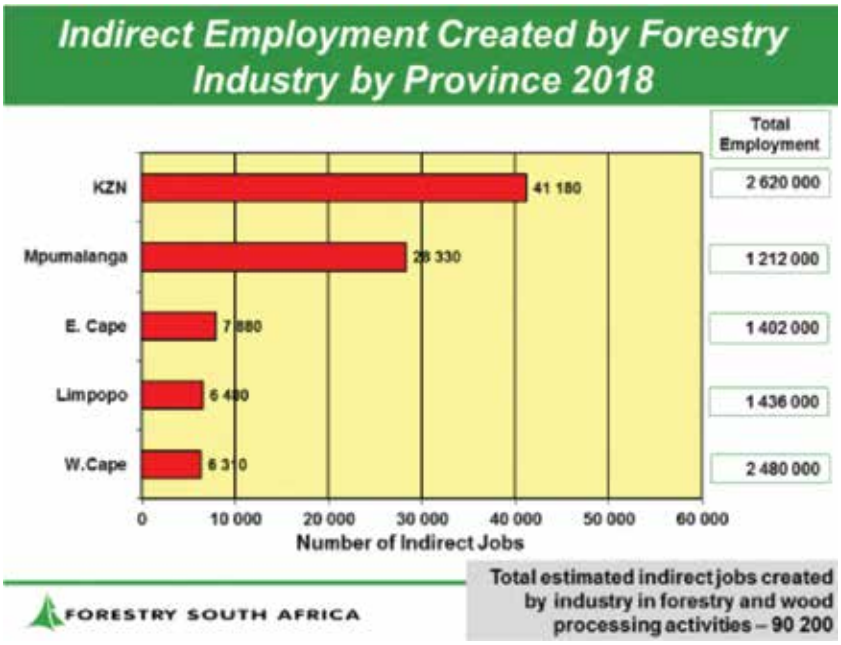
Direct jobs in Forestry = 58 900
Indirect jobs in Forestry (149 100 less 58 900) = 90 200

FORESTRY SOUTH AFRICA

Source: Forestry South Africa

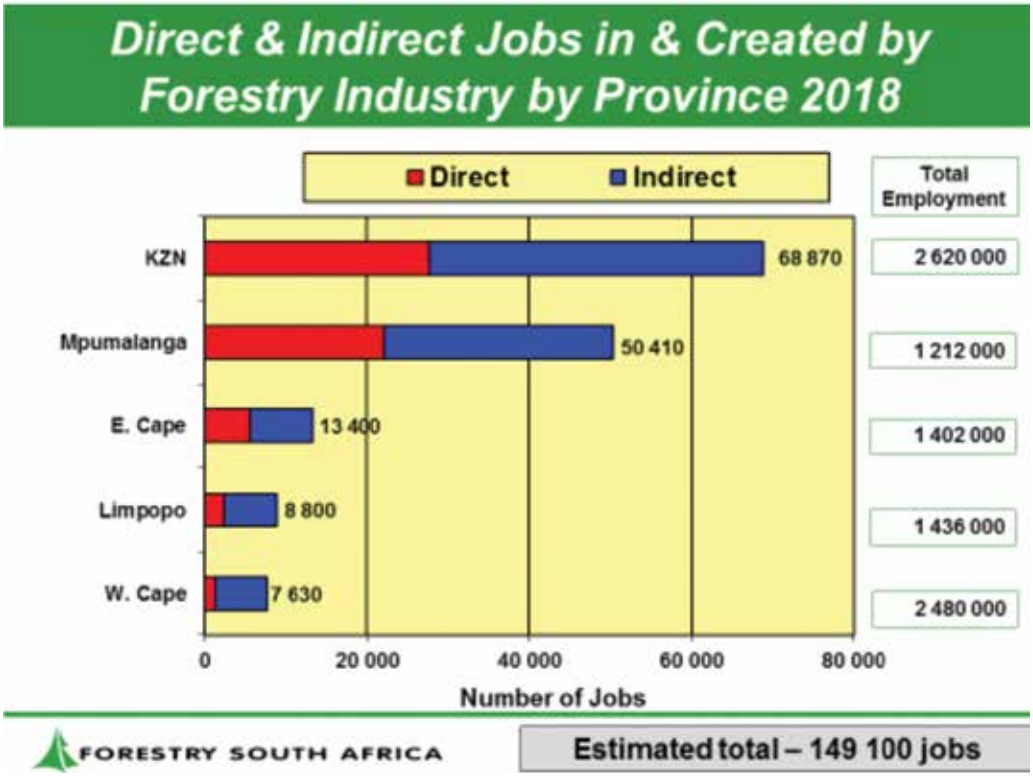
The number of indirect employment per Province is shown in figure 22. The number of indirect jobs created by industries in forestry and wood processing activities was 90 200. The number of jobs created in and by forestry industries was 149 000 (figure 23).

FIGURE 22: Indirectly Employment Created by Forestry Industry by Province, 2018



Source: Forestry South Africa

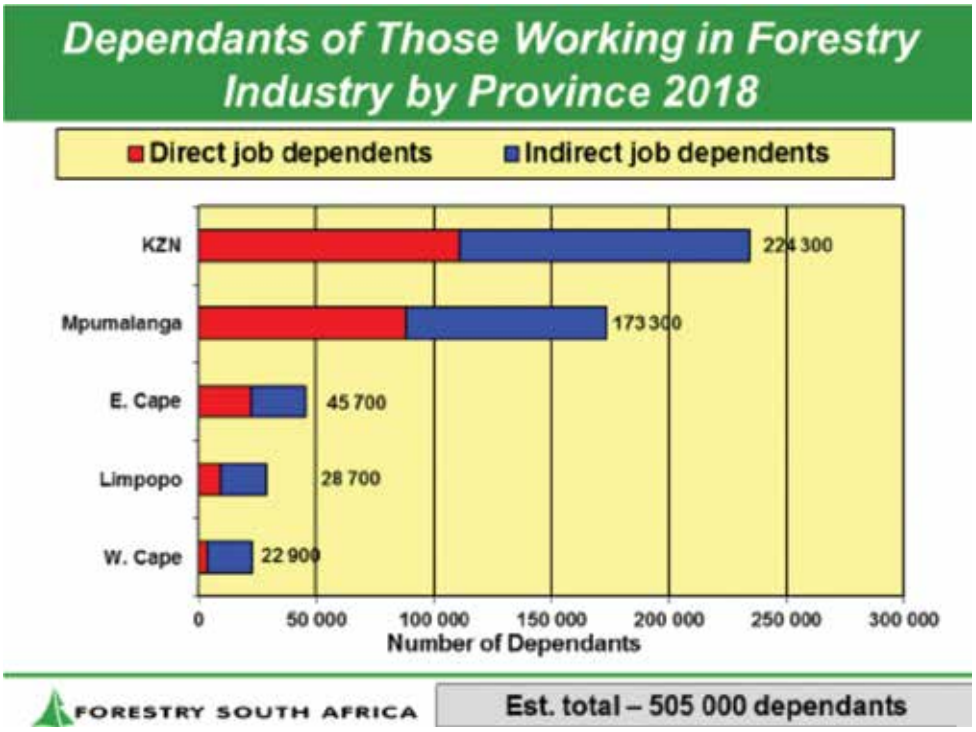
FIGURE 23: Direct and Indirect jobs in and created by forestry industry by Province, 2018



Source: Forestry South Africa

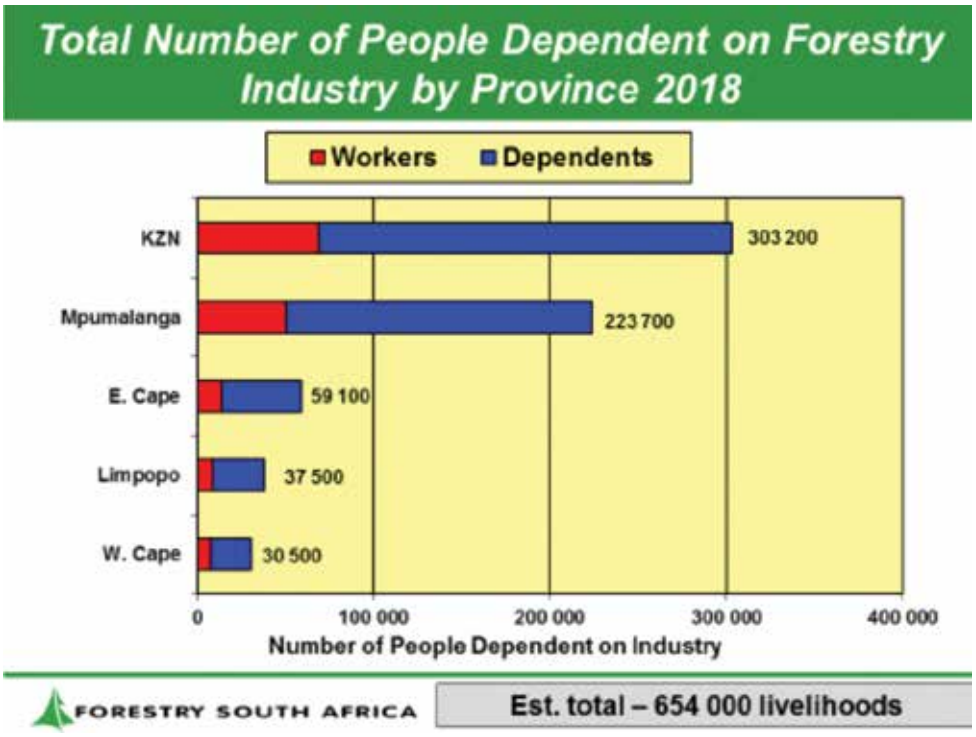
Over 505 000 people (figure 24) are dependants of those working in the commercial forestry industries per Province. This signifies the importance forestry plays in the lives of many South Africans. The total number of people dependant on commercial forest industry for their livelihoods is 654 000 (figure 25). The number could be more if woodlands and indigenous forests are included.

FIGURE 24: Dependants of Forestry Workers per Province



Source: Forestry South Africa

FIGURE 25: Total Number of People Dependent on the Forestry Industry by Province

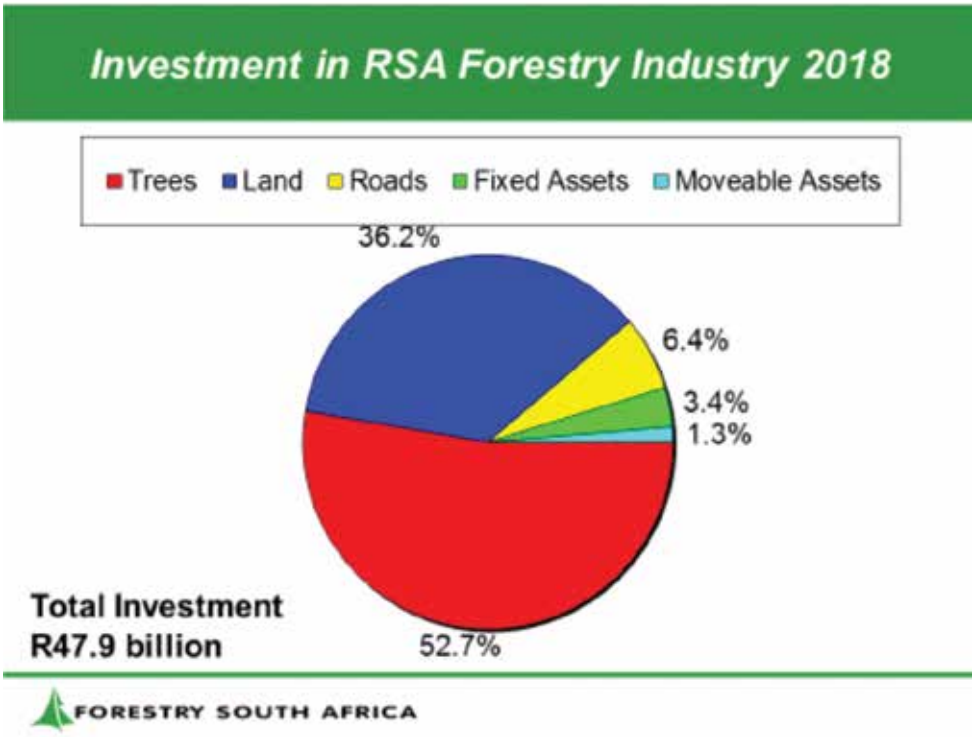


Source: Forestry South Africa

8.1.2 Investment and GDP

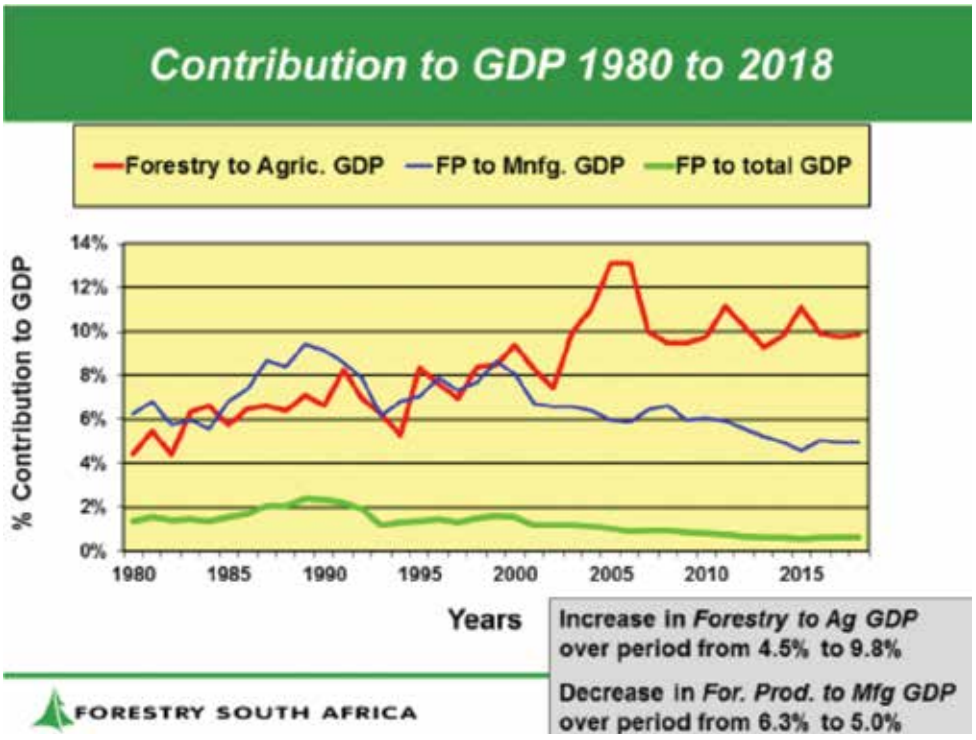
The total investment in Forestry in 2018 was R47.9billion (figure 26) with 52.7% of this going to trees and 32.6% directed to land. Roads accounted for 6.4% of the investment, 3.4 % to fixed assets and 1.3% to moveable assets. Forestry contribution to GDP was 0.9% in 2018 and 2017 compared to 0.6% recorded in 2016. Figure 27 indicates Forestry contribution to GDP over the past 38 years (1980-2018). The average contribution to GDP over the period varied from 4.5% to 9.8%. There has been a steady decrease from forestry production to manufacturing over the period from 6.3% to 5.0%

FIGURE 26: Forestry Industry Investment in RSA, 2018



Source: Forestry South Africa

FIGURE 27: Forestry Contribution to GDP 1980 to 2018

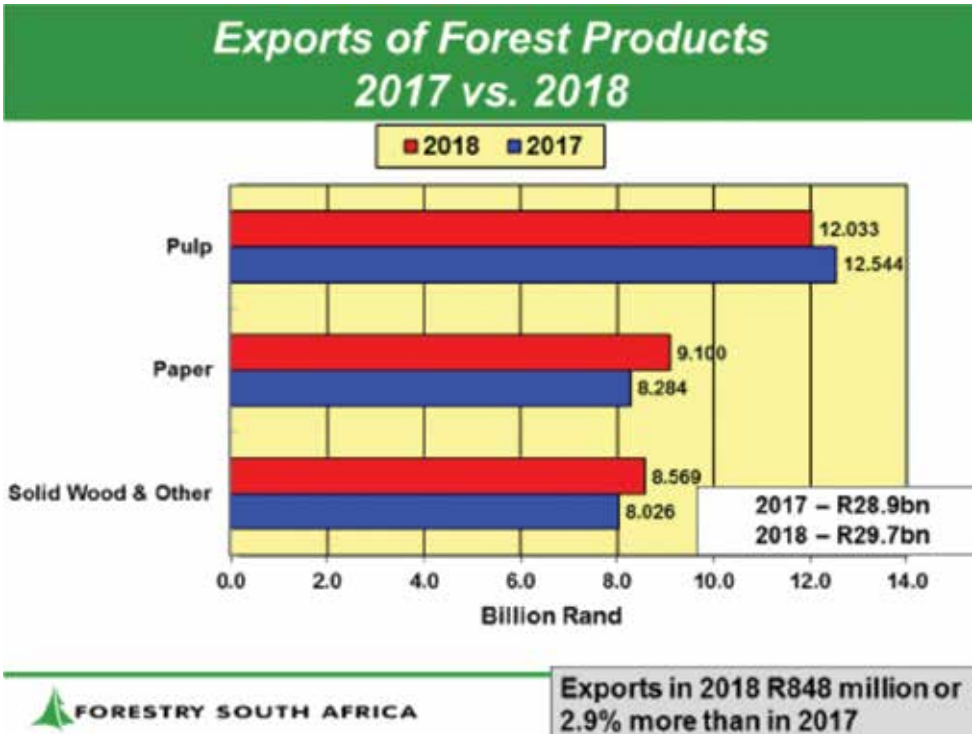


Source: Forestry South Africa

9. FORESTRY TRADE

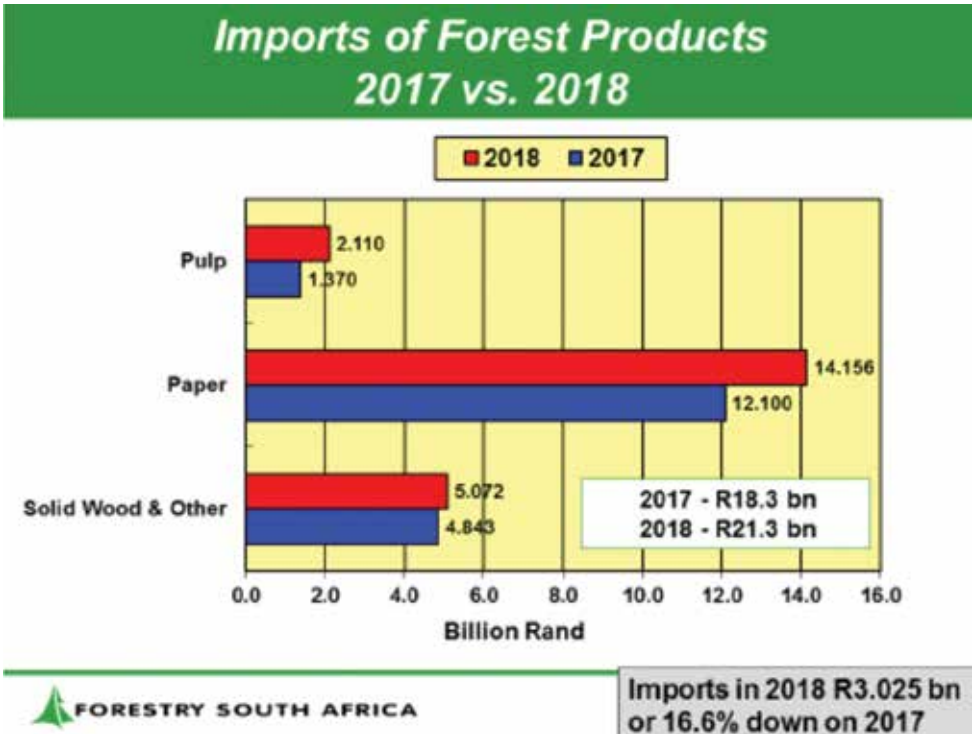
Forestry trade constantly posted a massive surplus over the period (2016-2018). Conversely, South Africa recorded trade deficit on annual basis in the overall trade balance since 2012. Forests products export went up to 848 million in 2018, 2.9% more than in 2017 (figure 28). In the contrary, imports of forest products decreased to R 3.025 billion (bn) or 16.6% in 2017 (figure 29). This made South Africa a net exporter of forests products. This resulted into the positive trade balance in 2018 of R8.4 bn as exports were valued at R29.7 bn with imports at R21.3 bn (figure 30). Figures 31 and 32 depict South Africa's trade balance in forest products from 1992 to 2018 in nominal and real terms, respectively.

FIGURE 28: Exports of forest products 2017 versus 2018



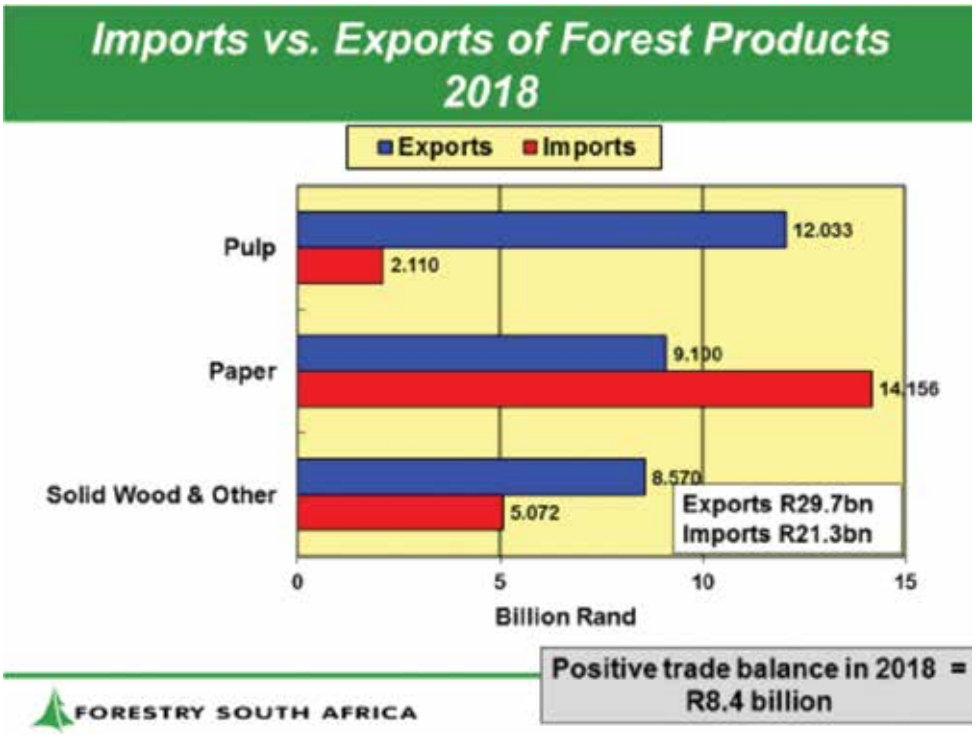
Source: Forestry South Africa

FIGURE 29: Imports of forest products 2017 versus 2018



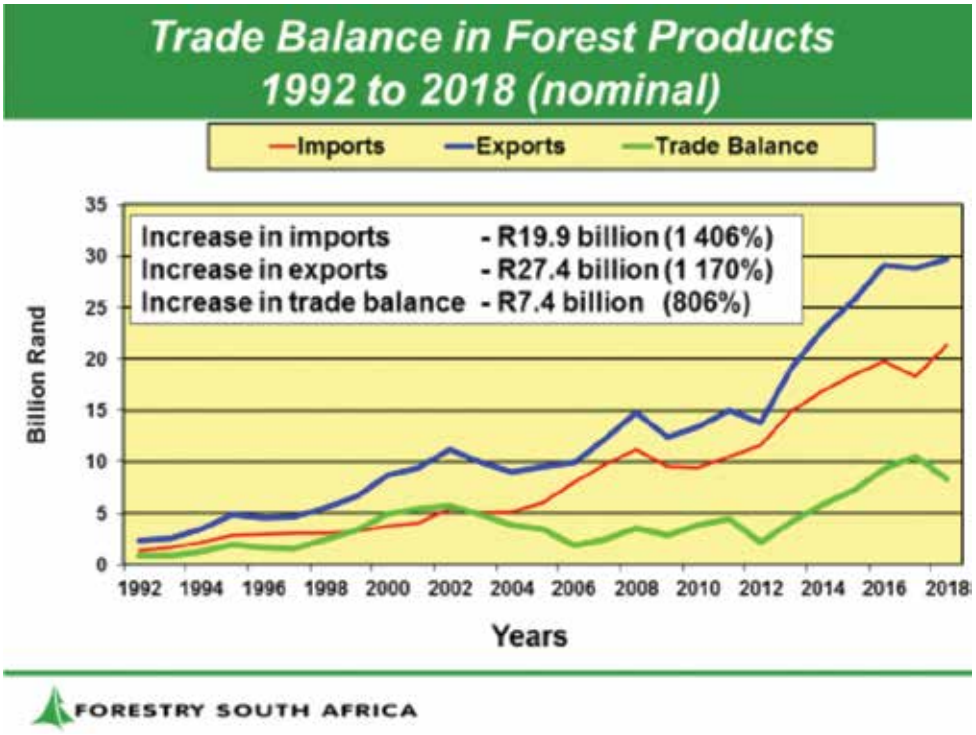
Source: Forestry South Africa

FIGURE 30: Imports versus Exports of forest products (2018)



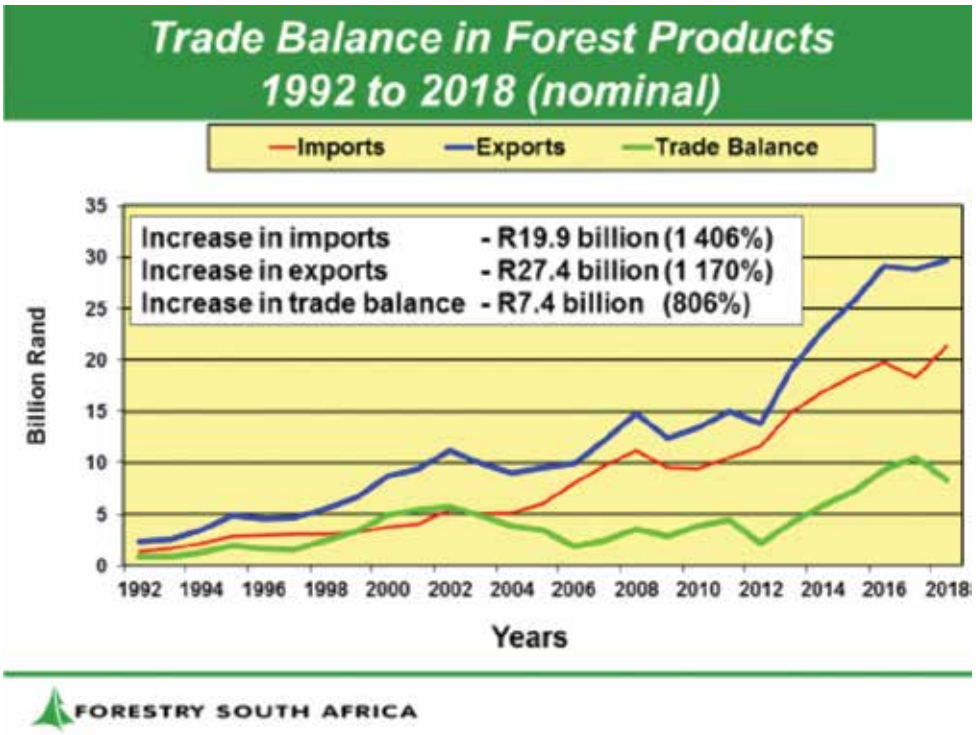
Source: Forestry South Africa

FIGURE 31: Trade Balance in forest products 1992 to 2018 (nominal)



Source: Forestry South Africa

FIGURE 32: Trade Balance in forest products 1992 to 2018 (real)



Source: Forestry South Africa

9.1 Forestry Products Trading Partners

Table 14 indicates the top ten (10) countries, which traded with South Africa in the 2017/18 financial year, exports versus imports (outside the Africa region). Table 15 on the other hand indicates the top 10 trading partners in the African continent, which the country exported to and imported from, a variety of timber products. Brazil was the country to which most of the South African timber products were exported, followed by Sweden with less products exported to Poland.

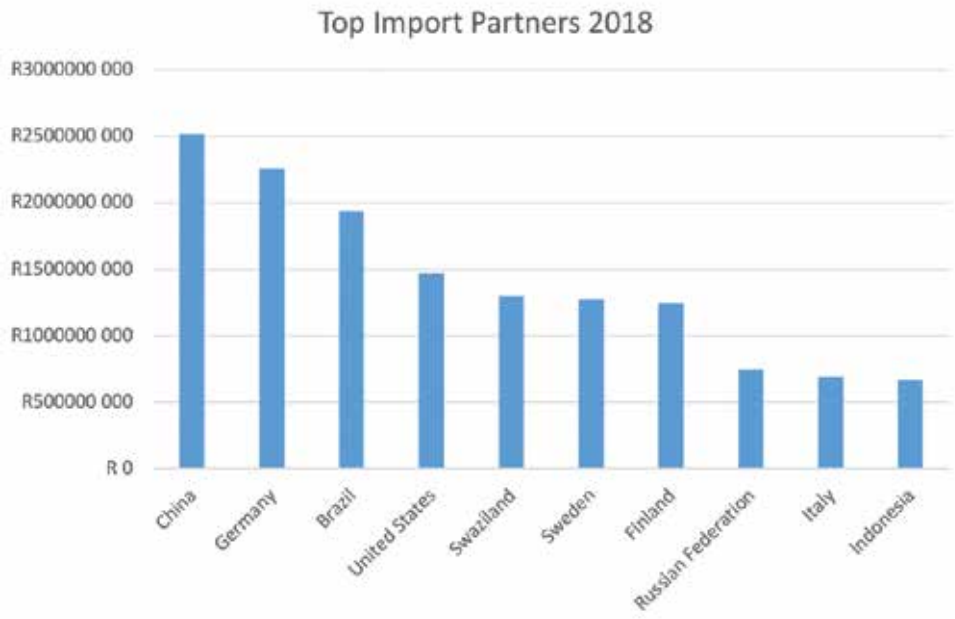
Table 14: Top 10 Export and Import Countries on Forestry Products, 2018

No.	Top 10 Export countries	Value of products (R)		Top 10 Import Countries	Value of Products (R)
01	Brazil	R62 930 618,00		China	R2 518 866 745
02	Sweden	R53 123 049,00		Germany	R2 261 458 066
03	China	R49 858 008,00		Brazil	R1 940 017 051
04	Germany	R45 850 851,00		United States	R1 468 981 928
05	United States	R44 535 658,00		Swaziland	R1 299 456 748
06	Russian Federation	R37 235 329,00		Sweden	R1 272 681 256
07	Canada	R30 195 378,00		Finland	R1 244 124 290
08	Poland	R20 018 176,00		Russian Federation	R744 128 013
09	South Korea	R12 985 477,00		Italy	R690 064 173
10	India	R12 313 037,00		Indonesia	R667 195 839
	Grand total	**R 369 045 581**		**Grand total**	**R 14 106 974 109**

Source: DFFE, SARS data

South Africa received most of its timber products from the Peoples republic of China as shown in figure 33. Germany has also demonstrated to play an important trading partner for South Africa, having been the second top country from which the country received timber products.

FIGURE 33: Top Forestry Products Import Partners (outside Africa), 2018



Source: DFFE, SARS data

In the African continent, Zamiba and Swaziland were the most important trade partners in that the country exported to and imported most of its timber products, respectively (table 15).

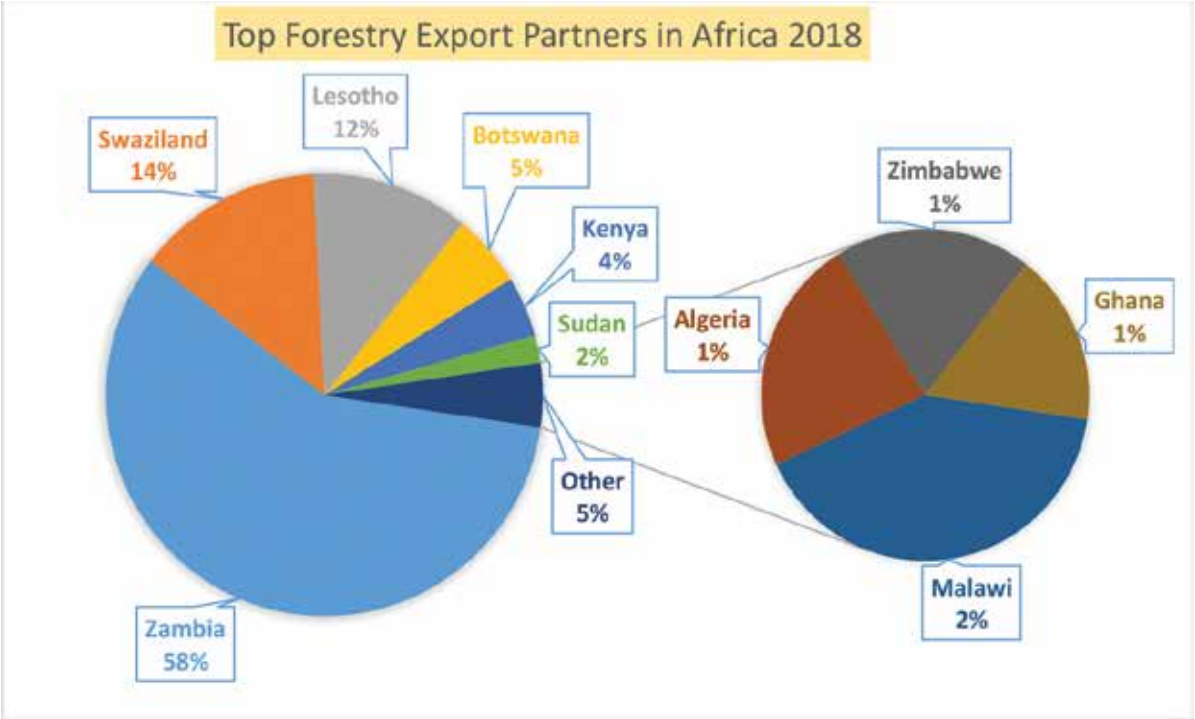
Table 15: Top 10 Export and Import Countries in Africa, 2018

No.	Top 10 Export countries	Value of products (R)		Top 10 Import Countries	Value of Products (R)
01	Zambia	R2 001 895		Swaziland	R1 299 456 748
02	Swaziland	R475 857		Namibia	R200 494 191
03	Lesotho	R403 928		Lesotho	R76 104 511
04	Botswana	R184 399		Gabon	R66 366 199
05	Kenya	R151 945		Zimbabwe	R45 882 746
06	Sudan	R69 243		Botswana	R39 061 179
07	Malawi	R65 640		Tunisia	R31 974 363
08	Algeria	R37 135		Malawi	R31 957 954
09	Zimbabwe	R31 210		Mozambique	R23 051 282
10	Ghana	R27 062		Ghana	R19 983 624
Total Value (Exports)		**R 3 448 314**		**Total Value (Imports)**	**R 1 834 332 797**

Source: DFFE, SARS data

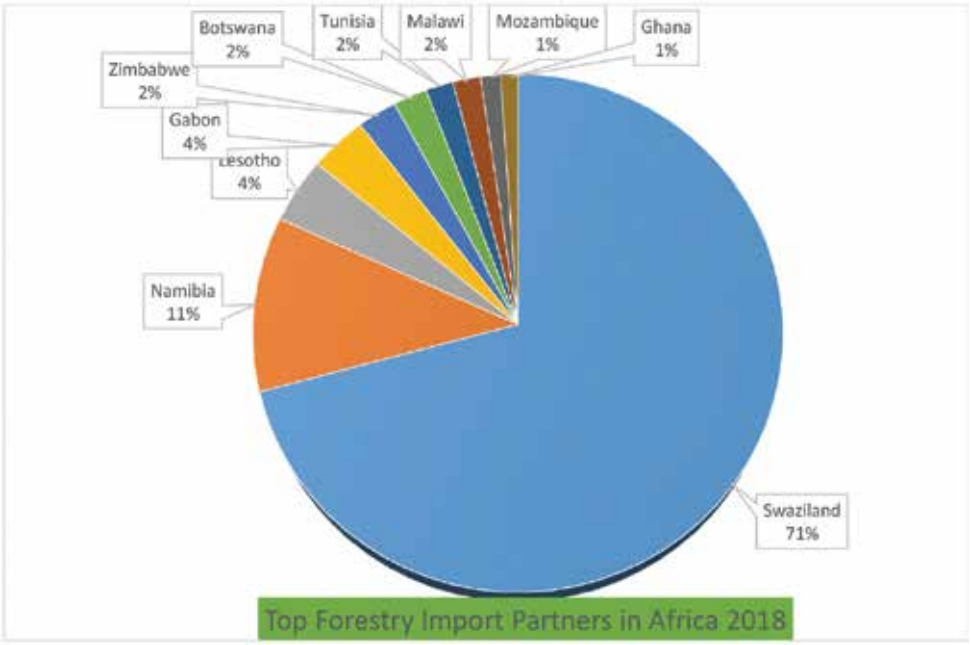
Figure 34 shows the schematic representation of the country's top 10 export partners in the continent of Africa. Most of the timber products from South Africa went to Zambia (58%), in 2018 (figure 34). Swaziland proved to be the country from which South Africa received most of its timber products at 71% (figure 35).

FIGURE 34: Top Forestry Products Export Partners in Africa, 2018



Source: DFFE, SARS data

FIGURE 35: Top Forestry Products Import Partners in Africa, 2018



Source: DFFE, SARS data

South Africa continued its trade relations on timber products with the BRIC countries during the period under review. Most the timber products were sent to Brazil with the total value of R62 930 618 (table 16 and figure 36). India imported from South Africa the lowest quantity of products at the value of R 12 313 037. South Africa imported more products from the Peoples republic of China, valued at R 2 518 866 745 followed by Brazil at R 1 940 017 051.

Table 16: Exports and Imports of timber products to and from BRIC Countries, 2018

Country	Exports Value (R)	Imports value (R)	Variance/ Net Value (R)
China	R49 858 008	R2 518 866 745	R2 469 008 737
Brazil	R62 930 618	R1 940 017 051	R1 877 086 433
Russian Federation	R37 235 329	R744 128 013	R706 892 684
India	R12 313 037	R550 654 511	R538 341 474
Grand total	**R162 336 992**	**R5 753 666 320**	**R5 591 329 328**

Source: DFFE, SARS data

FIGURE 36: South Africa trade with the BRIC Countries, 2018

Source: DFFE, SARS data

South Africa was a net exporter of timber products in 2018. Products to the value of R 28 873 185 238 while the imports value was R 21 299 940 528 (table 16), signifying the role forestry plays in the regional, continental and global economy.

Table 16: Total Forestry Products Trade

Total Forestry Trade in Billion Rands	Column Labels			Grand Total
	44 (wood)	**47 (Pulp)**	**48 (Paper)**	
Exports	R7 740 266 384	R12 033 035 065	R9 099 883 789	R28 873 185 238
Imports	R5 033 881 484	R2 110 417 242	R14 155 641 802	R21 299 940 528

10. FORESTS AND FOOD SECURITY

According to the IUFR world series 33, 14-23, 2015, as the global population is estimated to reach over 9 billion in 2050, issues of food security and nutrition have been dominating academic and policy debates, especially in relation to the global development agenda beyond 2015. The SDG 2030 was developed and adopted as a result. A total of 801 million people were undernourished worldwide at the time, even though then trend appears to be slowly reversing (FAO et al., 2014). Despite impressive productivity, there is growing evidence that conventional agricultural strategies fall short of eliminating global hunger, result in unbalanced diets that lack nutritional diversity, enhance exposure of the most vulnerable groups to volatile food prices, and fail to recognise the long-term ecological consequences of intensified agricultural systems (FAO, 2013; FAO et al., 2013). In parallel, there is considerable evidence that suggests that forests and tree-based systems contribute in complex ways to the livelihoods of rural families. Farming households in the vicinity of forests often combine their agricultural production with collection of forest produce, and make use of a multitude of such products as feeds and foods, the so called, Agro-forestry system. South Africa is fully aware of the important role played by forests and trees outside the forests and the people's dependency on forests for food security and nutrition. Through the Department of Forestry, Fisheries and the Environment, South Africa has developed an Agro-forestry strategy, which is being piloted in the Provinces of Limpopo and Mpumalanga. Forests continue to provide nutritionally balanced diets to peoples of the world; woodfuel for cooking; greater control over food consumption choices, particularly during lean seasons and periods of vulnerability, particularly for marginalised groups; and deliver a broad set of ecosystem services, which enhance crop and animal production. Globally, it is estimated that approximately 1.2-1.5 billion people, just under 20% of the global population are forest dependent (Chao 2012, cited by FAO, 2014a; Agrawal et al, 2013). In South Africa, it is estimated that approximately 800 000 people are involved in the craft industry which uses timber from woodlands while thousands more depend on all types of forest for their livelihoods. The figure may be even more, considering that the population has been growing over the years. Forests and trees directly provide a variety of healthy foods including fruits, leafy vegetables, nuts, seeds, and edible oils than can diversify diets and address seasonal food and nutritional shortfalls.

Forests are also sources of a wider range of edible plants and fungi, as well as bushmeat, fish and edible insects.

11. FORESTS AND CLIMATE CHANGE IN SOUTH AFRICA

South Africa's forests, like many in the world play an important role as storehouses of carbon. Our forests play a critical in influencing the earth's climate. Forest plants and soils drive the global carbon cycle by sequestrating carbon dioxide through photosynthesis and releasing it through respiration. Stable and healthy forests protect against natural hazards, play a role in the provision of clean water and air, offer habitats to plants and animals and are places of recreation and cultural activities. Forests help stabilise the climate, they regulate ecosystems, protect biodiversity, play an integral part in the carbon cycle, support livelihoods and can help drive growth and development. Studies have revealed that halting the loss and degradation of natural systems and promoting their restoration have the potential to contribute over one-third of the total climate change mitigation by 2030, which is the objective of the Paris Agreement.

South Africa has recognised that forests are one of the important solutions to addressing the effects of climate. Approximately 2.6 billion tonnes of carbon dioxide, one-third of the carbon dioxide released from burning fossil fuels. Is absorbed by forests every year. The role of forests in climate change is two-fold; they act as both a cause and a solution for the greenhouse gas emissions. Approximately 25% of global emissions come from the land sector, the second largest source of greenhouse gas emissions after the energy sector. About half of these (5-10 GT Co2+e annually) comes from deforestation and forest degradation. Studies have further shown that restoring some 350 million ha of degraded land in line with the Bonn Challenge could sequestrate up to 1.7 gigatonnes of carbon dioxide equivalent annually.

The Republic of South Africa is exploring the feasibility of implementing the Reducing emissions from deforestation and forest degradation (REDD+) for the country and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries.

The country has taken a progressive approach in its response to climate change. Subsequent to the early ratification of Kyoto Protocol, the country published a National Climate Change Response Strategy (NCCRS) and has gradually developed a substantial foundation on which to base future policy and measures. South Africa has identified the need for implementation of a national program aimed at reducing emissions from deforestation and forest degradation (REDD+).

South Africa's National REDD+ programme is supported by several UNFCCC decisions, the current Paris Agreement (Article 5), the Katowice Rulebook, and the recent Nationally Determined Contribution announced by the country.

In 2017, the Department commissioned the REDD+ Readiness Study (DAFF, 2017) and subsequently held a national stakeholder engagement meeting in September 2017 to gain further input into the initial scope of work and steps to be undertaken. The Study was based on the initial analysis of the National Terrestrial Carbon Sink Assessment (DEA 2013)1 and inputs from a REDD+ Consultative Task Team which was established between

the then Department of Agriculture, Forestry and Fisheries (DAFF) and the then Department of Environmental Affairs (DEA). The study recommended it was feasible for the country to initiate and implement REDD+ projects commencing with pilots, which should culminate to a national program in an effective and efficient manner.

In addressing the elements identified within the *REDD+ Readiness Study for South Africa*, the country is addressing some of the key elements, including:

a) to fully assess the South African Forest Scope and Definition for the development and implementation of REDD+ applying the three-tiered short, medium and long-term implementation approach developed during the REDD+ Readiness Study.

b) explore effective and efficient institutional arrangements for the REDD+ process for South Africa on a national level. This assessment will inter alia look into the appropriate institutional location for the REDD+ process as outlined in the REDD+ Readiness Study. [2]

c) assess the drivers of deforestation and forest degradation for three selected sites in the provinces of Mpumalanga, Eastern Cape and KwaZulu-Natal. The appointed service provider is expected to identify strategic prevention measures and associated costs. This data will serve as guidance for the development of the overall national comprehensive REDD+ strategy for the country.

12. NATIONAL FOREST SECTOR RESEARCH AND DEVELOPMENT STRATEGY

Department of Forestry, Fisheries and the Environment and its key stakeholders have made substantial progress by introducing National Forest Sector Research and Development Strategy (NFRDS) to improve forest science and technology in South Africa. The strategy sought to address issues such as lack of coordination of South Africa's forest sector Research and Development Programme, which were putting the country's forest sector at substantial risk. The resources were at unacceptable risk levels owing to veld and forest fires, pests and diseases. Furthermore, natural forests and woodland resources were in certain instances used unsustainably. In light of the above, a National Forest Sector Research and Development Strategy was developed.

1. DEA. (2013). *The South African National Terrestrial Carbon Sink Assessment. Pretoria, South Africa.*
2. DAFF (2017): *Reducing Emissions from Deforestation and Forest Degradation (REDD+) Assessment Report for South Africa. DAFF, Pretoria, South Africa.*

As part of the strategy, the National Forest Research Forum (NFRF) was established in 2015 to guide the implementation of the National Forest Research and Development Strategy. The mandate of the NFRF is informed by the White Paper on Sustainable Forest Development, the National Forest Act, No. 84 of 1998, the National Veld and Forest Fire Act, No. 101 of 1998, and the National Forest Sector Research and Development Strategy.

The main objective of the NFRF is to facilitate consensus and integrate co-ordination in research, development and transfer of technology to the forest sector in order to enhance national economic growth, social welfare and environmental sustainability.

The National Forest Sector Research and Development Strategy has set out a key strategic framework of themes that will guide R&D activities for the strategy, but most of the strategic objectives (challenges) are not implementable because they are no longer relevant, for example, there are new and emerging issues such as climate change climate change which was not part of the original strategic objectives of the document.

In order to bridge the challenges, the Department (DFFE) and the research forum are in a process of the reviewing the 'National Forest Sector Research and Development Strategy' to make it more relevant to the current situations and challenges facing the sector and other related sectors.

13. FORESTRY SKILLS DEVELOPMENT AND CAPACITY BUILDING

The government of South Africa and the business sector have identified skills development as one of the key requirements for economic growth and economic empowerment of previously disadvantaged majority of the population.

The Skills Development Act 1998, (Act No. 97 of 1998) provides a framework for promotion of skills development in the workplace. The Act provides for skills development through a levy-grant scheme whereby employers pay to the South African Revenue Services (SARS) 1% of their wage bill, which is used for fund training. The Act also paved way for the establishment of sector-specific Sector Education and Training Authorities (SETAs).

The SETAs were established in March 2000 and their main purpose is to administer the levy/grant scheme funds and the disbursement of training levies. The SETAs also manage the skills development plans for their specific sectors. They are also responsible for the development and implementation of skills development plans for their specific sectors. They have to ensure that skills requirements are identified and addressed and that appropriate skills are readily available to new entrants in the workforce as well as to existing employees. Training, budgeting and quality control is another important responsibility of SETAs as they collectively handle about R2.5 billion per year.

In addition to training, SETAs are also responsible for the implementation of strategic Sector Skills Plans for which they have discretional funds drawn from skills development levies

The Fiber, Processing and Manufacturing (FP&M) Sector Education and Training Authority signed a Service Level Agreements with the Department on September 2011 to promote strategic partnerships, strengthen existing relationships, and further the goals of the National Skills Development Strategy (NSDS III).

In the 2017/18 financial year, the focus for training and capacity development has been on rural youth, co-operatives, and Communal Property Associations (CPAs) since they are the drivers of rural economy and suitably placed to break the cycle of poverty. In an effort to fulfil their mandate the FP&M SETA embarks on a broad spectrum of training initiatives to provide skills needed by the beneficiaries so that they may participate and help to grow the economy. The interventions are provided through various mechanisms including learnerships, skills programmes and new venture creation.

13.1 Learnership Programme

Learnership is a three-way relationship between the education/training provider who provides theoretical type training, the employer who provides practical training and the learner who has to meet the requirements of both formal and practical training. Some employers may be able to offer both elements of the learnership. The unemployed individual who secures a learnership has the following benefits:

a) a learnership allows for access to quality, relevant and affordable education and training opportunity;
b) they acquire competence required in the workplace;
c) participation in a learnership improves access to opportunities for securing permanent employment beyond the learnership; and
d) a learnership offers access to further learning opportunities.

13.2 Skills Programme

A skills programme is a short learning programme that is based on an occupation. Skills programmes have the following advantages:

a) a worker could, within a short period of time, learn skills for better performance at work while accumulating National Qualification Framework (NQF) registered credits and qualification which could also be used for entry into higher levels of study;

b) skills programmes have an added advantage of flexibility as they enable participants to package their learning to suit their workplace schedules; and

c) increase the level of employability of existing workers into higher positions within and outside their own organisations sectors.

13.3 New Venture Creation

The purpose for the New Venture Creation is to provide a qualification that can form the basis for structured programmes for potential and existing entrepreneurs to capitalise on opportunities for starting and growing sustainable businesses that form part of the mainstream economy. It enables the learner to tender for business opportunities within both the public and private sectors. The qualification is designed for learners who intend to set up or have already set up their own businesses.

13.4 Silviculture NQF Level-3

In the financial year of 2017/18 the Department applied for Discretionary Grants and an amount of R500 000 was approved by the FP&M SETA for the implementation of Learnership Programme: Silviculture Level-3 for fifty (50) learners in the forestry sector in Mpumalanga. The service provider, VEB Cele and Associates was appointed to implement the learnership programme in Bushbuckrigde. The learnership programme, which formed part of theory and practical sessions commenced on 06 March 2017 and was concluded on 02 February 2018. During the course of the training, there were two drop-outs due to employment and they were replaced. The certificates were issued to all the 50 leaners after completion of the programme. Thirty-six (36) (72%) of the beneficiaries were females and forty-six (46) of the group was youth. All the learners were Africans.

In 2016, the Department and the FP& M SETA implemented an Adult Education and Training programme for beneficiaries in KwaZulu-Natal and Mpumalanga. Adult Education and Training (AET) Programme is a training intervention given to adults that are deficient on basic literacy, the ability to read and write and numeracy. The training provides participants with nationally recognised qualifications. There is an estimated 3.3 million illiterate adults in South Africa, therefore these kinds of interventions assists in mitigating the impact of illiteracy in communities, particularly in rural areas. Ninty (90) beneficiaries were subjected to the programme, which was funded by the FP&M SETA. A budget of R270 000.00 was approved for the ninety learners and a service provider appointed to run the programme (Project Literacy) in the following Provinces: Mpumalanga (40) and KwaZulu-Natal (50) as per tables 18 and 19

Table 18: Breakdown of total beneficiaries by gender per Province

Province	Gender		Total
	Female	Male	
Mpumalanga	34	6	40
KwaZulu-Natal	27	23	50
Total	**61**	**29**	**90**

Source: Fibre, Processing and Manufacturing SETA

Table 18: The table below illustrates the beneficiaries who completed the AET Programme during the year 2015/16 by course and gender.

Table 19: Breakdown of beneficiaries who completed the AET Programme by course and gender, 2015/16

AET Level	**Learning Area**	**Female**	**Male**	**Total**
1	Communication & Numeracy	36	24	60
2	Communication & Numeracy	4	2	6
3	Communication & Numeracy	18	6	24
4	Communication & Numeracy	0	0	0
Total		**58**	**32**	**90**

Source: Fibre, Processing and Manufacturing SETA

Learnership (18.2) Silviculture Level 1, was offered to 10 persons in 2016 in the Eastern Cape (5 females) and they all completed the training and received their certificates.

In the financial year of 2018/19, the Department applied for Discretionary Grants and the FP&M SETA approved R500 000 for the implementation of Learnership Programme: Silviculture Level 1and 3 for twenty (20) learners in the forestry sector.

The Professional Service Provider (PSP), Skills Unlimited was appointed and a Memorandum of Agreement was signed between the Department and the PSP to implement the learnership programme in Tsolo, Eastern Cape. The learnership programme comprised of theory and practical sessions and ran from January 2019 to December 2019. During the course of the training, there were two drop-outs due to employment and they were duly replaced. Twelve of the learners (72%) were female and 28% male, all African.

14. FORESTRY TRANSFORMATION AND DEVELOPMENT

The transformation agenda in South Africa is premised on the historical background of the country, which saw the majority of the population disenfranchised and significantly marginalised from the mainstream economy in all sectors of the economy. The Broad-based Black Economic Empowerment Act 2003, (Act No. 53 of 2003) (BBBEEA), promulgated after the dawn of the democratic dispensation required all major sectors of the economy to embark on a transformation trajectory.

In line with the tenets of the BBBEEA, the social partners in forestry, inclusive of government, labour and business developed and adopted the Broad-based Black Economic Empowerment Forest Sector Charter, which was signed on 22 May 2008, gazetted in May 2009 and revised and gazetted in April 2017 into a Code. The South African Broad-Based Black Economic Empowerment (B-BBEE) is a multi-stakeholder programme aimed at extending the participation of black people into mainstream economy. It is measured through the scorecard consisting of seven previously and now five elements.

The Charter Amended Forest Sector Code applies to all enterprises involved with commercial (plantation) forestry and first level processing (primary processing) of wood products. These include the following sub-sectors:

(a) growers (plantations, nurseries and indigenous forests);

(b) contracting (forestry contractors in silviculture (maintenance); fire management and harvesting operations;

(c) fibre (pulp, paper, paperboard, timber board products, woodchip and wattle bark);

(d) sawmilling (industrial, structural, mining timber mills and match producers)

(e) pole (pole treating plants); and

(f) charcoal (charcoal producers)

The enterprises are measured on transformation achievements for the following key focus areas: Socio-Economic Development, Enterprise Development, Preferential Procurement, Ownership; Management Control, Employment Equity and Skills Development. Depending on their sizes, capacity and annual revenue, enterprises are classified into three main categories, namely, Medium and Large Enterprises (MLEs), Qualifying and Small Enterprises (QSEs) and Exempted Micro Enterprises (EMEs).

Medium and Large Enterprises are the businesses that receive a turnover of more than R50 million per annum. They are often regarded as the major role players in the sector and their play a significant role towards transformation in the sector.

Qualifying and Small Enterprises (QSEs) are defined as businesses with a turnover of between R10million and R50 million annually. The threshold defining QSEs were however, amended in April 2017. The eligibility of selecting four out of seven elements will also change to five. Moreover, majority blacks (51% and more) can now be enhanced to achieve a level 1 or 2 and such entities needs to submit an affidavit. In the affidavit they will need to confirm their black ownership profile, empowering status as well turnover of R50 million or less. This category always performs well except on skills development although an improvement has been recorded over the years.

Exempted Micro-Enterprises (EMEs) – are entities with an annual turnover of less than R10 million. They are exempted from being assessed using the scorecard elements. They are automatically a Level 4 B-BBEE, however, similarly to QSEs, EMEs are automatically enhanced to a level 1 (100% Black owned) or level 2 if black ownership is at 51% or more and an affidavit is required confirming the turnover of R10 million and less and thee black ownership profile.

14.1 Performance of forestry enterprises on transformation

Performance of forestry businesses on transformation from 2016 to 2019 is presented in the following boxes (boxes 3-6):

Box 3: Summary (2015-16 Transformation Status Report)

In 2016, the sector maintained a B-BBEE Level 4 status with improved and exceptional performance in Socio-Economic Development, Enterprise Development, Preferential Procurement and Ownership as observed under the Medium and Large Enterprises (MLEs) achievement. The Sector struggled to achieve at least a 50% towards the target in Management Control, Employment Equity and Skills Development, a trend that has also been observed in the previous reporting year. (Annual report, 2015/16 FSCC).

Qualifying Small Enterprises (QSEs) have performed remarkably well, owing to the fact that they had a discretion of choosing any four of the seven elements that they prefer or find less challenging to implement. High scores were achieved in all the elements with a lower score obtained in Skills Development. This confirms that the Skills Development element is a sectoral challenge as MLEs also performed poorly in this element. QSEs achieved a level 3 B-BBEE rating. An significant increase in the number of submissions from Exempted Micro enterprises (EMEs) was observed during the period as twenty one submissions were recorded for the year, compared to eleven received the previous year. Most EMEs achieved a level 4 rating indicating that the majority of EMEs are not black owned.

Box 4: Summary (2016-17 Transformation Status Report)

In 2017, the industry continued to implement the B-BBEE forest sector charter. The sector maintained a level 4 B-BBEE contributor status qualifying for a 100% procurement recognition level. This level is desirable as it meets most of government preferred level and criteria for awarding grants, permits and tenders to businesses.

Notable progress was observed amongst the MLEs on Ownership and Skills Development elements. These two elements showed the greatest improvement when compared to the previous performances and the other scorecard elements. This may be attributed to the introduction of the priority elements to which these two have been categorised in the draft Amended Forest Sector Code, yet to be gazetted.

The Qualifying Small Enterprises continued to perform better in terms of B-BBEE. Despite the number of reporting entities under this category showing a decline of about 6% , the average scores achieved were still within exceptional levels at about 80% towards the target with the exception of the Skills development element where about 50% towards the target was achieved. Decimation in terms of the weighting points were observed in all the elements under this category with the exception of Preferential Procurement and Enterprise Development. QSEs also maintained a level 2 BEE contributor level, with some of the QSEs doing exceptionally well by achieving a level 1 or 2 contributor.

Generally, EMEs are automatically a level 4 not unless the black profile is more than 50%, making such entities eligible to claim a level 3 status. Most EMEs maintained a level 3, indicating an increased black ownership profile, possibly due to the enhancement criteria reserved for either 51% or 100 black owned EMEs in the draft Forest Sector Codes.

Box 5: Summary (2017-18 Transformation Status Report)

The 2018 data indicated that the industry continued to perform poorly in Management Control although improvements were observed in junior management positions. QSEs were assessed using all five elements for the first time. Most QSEs were enhanced having a black ownership profile of above 50% and qualify for exemption with only a few submissions received from the unenhanced. This qualifies the enhancement principle and it is anticipated that it will result in more were amended and gazetted in April 2017. The objective of these amendments was to introduce stringent principles to expedite transformation in the forest sector. One notable addition is the joint scorecard for industry and government so that all are accountable and make an effort into transforming the sector. The revised scorecard for Medium and Large Enterprises (MLEs) and Qualifying Small Enterprises (QSEs) is meant to track progress on black empowerment, which is taking place at a slow pace.

In this reporting period, measured entities were required to comply with 40% minimum of the priority elements namely Ownership, Skills Development and Enterprise and Supplier Development. The condition for failing to achieve the target was that entity will be discounted by one level. A few of the entities were either discounted for failing to achieve the minimum on one or two if not all of the priority elements.

The sector regressed from a level four to two levels down mainly due to the discounting effect to a Level 6 achieving 74.48 points with a 60% procurement recognition level. However, satisfactory performance was achieved in Enterprise and Supplier Development, Socio-Economic black controlled sustainable businesses.

EMEs remain automatically a Level 4 in the amended forest sector codes, but can achieve a level one or two through the enhancement principle. In order to be enhanced, they need to be either 51% or 100 black owned. Most of the EMEs were enhanced indicating a positive shift in the ownership profile.

This improvement indicates that small entities in the EMEs category are mostly are black controlled businesses. It is anticipated that the enhancement approach will assist in the development and sustainability of these entities with positive spin-offs on investment opportunities.

Box 6: Summary (2018-19 Transformation Status Report)

Forestry is a key economic sector that has prioritised B-BBEE through the development of the Amended Forest Sector Codes. It is without doubt that the forest sector is committed to principles of inclusivity, shared vision, economic growth and rural development. The review and implementation of the forest sector codes demonstrates this commitment.

In the reporting year 2018-19, there has been a significant increase in the number of reporting entities when compared to the previous year about 29% as twenty six (26) MLEs reported for the year under review. Most large entities submitted their underlying reports to accompany their B-BBEE certificates. This allowed for greater in-depth analysis of the sectors' performance amongst large companies.

It is worth noting that under the MLEs category, there were a number of new entities reporting that were reporting for the first time since the inception and adoption of the forest sector charter. Data from this reporting period shows that most of the prominent industry are showing improvements in terms of scores achieved with six of them improving their overall rating by 1 level. There are four MLEs with a level 1 rating in the 2018/19 reporting year.

The sector's performance shows maintenance of a level 6 rating for the reporting period achieving 72,19 qualification points. This performance is expected as the new principles in the amended sector codes are more stringent and require an aggressive response from industry in working towards speedy transformation to maintain a reputable rating. However, sector performance has declined in some key elements. This may be attributed to new participants who are yet to adapt to the new aggressive changes that were implemented recently. The highest decimation was observed on the Skills Development and Enterprise and Supplier Development (ESD).

The sector continued to make less progress on attracting black executives to their organisations. The reasons for this continuous poor performance have not been investigated, but it is widely believed it may be because of executives' job hopping, reducing the opportunities for new entrants to occupy executive positions, particularly African executives. However, there have been an improvement in boards participation by black people as well as appointment of black people on junior management positions as well as on ownership.

Seventeen QSEs reported for 2019 and nearly half of these were enhanced. The majority of reporting unenhanced QSEs (6/8) were certified as non-compliant, rendering this group of QSEs as non-compliant as a whole - a rating that this category has never achieved previously. he performance in all the elements showed a decline except for Management Control. QSEs performed badly in Ownership and Skills Development.

The poor performance from unenhanced QSEs raises concerns of the commitment of entities in this bracket, to transformation or the suitability of the assessment criteria for this group. There has been a slight increase in the number of reporting EMEs from 21 in 2018 to 25 in 2019. Most of the EMEs achieved a level 1 or 2 indicating that a majority of these were enhanced.

15. COMPLIANCE AND ENFORCEMENT

Full implementation of forestry legislation, like with many other legislation remains a challenge for various reasons, ranging from resource constraints, lack of dedicated enforcement personnel, the extent and distribution of forests to inadequate knowledge of forestry laws by law enforcement practitioners including magistrates and prosecutors. The Department administers two legislation, namely, the National Forests 1998 (Act No. 84 of 1998) and the National Veld and Forest Fire Act 1998, (Act No. 101 of 1998).

The Department has deployed various interventions aimed at ensuring compliance with the laws and the enforcement thereof. These include the National Forests Act and the National Veld and Forest Fire Act, 1998 Compliance and Enforcement Strategy; licensing guidelines; and the Policy, Principles and Guidelines for Control of Development affecting Natural Forests.

In order to ensure compliance with the provisions of the two forestry legislation, the Department rolls out various awareness programmes although funding poses a serious challenge, inhibiting wider coverage. The Branch implements aawareness raising, through capacity building (internal and external stakeholders of the Department and institutions of higher learning and the Judiciary), meetings with traditional leaders at various communities throughout the country, annual publication of National list of Protected Trees and Champion Trees.

Over the past three financial years (2016-2018), approximately 400 stakeholders were trained on the provisions of the Act. The Minister also appointed several individuals outside the Department as Peace Officers. Peace Officers, once appointed are granted certain powers and responsibilities such as the power to search and arrest offenders who transgressed on stipulated provisions or those provisions provided for in the legislation concerned.

More than 120 stakeholders were trained on the Act during the period 2017-2019 including Departmental Interns and newly appointed officials in Mpumalanga, Kwazulu-Natal, Eastern Cape Limpopo and National Office; students from the University of Venda and Fort Cox College, Prosecutors and Magistrates (Cape Town); and the Justice College (Pretoria).

The Department also participated at various events and/ or organised events in which awareness about forests and other natural resources was raised and awareness documentation distributed. The Department also encourages municipalities to undertake greening programmes such as the annual Arbor City Awards competition whereby a winning municipality receives an award for their effort and excellence in greening projects.

The National Forests Act 1998, (Act No. 84 of 1998), makes provision for accessing forests for various activities through the licence system. The licences are issued in terms of sections 7, 15 and 23 of the legislation. Section 7 deals with the activities of the cutting , disturbing, damaging or destruction of any indigenous tree in a natural forest. Section 15 licences are issued for activities involving the cutting, damaging or removal of any protected tree and the collection, removal, transporting, exporting, purchasing, selling or donating or acquiring in any other manner or disposing of a product derived from a protected tree. Section 23 on the other hand deals with all activities that may be carried out in a state forest with the guidance of forestry tariffs, where applicable. In terms of the national forestry legislation, all indigenous forests are protected and therefore no person may cut, damage, destroy, remove or transport a tree or the product thereof without a licence. Approximately 3500 licences were issued during the period under review (2016-2018) for various activities as provided in the Act.

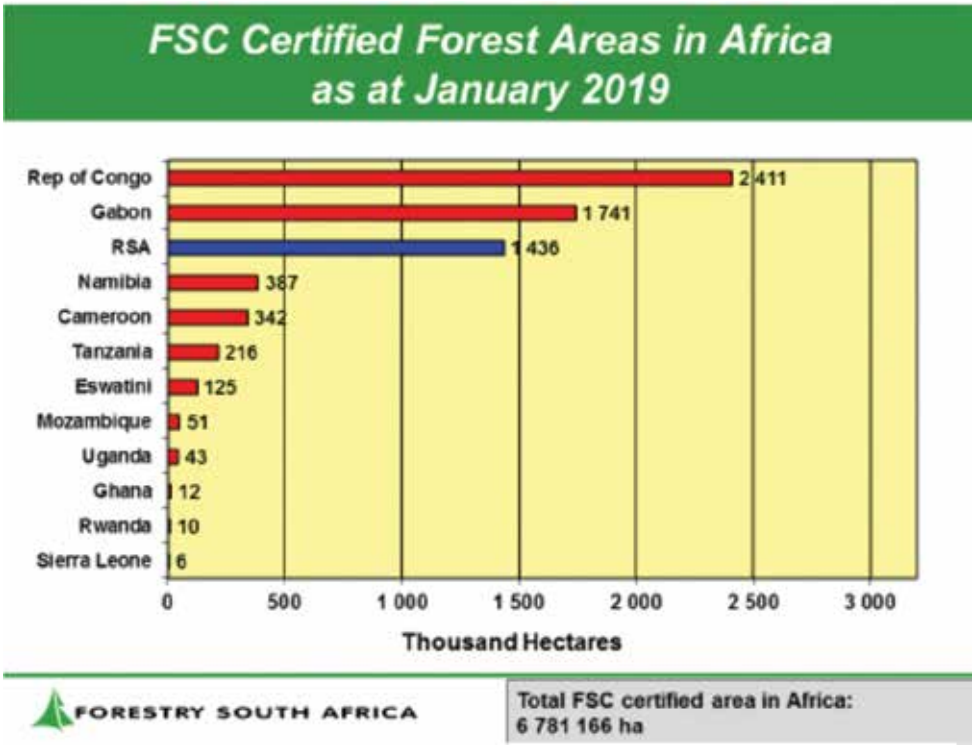
Despite these compliance measures put in place, there are still a number of non-compliance from individuals and organisations. The department uses various means of enforcement including (a) negotiations, (b) Warnings, (c) Spot fines, and (d) Joint Operations.

- Negotiations: the department discusses failure to comply with the legislation and agree on an arrangement to resolve any infringements, for example, Eskom failed to comply with licence conditions at Masa-Ngwedi, Limpopo and the department declined to renew their licence and a non-compliance notice was issued to them as a result. The licence was subsequently re-issued after negotiations.
- Warnings: various caution notices were issued in the Northern Cape and in Limpopo for failure to comply with the legislation. Warnings are issued depending on the level of the transgression and the services of the South African Police are solicited if the transgression has a huge negative impact.
- Spot fines/ J 534: spot fines are issued when the offence is considered major but the offender admits the guilt, and is willing to pay a fine. Spot fines were issued in Limpopo and Northern Cape.
- Joint Operations: the Department engages with other sector Departments and conservation boards to conduct operations such as the Phakisa. Joint Operations were conducted in areas such as Tzaneen, Limpopo; Magaliseburg, North West and Lusikisiki Eastern Cape. Arrests, warnings, and fines are issued during the joint operations.
- Prosecution: prosecution is chosen as an option if the impact of the transgression is huge in monetary or environmentally. There are various cases that are being litigated include the Nanaga, Al Priva, and Long Beach for contravention of the National Forests Act 1998, (Act No. 84 of 1998).

16. FOREST CERTIFICATION

Forest Certification: South Africa still has the highest percentage of certified plantations in the world in terms proportional area (figure 37). Eighty two percent (82%), about 1 436 million hectares of commercial (plantation) forestry areas in the country have achieved the Forest Stewardship Council (FSC) certification. These have Forest Management plans, which take into account various factors including social and the environmental factors and are sustainably managed. Forest management plans are important for sustainable forest management since they indicate sustained supply of forest goods and services. They indicate these are achieved through long-term investment and forest management planning (FRA: 2015). This often means that management responsibilities for any particular forest will pass over time among individuals, companies and government agencies. To ensure forest are managed with the long-term in mind, management plans are used for production, conservation and environmental services. Globally, the area of forest under management plans increased. In 1953, forest management plans covered around 27% of production forest area, in 2010 it was 70% of production forest area (FRA: 2015). The area under forest management certification has continued to increase, from some 18 million ha under internationally verified certification in 2000 to some 438 million ha in 2014. About 90% of the total area certified in 2014 was in the temperate and boreal climatic domains although there has been growth, albeit at a slower pace, in the tropics and subtropics.

FIGURE 37: FSC Certified forest areas in Africa, January 2019

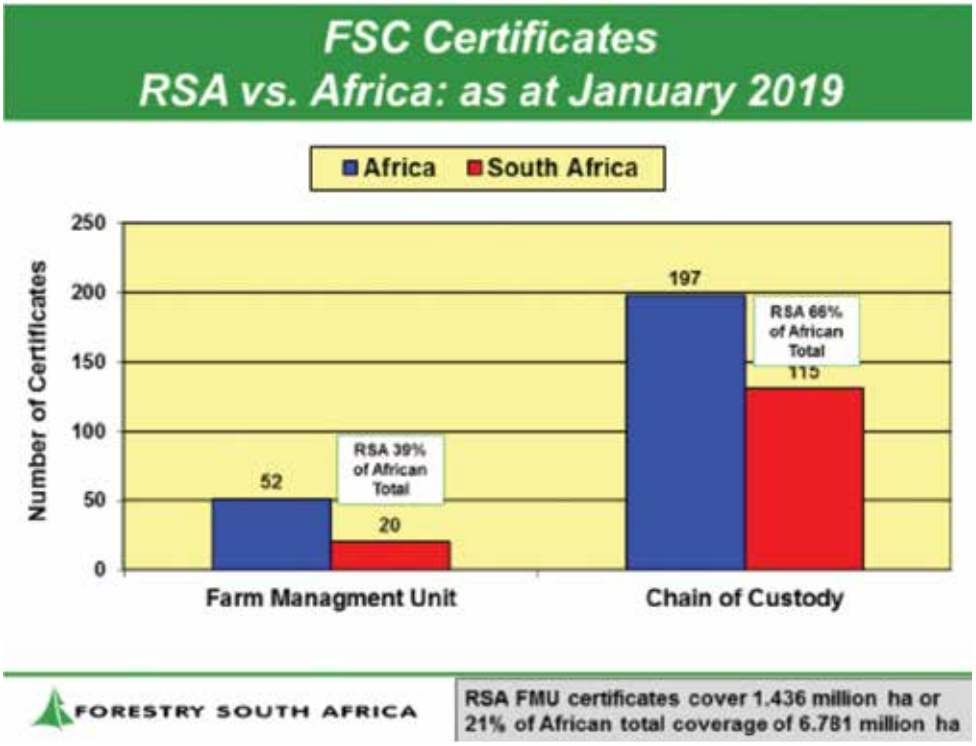


Source: Forestry South Africa

Komatiland Forests was the first plantation to gain FSC certification in South Africa, with most large and medium corporate growers following suit. The NCT Forestry Cooperatives was the first to achieve group FSC certification. Group FSC chain of custody and forest management schemes have been developed to help smaller enterprises achieve FSC certification by reducing the costs of certification per member. Forest management certification includes the definition of forest management practices that meet requirements for best practice in areas including biodiversity, sustainable production of goods and environmental services, minimal chemical use, protection of workers' rights and welfare, local employment, respect for indigenous peoples 'rights and forest operations undertaken within the national legal framework following best practices.

Figure 38 shows that 39% of plantation FSC certified plantations on Farm Management Unit (FMU) level in Africa is from South Africa and the country represents 66% of the total Chain of Custody in the Continent, representing the level of sustainable forest management. Managing forests responsibly and sustainably requires a balanced approach encompassing the three pillars of sustainability – economic, social and environmental. Measuring progress in each of these broad areas in a meaningful way is complex, and in many cases not fully achievable, even in countries that have the resources to collect relevant data. However, indicators that measure progress provide a guide to how management and investment decisions can be adapted to meet the needs and expectations of current and future generations. Sustainability indicators are science-based measures that provide a consistent approach to define, assess, and monitor progress on sustainable forest management to a wide range of stakeholders and institutions, including governments, the private sector, non-governmental organisations, donors, researchers and the public. Sustainability indicators can be useful to identify the changes in forest management practices required to maintain and improve healthy forests.

FIGURE 38: FSC Certificates RSA vs Africa, January 2019



Source: Forestry South Africa

However, none of the Department's more than 65 900 ha plantation estate has received FSC certification.

In order to promote sustainable forest management and expand the area of certified forestry areas, South Africa developed a South African National Forestry Certification Standard as part of the South African Forestry Assurance Scheme (SAFAS), which was officially endorsed by the Programme for Endorsement of Forest Certification (PEFC) in November 2018. Subsequently, the National Standard was approved by Programme for Endorsement of Forest Certification. The National Certification Scheme is based on the Principles, Criteria, Indicators and Standards (PCIs) for sustainable forest management, which is appropriate for all scales of forestry operations. The PCI&S framework was reviewed during the process of the development of the Standard and they were used as a basis. The Standard was presented to the NFAC and it was recommended that they be published (gazette) as regulations. Accordingly, it was the intention of the department to publish the Standard as regulations.

This will go a long in ensuring that SMMEs in the forest sector can also gain and increase their market access. Across the globe, the demand for certified products has increased dramatically over the past decade with the Forest Stewardship Council (FSC) logo becoming aa globally recognized and respected brand, thus it is important for South Africa to also play a role in the globe. A pilot study on auditing exercise of the Standard was done at the Departmental commercial forest estate, KwaGubeshe plantation in KwaZulu-Natal Province. The Pilot Study revealed a number of lessons, which could bring a lot of improvement on the management level of State plantations if the recommendations were to be replicated and implemented throughout the provinces where the Department has plantations. The comprehensive summary of the pilot audit is attached as **Annex 3** and presents variety of findings including but not limited to:

a) Inadequate measures to prevent timber theft and other illegal activities –Timber theft is a daily occurrence at every level from individuals with bow-saws to full scale harvesting operations with mechanical equipment (Bell loaders etc.) and the are no measures in place to prevent the scourge. The removal of the security company in the recent past has reportedly resulted in a spike in timber theft. Three separate groups were encountered stealing timber in the two field visits. The Service Provider observed two pine plantation sites where timber had been stolen in a fully-fledged harvesting operation.

b) Inadequate measures taken to protect the plantations from uncontrolled fires – There was a fire risk plan documented, which included a list of key elements. However, there was no evidence that it was implemented in that year (2019). The key shortcoming was that firebreak tracers were not prepared for the fire season and it was already too late to do so using desiccant chemicals.

c) Justification for choice of species and genotypes did not fully take into account objectives of the plantation, and the climate, geology and soils at the planting sites – no basis for choice of species was available to back any choices made.

d) No evidence that contractors took responsibility for ensuring compliance of all employees with legislated health and safety requirements and best practices – Contractors signed agreements undertaking to comply with all labour and

health and safety legislation but there was no evidence that they were formally monitored for compliance with the agreements.

e) No adequate monitoring of aspects important to plantation productivity (Silvicultural activities) – No formal system for monitoring silviculture operations was undertaken on compartment visited (CompartmentA6). Silviculture operations for planting were poorly carried out including; failure to properly prepare the site, failure to dig adequate pits, spacing of pits was grossly incorrect, planting took place within the 20m buffer zone required for riverine areas and streams.

f) Complete neglect of road maintenance - The road network was in very poor condition. Maintenance had been completely neglected for several years, which resulted in severe erosion, a condition that made many roads unpassable.

17. SPECIAL PROGRAMMES: CORPORATE SOCIAL INVESTMENTS

A number of forestry companies continue to implement projects in around plantations for the benefit of the communities. This social responsibility manifests itself in many forms and helps to improve the lives and conditions of communities, particularly in the deep rural areas of the country where government may not be able intervene. For the period under review (2016 to 2018), the South African Forestry Company Limited (SAFCOL) managing some 187 320 ha of plantation area distributed in the provinces of Limpopo, Mpumalanga and KwaZulu-Natal invested in a number of projects in communities adjacent to their plantations to the value of R22 769 976 benefitting 147 945 community members. In 2016, the Company implemented some 29 projects to the value of R 7 496 590 benefitting 48 591 individuals and communities. The projects included among others construction of the Muzomuhle Old Age Home in the Chief Albert Luthuli Municipality, Mpumalanga; construction of a kitchen at Marhogwane in Bushbuckridge, Mpumalanga; desk manufacturing project in Makhado, Limpopo; charcoal project at Blairmore, Mpumalanga; Construction of Oncweleni hall using timber in KwaZulu-Natal; construction of the Palmridge Multipurpose Hall at Makhambane and renovations of structures in certain localities.

In 2017, the Company continued to assist with social compact projects ranging from construction and renovations of buildings; support for celebrations of events including the Nelson Mandela Day, fire awareness campaigns, skills development programmes, supply of 20 computers to Evane Primary School; provision of educational toys to day care centres and installation of electricity at Ngome Primary School. The amount invested during the period which benefitted 57 075 individuals and communities was R 7 626 497.

The year 2018 saw SAFCOL invest in R 7 646 889 in 31 projects with 42 279 recorded as the number of beneficiaries. The projects supported or embarked on include: continued support to the Desk Manufacturing Project in the Albert Luthuli Municipality, Mpumalanga; construction of Diepdale Youth Centre in the Chief Albert Luthuli Municipality; supply of timber frame classrooms and school desks for Buhlebuyeza Primary school; construction of the kitchen at Dientjie Primary School, Mpumalanga; drilling of borehole for Emhlabaneni, erection of security fences and construction of several ECD Centres; supply of furniture; and running of fire awareness campaigns in Limpopo, Mpumalanga and KwaZulu-Natal.

18. MANAGEMENT OF LEASED PLANTATIONS

Leasing of forestry land, otherwise referred to as Benefit Sharing occurs where some of the income from the production of forest products is transferred to others (usually people living in or around production areas), (SOFO, 2014). This can include revenue sharing (where some forest charges collected by government are transferred to others) or agreements where companies working in the sector provide payments or benefits in kind to the local communities where they are working (SOFO, 2014). Benefit sharing is a redistribution of income in the sector rather than income from a separate economic activity, so it could only be used to assess the level of benefits derived from the forests. However, in the South African context, it is difficult to precisely quantify the number of beneficiaries on leased land since no comprehensive studies have been conducted to determine the levels of benefits derived from leased forestry land. The challenge is equally the same with the rest of the globe. As part of the Government decision to refrain from business as informed by the White Paper on Sustainable Forests Development in South Africa (1996), a bulk of State Forest Plantations were grouped into packages and leased several companies commencing in 2001. These companies, which all have a 70 year lease agreement (renewable) with Government, are the Amathole Forestry Company (AFC), Singisi Forestry Products (SFP), Mountain to Ocean (MTO) Forestry, SiyaQhubeka Forest (SQF) and the state owned company, the South African Forestry Company Limited (SAFCOL). The companies jointly manage a plantation area of about 372 799ha as per table 20.

Table 20: Leased Area/ Owner Lease Data, 2018								
Forestry Company	**Plantable area** (ha)	%	**Other area** (ha)	%	**Conservation area** (ha)	%	**Total (ha)**	%
Amathole Forestry Company	14551.422	57.3%	5444.208	21.4%	5409.149	21.3%	**25404.778**	100.0%
Singisi Forest Products	57358.030	74.9%	14398.270	18.8%	4806.690	6.3%	**76562.000**	100.0%
MTO Forestry	34135.370	59.8%	7423.860	13.0%	15501.990	27.2%	**57061.220**	100.0%
SiyaQhubeka Forests	20756.800	78.5%	1199.300	4.5%	4494.770	17.0%	**26450.870**	100.0%
SAFCOL	121698.100	65.0%	17271.860	9.2%	48350.290	25.8%	**187320.270**	100.0%
Grand Total	**248499.722**	**66.7%**	**45737.498**	**12.3%**	**78562.889**	**21.1%**	**372799.138**	100.0%

Source: DFFE

The Lease Agreements with these companies have certain conditions agreed between the Lessee (Tenant) and the Lessor (Government). The latter has to monitor, assess and report on compliance of the Agreement. The clauses (conditions), which put obligations on both parties, include *inter alia*, the following:

a) period and termination of agreement;
b) payment of annual rentals by lessees;
c) disbursement of rental monies to land beneficiaries by the lessor;
d) review of rent rental rates every five years;
e) granting of lease licences by Minister to the lessee;
f) land use change, if warranted;
g) clear-cutting of exit areas;
h) sustainable forest management practices;
i) access for research purposes;
j) right of inspection;
k) transfer of land to land claimants;
l) monitoring of compliance with payment of rates and taxes;
m) maintenance and improvements to fixed assets;
n) sub-letting;
o) asset insurance cover; and
p) and third party rights

Government, through the Department of Forestry, Fisheries and the Environment (the custodian of the forests) is continually monitoring implementation of the Agreements and equally working towards achievement of its obligations. For the period 2016 to 2018, there has been no material breach of the Agreements from all the five companies. However, MTO Forestry has requested permission to convert some 5 000 ha of plantation area to a high value agricultural crop, avocados. Negotiations were underway between MTO Forestry and the Department on the matter. The Temporary Unplanted Areas (TUPs) are to be capped at less than 3% as per the lease agreements and this is an industry norm. However, the TUP at Singisi Forestry Products' Insizwa plantation remained at 25.8% above the allowable threshold due to a land dispute between the company and the Insizwa Community, which is allegedly prohibiting the company from replanting. Stakeholder engagements were underway to reach an amicable solution as the situation threatens sustainable forest management. Since the signing of the first two Lease Agreements (with Singisi Forests Products and SiyaQhubeka Forestry Ltd) in 2001 and the subsequent leases in the following years, the companies have paid about R 805 530 217 in lease rentals. Government commenced disbursing the monies in 2011 and R 110 165 784 as at 31 March 2019. Table 21 indicates the amounts paid by the companies for the period 2016 to 2018 and Table 22 depicts disbursement of funds by DFFE to land claimants for the same period.

Table 21: Total amount of lease rental collected from the lessees (2016 to 2018)

Company Name	Rental Paid (2016)	Rental Paid (2017)	Rental Paid (2018)	Total Received
SiyaQhubeka Forests	R 12 567 976,83	R13 112 861,47	R 14 113 388,54	**R39 794 226.84**
MTO Forestry	R 4 376 287,00	R 4 527 864,21	R 4 708 502,31	**R13 612 653.52**
Amathole Forestry Company	R 3 037 797,00	R 3 159 309,00	R 3 273 446,34	**R9 470 552.34**
Singisi Forest Products	R 9 652 837,36	R 10 144 507,78	R 10 485 743,67	**R30 283 088.81**
SAFCOL	R 56 404 139,06	R0,00	R0,00	**R56 404 139.06**
Total Received	**R85 979 037.19**	**R30 944 542.46**	**R32 581 080.86**	**R149 504 660.50**

Source: DFFE

Table 22: Total amount paid to communities/ claimants (2016 to 2018)

Community Name	Amount Paid (2016)	Amount Paid (2017)	Amount Paid (2018)	Total Paid
St Paul	R 2 783 226,30	R 465 360,00	R 2 777 000,00	**R 6 025 586.30**
Ndzimankulu	R 928 000,00	R 770 800,00	R 629 972,00	**R 2 328 772,00**
Qolombana	R0,00	R 1 863 593,12	R 49 760,00	**R 1 913 353,12**
Mbolompo	R 3 648 226,30	R0,00	R0,00	**R 3 648 226,30**
Ngunjini	R 611 938,59	R0,00	R0,00	**R 611 938,59**
Total paid	**R7 971391.19**	**R3 099 753.12**	**R34 567 32**	**R14 527 876,31**

Source: DFFE

The cumulative balance as at 31 May 2019 was R 805 530 217. The total amount disbursed to land claims beneficiaries from 2011 to 2018 is approximately R 110 165 784 as shown in Table 23.

Table 23: Total amount disbursed from 2011 to 31 March 2019

No.	Name of Community	Province	Package/ Company	Amount Paid
1.	Phalane (Mkhwanazi)	KwaZulu-Natal	SiyaQhubeka	R 24,574,296.89
2.	Engunjini	KwaZulu-Natal	Singisi Forest Products	R 9,018,277.93
3.	St. Paul	KwaZulu-Natal	Singisi Forest Products	R 18,183,462.89
4.	Qolombana	Eastern Cape	Singisi Forest Products	R 3,839,328.12
5.	Qelana	Eastern Cape	Singisi Forest Products	R 5,465,800.00
6.	Gqogqora	Eastern Cape	Singisi Forest Products	R 10,122,245.00
7.	Western Shores	KwaZulu-Natal	Siyaqhubeka	R 28,253,726.00
8.	Ndzimankulu	KwaZulu-Natal	Singisi Forest Products	R 7,060,420.85
9.	Mbolompo	Eastern Cape	Singisi Forest Products	R 3,648,226.30
Grand Total				**R 110 165 784**

Source: DFFE

Data indicates that the monies disbursed to communities is inadequate compared to the monies collected since the inception of the leases (13.7%). There are various reasons that hamper government from delivering on the disbursements. These include the protracted process of finalising land claims on forestry land. There are also reported internal conflict among beneficiaries with some cases ending up in the courts of law. In such cases, the Department is not in a position to disburse funds until the matter is settled. In certain cases, the conflict on disputes emanating from the land rights of beneficiaries with the verification process taking too long to complete and this process is beyond the control of the Department as it falls outside its mandate. Reports also indicate instances of alleged misappropriation of funds from certain trusts, for example, the Phalane (Mkhwanazi Community) was yet to account for the R24 million that was disbursed in 2011. The Western Shores Trust had similar allegation of misappropriation of funds and a case opened with the Master of the High Court, resulting in an interdict for any pending payments. In this case, an Administrator had been appointed by the Court to conduct and finalise the verification of beneficiaries.

19. RECOMMISSIONING OF STATE PLANTATION AREAS

The re-commissioning of areas that DFFE initially exited in Mpumalanga (4 000 ha) and Western Cape (21 000ha) will result in a total of 25 000 ha being available for planting. These are the areas which were decommissioned for forestry use in the

early 2000's but government has since rescinded the decision after considering the dire socio-economic impact of the earlier position on poor, rural communities living in and around these plantations.

In the Western Cape, forestry operations are already under having commenced in 2016 after a two year Service Level Agreement (SLA) for replanting the Vecon areas was entered into between the Department and MTO Forestry. A budget of R18 million was allocated for the year 2016 and a further R 24 659 352 was approved for implementation of the SLA. The process was conducted in the manner that seeks to benefit local communities and stimulate local economic development. It was estimated that through this process, 500 direct and 2 000 indirect jobs will be created (2 500 decent jobs). The DFFE appointed a Service Provider to conduct land rights enquiry to establish formal and informal rights with the aim of ensuring that communities are involved in the state plantation recommissioning work. This seeks to ensure meaningful participation and empowerment of previously disadvantaged groups.

As at 31 December 2017, 6 687 ha (53%) had been completed by MTO Forestry whereby 1 067 ha was replanted and 568 ha was subjected to natural regeneration. However, the June 2017 fires that ravaged the Western Cape thwarted these efforts. Most of the seedlings planted by MTO Forestry under the SLA and meant to empower local communities, were destroyed by a series of wildfires. In Mpumalanga, no work had been done on 4 000 ha areas earmarked for recommissioning as the Department was yet to secure funding.

20. FOREST MONITORING AND REPORTING: NATIONAL FOREST RESOURCES ASSESSMENT

National forest monitoring, carried out by many countries in the world, provides a means of communicating with specialists and the public about forest characteristics and change (FRA, 2015). Detecting and understanding forest resource change depends entirely on continuous or repeated forest inventory and monitoring activities. Without monitoring, the nature and direction of forest change would be based on guesswork (FRA, 2015) this is particularly true for South Africa as it relates to deforestation and forest degradation. While data is available with regard to the extent and distribution of plantation forestry and indigenous forests in the Republic, data on the latest status of woodlands is not available. The data used to estimate the extent of woodlands is based on studies or inventories carried out some decades back without any ground trothing done. The Department of Forestry, Fisheries and the Environment (DFFE) has the responsibility of administering the Act across South Africa. The Department is mandated to conduct forest monitoring in terms of Section 6 of the Act. Among other, it is legally required to monitor the maintenance and development of forests with reference to:

a) forest resources;
b) biological diversity in forests;
c) health and vitality of forests;
d) productive functions of forests;
e) protective and environmental functions; and
f) social functions of forests

In response to the legal mandate to monitor forests, and in response to several other national and international reporting requirements, the Department developed a conceptual framework for a national forest resource assessment. The Department piloted two studies, through the Council for Scientific and Industrial Research (CSIR) in Bushbuckridge, Mpumalanga (2018) and another in the Buffalo City Metropolitan Municipality, Eastern Cape (2018). The CSIR study was primarily meant to test feasibility of the framework developed by the Department. The Department appointed Southern Mapping Geospatial in 2018 to conduct a Forest Resource Assessment Pilot Study over the Buffalo City Metropolitan Municipality (BCM) as stated. The BCM study was completed in 2019.

The study was set out to map and classify the forest land in Buffalo City for the years 2005/6, 2010 and 2015. Three classification frameworks were prescribed, pertaining to: forest structure (i.e. canopy density and canopy height); forest floristics (i.e. forest types characterised by species - as based on VEGMAP) and; Land-Use / Land-Cover. A phased approach was implemented to generate and map these different layers of information from remote sensing.

A combination of geospatial data was employed; which included satellite imagery, aerial imagery, LiDAR data and SAR data among other; remote sensing methodologies; and field verification. Kinvig & Associates Environmental Consulting was subcontracted to perform the week-long field verification component of this study. This exercise yielded detailed species identification and classifications to provide appropriate groupings into the broader vegetation classes. Additionally, a 2018 LiDAR survey was conducted over specific transects of the municipality to provide a dataset that is representative of the structural characteristics of the different forest types in the area.

Consistency and standardisation were of paramount importance for this project considering the different types of datasets, resolutions and accompanying accuracies of each data type. Three main techniques were employed to ensure that the accuracy of the pilot study was maintained and to reduce / mitigate error. These techniques were: making use of one VEGMAP based classification for all natural wooded forest land; making use of a wall-to-wall 30m x 30m grid and; scaling the satellite imagery for each epoch to the lowest standardised resolution of 10m.

With an over-all average accuracy assessment of 75.83% over the 3 epochs; the study provided a reasonably satisfactory assessment of the forest cover and land-use conversions for the prescribed study period. Several challenges in analysis

and interpretation of the heterogeneous study domain had to be overcome. The results showed that 96 831.1ha of natural wooded vegetation occurred in Buffalo City, which represented 38.4% of the municipal area. The extent of planted forests (excluding urban tree cover) amounted to 3 593ha; equivalent to 1.42% of the municipal area. Of the settlements recorded for the study period, it appeared that 1.35% had tree cover. All forest cover considered, it appeared that over the decade covered by the study there had been relative stability in the extent of forest. For some individual forest types, however, there had been noticeable trends of change. Whereas the study did not examine forest degradation, the fact that forest extent remained fairly stable does not imply the absence of any degradation trends. From a conservation point of view the total extent of protected forest cover amounted to 1 908.9ha. Formal protected areas within the municipal bordereds only accommodated 0.7% of the tree cover. The forest types Southern Coastal Forest and Buffels Thicket are currently poorly protected and in need of better conservation.

From the perspective of piloting the national forest resource assessment concept, valuable lessons were learned during the course of the study. These learning outcomes were recorded among the recommendations in the final report. The over-all conclusion was that the proposed conceptual framework is achievable within limits of accuracy as discussed under the findings. Among the limitations, the floristic classification based on the VEGMAP introduced some inaccuracy. This could be overcome through a dedicated refinement before an actual remote sensing assessment process is endeavoured. The structural classification was achievable; however, the canopy height criteria require advanced remote sensing methods and data availability. The data reporting templates provided specific utility towards ensuring data consistency and correctness; however, challenges were experienced during the data capturing process with regard to the interpretation of the data template.

Building on the learning experiences from the pilot study, the service provider believed that a national assessment would be viable; provided substantial processing capacity could be established with dedicated human resources. The time frame for conducting such work on a national scale would span several years; probably in excess of five years. It might be an option to scale the work up to a complete province first, before attempting a national scale implementation.

Below is the conclusion of the and a way forward emanating from the study:

a) a field verification assessment was undertaken from the 8th of April to the 12th April 2018, to assess the forestry resources contained within the Buffalo City Metropolitan Municipality. The field verification identified main and specific non-forest land uses, as well as structural and floristic classes of forest land uses. The information that was obtained through this exercise was being utilised in assisting with the mapping of the forest resources through the use of spectral analysis. Definitions of these classifications were developed and provided by the Department.

b) the majority (48.1%) of the sampling points were identified to have non-forest land cover, whilst a large proportion (38.4%) of sample points had forest land cover. A substantial proportion of points (13.4%) were inaccessible and had to be replaced by surrogate points or not sampled.

c) despite more sampling points being classed as non-forest, the Buffalo City Metropolitan Municipality was dominated by woody land cover. Subtropical Thicket vegetation types (i.e. Albany Coastal Belt / thicket, Buffels Thicket and Great Fish Thicket) were the predominant land cover encountered. Natural Forest vegetation types (i.e. Scarp / Transkei Coastal Scarp Forest, Southern Coastal / Eastern Cape Dune Forest and Southern / Amathole Mistbelt Forest) were also well represented.

d) there were a number of limitations and shortfalls associated with undertaking the assessment. Some of the key challenges included time constraints, sampler inexperience and lack of knowledge, difficulty distinguishing between vegetation types and the use of inconsistent and not clearly defined classifications.

e) several recommendations have been made to address these limitations and shortfalls and to ensure that future assessments can be conducted with greater efficiency and accuracy. It was also suggested that a single service provider be appointed to correlate and manage master grid allocations and projections. Merging in between suggested 30 x 30 km project blocks would also need to be managed by this provided to circumvent any edge effects in the mapping. This service provider will thus need to be competent in projection and GIS/Remote Sensing data management, as well as in the scripting for automatically populating the GIS data to the required excel tables.

f) one of the most important recommendations was that more time be allocated to training samplers. The inclusion of training time into the study would greatly increase the accuracy with which field samplers record information and would also allow for a greater number of points to be sampled in a shorter amount of time. In addition, reliable and consistent field sampling equipment and guidebooks should be provided to field samplers to ensure information is recorded in a more consistent manner.

g) should the recommendations be adopted, forestry assessments can be conducted in other regions across the country within a shorter period of time and was therefore likely to decrease the costs associated with conducting such assessments.

PART 3

FOREST POLICY, GOVERNANCE AND LEGISLATIVE FRAMEWORK

1. POLICY AND LEGISLATION

The Constitution of the Republic: the Constitution of the Republic of South Africa (1996) is the supreme law of the country. It is based on certain rights and responsibilities conferred to all the people who leave in the country. Institutions of government are encouraged to uphold the Constitution, thus they have to develop, implement and monitor policies, strategies and programmes for ensuring that the spirit of the Constitution is upheld at all times. Section 24 of the Constitution aspires that everyone in the country should not be exposed to the environment, which is harmful to their well-being. The section deals with the environment and states that *"Everyone has the right-*

(a) *to an environment that is not harmful to their health or wellbeing; and*

(b) *to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that-*

(i) prevent pollution and ecological degradation;

(ii) promote conservation; and secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development".

The law is driven by the quest to ensure development and sustainable management of the country's natural/ renewable resources for the current and future generations while ensuring that these continue to provide their ecological functions. The National Development Plan (NDP): 2030 recognises the importance of natural resources in the development and growth of the country's economy. The NDP identifies forestry and agriculture as the sectors with the potential to create some one million jobs over the duration of the plan (a period leading to 2030). This is very significant in addressing the country's triple challenges of unemployment, poverty and inequality, which are pitting the lives of the poor people of the country in abject conditions. The Constitution directs the forestry mandate in the country, thereby indicating in Schedule 4, Part A that forestry is the competence of national government. However, natural forests are a concurrent competence of both the national and provincial spheres of government. This means National government may use various instruments or mechanisms to devolve the responsibilities of indigenous forests management to other authorities in the provincial or local spheres or any other competent management agency.

Forestry White Paper: The White Paper on Sustainable Development in South Africa (1996) is a policy document that guides forests ownership and management in the country. Prior to the adoption of the White Paper in 1996, the State was intensively involved in the business of commercial forestry plantation, which is inevitably profit orientated. Considering that the State is primarily responsible for creating the environment conducive for business to develop and thrive, this brought a clear conflict of interest whereby the State was simultaneously, a player and a referee in the commercial forestry sector. The White Paper on Sustainable Development in South Africa took a divergent approach that government should withdraw from direct management of commercial (plantation) forestry operations and repurpose itself as a sector leader thereby focusing on the core functions of policy development and sector regulation. Accordingly, the government commenced with the process of disposing or withdrawing from the business of plantation forestry through lease agreements. However, government, through the department of Forestry, Fisheries and the Environment is still managing the remaining over 61 000 hectares referred to as the category B and C plantations, depending on their viability and management objectives. Processes are underway to devolve or transfer these plantations to other recipients.

Forestry legislation: the laws governing forestry management and the sustainability of the forest resources in South Africa are the National Forests Act, 1998, (Act No. 84 of 1998) (the Act), and the National Veld and Forest Fire Act 1998, (Act No. 101 of 1998) (NVFFA).

The purpose of the National Forests Act (No. 84 of 1998) is to promote sustainable management and development of forests for the benefit of all. It provides special measures for the protection of certain forests and trees while also promoting the use of forests for environmental, economic, educational, recreational, and cultural and health purposes. The Act also provides for the Minister to monitor forests and report on any facts and trends derived from the monitoring.

The purpose of the National Veld and Forest Fire Act (No. 101 of 1998) on the other hand is to prevent, and combat veld, forest and mountain fires throughout the Republic. It provides for the establishment of voluntary fire management institutions in the form of fire protection associations, establishment of an early warning system and reasonable actions required for fire prevention and firefighting to mitigate the impacts of wildfires in the country. The Act also has reporting obligations in that it requires fire protection associations to report to the Minister on annual basis on their activities including reporting on fire occurrences statistics.

Other legislation: Several other legislation influencing forestry in South Africa includes laws pertaining to Water (water use licensing for afforestation), Agriculture (Conservation of Agricultural Resources Act 1983 (Act No. 43 of 1983) prohibits planting of commercial tree species on virgin land), Land (tenure and land rights), Environment (need for biodiversity protection and conservation) and Labour (remuneration of forestry workers).

2. FOREST GOVERNANCE

Forestry Branch: the Forestry Branch of the national Department of Forestry, Fisheries and the Environment, led by a Deputy Director-General is responsible for forestry in South Africa. The branch strives to create a conducive environment for plantation forestry to operate as sustainable businesses, administers and implements the two forestry legislation, namely, the National Forests Act 1998, (Act No. 84 of 1998) and the national Veld and Forest Act 1998, (Act No. 101 of 1998). It develops policies and strategies, and implements programmes geared towards sustainable management and development of natural resources including awareness raising resources as well as compliance and enforcement of the legislation. It achieves these by working closely with all relevant stakeholders involved in the sector and its value chains. The Department is still involved in direct management of over 61 000 ha of commercial plantations located in the Eastern Cape, KwaZulu-Natal, Mpumalanga, Limpopo and the North West. It also manages indigenous forests with an area of about 189 000 ha found in the regions of the Eastern Cape, KwaZulu-Natal and Limpopo/ Mpumalanga. 82% of commercial plantations in South Africa are with the private sector while 18% is publicly owned. The majority of woodlands forests occur in communal land and ownership of these is not clear. Some are in the National Parks and nature reserves cross the country. The Department directly manages some 189 696 ha of indigenous forests and the remainder occurs in private land. The branch establishes and chairs or co-chairs several forums based on thematic areas of work. These for a include the National Forestry research Forum (Research and Development), Forestry Liaison Forum (commercial forestry matters), the National Veld and Forest Fore Working Group (integrated fire management) and other internal/ departmental structures.

National Forests Advisory Council: The National Forests Advisory Council (NFAC) is a forestry statutory body established in terms of the Act. The term of office for the NFAC is three years and its main function is to advice the Minister and the Department on all matters pertaining forestry in the country. The Council has two Committees, namely, Committee on Access and the Committee on Sustainable Forest Management which both report to the Chairperson of the Council. The Department provides Secretariat services to the NFAC.

Forest Sector Charter Council: the Forest Sector Research Council (FSCC) was established to monitor compliance with the obligations of the social partners on the Broad-based Black Economic Empowerment (B-BBEE) Forest Sector Transformation Charter including Government. The social partners to the forest charter include government, labour and business and they have all committed to certain commitments/ responsibilities aimed at ensuring transformation and development in the forest sector. The FSCC is the custodian of the Charter and its primary responsibility is to ensure compliance with the charter obligations and to report on the performance of the sector.

Private Sector: the private sector, comprising of individuals, corporations, families and big companies play a major role mainly on commercial plantations businesses. The private sector's role is very important in that creates the much needed jobs, invest significantly in research and development, corporate responsibilities for the upliftment of poor communities in rural areas and plug the wood/ fibre demand. This is particularly important in that their efforts assist in safeguarding our indigenous forests.

National Forest Research Forum: the National Forestry Research Forum (NFRF) was established recently in 2015 with the objective of guiding the implementation of the National Forests Sector Research and Development Strategy. In 2019, the Forum began the process of reviewing the Research and Development strategy to align it to emerging issues and challenges faced by the sector.

3. LEGISLATIVE REVIEW

The Department administers two forestry legislation, namely, the National Forests Act of 1998, (Act No. 84 of 1998) and the National Veld and Forest Fire Act of 1998 (Act No. 101 of 1998). Since their promulgation in 1998, these Acts have undergone several reviews. The National Forests Act 1998 (Act No. 84 of 1998) has been amended two times (in 2001 and 2005) and in 2012/13, the Department initiated a process for a third review.

The purpose of the National Forests Act, 1998 (Act No. 84 of 1998) is to promote sustainable management and development of forests and provides for the protection of certain forests and trees. The Department identified a need to review the legislation based on the experiences from implementation and advice from implementers of the Act.

This with the view of making it more relevant and responsive to the operational realities and challenges encountered on the ground. The amendments were mainly triggered and motivated by the following objectives:

(a) to provide for clear definitions for example natural forests and woodlands;
(b) to provide for public trusteeship of the nation's forestry resources;
(c) to increase the promotion and enforcement of sustainable forest management;
(d) to increase the measures provided for in the Act to control and remedy deforestation;
(e) to provide for appeals against decisions taken under delegated powers and duties;
(f) to reinforce offences and penalties; and
(g) to promote equity by inclusion of youth and women in the National Forests Advisory Council (NFAC).

The National Forests Amendment Bill was published in May 2013 and again in May 2015 for public comments and extensive public consultations were done organised by the Department and a second round of consultations organised by the Portfolio Committee on Agriculture, forestry and Fisheries. The extended public hearings commenced in August 2017. The Bill was submitted to the National Council of Provinces for concurrence, as forestry is a concurrent responsibility between National and the Provincial spheres of government. The Bill was tagged as a Section 76 Bill in terms of the Constitution, and should be signed into law once the NCOP processes have been completed.

PART 4

INTERNATIONAL AND REGIONAL COOPERATION AND PROCESSES

1. INTERNATIONAL COOPERATION AND PROCESSES

South Africa, since the attainment of its freedom in 1994 became part of the global community. It has continues to actively participate in processes and efforts intended to make the world a better place with peace, prosperity and food security as the main pillars of the aspiration. The country is a signatory to several structures of the United Nations, the Continent and the Region. Some of these structures and participation of the country on forestry and natural resources management related matters are discussed in the following sections:

1.1 Food and Agriculture Organization of the United Nations

The Food and Agriculture Organization of the United Nations (FAO) is a specialised agency of the United Nations that leads international efforts to defeat hunger and improve nutrition and food security. Its latin motto, fiat panis, translates to "let there be bread", hence its main objective is to end hunger and poverty in the world. The FAO was founded in October 1945, making it the oldest existing agency of the United Nations and it is operating in over 130 countries.

It helps governments and development agencies coordinate their activities to improve and develop agriculture, forestry, fisheries, and land and water resources and also conducts research, provides technical assistance to projects, operates educational and training programs, and collects data on agricultural output, production, and development.

The FAO is composed of 197 member states, and is governed by a biennial conference representing each member country and the European Union, which elects a 49-member executive council. There are various committees governing matters such as finance, programs, agriculture and fisheries.

During the period under review, the FAO organised the following engagements:

The Technical Meeting of the official launch of the Global Forest Resources Assessment 2020 (FRA 2020) held in Joensuu, Finland in June 2017

The Global Forest Resources Assessment (FRA) is a process whereby the FAO collects data on forests from all Member States. The Global Forest Resources Assessments are conducted at approximately five to ten year intervals since the FAO's establishment in 1945.The FRA reports give an indication of the forest area and area change thereby giving an indication of whether or not the world's forests are sustainably managed. Member countries nominated National Correspondents and Alternative National Correspondents who serve as country focal points responsible for the provision of data (country reports) for their respective countries. These inputs are consolidated into a global report, referred to as the Global Forest Resources Assessment report.

The FAO organised an Expert Consultation Meeting on Global Forest Resources Assessment: for FRA 2020. The meeting was for launching the process for collecting data for FRA 2020 and South Africa participated at the meeting held in Joensuu, Finland in June 2017.

The rationale and objectives of the Expert Consultation meeting were to:

a) provide recommendations on the scope of the next global assessment including country process and the remote sensing component;
b) agree on standard definitions that will ensure increased consistency of reporting across countries;
c) enhance collaboration with other forestry related reporting processes and organizations in order to reduce reporting burden on countries and improve consistency of data across organizations and processes;
d) elaborate technical modalities for capacity building in developing countries; and
e) discuss frequency of reporting on core variables and annual reporting on Sustainable Development Goals (SDGs) indicators.

South Africa as one of active member States of FAO submitted the country report, which formed an integral part of FRA 2015. The country has also been submitting data for previous reports on global forest resources assessments.

The Technical Meeting of National Correspondents and Collaborative Forest Resources Questionnaires (CFRQ) partners for the official launch of the Global Forest Resources Assessment (FRA) 2020 in Toluca De Lerdo, Mexico from 5 to 9 March 2018

The processes for compiling the Global Forest Resources Assessment (FRA) 2020 commenced with the meeting of technical Experts held in Joensuu in June 2017 where South Africa duly participated**.** The meeting was attended by a limited number of experts including delegates from South Africa and was intended for reviewing the templates for FRA reporting as well as the online reporting platform, which was launched soon after the meeting.

The technical meeting of National Correspondents and CFRQ partners for the launch of the Global Forest Resources Assessment 2020 (FRA 2020) took place in 2018 in Toluca de Lerdo, Mexico, from 5-9 March. The objectives of the meeting were twofold (a) to familiarise member States through their National Correspondents, of the reviewed reporting templates and (b) train participants on the newly launched FRA online reporting platform and South Africa participated at this meeting.

The Global Forest Resources Assessment (FRA) 2020 Regional Remote Sensing Workshop for East Africa in Maputo, Mozambique, from 8-13 July 2019

For the first time in the history of Global Forest Resources Assessments, the FAO introduced a remote sensing component to enhance data collection. The FAO organised regional workshops to train national Correspondents and Geographic Information System (GIS) Specialists from member States train them on the tools to be used for remote sensing and data analysis for FRA 2020. The specific objectives for the workshop for East Africa held in Maputo in July 2019 were to develop national remote sensing capacities and establish a global network of satellite imagery interpreters who will be trained on a scalable methodology that could be easily adapted for country needs, including for reporting on the SDG indicators 15.1.1, 15.2.1 and 15.4.2.

Another objective was to provide independent and consistent estimates at global and regional levels for current forest area and its changes for periods 2000-2010, and 2010-2018. South Africa participated at the workshop. The country has more than 6000 data points to interpret and analyse over 390 polygons during the training, with the balance to be done in due course before the finalisation of FRA 2020 to be launched during the next COFO meeting.

1.2 FAO Forestry Commissions

1.2.1 African Forestry and Wildlife Commission

The African Forestry and Wildlife Commission (AFWC) of the Food and Agriculture Organization of the United Nations (FAO) was created in 1959 as one of six Regional Forestry Commissions established by FAO to provide a policy and technical forum for countries to discuss and address forest issues on a regional basis. The FAO Conferences between 1947 and 1959 established these six Regional Commissions. 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 region. The Commissions meet every two years and FAO encourages wide participation of government officials from forestry, wildlife management and other sectors as well as representatives of international, regional and sub-regional organizations that deal with forestry and wildlife-related issues in the region, including Non-Governmental Organisations (NGOs), and the private sector.

The AFWC held its 21st Session in Dakar, Senegal from 19-23 June 2018. Two delegates from South Africa participated at the meeting along with more than 200 other participants including Heads of States, Government officials from 30 African countries, heads of forestry and wildlife institutions, officials and experts of regional and international organisations as well as development partners of the FAO. The meeting discussed how to manage and develop Africa's forests and Wildlife resources in a sustainable manner, including restoration of forests where these have been degraded or over exploited. The meeting further discussed the support required for the African Forest Landscape Restoration Initiative (AFR100), including the Great Green Wall activities. Participants also called for an increase in investment for forest and wildlife conservation programmes and projects across the region. It was in this meeting that South Africa was nominated to host the 22nd Session of the AFWC in late 2019.

At the 21st Session, the African Forestry and Wildlife Commission noted the low number of country reports to the Secretariat, called on countries to submit their reports for the next session of the Commission, and sought to approach FAO to assist with mechanisms to help countries in the reporting process. The meeting further encouraged countries to participate actively in the Global Forest Resources Assessment (FRA) 2020 reporting process. South Africa participated and submitted country report to the FRA Secretariat sometime in 2018. The 21st Session further encouraged countries to fully integrate wildlife into national forest-related policies and strategies, for a better conservation and sustainable management of the

resources. The meeting further recommended Member countries to expand the implementation of the Action Against Desertification project and promote the Great Green Wall concept and related large-scale restoration efforts in all dryland countries including in North Africa and sub-Saharan Africa. The Great Green Wall or Great Green Wall of the Sahara and the Sahel is Africa's flagship initiative to combat the effects of desertification. Led by the African Union, the initiative aims to transform the lives of millions of people by creating a mosaic of green and productive landscapes across North Africa and sub-Saharan Africa. Once complete, the Great Green Wall will be the largest living structure on the planet, 3 times the size of the Great Barrier Reef.

1.2.2 Other Commissions of the FAO

The other five Commissions of the Food and Agriculture Organizations of the United Nations, based on the continents of the globe include the following:

1.2.2.1 Asia-Pacific Forestry Commission

Created in 1949, the Asia-Pacific Forestry Commission (APFC) is one of six Regional Forestry Commissions established by FAO to provide a policy and technical forum for countries in the region to discuss and address forest issues. It meets every two years and involves a variety of stakeholders in the meetings.

FAO encourages wide participation of government officials from forestry and other sectors as well as representatives of international, regional and sub-regional organisations that deal with forest-related issues in the region, including NGOs, and the private sector in all of its six Commissions.

1.2.2.2 Europe

Created in 1947, the European Forestry Commission (EFC) is one of six Regional Forestry Commissions established by FAO to provide a policy and technical forum for countries to discuss and address forest issues on a regional basis. It meets every two years.

The EFC has a number of associated subsidiary bodies, including the Working Party on the Management of Mountain Watersheds; the United Nations Economic Commission for Europe (UNECE)/ FAO Working Party on Forest Statistics, Economics and Management; and seven UNECE/FAO Teams of Specialists.

1.2.2.3 Latin America and Caribbean

The Latin and the Caribbean Forestry Commission (LACFC) was established in 1948 as an FAO Statutory Body to provide Member Nations with a technical and political forum to discuss and analyse issues related to forests, as well as their contribution to food security, sustainable food production in the region and the conservation of natural forest resources. Like with the other five Commissions, it meets every two years and serves as a forum for issues and to exchange knowledge and experiences. This includes the formulation of policies for the sustainable management of forest and wildlife, monitoring forest resources, exchange of information, fight against deforestation and assessment of national and regional experiences.

1.2.2.4 North East

The Near East Forestry and Range Commission (NEFRC) was established in 1953 as one of the six Regional Forestry Commissions established by FAO to provide a policy and technical forum for countries to discuss and address forest issues on a regional basis. It also meets every two years.

1.2.2.5 North America

Established in 1958, the *North American Forest Commission* (NAFC) is one of six Regional *Forestry* Commissions established by FAO to provide a policy and technical forum for countries to discuss and address *forest* issues on a regional basis and meets every two years, and participation is similar to that of the other five commissions.

1.3 Committee on Forestry

The Committee on Forestry (COFO) is the highest Food and Agriculture Organization of the United Nations (FAO) Forestry statutory body. The biennial sessions of COFO, held at FAO headquarters in Rome, Italy, bring together heads of forest services and other senior government officials to identify emerging policy and technical issues, to seek solutions and to advise FAO and others on appropriate action. Other international organizations and increasingly, non-governmental groups participate in COFO. Participation in COFO is open to all FAO member countries. The following are meetings at which South Africa participated during the period under review:

The 24th Session of the Committee on Forestry held in Rome, Italy, from 16-20 July 2018

The 24th Session of COFO and the 6th World Forest Week were held in parallel in July 2018 in Rome to explore the contributions that forests can make to the achievement of the Sustainable Development Goals (SDGs). The Committee examined the contributions forests could make to achieve the SDGs and other internationally agreed goals. It also explored ways and means to accelerate progress, in particular, towards Goal 15. The committee further discussed actions for implementing the policy recommendations of the Committee on World Food Security regarding the contributions of forests to food security and nutrition. Opportunities and challenges for urban and peri-urban forestry were also reviewed. Moreover, the 24th Session considered the implementation of FAO's climate change strategy and specific tasks related to forest resilience, health and forest fires; and provided strategic direction for the future work of FAO in forestry. South Africa had a delegation at this week-long meeting and actively contributed towards the discussions.

1.4 United Nations Forum on Forests

In October 2000, the Economic and Social Council of the United Nations (ECOSOC), in its Resolution 2000/35 established the United Nations Forum on Forests (UNFF), a subsidiary body with the main objective to promote " the management, conservation and sustainable development of all types of forests and to strengthen long-term political commitment to this end", based on the Rio Declaration, the Forest Principles, Chapter 11 of Agenda 21 and the outcome of the International Panel on Forests (IPF)/ International Forum on Forests (IFF) Processes and other key milestones of international forest policy. It is high-level intergovernmental policy forum, which includes all United Nations Member States and Permanent Observers, the UNFF Secretariat, the Collaborative Partnership on Forests (CPF), Regional Organisations and Processes and Major Groups.

The UNFF's principal functions are

(a) to facilitate the implementation of forest-related agreements and foster a common understanding on sustainable forest management;

(b) to provide for continued policy development and dialogue among governments, international organizations and major groups, as well as to address forest issues and emerging areas of concern in a holistic, comprehensive and integrated manner;

(c) to enhance cooperation, and policy and programme coordination on forest-related issues;

(d) to foster international cooperation and monitor, assess and report on progress; and

(e) to strengthen political commitment to the management, conservation and sustainable development of all types of forests.

The UNFF holds its sessions bi-annually. The following are the Forum's meetings at which South Africa duly participated:

The Second Open-Ended Intergovernmental Ad Hoc Expert Group (AHEG2) Meeting of the United Nations Forum on Forests (UNFF) on Development of Proposals to Implement UNFF-11 Resolution held in Bangkok, Thailand from 24-28 October 2016

The outcome of the Expert Group was a report containing consolidated proposals on the following matters referred to in Paragraph 44 of the Economic and Social Council (ECOSOC) Resolution 2015/33, namely, (a) the replacement of reference to the Millennium Development Goals in Paragraph 1 (b) of the United Nations Forest Instrument with an appropriate reference to Sustainable Development Goals and targets; and (b) the Strategic Plan for the Period 2017-2030 and the Quadrennial Programme of Work for the Period 2017 - 2020. The report was submitted for consideration of the UNFF Working Group meeting held from 16-20 January 2017 in New York.

South Africa is an active member of the UNFF and continued to actively participate in the session, not only as a member but also as a Chair of the Group of 77 + China, which comprises 134 countries.

The UNFF11 resolution contains provisions for a mid-term review of the effectiveness of the International Arrangement on Forests beyond 2015 to take place in the year 2024, and a final review in 2030. As a road map towards the final review in 2030, paragraph 44 of the UNFF 11 Resolution obliges the Forum to consider proposals on the following matters:

(a) replacement of the reference to the Millennium Development Goals in paragraph 1 (b) of the non-legally binding instrument on all types of forests with an appropriate reference to the sustainable development goals and targets which will be considered by the United Nations summit for the adoption of the post-2015 development agenda, to be held in September 2015;

(b) the strategic plan for the period 2017-2030 and the quadrennial programme of work for the period 2017-2020, consistent with section XI of the standing resolution;

(c) the UNFF established an Open-Ended Intergovernmental Ad-Hoc Expert Group (AHEG) to conduct up to two meetings in 2016 for consideration by the working group to enable the development of proposals as mentioned

above. The first meeting was held on the 20-22 January 2016, while the second meeting took place on 24-28 October 2016, at the UN Economic and Social Commission for Asia and Pacific headquarters in Bangkok, Thailand

Meeting for the Development of Global Forest Indicators to Support the Implementation of the 2030 Agenda on Sustainable Development and the International Arrangement on Forests (IAF) Strategic Plan held in Rome, Italy from 28 to 30 November 2016

The fifteen-year duration for the Millennium Development Goals (MDGs) ended in 2015 with South Africa preparing and submitting its final report on the process. Subsequent to the MDG process, a new process referred to as Agenda 2030 for Sustainable Development was initiated and South Africa actively participated in the process led by the Department of International Relations and Cooperation (DIRCO).

In March 2016, the UN Statistical Commission agreed on a global indicator framework for SDGs as a practical starting point for the implementation of the post 2015 Agenda (Agenda 2030 on SDGs). However, much work required to be done on some of the indicators, including the one for Target 15.2 on sustainable forest management, thus the meeting of November 2016 in Rome where South Africa also participated.

The FAO's Committee on Forestry (COFO), in its 23rd Session in July 2016, invited countries to strengthen forest data collection, *inter alia,* to support monitoring progress towards SDGs targets and design national level forest related SDGs indicators, using or further developing the existing Criteria and Indicators for sustainable forest management (C&Is) before defining new ones. It further requested the FAO to align its strategy for the Global Forest Resources Assessment (FRA) as necessary towards the needs of SDGs monitoring as well as to the reporting needs of other global forest processes. COFO also requested FAO to continue working with the Secretariats of the CBD, UNCCD, UNFCCC, UNFF, ITTO, other members of the CPF, as well as other relevant international processes to improve and streamline global reporting on forests, with the aim of identifying synergies and reducing the reporting burden on countries.

In light of the above, the CPF organised an Organization-led Initiative (OLI) meeting on global forest indicators to support the implementation of the 2030 Agenda for Sustainable Development and the IAF Strategic Plan which was held in Rome, Italy, from the 28 to 30 November 2016. The main objectives of the meeting in which South Africa participated were:

a) to propose a common and concise set of global indicators for monitoring progress in achieving the forest-related targets of the SDGs and relevant goals and targets of other forest-related global processes;

b) to provide inputs to the development of a proposal on cycle and format for reporting; and

c) to provide inputs and guidance to the process of developing FRA 2020 in order to ensure its continued relevance as a global source of forest information.

United Nations Forum on Forests (UNFF) Strategic Plan for Forests 2017-2030 and Quadrennial Programme of Work (4POW) for the Period 2017- 2020 held at the United Nations Headquarters in New York, United States of America from 16-20 January 2017

The Economic and Social Council (ECOSOC) of the United Nations – in its resolution 2015/13 adopted at the eleventh session of the United Nations Forum on Forests (UNFF-11) established a Working Group and an Open Ended Intergovernmental *Ad Hoc* Expert Group under the United Nations Forum on Forests (UNFF). The Working Group was established with a view to developing proposals on:

a) replacement of reference to the Millennium Development Goals (MDGs) in Paragraph 1(b) of the UN forest instrument; and

b) the Strategic Plan for Forests for 2017-2030 (the Strategic Plan) and the Quadrennial Programme of Work (4POW) for the Period 2017-2020.

The outcome of the Working Group was a comprehensive Strategic Plan for Forests for 2017-2030 and the Quadrennial Programme of Work for the Period 2017 – 2020 and the country was part of the meeting.

Twelfth Session of the United Nations Forum on Forests (UNFF-12) held in New York, United States of America, 1-5 May 2017

The twelfth session of the UN Forum on Forests (UNFF-12) was held from 01-05 May 2017 at UN Headquarters in New York. Over 300 participants from Members States including South Africa, international organisations, the Collaborative Partnership on Forests (CPF) and Major Groups gathered to address: implementation of the UN Strategic Plan on Forests 2017-2030 (UNSPF), including holding a number of panel discussions on SDGs to be taken up in 2017 by the High-level Political Forum (HLPF) on Sustainable Development; Means of Implementation for sustainable forest management; monitoring, assessment and reporting (MAR); and emerging challenges and issues.

The Session canvassed for more cooperation, coordination and engagement on forestry-related matters and a resolution was adopted in this regard. Delegates at the meeting also pleaded for more private investment for forestry projects and efforts geared towards sustainable development across the globe. Subsequent to the meeting, South Africa requested assistance from the UNFF Secretariat to secure funding form the GFFFN for the envisaged National Forest Resources Assessment.

Expert Meeting on reporting to the United Nations Forum on Forests (UNFF) held in Nairobi, Kenya, from 21 to 23 November 2017

The Economic and Social Council resolution 2015/33 on the "International Arrangement on Forests beyond 2015" requested the UNFF secretariat in consultation with relevant bodies and partners, to propose for consideration by the Forum at its next session a cycle and a format for national reporting and the enhancement of voluntary monitoring, assessment and reporting on the progress made in the implementation of the UN Forest Instrument and its Global Objectives on Forests (GOFs), as well as the related SDGs and targets, taking into account and utilising existing data collection mechanisms.

Subsequently, the Forum, at its special session held on 20 January 2017 adopted the United Nations Strategic Plan for Forests 2017-2030 (UNSPF), including the United Nations Forest Instrument (UNFI) and voluntary national contributions (VNCs).

At the last session of the Forum (UNFF-12), the UNFF Secretariat proposed guidelines and format for reporting on progress towards the implementation of UNSPF, UNFI and VNCs. UNFF-12 requested the Secretariat to further revise the format on the basis of consultations with Members of the Forum, other intersessional activities, the views expressed during the UNFF-12 and pilot testing of the current draft format.

The intention was that the Forum, at its thirteen sessions (UNFF-13) would consider the format and cycle, taking in account the work on forest indicators, relevant reporting cycles and the need to reduce reporting burdens, as well as potential communication products from such reporting.

In preparation for the task allocated, the UNFF Secretariat organised the meeting, which was held in Nairobi, Kenya from 21-23 November 2017 to share experience gained in the pilot testing, discuss the findings and further revised the reporting format. The country sent a delegation to this meeting and shared its experiences. The meeting also discussed additional data sources and indicators for national reporting; data sharing arrangements with relevant organisations; and the use of information submitted in the national reports.

Expert Group Meeting on the Clearing House of the United Nations Forum on Forests (UNFF)'s Global Forest Financing Facilitation Network (GFFFN) held in New York, United States of America, from 9-11 January 2019

At its eleventh session (UNFF-11) held in 2015, the UNFF established the Global Forest Financing Facilitation Network (GFFFN), consistent with the forum's core objective of mobilising, catalysing and facilitating access to financial, technical and scientific resources to implement the UN Forest Instrument and sustainable forest management (SFM). One of the priorities of the GFFFN as set out in the United Nations Strategic Plan for Forests (UNSPF) is "to serve as a clearing house and database on existing, new and emerging financing opportunities and as a tool for sharing lessons learned and best practices from successful project, building on the experience of the Collaborative Partnership on Forests (CPF) Online Sourcebook for Forest Financing" (ECOSOC resolution 2017/4).

The main functions of the GFFFN include, amongst others,

(a) identifying, facilitating and simplifying access to all sources of finance for sustainable forest management (SFM);
(b) facilitating access to existing and emerging financing mechanisms, including the Global Environment Facility (GEF) and the Green Climate Fund (GCF);
(c) promoting the design of national forest financing strategies, projects and programmes to facilitate access to existing and emerging financing mechanisms; and
(d) providing advice and sharing examples of good practice on financing for SFM.

The Departmental delegation at the first Ad Hoc Expert Group (AHEG) meeting held at the UN Headquarters in New York had an informal discussion with the Secretariat of the UNFF with a view to obtain technical assistance from the GFFFN in line with the resolution of the UNFF-11 and the objectives of the GFFFN.

Subsequently, the Department, through a Ministerial letter to the Secretariat commenced with the formal process to source funds for the purpose of, amongst others, conducting a national forest resources assessment (NFRA) for South Africa.

In February 2018, the UNFF Secretariat confirmed the receipt of South Africa's request for support from GFFFN to mobilise

financing for sustainable forest management. This was followed by a communication indicating resources have finally been secured to support South Africa to develop a project proposal for accessing funding from multi-lateral sources for the national forest resources assessment.

Monitoring, Assessment and Reporting (MAR) capacity building workshop on reporting on progress made towards the achievement of the Global Forest Goals (GFGs) and targets of the United Nations Strategic Plan for Forests (UNSPF) 2030 held in Bangkok, Thailand, from 28 to 30 October 2019.

On 27 April 2017, the UN General Assembly adopted the first ever UN Strategic Plan for Forests 2017-2030. The Strategic Plan provides a global framework for actions at all levels to sustainably manage all types of forests and trees outside forests and halt deforestation and forest degradation. At the heart of the Strategic Plan are six Global Forest Goals and 26 associated targets to be achieved by 2030, which are voluntary and universal. They support the objectives of the International Arrangement on Forests (IAF) and aim to contribute to progress on the Sustainable Development Goals, the Aichi Biodiversity Targets, the Paris Agreement adopted under the UN Framework Convention on Climate Change and other international forest-related instruments, processes, commitments and goals. These Global Objectives are:

Global Forest Goal 1: Reverse the loss of forest cover worldwide through sustainable forest management, including protection, restoration, afforestation and reforestation, and increase efforts to prevent forest degradation and contribute to the global effort of addressing climate change.

Goal 1 targets include Increase forest area by 3% worldwide by 2030, (an area of 120 million hectares). Maintain or enhance the world's forest carbon stocks by 2030.

Global Forest Goal 2: Enhance forest-based economic, social and environmental benefits, including by improving the livelihoods of forest-dependent people.

Goal 2 targets include: Eradicate extreme poverty for all forest-dependent people by 2030. Enhance the contribution of all types of forests to biodiversity conservation and climate change mitigation and adaptation by 2030

Global Forest Goal 3: Increase significantly the area of protected forests worldwide and other areas of sustainably managed forests, as well as the proportion of forest products from sustainably managed forests.

Goal 3 targets include: Significantly increase the area of forests worldwide designated as protected areas or conserved through other effective area-based conservation measures by 2030.

Global Forest Goal 4: Mobilize significantly increased, new and additional financial resources from all sources for the implementation of sustainable forest management and strengthen scientific and technical cooperation and partnerships.

Mobilise significant resources from all sources and at all levels to finance sustainable forest management and provide adequate incentives to developing countries to advance such management, including for conservation and reforestation, by 2030.

Global Forest Goal 5: Promote governance frameworks to implement sustainable forest management, including through the United Nations forest instrument, and enhance the contribution of forests to the 2030 Agenda for Sustainable Development.

Goal 5 targets include: Enhance forest law enforcement and governance, including through significantly strengthening national and subnational forest authorities, and significantly reducing illegal logging and associated trade worldwide, by 2030.

Global Forest Goal 6: Enhance cooperation, coordination, coherence and synergies on forest-related issues at all levels, including within the United Nations system and across member organizations of the Collaborative Partnership on Forests, as well as across sectors and relevant stakeholders.

Goal 6 targets include: Significantly enhance cross-sectoral coordination and cooperation to promote sustainable forest management and halt deforestation and forest degradation at all levels by 2030.

The United Nations Forum on Forests (UNFF), at its fourteenth session (UNFF-14) resolved that the UNFF Secretariat should organise a capacity building workshop on national reporting towards the achievement of the GFGs and targets of the UN Strategic Plan for Forests 2030.

In July 2019, the Secretariat circulated the reporting format and the explanatory notes thereof to Member States, including South Africa. The Forum, at its fourteenth session (UNFF-14) endorsed the reporting format and explanatory notes.

The Forum further requested the Secretariat to prepare, based on the initial round of reporting and in consultation with countries, members of the Collaborative Partnership on Forests (CPF) and relevant stakeholders, a concise "flagship" publication on progress towards the achievement of the GFGs, for release by the end of 2021.

In lieu of the above, the 14th Session of the Forum encouraged countries to:

a) submit their voluntary national reports to the Forum at its fifteenth session (UNFF15), as these reports will provide the basis for the "flagship" publication; and

b) share success stories and best practises as part of their national reports.

The Department duly prepared the voluntary national report for South Africa towards the achievement of the GFGs and targets of the UNSPF and submitted to the UNFF Secretariat. South Africa also made a presentation on the report at the workshop, held on 28 to 30 October 2019 in Bangkok, Thailand. The main aim of the workshop was to capacitate Focal Points (delegates) on reporting against the UN Strategic Plan for Forests (2030) and for participants to share experiences, challenges and possible solutions.

United Nations Forum On Forests (UNFF) Expert Group Meeting on the Clearing House of the Global Forest Financing Facilitation Network (GFFFN) and the Expert Group Meeting on the Quadrennial Programme of Work for 2021-2024 held in Geneva, Switzerland, from 12 to 15 November 2019

At its eleventh session (UNFF-11) held in 2015, the UNFF established the Global Forest Financing Facilitation Network (GFFFN), consistent with the forum's core objective of mobilising, catalysing and facilitating access to financial, technical and scientific resources to implement the UN Forest Instrument and sustainable forest management (SFM). One of the priorities of the GFFFN as set out in the United Nations Strategic Plan for Forests (UNSPF) is "to serve as a clearing house and database on existing, new and emerging financing opportunities and as a tool for sharing lessons learned and best practices from successful projects, building on the experience of the Collaborative Partnership on Forests (CPF) Online Sourcebook for Forest Financing" (ECOSOC resolution 2017/4).

As one of the resolutions adopted during the thirteenth session of the UNFF (UNFF-13), the UNFF Secretariat was requested to "initiate development of the Network's online Clearing House mechanism" in accordance with the guidelines for the operation of the GFFFN. The guidelines further stipulated that the Secretariat should develop, without duplicating existing efforts, the Clearing House (CH) in consultation with interested members of the CPF, with a view to providing:

a) comprehensive up-to-date database on forest financing opportunities from all sources for sustainable forest management, drawing and building on existing initiatives and sources of information, including information on procedures for accessing resources;

b) a web-based interactive platform for the exchange of data, lessons learned and best practices among users, including, for example, on project conceptualisation; and

c) a source of data for assessing progress on target 15.b of the Sustainable Development Goals and Global Forest Goal 4.

In pursuit of the above-mentioned resolution, the Secretariat of the UNFF arranged an expert group meeting on the clearing house of the GFFFN and invited UNFF National Focal Points to participate in the meeting. The meeting was held at the United Nations Headquarters in New York, United States of America on 9-11 January 2019 and South Africa participated as invited.

The UNFF Secretariat has been tirelessly preparing for the establishment of the Clearing House including taking steps to respond to several requests made during UNFF-14 on the GFFFN and its CH. South Africa had made a request for financial assistance to fund the anticipated national forest resources assessment to collect data on the country's forest resources.

The UNFF Secretariat viewed the Expert Group Meeting as an opportunity to provide an update on its activities and related results and for experts to provided their feedback and discuss the way forward. Accordingly, as a Member State, South Africa was also invited to attend the meeting of January 2019 in preparation for the November 2019, Geneva meeting of wider stakeholders.

The main objective of the Geneva meeting was for the experts to be informed of and provide their feedback on the development and operationalisation of Phase 1 of the Clearing House (CH) of the Global Forest Financing Facilitation Network (GFFFN) since the fourteenth session of the United Nations Forum on Forests (UNFF-14), including design of databases, information collected for the databases and the way forward.

South Africa took part in this meeting held in Geneva, Switzerland in November 2019, which resolved it was important to develop the Clearing House of the GFFFN in a step-wise approach, and in the most cost-effective manner. The CH provides a one-stop shop in the form of a meta-database for countries and stakeholders to have access to a comprehensive set of information on forest financing.

Thirteenth Session of the United Nations Forum on Forests held in New York, United States of America, from 7-11 May 2018

The outcome of the United Nations Forum on Forests (UNFF-13), at which South Africa also participated was an omnibus resolution which addressed: Implementation of the United Nations Strategic Plan on Forests (UNSPF); Monitoring, Assessment

and Reporting; Means of Implementation; United Nations system-wide contribution to the implementation of the UNSPF; Contribution of the Forum to the High-Level Political Forum (HLPL); Review of the SDGs in 2018; Preparation for the HLPF review in 2019; and Information on reform of the UN Department of Economic and Social Affairs pertaining UNFF.

Delegates also addressed implementation of the UN Strategic Plan on Forests 2017-2030 (UNSPF) with counties announcing voluntary national contributions. A communication and outreach strategy was also adopted at this meeting. In addition to participating in the formal sessions of the Forum, the delegation from South Africa held bilateral meetings with: (i) the UNFF Secretariat to further explore possibilities of funding the National Forest Resources Assessment through the Global Forest Financing Network (GFFFN); and (ii) Zambian delegation to discuss transportation of illegally harvested Mukula timber through the SA border with Zimbabwe and subsequent export of such timber through the Durban harbour.

1.5 United Nations Framework Convention on Climate Change

The United Nations Framework Convention on Climate Change (UNFCCC) is an international environmental treaty adopted on 09 May 1992 and opened for signature at the Earth Summit in Rio de Janeiro from 03 to 14 June 1992. It then entered into force on 21 March 1994, after a minimum required number of countries had ratified it. The UNFCCC objective is to "stabilise greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system". The framework sets non-binding limits on greenhouse gas emissions for individual countries and contains no enforcement mechanisms. The following meetings of the UNFCCC were held during the review period:

Twenty-Second Session of the Conference of the Parties (COP 22); the Twelfth Session of the Conference of the Parties to the Kyoto Protocol (CMP 12); and the First Session of the Conference of the Parties Serving as the Meeting of the Parties to the Paris Agreement (CMA 1) to the United Nations Framework Convention on Climate Change (UNFCCC) held in Marrakech, Morocco from 7-18 November 2016

The Marrakech Climate Change Conference follows the adoption of the Paris Agreement at the historic 21st Conference of Parties (COP21) held in 2015 in Paris, France. The Marrakech Climate Change Conference, also known as COP22, was regarded as historic moment as it coincided with the entry into force of the Paris Climate Change Agreement. The number of Parties that have ratified, accepted, or approved the Agreement now covers over 55% of global greenhouse gas emissions as required and as a result met the minimum threshold.

The Paris Agreement entered into force on 04 November 2016 after its ratification by 113 of 197 Parties to the Convention. This was seen as the biggest political achievement and paved a way for countries to commence focussing their attention on accelerating the implementation of their plans through the Nationally Determined Contributions (NDCs). The Agreement obliges governments to take action to achieve the temperature goals enshrined in the Agreement, keeping the average global temperature rise from pre-industrial times below 2 degrees Celsius and driving efforts to limit it to 1.5 degrees Celsius.

The implementation of the Paris Agreement required measures to operationalise, for example, the launch of the Agreement's governing body, known as the Conference of the Parties (COP) and the development of the rulebook.

The rulebook sets out the detailed requirements under which countries and other actors openly report and account for the climate action they are undertaking. Developed countries pledged some $100 billion for implementation of the Agreement in the build up to 2020.

For forestry, the meeting discussed how to implement Reducing Emissions from Deforestation and Degradation (REDD+) since it appears in the Paris Agreement, as article 5. In these discussions, the Parties admitted that the greenhouse gas emissions (GHG) are at an all-time high and the intention is to limit the global warming to below 2 degrees C. One of the best ways to address this challenge is to keep trees standing, as healthy forests sequestrate carbon, and conversely, unhealthy forests, have proven to cause degradation or deforestation resulting in greenhouse gas emissions, after the burning of fossil fuels.

REDD+ mechanism is one of the most promising means for keeping trees standing in developing countries. Other ideas thrown during the discussions to introduce incentives for implementation of REDD+ projects in different countries where it is feasible to do so in order to address the drivers of forest loss, and also to avoid emissions and increase storage by taking proactive measures to conserve and restore forests.

The aim of REDD+ is to slowly, halt and reverse forest cover and carbon loss in developing countries. The broad intent of REDD+ is to help countries shift to low-emissions development pathways by increasing the value of healthy forests relative to other land uses. Achieving and sustaining the objectives of REDD+ requires the transformation of economic activities within and outside of the forests, often referred to as the drivers of deforestation and forest degradation.

With the Paris Agreement in place, REDD+ is now a key piece of the new climate architecture adopted by every country in the world. No additional foundational decisions are required for the REDD+ to be fully implemented. The focus now is on implementation and support of REDD+.

COP22 adopted 35 decisions including the adoption of the Marrakech Action Proclamation for our Climate and Sustainable Development (MAP) by Heads of States.

The Marrakech Conference also launched the Marrakech Partnership for Global Climate Action by the High-Level Champions. It is intended to provide a strong basis for the UNFCCC process to catalyse and support climate action by Parties and non-Party stakeholders in the period from 2017-2020, giving effect to the existing arrangements as agreed by Parties at COP 21 in Paris. It has been given the responsibility of convening and facilitating an active dialogue between Parties and non-Party stakeholders.

Twenty-third Conference of the Parties (COP-23) to the United Nations Framework Convention on Climate Change held in Bonn, Germany from 6-17 November 2017

The Paris Agreement entered into force in November 2016 and Parties to the Paris Agreement have met during the 23rd Conference of the Parties (COP-23) to clarify enabling frameworks for operationalising the Agreement and the support needed for all nations to achieve their climate change goals.

The UN Climate Change Conference in Warsaw, Poland, took place in November 2013 and the meeting adopted an ADP decision that, *inter alia*, invited parties to initiate or intensify domestic preparations for their intended Nationally Determined Contributions (iNDCs). Parties also adopted decisions establishing the Warsaw International Mechanism on loss and damage associated with climate change impacts, and the Warsaw Framework for Reducing Emissions from Deforestation and Degradation in developing countries (REDD+). The Outcomes of the meeting included amongst others, the following:

a) **Finalisation of the Local Communities and Indigenous Peoples Platform**: This platform is meant to provide direct and comprehensive means to give a greater voice to indigenous people in the climate negotiations and allow them to share their traditional knowledge and best practices on reducing emissions, adapting to climate change and building resilience; and

b) **Adaptation Fund:** The Adaptation Fund was replenished with a total of US $93.3 million, exceeding that year's funding target by US $13 million. The Adaptation Fund has a record of accomplishment of providing valuable resources to communities in developing countries for projects that help improve resilience to the effects of climate change. Projects may apply for funding from the Adaptation Fund Board, which reviews applications through a transparent process. Countries also took the important steps to ensure that the Adaptation Fund shall serve the Paris Agreement.

Twenty-Fourth Conference of the Parties (COP 24) , Forty-Ninth Session of the Subsidiary Bodies for Implementation (SBI 49) and Subsidiary Bodies for Scientific and Technological Advice (SBSTA 49) as well as the Seventh Part of the First Session of the Ad Hoc Working Group on the Paris Agreement (APA1.7), Katowice, Poland, 3-14 December 2018

Over 22,000 people participated at COP24, including nearly 14,000 government officials, over 7,000 representatives from the United Nations bodies and agencies, intergovernmental organisations, and civil society organisations, and 1,500 members of the media, at the Katowice Climate Change Conference. South Africa has a delegation at the meeting. Key COP24 outcomes included the following:

a) **Mitigation**: further guidance in relation to Nationally Determined Contributions (NDCs), common time frames, and modalities, work programme, and functions under the Paris Agreement of the forum on the impact of the implementation of response measures;

b) **Adaptation**: further guidance on adaptation communication;

c) **Finance**: identification of information to be provided by parties in accordance with Agreement Article 9.5 (*ex ante* finance transparency), matters relating to the Adaptation Fund, and setting a new collective quantified goal on finance;

d) **Technology**: scope of and modalities for the periodic assessment of the Technology Mechanism, and the technology framework;

e) **Modalities**: procedures, and guidelines for the transparency framework for action and support; and

f) **Global stock-take:** modalities and procedures for the effective operation of the committee to facilitate implementation and promote compliance.

During the COP, issues of forestry and REDD+ were discussed in various items of all the four formal bodies of the UNFCCC.

In accordance with decision 10/CP.19 paragraph 4, the COP encouraged national entities financing REDD+ activities to meet in a voluntary basis to address the needs and functions related to the implementation of the activities and elements related to the REDD+ Programme. The 4th voluntary meeting in which South Africa participated, was attended by Parties, their REDD+ focal points and other relevant stakeholders including civil society, entities financing and/ or implementing REDD+, intergovernmental organisations and UN Agencies. Participants shared the views, exchanged information and shared experiences and lessons learned in the implementation of REDD+ in their respective countries.

During discussions on possible topics for next meeting, participants highlighted that the next meeting should explore in more detail the need for better coherence and coordination of finance for forests and the multiple levels of coordination involved in such financing, in particular, the role of entities financing forests and coordination among them. Some participants proposed that in future voluntary meetings, REDD+ countries, finance institutions, private sector as well as bilateral donors should jointly identify financing gaps and needs.

From the country perspective, the Department engaged with the relevant UNFCCC agencies on accessing funding from Green Climate Fund (GCF) and Adaptation Fund (AF) for the implementation of the Paris Agreement through implementation of sector plans, programmes and projects. In this regard the Department sought to develop a REDD+ Strategy for the country and to monitor and evaluate progress on AFOLU (Agriculture and Other Land Use) - REDD+ assessments process.

1.6 United Nations Convention on Biological Diversity

The UN Convention on Biological Diversity (UNCBD) is an international legally-binding treaty with three main goals, namely, conservation of biodiversity; sustainable use of biodiversity; fair and equitable sharing of the benefits arising from the use of genetic resources. The Conference of the Parties (COP) is the governing body of the Convention on Biological Diversity (CBD) and advances implementation of the Convention through the decisions it takes at its periodic meetings, currently held every two years. To date, the Conference of the Parties (COP) has held twelve ordinary meetings and one extraordinary meeting, the latter specifically for the adoption of the Biosafety Protocol.

The Twelfth meeting of the Conference of the Parties (COP-12) to the Convention on Biological Diversity was held in Pyeongchang, Republic of Korea in October 2014 and the Thirteenth meeting of the Conference (COP-13) was held in Cancun, Mexico, from 04 to17 December 2016.

The Convention on Biodiversity (CBD) is an International treaty that has 193 parties including South Africa. Since its inception, the CBD has adopted three protocols in its framework, namely (a) Cartagena Protocol; (b) Nagoya-Kuala Lumpur Supplementary Protocol on Liability and Redress to the Cartagena Protocol on Biosafety to the CBD, and (c) Nagoya Protocol on Access and Benefit Sharing.

The Convention was signed by 150 government leaders at the 1992 Rio Earth Summit in Johannesburg and is dedicated to promoting sustainable development. It was conceived as a practical tool for translating the principles of Agenda 21 into reality. The Convention recognises that biological diversity is about more than species of fauna and flora and micro-organisms and their systems- that it is about the peoples of the world and their quest for food security, shelter, medicines, fresh air and water, and a clean and healthy environment in which to live.

The importance of South Africa's participation through agriculture forestry and fisheries sectors and other related sectors is a necessity to ensure food security and poverty alleviation; and enhancing the socio-economic benefits of forests to people. These sectors are being negotiated under various themes in numerous platforms as they are part of the most vulnerable sectors that are likely to be significantly impacted by both natural and man-made phenomena which inevitably, negatively compromise global food security, rural development and poverty alleviation. South Africa, Forestry participated at the following meetings of the UNCBD:

The 13th Conference of the Parties (COP-13) Meeting of the Convention on Biological Diversity held in Cancun, Mexico, 04-17 December 2016

In decision XII/31(Multi-year programme of work of the COP up to 2020), COP-12 reaffirmed that the COP should review progress in the implementation of the Strategic Plan for Biodiversity 2011-2020 at each of its meetings to 2020, It was also decided that the development of further guidance for policy development and to support implementation should be based on this review as well as on information available in national reports and on other information that may become available, including through scientific assessments. The COP therefore dealt with the proposals from COP-12. COP also decided to address the following strategic issues at this Session:

a) interim review of progress towards the implementation of the Strategic Plan for Biodiversity 2011-2020 and the achievement of the Aichi Biodiversity Targets, and related means of implementation;

b) further consideration of the implications of the findings of the 4th Global Biodiversity Outlook (GBO-4) and fifth national reports

c) strategic actions to enhance national implementation, in particular through mainstreaming and the integration of biodiversity across relevant sectors, including agriculture, forests and fisheries;

d) ways and means to enhance the implementation of Article 12 of the Convention, in particular training and capacity building for developing countries to support implementation of the Strategic Plan for Biodiversity 2011-2020;

e) integration among the Convention and its Protocols;

f) guidelines for the sixth national reports and modalities for future editions of GBO;

g) implications of the post-2015 United Nations development agenda and the sustainable development goals and of other relevant international processes for the future work of the Convention; and

h) determination of funding needs to inform the GEF-7 replenishment for the 2018-2022 cycle.

There was a focus on mainstreaming during the COP aimed to reduce, prevent and mitigate the negative impacts of the activities of these sectors on biodiversity and promote healthy and resilient ecosystems continue to provide essential services for human well-being and for the planet.

2. REGIONAL COOPERATION AND CAPACITY BUILDING

The United Nations mission is that of ending hunger, poverty and inequality to ensure peace and stability among the peoples of the world. Various Programmes and Projects are developed and implemented across the globe and the expectations is that the developed nations should as far as possible assist those, which are developing or least developed. In this regard, resources are required to ensure implementation of policies and strategies are realised. This there requires investment of resources and sharing of technologies and knowledge at different levels. To realise these, most UN bodies have targeted programmes of training and capacity building in different regions of the world. South Africa, as one of the United Nations Member States has endorsed and signed on several international agreements and protocols aimed at ensuring sustainable management and development of natural resources, thereby contributing to socio-economic development and improvement of the lives of the peoples of the world. These conventions, agreements and protocols impose pre-determined obligations to Member States, which are aimed at ensuring environmental sustainability and sustainable utilisation of natural resources. More importantly, they also provide opportunities for eradicating poverty and growing the economies of Member States at all levels, that is, national, regional and globally. South Africa therefore benefitted from various UN interventions during the period under review.

3. SAFORGEN

The sub-Saharan African Forest Genetic Resources (SAFORGEN) is one of the Regional networks that seek to enable people and institutions in sub-Saharan Africa, to conserve and use existing forest biodiversity to:

(a) assess the dynamic processes that shape forest genetic diversity from a population to landscape level;

(b) develop strategies, methods and tools for the conservation and sustainable use of forest biodiversity; and

(c) disseminate knowledge and information about conservation and sustainable use of forest genetic resources among both international and national fora.

SAFORGEN covers three broad sub-regions in sub-Saharan Africa, namely, West and Central Africa, Eastern Africa and Southern Africa. Research activities for SAFORGEN focus on priority species groups: food tree species, medicinal and aromatic tree species, wood and fibre and fodder tree species. South Africa participated at the following meetings organised by SAFORGEN during the period 2016-2019:

Regional Planning Workshop to support the Implementation of the Global Plan of Action for Forest Genetic Resources held in Douala, Cameroon, 12-14 April 2016

The Tenth Conference of Parties (COP-10) of the United Nations Convention on Biological Diversity (UNCBD), meeting in October 2010, recognised the importance of forest genetic diversity for the conservation and sustainable use of forest biodiversity, including in the context of addressing climate change and maintaining the resilience of forest ecosystems; and in this context welcomed the preparation by FAO of the country driven report on the State of the World's-Forest Genetic Resources report (SOW-FGR).

The UNCBD COP-10 further invited Parties, other Governments, and relevant organisations to support the preparation of the first country-driven SOW-FGR. South Africa was one of the 86 FAO member states, which submitted country reports as inputs onto the State of the World's Forest Genetic Resources.

Furthermore, the Intergovernmental Technical Working Group on Forest Genetic Resources (ITWG-FGR) finalised the targets and indicators for forest genetic resources at its Fourth Session in May 2016. The Commission was then expected to endorse the targets and indicators at its Sixteenth Regular Session held in January 2017. Subsequently, countries invited to provide data and information for the review of the implementation of the GPA-FGR in 2017. The CGRFA's Multi-Year Programme of Work (2014-2023), the first review report on the implementation of the GPA-FGR was presented to the Commission at its Seventeenth Regular Session in 2019 and the Second State of the World's Forest Genetic Resources (SoW-FGR-2) will be presented at its Nineteenth Regular Session in 2023.

Bioversity International in collaboration with FAO organised a regional planning workshop in Douala, Cameroon from the 12th to 14th April 2016 to facilitate implementation of the Global Plan of Action (GPA). The objectives of the workshop were:

a) to identify regional priorities for the implementation of the Global Plan of Action in Africa;

b) to establish Working Groups for at least two strategic priorities or priority areas, and develop related work plans; and

c) to develop a joint statement for mobilizing supports at national, regional and international levels for the implementation of the GPA in the region.

The key outcomes of the workshop were identification of priorities for the region in lieu of implementation of the Global Plan of Action in Africa and the resuscitation of the Sub-Saharan Africa Forest Genetic Resources Network (SAFORGEN). The meeting also established the roles and responsibilities of the forum. In this regard, nine priorities for the Africa region, informed by the Global Plan of Action on FGR were identified; and processes were set in motion for development of Terms of Reference for the organisation and its associated working groups. Three Working Groups (informed by the GPA on FGR) were established. A declaration/ pledge was also formulated for mobilising support at National, Regional and International levels for the implementation of the GPA in the region

Regional Workshop on the Conservation and Use of Forest Genetic Resources in Sub-Saharan Africa: Strengthening Tree Seed Systems held in Kumasi, Ghana, 9-11 April 2019

At its Eleventh Session in June 2007, the Commission on Genetic Resources for Food and Agriculture (CGRFA) of the Food and Agriculture Organization of the United Nations (FAO) acknowledged the urgency to conserve and sustainably utilise forest genetic resources. The Commission requested that a State of the World's Forest Genetic Resources (SoW-FGR) report be prepared and presented to the Commission at its Fourteenth Session, in 2013.

The UNCBD COP-10 as stated elsewhere in the report further invited Parties, other Governments, and relevant organisations to support the preparation of the first country-driven SoW-FGR report. South Africa was one of the 86 FAO Member States that submitted country reports as inputs to the State of the World's Forest Genetic Resources. The report has been published and preparatory work commenced towards the publication of the second SoW-FGR (SoW-FGR-2).

In April 2016, a regional workshop was organised by Bioversity International and FAO in Douala, Cameroon to support the implementation of the GPA-FGR in Sub-Saharan African and South Africa participated at this workshop. The workshop brought together national coordinators of the Sub-Saharan Africa Forest Genetic Resources Programme (SAFORGEN) and other experts to discuss the strategic priorities of the GPA-FGR and to develop a regional strategy to support the implementation of the GPA-FGR. The 2016 workshop identified nine Strategic Priorities (SP) as important for the region. The Kumasi workshop, in which South Africa participated was intended to opertaionalise the resolutions of the 2016 Doula meeting of SAFORGEN, particularly on tree seed systems. The main objectives of the April 2019 workshop held in Kumasi, Ghana and included:

a) discussing challenges in the implementation of the regional strategy and identify ways to promote it;
b) discussing fundraising opportunities for SAFORGEN, identify strategies and concrete ideas for capacity building and other collaborative projects on FGR, and agree on the next steps for preparing proposals for such projects;
c) discussing the results of a baseline survey on the current state of tree seed systems in different SAFORGEN countries and their implication for SAFORGEN activities;
d) discussing the findings of the First Report on the Implementation of the GPA-FGR and identify concrete options to increase the number of country progress reports submitted to FAO; and
e) briefing SAFORGEN National Coordinators and other participants on the preparatory process of the Second Report on the State of the World's Forest Genetic Resources (SoW-FGR-2)

4. AFRICAN UNION COMMISSION

The African Union Commission (AUC) is the Secretariat of the African Union (AU) and undertakes the day to day activities of the Union. The African Union is a continental union consisting of 55 Member States. It was founded on 9 July 2002 in Durban, South Africa, replacing the Organisation of African Unity (OAU). The main objectives of the AU were to rid the continent of the remnants of colonialism and apartheid, promote unity and solidarity among African States bar Morocco (which is not a Member), coordinate and intensify cooperation for development and safeguard the sovereignty and territorial integrity of Member States.

The AUC, AU's Secretariat is entrusted with executive/ administrative functions and is somewhat analogous to the European Commission. The African Union Commission's functions include amongst others (a) representing the AU and defending its interests under the guidance of and as mandated by the Assembly and the Executive Council; (b) initiating proposals to be submitted to the AU's organs as well as implementing decisions taken by them; (c) acting as the custodian of the Constitutive Act of the African Union; and (d) assisting the 55 Member States in implementing agreed programmes.

African Union Commission (AUC) Workshop on finalisation of a Continent-Wide Forestry Strategy for Sustainable Forest Management held in Nairobi, Kenya from 06-10 July 2018

A Continental SFM Strategy was crafted for the implementation of Agenda 2063, which has a vision of zero deforestation and forest degradation by the year 2063, thereby ensuring protection of forest resources for their contribution towards peace, resilience and food security in the continent. The objectives of the workshop were to:

a) discuss how supportive policies and institutional frameworks for SFM could be developed and implemented in Africa;
b) discuss the contributions of African forests to the national economies across sectors and communities (profiling);
c) partnerships for mobilisation of resources for achieving SFM; and
d) develop sustainable, resilient markets for livelihoods based on wood and non-wood forest products and ecosystem services.

South Africa has been a major player within the African Union processes. The workshop considered implementation protocols for the Strategy and the country played a significant role in the discussions.

5. SOUTHERN AFRICAN DEVELOPMENT COMMUNITY

The Southern African Development Community (SADC) is one of the Content's Regional Economic Communities comprising 15 Member States; Angola, Botswana, Democratic Republic of Congo, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Swaziland, Tanzania, Zambia and Zimbabwe. Established in 1992, SADC is committed to Regional Integration and poverty eradication within Southern Africa through economic development and ensuring peace and security. To realise these objectives, the SADC has developed several protocols including the SADC Forestry Protocol. Eight (8) primary Institutions, two of which have offices in Gaborone and Windhoek, coordinate the work of SADC. The rest of the institutions are coordinated at Member State level. The 2002 SADC Protocol on Forestry is the vehicle of engagement among the SADC Member States on matters of forestry and sustainable management of natural resources. Since the adoption of the SADC Forestry Strategy by the SADC Council of Ministers of Environment in July 2010, an Implementation Plan was developed, adopted and gradually implemented. The SADC Forestry Strategy is ending in 2020 and it was being reviewed. Memorandums of Understanding (MoUs) on Integrated Fire Management and forestry issues were signed with the Kingdom of eSwatini, the Kingdom of Lesotho and Namibia some years back but these were never materially implemented. Processes for concluding MoUs with other adjoining countries were at different stages but these too were left unattended for quite a long time now.

South Africa continued to play an active role on SADC forestry sessions and the country participated at several capacity building workshops organised by the SADC Secretariat in partnership with the Japan International Cooperation Agency (JICA) as part of the SADC/ JICA Project. The SADC/ JICA Project for Forest Conservation and Sustainable Management of Forest Resources of Southern Africa had three streams, namely, Fire Management, Participatory Forestry Management and Information Management. South Africa participated at all capacity building workshops under the three steams.

On the Integrated Fire Management Stream. Training was organised on advanced fire management. The training comprised indoor and field exercises. The Indoor Training involved advanced training and introduction to key techniques on how to:

a) access active fire information through the Fire Information for Resource Management System (FIRMS) website of the National Space Agency;
b) process Fire Danger Index using Google Earth Engine;
c) interpret satellite image in order to update status of fire break; and
d) Collect field data using mobile application with tablet-PC.

The second part of the training involved the delegates visiting Skukuza camp of the Kruger National Park and learned about fire management in the park. They also exercised and learnt how to survey burnt scar areas using mobile devices in the field.

On the Forest Information System, an Expert Working Group (EWG) sessions were held whereby South Africa participated. The objectives of the EWG were to:

a) harmonise National Forest Information Systems (NFIS) of Member States;
b) develop and/or modify the SADC Regional Forest Information System (SADC-RFIS);
c) publicise Publicize the SADC Regional Forest Information; and
d) enhance capabilities for Forest Information Management

The achievements realised from the Sessions of the Forest Information System-Expert Working Group (FIS-EWG) included:

a) promotion of cooperation among SADC member States through the shared-learning process and transfer of advanced knowledge and experiences. Noting that while some countries do have functional information systems others do not have a system at all;
b) strengthen regional networks to conduct research and training specialized in forest assessment and monitoring, fire management using open source software; and
c) standardising RFIS design for member states to harmonise information system for forestry for SADC countries and ensure sustainable forest management which significantly contributes to the objectives of the Department.

At the end of the Sessions, participants acquired the following capabilities:

a) change detection analysis using Quantum Geographic Information System (QGIS);

b) ability to produce Loss and gain Map using QGIS for specific countries;

c) mapping frequent fire occurrences using active fires; and

d) conducting field surveys.

South Africa's participation at the SADC/ JICA Participatory Forest Management (PFM) Project was very limited as the country only participated in 2017 in meetings held in Thailand and later in South Africa in the same year. The main objectives of the Expert Working Group on PFM was to develop a SADC Regional PFM Guidelines and subsequently the reporting system for PFM good practices for all Member States. The intended training on the Project included (a) project management, (b) PFM market analysis and development, (c) conflict management and (d) PFM for Biodiversity Conservation.

Workshop on National Forest Monitoring and Information Systems (NFMIS) for a transparent and truthful REDD+ Process, FAO Headquarters, Rome, Italy from 28 November to 02 December 2016

The National Forest Monitoring and Information Systems (NFMIS) is one of the four elements that countries are required to develop in order to participate in REDD+ under the United Nations Framework Convention on Climate Change (UNFCCC). The system is used for recording the land use categories of a country and assist in monitoring how these categories change overtime, for example, whether the forestland areas has increased or decreased over 20 years, particularly in developing countries. The records, if accurate, can assist in securing funding for the Reduction of Forest Degradation and Deforestation (REDD+) programmes and reporting at the United Nations Forum on Climate Change Convention (UNFCCC).

International Panel on Climate Change (IPCC) guidelines require that NFMIS be designed to monitor deforestation, by combining information about how land use patterns are changing, through for example, deforestation or afforestation, with information from a national forest inventory, which makes it possible to make estimates about overall Green House Gas (GHG) emissions related to the forest sector.

According to Decision 2/CP.13: Paragraph 2 made in Bali in 2007**,** all Parties are encouraged to support capacity-building, provide technical assistance, facilitate the transfer of technology to improve, inter alia, data collection, estimation of emissions from deforestation and forest degradation, monitoring and reporting, and address the institutional needs of developing countries to estimate and reduce emissions from deforestation and forest degradation. Developed countries have to provide developing countries with technical and institutional support for developing NFMS for REDD+.

In terms of Decision 4/CP.15, Paragraph 1 (Copenhagen – 2009**)**, developing country Parties are requested to establish, according to national circumstances and capabilities, robust and transparent national forest monitoring systems and, if appropriate, sub-national systems as part of national monitoring systems that use a combination of remote sensing and ground-based forest carbon inventory approaches for estimating anthropogenic forest-related greenhouse gas emissions by sources and removals by sinks, forest carbon stocks and forest area changes.

To implement an NFMIS for REDD+, it is critical to consider the methodological guidance from the IPCC: 1995 IPCC Guidelines, Revised 1996 IPCC Guidelines, Good Practice Guidance (GPG) 2000 (non-LULUCF), Good Practice Guidance (GPG) 2003 (LULUCF), 2006 IPCC Guidelines.

FAO has developed a number of tools to support most of the guidelines, which could be used to help countries implement NFMS methodologies and data from the National Forest Inventories. These include the Open Foris free satellite imagery and Google geospatial technologies. There are three phases that each country has to undergo to be well capacitated for REDD+ NFMIS programme and to meet the reporting requirements. The overall technical requirements for the training include the Operational Remote Sensing as well as Web-GIS interface.

Phase 1 of REDD+ NFMIS (Area Sampling Method) involves doing measurements on some parts of the country and is part of an assessment into whether countries are confident enough to undertake the REDD+ projects or report on their GHGs emissions. For South African representatives, the training took place in 2014, followed by wall to wall mapping of deforestation and forest degradation approach in 2015 using on Brazilian system TerraAmazon. The objective of the latter system was to capacitate SA and other countries on how to develop their own systems that can monitor deforestation and forest degradation and their respective areas of jurisdiction.

The workshop held in Rome in November/ December 2016 was to train participants on the third and final phase of the REDD+ NFMIS. South Africa sent a delegation to this important workshop, after having attended other training interventions offered by the FAO on the REDD+ Programme.

Wildfire Station Administration for Monitoring of the Environment and Security in Africa (MESA) Project Training held in Botswana, Gaborone, 4-8 September 2017

Monitoring for Environment and Security in Africa (MESA) was a follow-up initiative to the African Monitoring of the Environment for Sustainable Development (AMESD) programme. The initiative is focussed on using Earth Observation (EO) data and information products for African users at continental, regional and national levels, covering 5 African Regions and 15 countries.

MESA in Southern African (SADC THEMA) was implemented by Botswana Department of Meteorological Services (BDMS) and SADC Climate Services Centre (SADC-CSC) in partnership with five (5) regional strategic co-beneficiary organisations (Agriculture Research Council, Botswana University of Agriculture and Natural Resources, Council of Science and Industrial Research (Meraka Institute), Namibia University of Science and Technology, and University of Zimbabwe) under a thematic action grant contract with the African Union Commission (AUC). The implementation period was for 36 months, ending on 01 September 2013.

MESA was for delivering operational regional information services to support and improve the decision-making process in the field of environment and natural resources management, based on Earth Observation, for the benefit of all SADC member states building on the AMESD project achievements. MESA had Five African Regional Economic Communities (RECs), including SADC consisting of 15 Countries that participated in the programme.

MESA was intended to contribute towards the realisation of the Africa Agenda 2063, particularly aspirations 1 and 2 of the Agenda, namely, (1) a prosperous Africa based on inclusive growth and sustainable development; and (2) an integrated continent, politically united based on the ideals of Pan Africanism and the vision of Africa's Renaissance. MESA also contributed to the Sustainable Development Goals 2, 13 and 15 of the United Nations and to the 3rd objective of Group on Earth Observation (GEO)'s 10 year Strategic Plan: 2016-2025: "*To deliver data, information and knowledge enabling stakeholders to improve decision-making processes and inform policy requirements, promote exchange of best practices, enable the uptake of new technologies and create new economic opportunities while leveraging public sector investments through standardization, collaboration and innovation*".

The overall objective of the MESA programme in the SADC region was to empower its member States to manage their agricultural and environmental resources in a sustainable way thereby (a) developing operational geo-information services; (b) facilitating access to Africa-wide environmental information derived from earth observation technologies ; (c) strengthening the information management capacity of regional and national institutions in order to support decision and policy making processes; and (e) building the earth observation capacity to work with the SADC-THEMA services.

In South Africa, the skills learned from the workshop assist with the monitoring of wildfires with much accuracy accurately and to provide real-time fire information on forestry operations and support on the fire protection associations (FPAs) using satellite data and imagery. MESA provides beneficiaries with satellite imagery through Terra and Aqua satellites. Although the spatial resolution of multispectral satellite imagery is far less than that of traditional aerial photography, satellite-based remote sensing offers amongst others the ability to identify fire activities in the field and allow for remote monitoring.

The Third Expert Working Group (EWG) Meeting on Forest Information System (FIS) for the Southern Africa Development Community-Japan International Cooperation Agency (SADC - JICA) Forestry Project, held in Lusaka, Zambia from 9-11 October 2018

The third Expert Working Group (EWG) meeting on Forest Information System (FIS) was held in MIKA Convention Centre, Lusaka, Zambia on 09-11 October 2018 and South Africa participated at this event.

The SADC Secretariat in collaboration with Member States implemented the regional project on Conservation and Sustainable Management of Forest Resources in Southern Africa, which was supported by the Government of Japan through the Japan International Cooperation Agency (JICA).

The EWG-Forest Information Systems participants were introduced to the project portal consisting of documents, databases and geospatial sites. The Participatory Forest Management (PFM) information in the database, sanctioned by the authorised person and the processed data thereof is free for member States and participants were trained on how to use the portal.

Basic Training for the Expert Working Group on Forest Information System (EWG-FIS) held in Gaborone, Botswana, 25-30 June 2016

The training was aimed at promote cooperation among SADC Member States through shared-learning process and transfer of advanced knowledge and experiences. Some countries do have functional information systems whereas others do not have a system at all, hence the need to share good practices.

Another objective for the workshop was to strengthen regional networks to conduct research and training specialising in forest assessment and monitoring, fire management and harmonisation information systems for forestry for SADC countries

to ensure sustainable forest management, which significantly contribute to the objectives of SFM. Collaboration on on-going regional projects and outputs would therefore be forged through the workshop.

The system introduced during the workshop was the Quantum GIS (QGIS), which is an Open Source Geographic Information System and a user-friendly open source software to use in GIS, providing common functions and features. The system supports a number of raster and vector data formats. The training was based on the Forest Fire occurrences, which monitors active fires and the impacts on the forest and Land cover. This included trainees exposed to other free data sources like SRTM, Sentinel and Geo Server.

The training delivered on the following learning opportunities, knowledge and capabilities:

a) change detection analysis using QGIS;
b) ability to produce Loss and gain Map using QGIS;
c) mapping frequent fire occurrences using active fires; and
d) creating a fire occurrence maps

Regional Training for the Monitoring of the Environment and Security in Africa (MESA) Fire SADC THEMA for the Monitoring of Wildfires held in Gaborone, Botswana, 24 July - 05 August 2016

The Department continue supporting and participating on the MESA project as it was important for meeting its mandate from the National Veld and Forest Fire Act, 1998 (Act. No. 101 of 1998). The legislation requires the Minister to communicate the rating of fire danger for each region on regular basis and MESA provides a good platform for achieving the obligation. The MESA is a follow-up project of the African Monitoring of the Environment for Sustainable Development (AMESD) project and was aimed at empowering SADC and its Member States to manage their agricultural and environmental resources in a sustainable way, building on the achievements of the AMESD project.

There were four thematic areas for the SADC region, which included floods, drought, and fire and agricultural services. The MESA project emphasised the use of the Earth Observation (satellite) data in operational applications such as forest fire monitoring, forest fire risk management, agricultural resources management, drought monitoring, land cover changes and other related disciplines across Africa. The main purpose of the MESA project was to increase capacity in information management in Africa on continental, national, regional and even institutional level to support decision-making. The training, held in Botswana provided the participants with the following capabilities, namely, how to use the fire data in order to produce different products such as fire bulletins, graphs, maps, and charts using Quantum GIS and Open Office as well as the requisite skills to use open source tool plug-ins such as the Quantum GIS and Open Office applications.

6. SADC FOREST LAW ENFORCEMENT, GOVERNANCE AND TRADE

The SADC Forest Law Enforcement, Governance and Trade (FLEGT), following on other similar Regional bodies, is a programme initiated to address illegal logging and the social, economic and environmental harm it causes in the SADC region. The SADC Forest Law Enforcement, Governance and Trade (FLEGT) Programme was approved by the Ministers in October 2013 in Maputo, Mozambique. The primary objective of the programme is to ensure that forests are harvested and traded with and within the SADC region and other countries based on a jointly agreed legal framework in line with the principles of sustainable forest management and with the participation of all stakeholders including communities and with strong independent and transparent law enforcement agencies. In its effort to support the implementing of the SADC-FLEGT Programme, South Africa undertook the following activities during the period under review:

a) Forest Officers were offered training on timber monitoring during training courses at various intervals during the period as part of the Wildlife in Trade Programme of the Endangered Wildlife Trust (Flagship Species identification Training). The training was provided to customs officials and various enforcement agencies in the country.
b) The Timber Working Group, chaired by TRAFFIC also met several times during this period to discuss issues relating to the monitoring of cross-border timber trade.
c) Inspections were conducted of several shipments of timber in transit from Southern African countries for expert through the Durban harbour. The inspections included timber inspections. On one occasion, a shipment of *Pterocarpus tinctorius* was initially detained and subsequently confiscated after confirmation that the shipment was confirmed to be in contravention of a Zambian moratorium on exports of the spp. Preceding the confiscation action, there was high level communication between the South African government (the Department) and the Zambian Ministry of Land and Natural Resources on the detection of the suspected species exported from Zambia in transit the Durban harbour destined to the Asian market. The collaboration and cooperation between the two countries successfully led to the confiscation of the banned timber from exportation.

PART 5

CHALLENGES IN THE SOUTH AFRICAN FORESTS SECTOR

The South African National Development Plan: 2030 identified forestry as one of the key sectors in the country with the potential to contribute significantly towards the development of the country's economy and the creation of decent jobs. The document developed in 2016 by the then Department of Forestry, Fisheries and the Environment, which was initially intended for the Operation Phakisa lab indicated that the commercial forest estate could be increased by 147 000 ha if the 100 000 ha identified in the Eastern Cape and KwaZulu-Natal for afforestation, the 25 000 ha identified in the Western Cape and Mpumalanga for recommissioning and the 22 000 ha TUPs under the Department could be brought to forestry production. The total area 147 000ha, if all the area was to be planted in the first year of operation it will create approximately 18 000 jobs. Approximately 42 000 jobs could be created with down-stream processing industries. This totals approximately 60 000 jobs and this could add to the existing jobs of 58 900 currently in the forest sub-sector.

However, there are a number challenges which hinders the sector from realising its full potential of contribution to job and wealth creation as well as conservation of biological diversity. The challenges range from inadequate supply of timber products; biased equity distribution in the value chain; low afforestation uptake due to cumbersome licensing processes within government; the forestry industry is vertically integrated and concentrated in few companies prohibiting new entrants; Underinvestment in long-rotation timber, for example, sawlogs, which are not attractive to investors and developers; decreased forest land cover due to competing land uses, land claims, crime as well as fires and pests and diseases and climate change that results in varying temperatures and unreliable rainfall. The unprecedented timber theft, particularly in the State owned plantations is an emerging threat to commercial forestry in South Africa, which may escalate to private plantations if not attended to decisively.

1. REGULATORY ENVIRONMENT FOR COMMERCIAL FORESTRY

Commercial (plantation) forestry is regarded as a Steam Flow Reduction Activity (SFRA) in terms of the regulations under the National Water Act, 1998 (Act No. 36 of 1998). Under these regulations, all activities classified as SFRA require licences before they could be undertaken and the requirement seeks to ensure that water resources are conserved.

The forestry private sector characterised the measures government put in place as a hostile regulatory environment, which (according to them) halts investment. The private sector alleges that the current environment is not conducive to investment, blaming it for the low uptake of new afforestation, which led to the decimating forestry area.

It is widely believed that forestry development and growth in South Africa, other than the licence conditions and other environmental requirements, is hampered by the turnaround time making a determination of whether to issue or not issue licenses, which is unacceptably high according to the industry. There are perceived delays in issuing of licenses since the process involves a number of government departments including the Ministry of Environment Affairs with regard to authorisations of environmental impact assessment projects and the Ministry of Water and Sanitation, which administers the National Water legislation in terms of which Water Use Licences are issued or declined. The Department of Water and Sanitation has made a decision that it will take 300 days to issue a water licence. However, this excludes the time it takes to get other authorisations from other institutions before afforestation can take place. Environmental Impact Assessment studies usually take longer to complete and finalise, making the process even longer. There has been engagements between stakeholders, which led to the DWS committing to halving the turnaround time for processing the WULs applications.

South Africa is also a water scarce country thus there is inadequate water for forestry development, which makes it even more important that stringent measures are put in place to sustainably manage the water resources in the national interest. However, there seems to be accusations and counter-accusations between the industry and the DWS as the administrators of Water Use Licences. The Department reported that while the industry raises concerns about low rate of afforestation in the country, they have noted that the industry is not planting on areas that were issued with licences to plant, particularly in the borders of KwaZulu-Natal and the Eastern Cape.

Challenges raised by the industry include changes in the license conditions, which they consider a regulatory burden due to Genus exchange. National Environmental Biodiversity Act 2004, (Act No. 10 of 2004) (NEMBA) regulations coming into force in the Eastern Cape and Western Cape. This is viewed as an additional regulatory burden, a barrier and an additional cost to do business in the sector, especially for the small enterprises. The sector, through Forestry South Africa believes the industry was already innovative and diversifying, but that the regulatory environment is prohibitive for the sector to grow and realise its optimal potential in creating jobs and economic opportunities.

The industry views the current allocation of water in South Africa as skewed in that 62% of the water resources are allocated to agriculture while 3% is allocated to forestry. Currently, forestry is the only Stream Flow Reduction Activity in terms of the National Water Act, 1998 (Act No. 36 of 1998) and the current drought conditions are putting severe pressure on the country's water resources.

2. TRANSFORMATION IN FORESTRY

South Africa comes from a painful system of apartheid whereby African people, particularly black women and youth were excluded from participating in the mainstream economy including in the commercial forestry business. The Broad-based Black Economic Empowerment Act 2003, (Act No. 53 of 2003) (BBBEE Act) and its sector based Charters signed between social partners (government, labour and business) are mechanisms aimed at ensuring transformation in all sectors of the economy. The Forest Sector Broad-based Black Economic Empowerment Transformation Charter seeks to expedite transformation and growth of the sector thereby bringing on-board, previously disadvantaged groups such as women, youth and other racial groups, which were excluded prior to the attainment of democracy in 1994. The annual reports for the years 2015/16; 2016/17; 2017/18 and 2018/19, prepared by the Forestry Sector charter Council (FSCC) indicate that transformation is taking place at a slow pace. While the industry (private sector) is making some inroads in certain areas of transformation, much work still needs to be done to realise meaningful transformation in the industry, The Forest Sector Code was amended recently. In terms of the amended code, forest owners or managers, when reporting, need to provide clarity on how women benefit in terms of ownership. It is expected of them to come up with innovation to attract youth. The ownership element of the forest sector code provides for target points for voting rights and economic interests in the hands of black women. It also incentivises for measured entities that exceed their target weightings on these sub-elements. The implementation of the amended code commenced on 21 April 2017 and compliance and monitoring need to conducted to ensure compliance by forestry companies.

Government, through the Forestry Sector Charter Council has observed limited participation of companies in the Charter. An Understanding of Forestry Association membership and those not aligned need to be established.

Currently, there is no clarity about the number of companies in the sector due to unavailability of data and there us poor reporting in the sector against the elements of the BBBEE scorecard. An analysis of reports does not paint a good picture regarding transformation in the forest sector. A community outreach and consultation process that conducted by the FSCC highlighted the following issues as concerns, namely, skills shortage, funding, contracting by companies, beneficiation from the long-term leases, non-compliance with the elements of the charter, slow processing of afforestation licensing and lack of assistance with fire insurance for communities.

3. LAND RESTITUTION AND REDISTRIBUTION

South Africa is characterised by the history of land dispossession during the apartheid era. The new government, post 1994 developed laws intended to redress the injustices of the pre-democracy era. This included policies that sought to compensate persons who were forcefully removed from their lands through various mechanisms including restitution and monetary compensation. Unsettled claims on forestry land create uncertainty and reluctance for investment. There exist a risk of land use change if no explicit guidelines are provided in the restitution process. This may inevitably lead to decimation in forestry land. Another challenge is that government's programme of land restitution seeks to ensure that previously disadvantaged individuals can participate meaningfully in forestry, particularly in ownership and management. However, data indicates that 94% of land claimants opted for financial compensation instead of working the land.

In certain instances, over 65% of forestry land is under claim and it is taking unacceptably long to settle the applications and this exacerbate the risk, since the claimants are already commencing with illegal occupation of land where they perceive the process is taking too long. The Department of Rural Development and Land Reform has developed settlement model, which was discussed with the DFFE and land claimants. There was an agreement that claims on forestry land must be prioritised.

Data further indicates that about 90% of the farms that have been settled and handed back to claimant communities are in distress. This threatens sustainability of the sector and food security in the country and will need to be addressed.

4. RECOMMISSIONING AND REFURBISHMENT OF STATE PLANTATIONS

Post 1994 when Government decided to withdraw from plantation forestry, State plantations (DFFE) have seen accelerated decline over the past two decades. At some point, a Cabinet decision was taken to withdraw plantation forestry operations in the Western Cape and Mpumalanga as the areas were deemed not to be economically viable or unsuitable for commercial forestry. This resulted in withdrawal or halting of silvicultural operations, such as weeding, planting, pruning and thinning which made the plantations serious fire hazards. Government has since decided to recommission some of these areas amounting to about 25 000 ha in Mpumalanga (4 000 ha) and the Western Cape (21 000 ha). A study was commissioned in 2015 to determine how best to undertake the re-commissioning of the 21 000 ha in the Western Cape. Subsequent to the study, the Department has undertaken the following activities:

(a) conducted a land rights enquiry (Socio-economic analysis);

(b) a Position Paper was being developed which takes into account the land rights enquiry in the process of implementation;

(c) entered into a Service Level Agreement with Mountain To Ocean (MTO), an Implementing Agent to manage areas that have been exited and continue with replanting operations;

(d) developed a model on the future management of State plantations. The intention is to present the model for Cabinet approval prior to implementation.

After the disposal of other State forest assets to other management entities, the State, through DFFE, continued to manage some 65 948 ha of plantation areas referred to as Category B's and C's. Poor management and low productivity levels are prevalent in these State (DFFE) owned plantations. High Temporary Unplanted Areas (TUPs) are common and are currently at more than 21.3% while the industry norm is 3%. Although some work has been done to improve or refurbish them, the progress made to date is insignificant. Various reasons have been attributed to the status quo ranging from ageing workforce, lack of adequate budget for infrastructure maintenance, high vacancy rate, cumbersome procurement processes (rigid supply chain management procedures that do not take into consideration, seasonal operations) and inadequate protection services. These plantations are destined for disposal or transfer to other recipients but need to be restored to economically viable levels before they could be restructured. The Department has since developed a model for the Future Management of State Plantations, which present various options. Future management / refurbishment initiative; partnership arrangements - including integration of new afforestation and existing assets have been explored as a way of overcoming these challenges.

The former DAFF's Integrated Growth and Development Plan (IGDP): 2011-2031 noted the two decades of shrinkage of the country's plantation resources and the increasing pressure posed by the decrease on natural forests and woodlands. The plan thus sought to ensure renewed growth, transformation and sustainability throughout the value chain, in economic, social and environmental terms in ways, which will continue to improve the lives of the poor, particularly, the rural communities. Implementation of recommissioning, refurbishment and subsequent restructuring of State plantation assets need to take into account, the aspirations articulated in the 2011 IDGP. The plan further noted that only 68% of area covered by plantation estates in South Africa was planted with exotic tree species, which necessitates the need to plant more or reinvigorate forestry production and the State has a huge role to pay in this regard. Moreover, the situation, as articulated in the IGDP was exacerbated by the fact that a conversion of about 85 839 ha of commercial timber production happened between 1980 to 2008, and this trend continued unabated to 2018.

5. HIGH LEVELS OF TIMBER THEFT AND CRIMINAL ACTIVITIES IN STATE PLANTATIONS

The DFFE used to give tenders to Communities as standing timber and later halted the approach. It was alleged that the illegal harvesters (syndicates) wanted the State to continue selling them the standing timber, hence the reason they harvest without permission. The second reason was that they claim to be the rightful owners of the land, hence they have sense of entitlement to the resources. It was alleged they are armed and they threatened foresters with firearms, leading Foresters to avoid confronting them to save their lives and those of their families. The illegal harvesters have all the harvesting equipment ranging from chainsaws, three-wheel Bell loaders right through to articulated short haul and long haul trucks (figure 35). It was reported that cases were opened with the South African Police (SAPS) in various regions including Bushbuckridge and the engagements between them and DFFE management failed to bear fruits as there was no decision taken on whether or not the State will reive the programme of selling timber to the harvesters, therefore the operations continued unabated. At Onverwacht plantation, it was reported the illegal harvesting started late in 2019 and operations continued even during the festive season with operations running day and night. The timber in the Lowveld (Bushbuckridge) plantations gets sold to nearby small Sawmills in the Mkhuhlu area of Bushbuckridge and Hazyview in Mpumalanga. In Kwazulu-Natal, it was reported that a Forester who opened a case with the local SAPS in the KwaZulu-Natal province was allegedly attacked by a mob from the local community. The group from the community went to the house of the Forester and demanded that he withdraws the charges laid against the illegal harvesters and threatened him with death. The illegal harvesting is spread throughout the country where the department has plantations including the Provinces of the Eastern Cape, KwaZulu-Natal, Limpopo and Mpumalanga.

FIGURE 35: Broken truck used in haul of illegal timber and an illegally clear-felled compartment, Limpopo

6. LOSS OF FORESTRY LAND

It is undisputed that commercial forestry areas have been decreasing steadily over the past few years from about 1.5 million hectares in 1995 to about 1.19 million hectares in 2018. The bulk of the forestry areas were lost because of delineation emanating from environmental regulations whereby previously planted areas were not replanted after harvesting. Although there is no data available to substantiate this, it is widely believed that some areas were lost because of landuse changes within forestry farms. The industry on the other hand is attributing some of the losses to the "hostile" regulatory climate.

PART 6

ANALYSIS OF PRIORITY CHALLENGES IN THE FORESTRY SECTOR

The Driving-Pressure-State-Impact-Response (DPSIR) framework is a suitable framework for analysis of risks for Biodiversity. It provides a structure within which to present the indicators needed to enable feedback to policy makers on environmental quality and the resulting impact of the political choice made, or to be made in the future. The DPSIR framework assumes a chain of casual linkages starting with driving forces (economic sectors, human activities) through pressures (emissions, waste) to states (physical, chemical and biological) and impacts on ecosystems, human health and functions, eventually leading to political responses (prioritisation, target setting, indicators). The framework could also be used for analysis of environmental degradation. In many communities, the environment has been altered by complex natural and human driven forces with significant impact on the lives of their inhabitants. Human activities and decisions exert pressures on the environment, as a result of production or consumption processes, which can be divided into three main types: (i) excessive use of environmental resources including forests, (ii) changes in landuse, and (iii) emissions of chemicals to air, water and soil.

The DPSIR framework is a tool that could be used to take a holistic and consistent approach to assess the problem critical to sustainable natural resources management, for example, deforestation and forest degradation. Although forestry is just an integral part of the environment or a natural resource, the DPSIR framework is hereby applied to demonstrate how human actions may negatively affect the forest resources and their sustainability. The DPSIR framework is based on the notion that Driving forces (living and non-living) may exert pressure on the environment or natural resources (in this case, forests) resulting in changes on their state. The changes may consequently have impacts on human life and ecosystems (health and vitality). Finally, to mitigate any negative impacts, responses have to be formulated and implemented to mitigate them. The following are analyses of selected forestry challenges using the framework:

1. TIMBER THEFT AND CRIMINALITY IN PLANTATIONS

Driving forces: Timber theft and other criminal activities in forests are general an act of sheer criminality. However, in other areas the problem is underscored by a variety of factors including political, economic and social. There are situations whereby politicians and tribal authorities utter statements, which perpetuate a feeling on entitlement by communities in and around forest areas, for example, by telling communities that the land belongs to them and that they have to benefit from them. Certain communities therefore end up having a sense of entitlement, resulting in them accessing forest properties illegally and harvesting forest products. Several plantation and indigenous forest areas are under land claims and the processes for completing the claims have proven to be protracted leading to frustrated communities (land beneficiaries). Once claims have been submitted, communities have certain expectations and the slow processing of the claims exacerbates the situation leading to elements of criminality. Authorities tend to condemn such criminality, rightfully so, but the communities have valid reasons to be frustrated due to the prolonged and unsettled claims. Data shows that in certain areas, there are claims dating over a decade, which are still being processed. The fact that Government fails to communicate to communities to inform them on progress made only serves to worsen the climate. Decisions by government management also attributes to timber theft and other criminal activities in State plantations. It is alleged that the recent illegal harvesting of timber in some plantations in Limpopo, Mpumalanga and KwaZulu-Natal was triggered by government stopping to issue tenders for standing timber to Contractors who relied on the resources in the past. The Contractors observed mature timber not being sold with some compartments starting to rot and or dieback without being harvested. This, it is alleged, created an opportunity for the Contractors to take the law into their own hands and started to invade plantations to steal the timber unabated.

Pressures: Deforestation and forest degradation inevitably create opportunities for other elements detrimental to the environment and natural resources. Once trees and forests are removed, their threat protective functions of soils and water catchments is compromised. Since nature does not allow a vacuum, degraded forests areas usually sees the natural creeping of alien invasive plants (AIPs). These affect forest biological diversity and alien plants infested forest areas attract wildfires, as they become a high wildlandfire risk.

States: areas where forest timber have been harvested without replanting show increased deforestation and forest degradation symptoms. This jeopardises sustainable forest management and may result in landuse change. Landuse change inevitably alter biodiversity, thus impacting negatively on the health and vitality of ecosystems. In areas where timber has been illegally harvested or stolen, natural vegetation takes over and increases fire risk. In some areas, particularly in the State plantations in the Lowveld area of Mpumalanga, arson fires engulfed the Onverwacht plantation in recent years. It was virtually impossible to extinguish the fires due to the high levels in infestations by AIPs at the plantation.

Impacts: The theft of timber hinders local economic development and exacerbates timber shortage. Forests contribute significantly to food security and nutrition therefore their destruction increases the risk of food security, which can lead to malnourishment and instability. Forest disturbances further leads to alteration of biological diversity and subsequently to biodiversity loss. Disturbances to biological diversity disturbances interferes with the functioning of the forest ecosystem. State officials working in the plantations, the criminal syndicates expose particularly security guards and managers to a risk of attacks. Although timber theft is happening in both the private and public sector, the Department's plantations has

seen illegal harvesting of timber of unprecedented scale in the recent past. This poses a serious risk to the industry, since this may escalate to the private sector as soon as the mature timber in State plantations is depleted.,

Responses: The Department of Rural Development and Land Reform has developed a model for settlement of claims in forest areas and this needs to be implemented without further delays. However, Government (DRDLR and DFFE) should consider developing a Comprehensive Stakeholder Engagement Strategy targeted at areas where claims have been lodged with government. The Department of Forestry, Fisheries and the Environment should as a matter of urgency consider introducing armed security services, particularly in areas where illegal timber harvesting is prevalent.

2. REGULATORY ENVIRONMENT FOR FORESTRY

Driving forces: South Africa is generally a water scarce country with average annual rainfall of 464 mm compared to a global average of 860 mm, and large and unpredictable variations are common. Compounding this challenge is the conflicting landuses, which require the scarce resource, water. The Department of Water and Sanitation has the mandate and responsibility of ensuring that water resources in the country are protected, conserved and distributed equitably to sustain development and the needs of the population. In deciding water allocations, the DWS has to take into consideration, the economic and environmental factors and balance these with the developmental aspirations of the country.

Pressures: Application of water use regulations, at least from the industry's perspective is blamed for the low afforestation rate in the industry. There is already a risk of shortage of some timber products, particularly sawlogs timber. However, this risk may also be attributed to the reluctance of the players in the industry to invest in long rotation sawlogs timber production as they are profit driven and opt to get their return on investment as soon as possible.

States: Low afforestation has led to under investment. Vast areas of land earmarked for plantation forestry remains fallow (unused) and this compromises biodiversity due to invasions by alien plant species and uncontrolled fires.

Impacts: Low investment in forestry defeats the government's aspiration of reducing unemployment, poverty and hunger. There are also strained relations between government and the industry since the later accuses government of being complacent in issuing of water use licences for afforestation purposes.

Responses: The Forestry Bosberaad of 14 April 2016 agreed that the timeframes needed to be revised, as they are not conducive for development. The Bosberaad further took a resolution that licensing conditions deemed as unreasonable should be referred to the industry for comments before finalisation and implementation. The meeting agreed the conditions should not hamper the growth of the sector. The Genus Exchange remained a contentious issue between DWS and the forestry industry. The meeting proposed a general authorisation licensing procedure where extensive suitability studies have been undertaken, for example, in the Eastern Cape where the Strategic Environmental Assessment (SEA) and other suitability mapping exercises have been undertaken. In this like, the WULS Task Team needs to thoroughly assess the complaints and propose an amicable solution without compromising the intents of the NWA and the regulations thereof.

3. RECOMMISSIONING AND REFURBISHMENT OF STATE PLANTATIONS

Driving forces: The condition of high TUPs and poorly stocked and managed State plantations can be attributed to political decisions. In the Western Cape and Mpumalanga, Cabinet decided to decommission plantation areas that were deemed not to be economically viable. Such areas were to be converted to either natural forest reserves of parks. As a result of the decision, financial resources for the maintenance were significantly reduced and silvicultural operations such as replanting and weeding were halted. The areas were steadily occupied by regrowth of natural plant and grass species including alien invasive *spp*. The category B and C plantations were earmarked for restructuring but the productive functions of these also gradually declined due to a variety of factors including inadequate budget allocations, ageing workforce which was unable to complete their tasks without any consequence management and lately the moratorium on filling of vacancies which resulted in high vacancy rate. The decision of refurbishing the category B and C plantations was taken nearly a decade ago but the Department was not able to secure sufficient funding to carry out the decision.

Pressures: The pressures exerted in the forests include the fact that their production levels have been significantly reduced. The plantations are currently a threat to themselves due to high volumes of flammable material. Some of the plantations have been and/ or are being illegally harvested by criminal syndicates, threatening their sustainability. The forest ecosystem has been altered by the invasions of foreign plant life, which inevitably alters the capacity of the system to provide the requisite goods and services to the environment.

States: Poor plant stocking in several or most of the Category B and C plantations is prevalent. Criminal activities are rampant and deforestation and forest degradation have taken place and are continuing to do so. In some plantations, the Auditor General advised that the Department should review the value of the biological assets because they were unable to reach certain compartment during the field visits when they wanted to do verification. They could not reach some compartments due to poor road network with some roads completely washed away by rainfall.

Impacts: The decline in the condition of State plantations has severely compromised the ability of the State to deliver on its socio-economic mandate since these areas have the potential of creating thousands of decent jobs but some

remained unattended for a long time. The recommissioned areas in the Western Cape and Mpumalanga (about 25 000 ha) have a potential of creating approximately 6000 jobs by industry norms but these remained unutilised for over a decade. These areas and those poorly managed category B and C plantations if brought to their ideal production levels could alleviate or reduce the impact of shortage of timber. By creating decent jobs in these plantations, government would help in mitigating the levels of crime in the country, particularly in those areas adjacent to the plantations.

Responses: The Department has made inroads on the recommissioning of the areas in the Western Cape in that work has begun. The Department therefore needs to increase the momentum to ensure that all the areas are replanted as soon as possible. However, nothing or very little has been done with regard to the 4000 ha recommissioned in the Lowveld, Mpumalanga. This needs an urgent attention from the Department. The Department has made significant strides in developing the model for Future Management of State plantations and needs to finalise the process as soon as possible to pave a way for implementation of the models. Refurbishment initiatives undertaken by the Department to restore category B and C plantations is a step in the right direction. Refurbishment of the plantations is a precursor to implementation of the Transfer model, thus the Department needs to scale up the project by ensuring that budget is made available for appointment of personnel to carry out the work in the plantations. The Department has to urgently secure funding and consider introducing armed security services in plantations to secure and safeguard State assets, which are being exploited at an alarming rate by criminal elements.

4. LAND INVASIONS IN FORESTRY AREAS

Driving forces: Land invasions in forestry land and any other piece of land where claims have been lodged are attributed to the slow process of settling claims by government. The delays exacerbate other forms of criminality as the frustrated communities vent their anger towards both the government and the private sector. Lack of land for housing also contributes to land invasions as people move in to destroy forests to erect residential structures. Lack of knowledge on the importance of trees and forests may also be contributing to land invasions in forested lands.

Pressures: Landuse change from forestry to other uses such as crop or animal farming and housing threatens the sustainability of forests. Land use change hinders the ecological functions of forests, which lead to other negative phenomena such as flooding, sedimentation and run-off. Biological diversity is also disturbed by changes in landuse, which inevitably alters adequate functioning of the forest ecosystem.

States: In areas where there are land invasions, the forests have been cleared. There are signs of degradation as the people who invaded the forests tend to utilise the forests products such as fuelwood and in certain cases, for grazing. Timber theft (illegal harvesting) is also a phenomenon of invaded forests including general criminal activities.

Impacts: deforestation and forest degradation are characteristics of areas where forests have been invaded. Forests destruction poses a risk to food security and nutrition. Anthropogenic disturbance, such as manmade fires pose a huge fire risk to forests including through arson. Intra community conflicts are common in invasions and this increases the rate of destruction or exploitation of resources and instability due to the conflicts (turf wars).

Responses: The DRDLR (now DARDLR) has proposed a model to deal with settlements in forestry areas. The DARDLR has committed to prioritise them in the meeting of 14 April 2016 and undertook to provide a plan on how to prioritise settlement of forestry claims. This meeting ("Bosberaad") was organised by the former Department of Agriculture, Forestry and Fisheries (DAFF). The Department of Forestry, Fisheries and the Environment (formerly DAFF) thus needs to engage the DARDLR to expedite the process. However, the two Departments further need to engage and jointly develop a communication plan (Stakeholder Engagement Strategy) to support implementation of the model and to mitigate the anarchy that is unfolding in the provinces. This should also assist in encouraging communities not to opt for financial compensation.

5. SECTOR TRANSFORMATION AND RESTRUCTURING

Driving forces: Transformation in forestry should be non-negotiable. The quest for transformation in forestry, like with many other economic sectors of the sectors in South Africa is motivated by the history of the country. During the apartheid era, the majority of the population of the republic were deliberately excluded from the mainstream economic activities. The country is sitting on a time bomb and if transformation is not taken seriously, it has the potential of creating instability between the poor and the rich. Instability will inevitable result in unsustainable exploitation of natural resources as already observed in some parts of the country with land invasions and illegal harvesting of timber whereby some community members take the law into their own hands.

Pressures: It is anticipated that failure to involve the previously disadvantaged groups such as Africans, women and youth would lead to over exploitation or unsustainable use of forests and other natural resources. Rampant criminal activities have been observed in certain parts of the country where communities feel they are side-lined, for example, in leased planation areas. Unsustainable use of forests will result in pressures on the already scarce resources as South Africa is a low forest area with only about 1.2 million hectares of plantation forests, which need to serve the needs of about 57. 7 million people.

States: Currently, the plantation forestry structure is white male dominated and vertically integrated, structurally prohibiting new entrants. This will have to change if meaningful transformation is to be achieved. Transformation in forestry, particularly on ownership and top management is non-existent or slow and this poses future risk although at the moment there is no evidence that the lack or slow transformation has caused any negative impact to sustainable forest management.

Impacts: Although there is no any sign of negative impact to forests as a direct result of lack of transformation in forestry, there is a general feeling that this will in the near future cause instability. There is also a potential risk for sustainability as well as perpetual inequality that may exacerbate poverty and unemployment among the previously disadvantaged groups of the South African population, particularly in the rural areas where many people are poor and rely on forests for their livelihoods.

Responses: Measures to address and expedite transformation in forestry were discussed in the Bosberaad of 14 April 2016. The proposals included:

(a) the development of a database of forestry companies to establish level of compliance;
(b) the need to strengthen the reporting against the Charter – use of available legislation and a possibility of naming and shaming those that do not comply;
(c) clear regulations by government required to ensure proper compliance by the sector;
(d) participation of communities in the Council, there is an imbalance of industry, government and community representation in the NFAC (the Council);
(e) writing letters to associations in the sector to encourage participation and compliance;
(f) assess whether the imposition of a levy to companies who do not belong to associations might not have a positive effect on compliance; and
(g) Government and its social partners (labour and business) consider developing a position paper on incentives and other mechanisms to encourage and promote transformation in the sector.

PART 7

CONCLUSION AND RECOMMENDATIONS

The State of the Forests report: 2018 provides a picture that demonstrates that the contributions of forests and trees to the well-being of humankind are far reaching. South African forests continue to provide valuable goods and services. The play a major role in protection of forests, water and environmental services. The biomass and carbon stocks in forests are important indicators of forests' productive capacities, energy potential, and capacity to sequestrate carbon thereby playing a significant role in climate change mitigation and adaptation. About 82% of South Africa's plantation forests are certified as sustainably managed and communities continue to derive economic and social benefits from them and the indigenous and woodland forests: sustainable forest management means ensuring that forests provide a broad range of goods and services over the long term, including ensuring food security and nutrition. Our forests provide employment to people and contribute towards the country's gross domestic product. Forest biodiversity is very important for the functioning of the forest ecosystem thus increasing the resilience of both plant and animal life. Across the world, forests, trees on farms, trees outside the forests and agroforestry systems play a crucial role in the livelihoods of rural people by providing employment, energy, nutritious foods and a wide range of other goods and ecosystem services. They have a tremendous potential to contribute towards sustainable development goals and a greener economy. These benefits are yet to be quantified in monetary terms and otherwise.

However, for forests to continue to play their important role in development, sustainability and resilience of the peoples of the world, they need to managed and developed in a responsible manner. This report has highlighted the risks forests are exposed to including the new trends on climate change phenomenon, illegal logging through to fires and pests and diseases. To mitigate the negative impacts on forests in South Africa and to ensure that they continue to provide the crucial benefits to both the present and future generations, stakeholders in forestry need to urgently give attention to but not limited to the following:

1. HALTING TIMBER THEFT AND CRIMINAL ACTIVITIES

Forest protection is at the heart of sustainable forest management, particularly in South Africa whereby the bulk of the population's timber needs are met by the 1.19 million hectares of commercial timber plantations. The industry has seen illegal logging of unprecedented magnitude in the recent years. State plantations are the epicentre of this brazen criminality, with KwaZulu-Natal, Limpopo and Mpumalanga being the hardest hit provinces. Stopping this type of criminal act is not only important to the Department but to the industry as a whole because this poses a serious threat to sustainability of the sector and the development of the country. This is therefore the most important threat that needs urgent attention from government and key stakeholders. The Department needs to consider procuring on an urgent basis, the services of armed security forces to secure the plantations in which illegal timber harvesting (theft) is taking place noting that the syndicates may take their modus operandi to other plantations, which are currently not under attack. The Department and the industry may need to consider developing area specific Forest Protection Plans which consider all

key stakeholders and resources in the respective areas. It is important that the South African Police Service and the Justice Department be brought on board to assist with possible arrests and prosecutions of the perpetrators of these heinous crimes, which can also be characterised as economic sabotage.

2. RESTORATION OF STATE PLANTATIONS AND RECOMMISSIONING

The story of the conditions of State plantations has been presented in the report. The State needs to bring these to full production as soon as possible. The recommissioned plantations in the Mpumalanga Lowveld have been neglected for far too long and the department should commence with the processes of restoring the areas to uplift the socio-economic condition of the communities in and around the plantations, but more importantly, to ensure that the country's natural resources are managed conserved and managed in a sustainable manner for the present and future generations as aspired in the Constitution of the Republic. More work is required to increase the momentum of activities that have been initiated with the recommissioning of plantations in the Western Cape. The Department further requires to significantly reduce the backlog on replanting in its plantations. This should also be prioritised to contain the levels of unsustainable forest management in these plantations. Parallel to the replanting for reducing TUPs, the Department needs to invest more resources for the implementation of the plan for the refurbishment of category B and C plantations under its management. This will go a long way in expediting the implementation of the models for future management of State plantations, as they need to be restored to a state where they are economically viable before their disposal.

3. EXPEDITIOUS LAND REFORM AND RESTITUTION

The report provided a picture of a sector, which is at war with communities where land claims have been submitted to government as part of government's policy of restoration. The conflicts and criminal activities experienced in plantations where land restitution is pending emanates from the slow processes by government, particularly the mandated Department of Agriculture, Rural Development and Land Reform (formerly Department of Rural Development and Land reform, the DRDLR) which developed a settlement model that required consultation and finalisation. To address the uncertainties prevailing in the forest sector, it is recommended that the Department of Forestry, Fisheries and the Environment should engage its sister Department and finalise the model for immediate implementation. Government will also require having a Stakeholder Engagement Strategy or Plan to inform communities of their plans and continue to provide regular reports on progress as and when milestones are achieved in the process.

4. TRANSFORMATION AND RESTRUCTURING

Owing to the historical background of the country, transformation across all sectors in South Africa is a necessity. Although some strides have been made in working towards the forest sector, progress made on ownership and management in the South African forest sector is not satisfactory. There is no data demonstrating any changes on ownership in the sector and very little has been achieved on management which saw a few Africans and women occupying management positions. It recommended that the suggestions contemplated by stakeholders, which include among others, creating a database of forestry companies to enable the FSCC to track on complying and non-complying companies, considering a levy for non-compliant companies, creating incentives for companies making significant progress and developing regulations to provide further guidance on what is expected of the companies should be taken forward. Accordingly, it recommended that the FSCC take a lead role in ensuring that these proposals are discussed further and/ or implemented thereby convening the necessary meetings with all stakeholders.

5. THE REGULATORY ENVIRONMENT

The raging conflict between the industry and government, particularly the Department of Water Affairs and Sanitation is not conducive for business to thrive as it hampers investment in the forest sector. The impasse needs to be resolved as a matter of urgency. The resolutions taken and agreed to in the Bosberaad of April 2016 should form the basis for engagements between all stakeholders. The contentious issue of the conditions set up for Genus exchange need to be addressed to create conditions conducive for the sector to thrive and reach its full potential towards its contribution to the economy of the country and job creation.

However, although this is not covered in the report, government and the industry further needs to address the living conditions of forestry workers. It is common knowledge that forestry workers are one of the categories, which are poorly remunerated, particularly those working in the private sector under contractors. Studies in the past revealed the appalling accommodation in which forestry workers (public and private) live, which is characterised by poor sanitation and lack of and/ or no running water. Since the publication of the study on the living conditions of forestry workers, there is no data indicating that both the government and private sector have done much to improve the situation. The long-standing, unresolved issue of former forestry workers and dwellers, especially in the Western Cape needs urgent attention as it poses a risk to the industry. Finally, government needs to ensure that there are Integrated Fire Management Protocols in place to expedite cooperation with adjoining countries. Accordingly, pending Memorandums of Understanding with some countries should be concluded and Permanent Task Teams be established to operationalise existing Agreements.

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Annex 1: List of Champion Trees of South Africa Individual Trees and Groups of Trees Declared as Protected Under Section 12 of the National Forests Act of 1998 by the Department of Forestry, Fisheries and the Environment 2019					
Tree Species		**Description**	**Height (m)**	**Stem at DBH (m)**	**Location/site**
1	*Adansonia digitata* (baobab) Sagole Tree, also known as Muvuyo wa Makhadzi	The largest indigenous tree of South Africa and habitat for a rare colony of mottled spinetail swallows. Also second thickest tree in the world.	20.5	10.8	Sagole, Limpopo
2	*Adansonia digitata* (baobab) **Part of crown collapsed**	Second largest indigenous tree in South Africa. Oldest local tree - carbon dated to more than 1835 years. Although it has the largest stem, the partially collapsed crown and tangled mass of thick branches makes reliable measurement impossible	17.0	15.90	The farm Glencoe, Hoedspruit, Limpopo
3	*Ficus salicifolia* (Wonderboom fig) Wonderboom fig of Pretoria	Largest Wonderboom fig, carbon dated to more than 1000 years old. Served as ox-wagon outspan area in earlier years, and legend that the tree draws its growing power from a local chief buried under the tree	22.0	5.32	Wonderboom Nature Reserve, Pretoria (Tshwane), Gauteng
4	*Breonadia salicina* (matumi) One of a trio of trees called Three Queens	Largest matumi tree in South Africa	33.0	2.81	Amorentia Estate, near Modjadjiskloof, Limpopo
5	*Breonadia salicina* (matumi) One of a trio of trees called Three Queens	Second largest matumi tree in South Africa	38.0	2.60	Amorentia Estate, near Modjadjiskloof, Limpopo
6	*Breonadia salicina* (matumi) One of a trio of trees called Three Queens	Third Largest matumi tree in South Africa (forms part of a trio of large matumi trees)	38.0	2.41	Amorentia Estate, near Modjadjiskloof, Limpopo
7	*Adansonia digitata* (baobab) Platland Tree **Tree collapsed**	Very large baobab and well-known tourist attraction with a bar inside	19.0	10.7	Platland/Sunland, near Modjadjiskloof, Limpopo
8	*Ficus sycomorus* (common cluster fig) Cluster Fig Giant	The largest cluster fig in South Africa	31.0	3.34	The farm Excellence, Mica, Limpopo
9	*Afrocarpus falcatus* (Outeniquayellowwood) King Edward VIIth Tree	One of the well-visited Big Trees of the Knysna Forests	36.9	2.12	Diepwalle, Garden Route National Park, Western Cape
10	*Eucalyptus saligna* (saligna gum) The 'O'Connor tree lane	Very tall landmark tree lane –planted in the 1930s by forestry pioneer AJ O'Connor. Situated next to O'Connor's memorial	71.0	1.36	Woodbush State Forest, Magoebaskloof, Limpopo

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11	*Eucalyptus saligna* (saligna gum) The tallest trees in South Africa and Africa, with the tallest four known as the Magoebaskloof Giants Measurement of tallest tree shown	Stand of saligna gum trees planted in 1906 by forestry pioneer AK Eastwood, including the tallest trees in South Africa and Africa	81.5	1.04	Woodbush State Forest, Magoebaskloof, Limpopo
12	Sideroxylon inerme (milkwood), Grandfather of Still Bay	Largest milkwood in South Africa, estimated to be about 1000 years old	14.0	3.18	The farm Langebosch Still Bay, Western Cape
13	*Sideroxylon inerme* (milkwood) Mossel Bay Post Office Tree	Historic tree believed to have been the tree at which an old shoe was placed for exchange of messages by Portuguese seafarers in the 16th century	8.5	1.10	Dias Museum, Mossel Bay, Western Cape
14	*Cinnamomum camphora* (camphor tree) The Vergelegen trees	Historic trees planted more than three centuries ago by Governor WA van der Stel – very large trees with large landscape impact	26.3	4.01	Vergelegen Estate, Somerset West, Western Cape
15	*Eucalyptus* species & a variety of other tree species (Tokai Arboretum - all mature trees)	Arboretum of historic significance with trees planted there since 1885. Laid out by Joseph Storr Lister at the beginning of the forestry industry.	62.0	1.71	Table Mountain National Park, Cape Town, Western Cape
16	*Platanus acerifolia* (London plane) Tree avenue in KwaZulu-Natal National Botanical Garden known as Marriot's Lane	Tree avenue of exceptionally old plane trees – planted in 1908 by Mr WE Marriot (curator). This lane is a central landscape feature of the botanical garden	35.0	1.77	KwaZulu-Natal Botanical Gardens, Pietermaritzburg, KwaZulu-Natal
17	*Eucalyptus camaldulensis* (river red gum) The Irene Champion	Largest tree on an estate with a variety of trees planted since the late 19th century by a Mr Fuchs, employed by Alois Nellmapius.	41.0	2.03	Irene Farm Estate, Centurion, Gauteng
18	*Eucalyptus paniculata* (grey ironbark), E maculata (spotted gum) & E microrys (tallow gum), Commonwealth plantation	Arboretum or sample plot of large gum trees planted in the 1930s and protected to commemorate the Commonwealth Forestry Conference of 1935	70.0	1.29	Middelkop Plantation, Magoebaskloof, Limpopo
19	*Eucalyptus saligna* (saligna gum) Westfalia Showblock	Stand of tall trees gum trees planted in 1933 by the eminent Dr Hans Merensky	70.0	1.25	Westfalia Estate, near Modjadjiskloof, Limpopo
20	*Araucaria heterophylla* (Norfolk Island pine) Theological Seminary Tree	Tallest Norfolk Island pine planted in 1826 by wife of the last landdrost of Stellenbosch	46.0	1.90	Theological Seminary (Kweekskool), Stellenbosch, Western Cape
21	*Eucalyptus camaldulensis* (river red gum) Bergzicht Market Trees	Planted in 1880. Prominent trees providing shade for an entire informal market	34.5	2.32	Bergzicht Market, Stellenbosch, Western Cape

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22	*Quercus robur* (English oak) Ryneveld Oak	Planted in 1812. One of only five oak trees remaining from the previous generation of planted oak trees	29.0	1.48	Ryneveld Street, Stellenbosch, Western Cape
23	*Quercus robur* (English oak) Zandvliet Oak	Big oak tree planted in the nineteenth century at a historic farmhouse of an old wine estate	22.0	1.54	Solms Delta Estate, near Franschoek, Western Cape
24	*Populus nigra* (Lombardy poplar) Ruth Fischer Tree	Historic tree serving as landmark for fugitives from the Apartheid security forces to find the safe house of Ruth Fischer, daughter of Braam Fischer (a prominent founder member of the SA Communist Party)	22.0	1.12	Lothbury Avenue, Auckland (Johannesburg), Gauteng
25	*Afrocarpus falcatus* (Outeniqua yellowwood) Tsitsikamma Big Tree	One of the most accessible and famous Big Trees in Tsitsikamma forest. Visited by more than 95 000 tourists each year	39.3	2.77	Near Storms River, Garden Route National Park, Eastern Cape
26	*Afrocarpus falcatus* (Outeniqua yellowwood) Woodville Big Tree	One of the well-visited Big Trees of the Knysna Forests	34.0	2.80	Collin's Hoek, Garden Route National Park, Western Cape
27	*Afrocarpus falcatus* (Outeniqua yellowwood) Eastern Monarch	Well-visited Big Tree known as the Eastern Monarch, along the Tyume trail	39.4	2.75	Auckland Nature Reserve, Hogsback, Eastern Cape
28	*Afrocarpus falcatus* (Outeniqua yellowwood) The Dalene Matthee Big Tree	Landmark tree towering above the forest, and the site of a memorial to writer Dalene Matthee	35.4	1.72	Goudveld, Garden Route National Park, Western Cape
29	*Quercus robur* (English oak) The Slave Tree **LOST PART OF CROWN**	Very large oak tree planted in 1811 – one of the biggest oak trees in the southern hemisphere	24.0	1.81	York Street, George, Western Cape
30	*Cedrus deodara* (deodar) etc. Historic President Brand trees **ALMOST ALL TREES DIED**	Historic collection of trees of different species planted by visiting dignitaries since 1879 in front of the old Government Buildings in President Brand Street, Bloemfontein.	22.0	0.80	Old Government Buildings, Bloemfontein, Orange Free State
31	*Quercus robur* (English oak) The Sophiatown Oak, also called The Hanging Tree **TREE DIED**	The first individual tree proclaimed as protected under the National Forests Act 1998, (Act No. 84 of 1998). Was mutilated and died, but the site could be considered of historic significance. The tree was part of the history of Sophiatown and the struggle against the forced removal of the community in the 1950s	18.0	1.42	Bertha Street, Sophiatown, Johannesburg, Gauteng
32	*Eucalyptus ficifolia* (red flowering gum) Ida's Valley Giant	Very large and attractive tree, estimated to be more than two centuries old. A landmark on an old historic farm	22.1	2.31	Ida's Valley Homestead, near Stellenbosch, Western Cape

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33	*Quercus robur* (English oak) The Northcliff Oak	The largest and oldest measured oak tree in Gauteng	22.0	1.89	Northcliff, Johannesburg, Gauteng
34	*Ficus macrophylla* (Moreton Bay fig) Arderne Fig Tree	Landmark tree planted by tree pioneers Ralph and Henry Arderne	27.4	3.56	Arderne Garden, Claremont, Cape Town, Western Cape
35	*Auracaria heterophylla* (Norfolk Island pine) The Arderne Pine	Landmark tree planted by tree pioneers Ralph and Henry Arderne	42.6	1.83	Arderne Garden, Claremont, Cape Town, Western Cape
36	*Quercus suber* (cork oak) Arderne Cork Oak	Landmark tree planted by tree pioneers Ralph and Henry Arderne	15.5	1.40	Arderne Garden, Claremont, Cape Town, Western Cape
37	*Quercus serris* (Turkey oak) Arderne Turkey Oak	Landmark tree planted by tree pioneers Ralph and Henry Arderne	21.56	1.87	Arderne Garden, Claremont, Cape Town, Western Cape
38	*Pinus halepensis* (Aleppo pine) Arderne Aleppo Pine	Landmark tree planted by tree pioneers Ralph and Henry Arderne	32.9	1.74	Arderne Garden, Claremont, Cape Town, Western Cape
39	*Agathis robusta* (Queensland kauri) Arderne Kauri	Landmark tree planted by tree pioneers Ralph and Henry Arderne	27.7	1.57	Arderne Garden, Claremont, Cape Town, Western Cape
40	*Eucalyptus diversicolor* (karri gum) Brackenhill Gum Trees	Very tall landmark stand of karri gum in the country, planted in 1922	70.0	1.46	Harkerville, near Knysna on the Garden Route, Western Cape
41	*Casuarina cunninghamia* (beefwood) Scanlen's Lane	Lane of large casuarinas planted in the 1860s by Charles Scanlen	27.0	1.68	Cradock, Eastern Cape
42	*Quercus robur* (English oak) The Vergelegen Oak	Oak tree planted three centuries ago – largest and oldest oak tree in the country	14.0	3.40	Vergelegen Estate, Somerset West, Western Cape
43	*Eucalyptus regnans* (mountain ash) The Benvie Trees	A trio of large trees situated on the scenic Benvie Arboretum, established by Scottish emigrant John Geekie more than a century ago	61.0	2.18	Benvie Arboretum, near New Hanover, KwaZulu-Natal_
44	*Pinus radiata* (Monterey pine) The Eastern Cape Pine	Tallest pine tree in the Eastern Cape, planted in the late 1880s	51.0	1.50	Isidenge State Forest, near Stutterheim, Eastern Cape
45	*Eucalyptus citriodora* (lemon-scented gum) Paul Roos Trees	Scenic group of big trees on school grounds	39.0	0.76	Paul Roos Gymnasium, Stellenbosch, Western Cape
46	*Quercus robur* (English oak) Bonniemile Oak	Large oak tree on a farmyard next to the original wagon route linking Stellenbosch with Cape Town, planted by coachmen of governor Simon van der Stel	24.0	1.64	The farm Bonniemile near Stellenbosch, Western Cape
47	*Eucalyptus camaldulensis* (river red gum) The Ruth Steer Tree	Prominent landmark tree in Stellenbosch, planted around 1880	33.0	2.50	Jonkershoek Avenue, Stellenbosch, Western Cape

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48	*Eucalyptus camaldulensis* (river red gum) Wits Campus Tree	Huge gum tree planted more than 80 years ago along a major road between Johannesburg and Rustenburg	34.0	2.37	University of Witwatersrand, Johannesburg, Gauteng
49	*Liriodendron tulipifera* (tulip tree) The Baynesfield Tulip Tree	Tree planted by Joseph Baynes in 1882 on the historic Baynesfield Estate	34.0	2.04	Baynesfield Estate, near Richmond, KwaZulu-Natal
50	*Sequoia sempervirens* (Californian redwood) The Grootvadersbos Redwood Grove	Stand of tall redwoods planted at Grootvadersbosch more than 80 years ago	58.0	1.38	Grootvadersbosch Nature Reserve, near Swellendam, Western Cape
51	*Eucalyptus saligna* (saligna gum) Herbert Baker Chapel Trees	Group of scenic trees standing next to a chapel designed by Sir Herbert Baker	45.0	1.89	Orpen Road, Cape Town, Western Cape
52	*Sequoia sempervirens* (Californian redwood) The Table Mountain Grove	Redwood trees planted in 1887 forming a landmark and recreation area for local residents, including tall Monterey pines at the fringe of this grove	51.0	1.09	Tokai Plantation, Table Mountain National Park, Western Cape
53	*Acacia galpinii* (Monkey thorn) The Marico Tree	Tallest thorn tree measured in South Africa to date	37.0	1.81	The farm Veeplaas near Skuinsdrift, North West
54	*Ficus burkei* (Common wild fig) Umtentweni Giant	Largest Common wild fig in South Africa	28.0	3.31	Eden Park, Umtentweni, KwaZulu-Natal
55	*Eucalyptus camaldulensis* (river red gum) The Infruitec Gum Tree	Very large landmark tree planted about 130 years ago	38.2	3.08	Infruitec, Helshoogte Pass, Stellenbosch, Western Cape
56	*Eucalyptus camaldulensis* (river red gum) Wilgenhof Grandfather	Large tree planted about 130 years ago, and now a landmark	30.8	2.70	Victoria Street, Stellenbosch, Western Cape
57	*Adansonia digitata* (Baobab) The King of Ga-Ratjeke	Third largest indigenous tree in South Africa	23.5	8.21	Ga-Ratjeke village, near Modjadjiskloof, Limpopo
58	*Quercus robur* (English oak) Akkerdraai Oak Tree	Large landmark oak tree, possibly older than 175 years	28.0	1.94	Annandale Road, Stellenbosch, Western Cape
59	*Eucalyptus grandis* (rose gum) Gum Tree Corner	Group of exceptionally large gum trees	59.1	1.33	KwaZulu-Natal Botanical Garden, Pietermaritzburg, KwaZulu-Natal
60	*Sequoia sempervirens* (Californian redwood) Misty Grove	A stand of tall sequoia trees planted about 80 years ago	59.0	1.08	Woodbush State Forest, Magoebaskloof, Limpopo

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61	*Eucalyptus saligna* (saligna gum) Saasveld Sentinels	Large eucalypt landmark trees at the scenic Saasveld campus	39.0	1.46	Saasveld Campus, George, Western Cape
62	*Populus deltoides* (cottonwood tree) The Parktown Tree	The largest cottonwood tree measured locally, and a remnant of the semi-rural surroundings of Johannesburg which are now built up	35.0	1.66	Parktown North, Johannesburg, Gauteng
63	*Pinus pseudostrobus* (false Weymouth pine) The Three Matrons	The largest pine trees in Limpopo Province, planted in 1914	49.2	1.56	Woodbush State Forest, Magoebaskloof, Limpopo
64	*Ficus macrophylla* (Moreton Bay fig) The Zoo Giant	Large landmark tree near the entrance of the Pretoria National Zoological Gardens	27.0	3.80	National Zoological Garden,Pretoria, Gauteng
65	*Pinus taeda* (loblolly pine) The Buffelsnek Pine	Tallest pine tree measured in South Africa	60.1	1.20	Buffelsnek State Forest, Knysna,Western Cape
66	*Ficus sycomorus* (sycamore fig) The Ilembe Tree	Very large tree in a rural landscape, known as a local landmark since a century ago	23.0	5.37	Ilembe, near Kranskop, KwaZulu-Natal
67	*Cussonia spicata* (Lowveld cabbage tree) The Kurisa Forest Giant	An imposing giant forest tree	35.0	3.71	Kurisa Moya, Magoebaskloof, Limpopo
68	*Eucalyptus camaldulensis* (river red gum) The Waterkloof Giant	Largest landmark tree of the eastern Pretoria suburbs. Remnant of a century-old tree plantation destroyed by suburban development	34.0	2.15	Waterkloof Primary School, Pretoria, Gauteng
69	*Adansonia digitata* (baobab) Buffelsdrift baobab / Swartwater baobab	One of the five largest baobabs in the country	22.0	7.71	The farm Buffelsdrift, near Lephalale, Limpopo
70	*Afrocarpus falcatus* (Outeniqua yellowwood) The Blouberg Big Trees	Among the tallest indigenous forest trees in the country	41.0	1.65	Blouberg, near Polokwane, Limpopo
71	*Ficus burkei* (Common wild fig) The Kindergarten Giant	Large landmark tree at the University of Cape Town campus	25.0	5.09	University of Cape Town Cape Town Western Cape
72	*Ficus thoningii* (Common wild fig) The Vygekraal Trees	A scenic grove of large trees growing on the walls of a cattle kraal built in the late nineteenth century	23.0	1.60	The farm Vygekraal near Pretoria, Gauteng
73	*Eucalyptus grandis* (rose gum) The Satico Giants	Stand of third tallest trees in the country, planted in 1938	72.3	1.05	Satico Plantation, near Louw's Creek, Mpumalanga
74	*Eucalyptus globulus* (blue gum) The Radyn Tree	Exceptionally large gum tree	40.2	1.14	The farm Radyn near Villliersdorp, Western Cape
75	*Ficus macrophylla* (Moreton Bay fig) The Fernwood Trees	Landmark trees of the same vintage as the Arderne Garden trees (about 160 years old)	27.5	3.02	Fernwood Avenue, Newlands, Cape Town, Western Cape

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76	*Cinnamomum camphora* (camphor tree) The Hohenhort Grove	Grove of camphor trees of about 250 years old growing behind cellars on a historic farmyard	24.0	2.10	Cellar Hohenort Hotel, Brommesvlei road, Constantia, Cape Town Western Cape
77	*Eucalyptus globulus* (blue red gum) The Welbedacht Tree	Landmark tree on private nature reserve	37.5	2.60	Welbedacht Reserve, Tulbagh Western Cape
78	*Sequoia sempervirens* (Californian redwood) Hogsback Redwood Giants	Grove of large redwood trees planted almost a century ago	55.0	2.40	Hogsback, Eastern Cape
79	*Quercus suber* (cork oak) Ina Paarman Oak	Tree on the property of Mrs Ina Paarman of food condiments fame, planted in the mid nineteenth century	22.7	1.40	Constantia Main Road, Constantia Western Cape
80	*Eucalyptus globulus* (blue gum) Houwhoek Inn Tree	Large tree planted in the mid nineteenth century at the oldest hotel in the country	27.0	3.20	Off the N2 road, Grabouw, Western Cape
81	*Eucalyptus saligna* (saligna gum) Merensky Lane	Scenic lane of trees planted by the eminent Dr Hans Merensky on the Westfalia Estate in the 1930s	69.0	1.60	Westfalia Estate, Modjadjiskloof, Limpopo
82	*Eucalyptus diversicolor* (Karri) Boschendal Lane	Lane of exceptionally large trees planted more than two centuries ago	50.4	2.70	Boschendal Estate, Helshoogte Road, Western Cape
83	*Sequoia sempervirens* (Californian redwood) The Harkerville Giants	Tall, scenic redwoods planted in 1925, offering a resting place along a popular cycle track.	48.0	1.6	Harkerville State Forest, Garden Route National Park, Western Cape
84	*Ficus elastica* (rubber tree) The Company's Garden Giant	Large tree forming a focal point to the entry to the Company's Gardens	36.7	2.8	Company's Gardens, Cape Town, Western Cape
85	*Ficus sur* (broom cluster fig) The Sabie River Giant	Very large tree along the Sabie River.	34.5	3.6	Sabie Park Nature Reserve, Limpopo
86	*Ficus burkeii* (common wild fig) The Whisper Tree	Very large tree in the grounds of a guesthouse. Estimated to be more than 200 years old.	17.0	4.67	Voëlroepersfontein Guest House, Albertinia, Western Cape
87	Eucalyptus viminalis (manna gum tree) The Frankfort Big Trees	Two very large landmark trees on a farm near the Vaal Dam.	33.0	1.9	The farm Brakwal / Grootdam-Alma 1440, Frankfort, Free State

Annex 1: List of Champion Trees of South Africa Individual Trees and Groups of Trees Declared as Protected Under Section 12 of the National Forests Act of 1998 by the Department of Forestry, Fisheries and the Environment 2019					
88	*Eucalyptis saligna* The Dwarsrivierkloof Lane	A lane of very large landmark trees on a farm, planted more than 150 years ago.	60.4	2.2	The farm Dwarsrivierkloof, Winelands District Municipality, Western Cape
89	*Adansonia digitata* (baobab) The Honnet Giant	One of the five biggest baobab in South Africa.	16.0	7.0	Honnet Nature Reserve, Tshipise, Limpopo
90	*Corymbia ficifolia* The Wolfskloof Tree	Very large landmark tree, 170 years old, on a farm.	34.5	2.6	Wolfkloof Farm, Robertson District, Western Cape
91	*Ficus anulata* (Anulata fig) The Durban Big Tree	Very large and rare landmark tree in botanical garden.	33.0	3.6	Durban Botanical Gardens, Ethekwini Municipality, KwaZulu-Natal
92	*Ficus benghalensis* (Banyan tree) The Durban Banyan Tree	Very large landmark tree in botanical garden.	31.0	3.5	Durban Botanical Gardens, Ethekwini Municipality, KwaZulu-Natal
93	*Eucalyptus camaldulensis* The Plesir de Merle Trees	Grove of very large trees.	37.2	1.7	Plesir de Merle, Simondium, Western Cape

Annexure 2: List of Regional and International Meetings at which South Africa participated (2016-2019)		
No.	**Event**	**Place and Date**
1	The Technical Meeting of the official launch of the Global Forest Resources Assessment 2020 (FRA 2020)	Joensuu, Finland, 12-16 June 2017
2	The technical meeting of National Correspondents and Collaborative Forest Resources Questionnaires (CFRQ) partners for the official launch of the Global Forest Resources Assessment (FRA) 2020	Toluca De Lerdo, Mexico, 5 - 9 March 2018
3	The Global Forest Resources Assessment (FRA) 2020 Regional Remote Sensing Workshop for East Africa	Maputo, Mozambique, 8-13 July 2019
4	The Twenty-fourth Session of the Committee on Forestry	Rome, Italy, 16-20 July 2018
5	The Second Open-Ended Intergovernmental Ad Hoc Expert Group (AHEG2) Meeting of the United Nations Forum on Forests (UNFF) on Development of Proposals to Implement UNFF-11 Resolution	Bangkok, Thailand, 24-28 October 2016
6	Regional Planning Workshop to Support the Implementation of the Global Plan of Action (GPA) for Forest Genetic resources (FGR)	Douala, Cameroon, 12-14 April 2016
7	Meeting for the Development of Global Forest Indicators to Support the Implementation of the 2030 Agenda on Sustainable Development and the International Arrangement on Forests (IAF) Strategic Plan	Rome, Italy, 28 - 30 November 2016
8	United Nations Forum on Forests (UNFF) Strategic Plan on Forests 2017-2030 and Quadrennial Programme of Work (4POW) for the Period 2017- 2020	New York, United States of America, 16-20 January 2017
9	Twelfth Session of the United Nations Forum on Forests (UNFF-12)	New York, United States of America, 1-5 May 2017
10	Expert Meeting on reporting to the United Nations Forum on Forests (UNFF)	Nairobi, Kenya, 21-23 November 2017
11	Expert Group Meeting on the Clearing House of the United Nations Forum on Forests (UNFF)'s Global Forest Financing Facilitation Network (GFFFN)	New York, United States of America, 09-11 January 2019
12	Monitoring, Assessment and Reporting (MAR) capacity building workshop on reporting on progress made towards the achievement of the Global Forest Goals (GFGs) and targets of the United Nations Strategic Plan On Forests (UNSPF) 2030	Bangkok, Thailand, 28- 30 October 2019.
13	United Nations Forum on Forests (UNFF) Expert Group Meeting on the Clearing House of the Global Forest Financing Facilitation Network (GFFFN) and the Expert Group Meeting on the Quadrennial Programme of Work for 2021-2024	Geneva, Switzerland, 12-15 November 2019

Annexure 2: List of Regional and International Meetings at which South Africa participated (2016-2019)		
No.	**Event**	**Place and Date**
14	Thirteenth Session of the United Nations Forum on Forests (UNFF-13)	New York, United States of America, 07-11 May 2018
15	The first Open-Ended Intergovernmental Ad Hoc Expert Group (AHEG) of the United Nations Forum on Forests (UNFF) on development of proposals to implement UNFF-11 Resolution	New York, United State, 25-27 April 2016
16	Expert Meeting on Reporting to the United Nations Forum on Forests (UNFF)	Brasilia, Brazil, 7-10 February 2017
17	African Group Preparatory Meeting for the Twelfth Session of the United Nations Forum on Forests (UNFF-12)	Nairobi, Kenya, 18-21 April 2017
18	The Twenty-eighth Technical Committee meeting on forestry of the Southern African Development Community	Windhoek, Namibia, 8-9 November 2018
19	The Fourteenth Session of the United Nations Forum On Forests (UNFF-14)	New York, United States of America, 6-10 May 2019
20	Forty-fourth Session of the Subsidiary Body for Implementation (SBI 44) and Subsidiary Body For Scientific and Technological Advice (SBSTA 44) as well as the First Session of the Ad-Hoc Working Group on the Paris Agreement (APA 1) to the United Nations Framework Convention on Climate Change (UNFCCC)	Bonn, Germany, 16-26 May 2016
21	Workshop on the Challenge of Estimating Carbon Emissions and Removal in the Land Sector: A focus on New and Fully Integrated Systems	Ncheon, Korea, 9-11 September 2016
22	Twenty-second Session of the Conference of the Parties (COP 22) and the Twelfth Session of the Conference of the Parties serving as the meeting of the parties to the Kyoto Protocol (CMP 12)	Bab Ighli, Marrakech, Morocco, 7-18 November 2016
23	The Sixth Session of the Informal Dialogue on the Land Sector	Kyoto, Japan, 19-21 September 2017
24	The Twenty-third Conference of the Parties (COP 23) , Thirteenth Conference of the Parties Serving as the Meeting of the Parties to Kyoto Protocol (CMP 13), Second part of the first Conference of the Parties Serving as the Meeting of the Parties to the Paris Agreement (CMA1.2), Forty-Seventh Sessions of the Subsidiary Bodies for Implementation, and Scientific and Technological Advice (SBI & SBSTA 47) as well as the Fourth Part of the First Session of the Ad Hoc Working Group on the Paris Agreement (APA1.4)	Katowice, Poland, 6-17 November 2019
25	The Twenty-fifth Conference of the Parties to the United Nations Framework Convention on Climate Change (COP25 UNFCCC); the Fifteenth Conference of the Parties serving as the Meeting of the Parties to the Kyoto Protocol (CMP 15). The Second Session of the Conference of the Parties Serving as the Meeting of the Parties to the Paris Agreement (CMA 2); the Fifty-first Session of the Subsidiary Body for Scientific and Technological Advice (SBSTA 51) and Subsidiary Body for Implementation (SBI 51)	Madrid, Spain, 30 November - 14 December 2019
26	The Twenty-second Session of the Conference of Parties (COP 22); the Twelfth Session of the Conference of the Parties to the Kyoto Protocol (CMP 12); and the First Session of the Conference of the Parties Serving as the Meeting of the Parties to the Paris Agreement (CMA 1) to the United Nations Framework Convention on Climate Change (UNFCCC)	Marrakech, Morocco, 7-18 November 2016
27	Twenty-third Conference of the Parties (COP-23) to the United Nations Framework Convention on Climate Change (UNFCCC)	Bonn, Germany, 06-17 November 2017
28	Twenty-fourth Conference of the Parties (COP 24) , FORTY-NINTH SESSION of the Subsidiary Bodies for Implementation (SBI 49) and Subsidiary Bodies for Scientific and Technological Advice (SBSTA 49) as well as the Seventh Part of the First Session of the Ad Hoc Working Group on the Paris Agreement (APA1.7)	Katowice, Poland, 3-14 December 2018
29	The Forty-sixth Session of the Subsidiary Body for Implementation (SBI 46) and the Subsidiary Body for Scientific and Technological Advice (SBSTA 46), as well as the Third Session of the Ad Hoc Working Group on Paris Agreement (APA 1-3) to the United Nations Framework Convention on Climate Change (UNFCCC)	Bonn, Germany, 8-18 May 2017
30	The Thirteenth Conference of the Parties (COP-13) Meeting of the Convention on Biological Diversity	Cancun, Mexico, 04-17 December 2016
31	Regional Planning Workshop to support the Implementation of the Global Plan of Action for Forest Genetic Resources	Douala, Cameroon, 12-14 April 2016
32	Regional Workshop on the Conservation and Use of Forest Genetic Resources in Sub-Saharan Africa: Strengthening Tree Seed Systems	Kumasi, Ghana, 9-11 April 2019
33	Regional Workshop on Training Needs on New and Emerging Issues in African Forestry	Dar Es Salaam, Tanzania, 23-26 October 2017

Annexure 2: List of Regional and International Meetings at which South Africa participated (2016-2019)		
No.	**Event**	**Place and Date**
34	Sub-regional Workshop for Africa on the Global Forest Resources Assessment (FRA) 2020	Dar Es salaam, Tanzania 18-20 September 2018
35	African Union Commission (AUC) Workshop on finalisation of a Continent-wide Forestry Strategy for Sustainable Forest Management	Nairobi Kenya, 06-10 July 2018
36	African Union Commission (AUC) Workshop on finalisation of a Continent-Wide Forestry Strategy for Sustainable Forest Management	Nairobi, Kenya, 08-10 July 2019
37	The Second Joint Coordination Committee (JCC) Meeting of the Southern African Development Community (SADC) and the Japan International Cooperation Agency (JICA) Project on Conservation and Sustainable Management of Forest Resources in Southern Africa	Dar Es Salaam, Tanzania, 7-8 September 2016
38	Workshop on National Forest Monitoring and Information Systems (NFMIS) for a transparent and truthful REDD+ Process	Rome, Italy, 28 November - 02 December 2016.
39	Wildfire Station Administration for Monitoring of the Environment and Security in Africa (MESA) Project Training	Botswana, Gaborone, 4-8 September 2017
40	The Third Expert Working Group (EWG) Meeting on Forest Information System (FIS) for the Southern Africa Development Community-Japan International Cooperation Agency (SADC - JICA) Forestry Project	Lusaka, Zambia, 9-11 October 2018
41	Basic Training for the Expert Working Group on Forest Information System (EWG-FIS)	Gaborone Botswana, 25-30 June 2016
42	Regional Training for the Monitoring of the Environment and Security in Africa (MESA) Fire SADC THEMA for the Monitoring of Wildfires	Gaborone, Botswana, 24 July - 05 August 2016
43	The Second Forum of the Monitoring for the Environment and Security in Africa (MESA) Project	Dakar, Senegal, 24-29 April 2017
44	Second Joint Session Meeting for the Expert Working Group on Forest Information System and Forest Fires Management (EWG-FIS and FFM)	Gaborone, Botswana, 6-10 November 2017
45	First Basic Training for the Expert Working Group on Forest Information System (EWG-FIS)	Gaborone, Botswana, 25 June to 1 July 2017
46	The Specialised Technical Committee Meeting on Agriculture, Rural Development, Water and Environment	Addis Ababa, Ethiopia, 2-4 October 2017
47	Twenty-first Session of the African Forestry and Wildlife Commission (AFWC)	Dakar, Senegal, 19-23 June 2018
48	Seventh International Wildland Fire Conference	Campo Grande, Brazil, 28 October – 1 November 2018
49	Seventeenth Meeting of the Conference of the Parties to the United Nations Convention on Biological Diversity	Johannesburg, South Africa, 24 September to 5 October 2017

Annex 3: Results of the Audit Pilot Study of the South African Forest Assessment Scheme (SAFAS) at KwaGubeshe Plantation, KwaZulu-Natal
Dated: 29 May 2019

	AUDIT SAFAS FINDINGS - KWA-GUBESHE Audit date 29/05/2019	SAFAS	RISK
1	**Inadequate measures to prevent timber theft and other illegal activities. (See no 27, 5.3.8)** **EVIDENCE:** Inadequate measures to prevent timber theft. Timber theft is a daily occurrence at every level from individuals with bow-saws to full scale harvesting operations with mechanical equipment (Bell loaders etc.) The removal of the security company recently has reported increased timber theft dramatically. We encountered 3 separate groups stealing timber in the two field visits. We also saw two pine sites where timber had been stolen in a fully-fledged harvesting operation. Community appears to have free access to the plantations making the risk of hunting very high. We found two people from the community collecting medicinal plants without permission from the management.	6.1.1	30.1

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2	**Inadequate measures taken to protect the plantations from uncontrolled fires.** **EVIDENCE:** There is a fire risk plan documented which includes the key elements listed. However there is no evidence that suggests it is being implemented this year. The key short coming is that fire-break Tracers have not been prepared for this season and it is now too late to do so using desiccant chemicals. It is imperative that alternative, safe options are employed to prepare fire breaks before the fire season. These could include disking or slow controlled use of fire. Steep slopes should not be disked. The fire risk is extremely high due to the prevalence of several contributing factors. I.e. very poor roads, very poor management of conservation zones, very poor alien plant control. Examination of past records shows a big decrease in fires from 2015 - 2018. This was reported to be due to the fact that the security company that was employed during the time prevented and reported fires. Currently there is no security company employed (except for one person who guards the office during the day. No records of formal fire protection training were available for the audit.	6.3.2 6.3.3	25
3	**The management plan does not address the operational requirements of the management unit.** **EVIDENCE:** The management plan does not make provision for all the required elements and most instances it appears not to reflect the management in the field. For example, the last felling was reported to be in 2016. Areas are not being planted for years after clear felling. Due to the system of issuing tenders every several years it is difficult to follow a management plan designed for annual harvesting and re-establishment. There was no evidence of monitoring results, stakeholder engagement, scientific information or environmental changes being incorporated into the management plan as part of an annual review. No public summary of the management plan is made available for stakeholders.	1.2.1 1.2.2 1.2.3 1.2.4	23.4
4	**Justification for choice of species and genotypes does not fully take into account objectives of the plantation, and the climate, geology and soils at the planting sites.** It is recommended that choice of species or clones is reconsidered in the light of the pertinent factors.	7.2.2	18
5	**Harvested areas are not re-established within a year of felling** **EVIDENCE: Large areas of TUP.** Areas that were harvested more than 2 years ago are not replanted. Lack of re-establishment hampers cash flow and increases establishment costs due to increasing weed growth. This also effects the availability of steady employment for the community. This also effects community relationships by reducing the value of the plantations to the community.	7.2.1	18
6	**No evidence that contractors are formally monitored for compliance with relevant labour legislation.** **EVIDENCE:** There is no evidence of the monitoring of contractor compliance with the Basic Conditions of Employment Act, 1997 (Act No. 75 of 1997), the Employment Equity Act, 1998 (Act No. 55, 1998, The Compensation for Occupational Injuries and Diseases Act, 1939 (Act No. 130 of 1993) There is no evidence that contractors are paying or exceeding the forestry sectoral minimum wage. There were no contractors working at the time of the audit and therefore it was not possible to audit them.	3.1.1 3.1.2 3.1.3 3.1.4 3.1.7 3.3.1	17.1
7	**No evidence that contractors take responsibility for ensuring compliance of all employees with legislated health and safety requirements and best practice** **EVIDENCE:** Contractors sign agreements that they will comply with all labour and health and safety legislation but there is no evidence that they are formally monitored for compliance with these agreements.	3.2.1 3.2.2 3.2.3 3.2.4 3.2.5 3.2.6 3.3.1	17.1
8	**Inadequate supervision to ensure safe and effective implementation.** **EVIDENCE:** Silviculture operation (A6) was very poorly carried out including: Failure to properly prepare the site. Failure to dig adequate pits. Espacement was grossly incorrect. Plantings took place within the 20m buffer zone required for streams. In defence, it was reported that the planting was done by EPWP labour with funds that had to be spent before the end of the financial year, giving two days to plant 16ha, including site preparation.	3.3.2	17.1

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	AUDIT SAFAS FINDINGS - KWA-GUBESHE Audit date 29/05/2019	SAFAS	RISK
9	**There is inadequate monitoring of aspects important to plantation productivity - Silviculture** **EVIDENCE:** No formal system for monitoring silviculture operation was undertaken on compartment (A6) This was very poorly carried out including: Failure to properly prepare the site, failure to dig adequate pits, espacement was grossly incorrect, plantings took place within the 20m buffer zone required for streams. This planting was done by EPWP labour with funds that had to be spent before the end of the financial year, giving them two days to plant 16ha, including site preparation.	7.2.3	16.8
10	**There is inadequate monitoring of aspects important to plantation productivity - Yield predication and monitoring** **EVIDENCE:** APO did contain yield predictions however there is no system for reconciling yields to production. There is no indication that the off-take volumes are monitored during the tender process. This is a high risk because it the yield predictions cannot be monitored and the contractor could be harvesting outside of his contracted area.	7.2.3	16.5
11	**No evidence that contractors have a dispute resolution system for their workers or that any grievances that they may have are being addressed.** **EVIDENCE:** There was no records or contractors being audited and there were no contractors working at the time of the audit.	3.1.5 3.1.6	16.2
12	**Complete neglect of road maintenance.** **EVIDENCE:** The road network is in very poor condition. Maintenance has been completely neglected for several years. This has resulted in severe erosion which is threatening to make many of the roads unpassable. This profoundly effects all operations. It is particularly dangerous to fire protection efforts. As the road network gets worse the cost to repair them increases. The silt coming from the road network is entering watercourses and damaging the ecology. During flood events the poor drainage on roads will exacerbate damage to water courses and potentially effect down-stream dams and bridges.	4.1.3	16.2
13	**Wetlands and riparian areas are inadequately protected from impacts of forestry activities.** **EVIDENCE:** There is no operational wetland delineation plan. While most of the main wetlands and riparian areas have been excluded from planting, these are heavily infested with commercial species and incidental alien plants. Some wetlands are planted through with commercial timber or have inadequate buffers. In the planting operations at compartment A6 trees were planted within the riparian buffer area. Many of the riparian areas have logs that have been left behind in them. There appears to have been no effort to avoid felling into riparian zone or extracting timber that has fallen into them.	4.2.1 4.2.3	16
14	**Wetlands and riparian and their buffers are not managed for maintenance or enhancement of ecosystem health and connectivity.** **EVIDENCE:** No sign of management according to best available information for ecosystem health and connectivity. Areas are left to grow weeds and are burned as fire breaks if burned at all.	4.2.2	16
15	**Annual harvest exceeds annual increment and the standing volume of the management unit is reducing over time.** **EVIDENCE:** Most of the eucalyptus timber is effectively over-harvested through timber theft. Most of the compartments have most of the eucalyptus stolen before it is 4 years old, while it can still be easily handled transported on bakkies. 3 theft operations were encountered in action during the audit. Large quantities of mature pine is stolen by people using fairly large machinery. (several such sites were observed)	4.3.1 4.3.2	15.6
16	**There is no evidence of a programme to control and eradicate listed invasive species.** **EVIDENCE:** Alien plants are spreading throughout the open areas and plantations. [Bugweed and pine and eucalyptus in compartment A6.] There is also a severe problem with Curry's Post weed Phymaspermum acerosum. This is not an alien species but it can take over in overgrazed land and cause problem with soil erosion.	5.3.6	15.6
17	**There is inadequate monitoring of aspects important to plantation productivity - Timber Wastage** **EVIDENCE:** Considerable amounts of large-sized timber was left infield throughout the plantations, on timber depots and in riparian zones.	7.2.3	15.6

Annex 3: Results of the Audit Pilot Study of the South African Forest Assessment Scheme (SAFAS) at KwaGubeshe Plantation, KwaZulu-Natal Dated: 29 May 2019			
	AUDIT SAFAS FINDINGS - KWA-GUBESHE Audit date 29/05/2019	**SAFAS**	**RISK**
18	**Inadequate budget provided to implement sustainable forest management.** **EVIDENCE:** Labour costs are 90% of the budget. It is difficult to manage the budget because revenues from sales go to treasury and then budgets are allocated to DAFF head office and these are allocated to regional offices and then to plantations. There appears to be no operational budget for key elements such as road maintenance, seedlings for planting, herbicides etc.	7.2.5	15.6
19	**The plantation represents low diversity of species and products threatening its resilience.** EVIDENCE: Only 2 species are grown at scale on the plantation. The plantations are providing a range of products for the local community, however most of this is stolen timber. The points to the potential of diversifying product range to include a range of building poles for the community, this will work only if control timber theft is achieved.	7.2.7	14
20	**Inadequate measures taken to identify, monitor and control pests and diseases.** **EVIDENCE:** Only two species of trees dominate the plantations, both highly susceptible to pests and diseases. Pinus patula - Fusarium spp. (pitch canker fungus; Diplodia spp.; pine emperor moth, Sirex, Eucalyptus grandis - Leptocybe invasa (gall wasp) and Pantoea spp. (bacterial blight). The intention is to plant Pinus elliottii in future. Manager appeared to be aware of some disease threats and reported that he has not seen any signs of disease in the plantations. However, it is not clear if there is a systematic approach to inspecting plantations for disease and reporting these. Any signs of diseases, are reported to either ICFR or FABI. The auditors found infestations of Shell lerp psyllid on the field visit on Eucalyptus grandis. It is the first reported siting in this area, (possibly in KZN) (reported to the ICFR). The plantations should be inspected for this and the other potential plantation diseases. The shell lerp psyllid (Spondyliaspis sp.) – is a sap sucking insect, first reported from the Pretoria area in 2014. It has subsequently been found on non-commercial - or ornamental Eucalyptus species near Iswepe, White River, Tzaneen and Melkbosstrand in the Western Cape.	6.4.1 6.4.2	14
21	**Inadequate evidence of ongoing stakeholder engagement.** **EVIDENCE:** 1. There is no documented evidence of stakeholder engagement. 2. The list of stakeholders is missing several key stakeholders including the local municipality, contractors, labour unions, local schools or relevant local clients or service providers. 3. As determined by phoning stakeholders from the list provided, the manager is clearly in communication with some of the local stakeholders, but it is not clear what proactive community engagement takes place to reduce the impacts such as timber theft and dumping in the plantations.	2.2.1	12.4
22	**Responsible residue management is not practised.** **EVIDENCE:** Burning of residues is guided by the amount of brush without consideration for site sensitivity. Generally Eucalyptus sites are not burned as they are coppiced. Pinus patula sites are all burned.	4.1.2	12.4
23	**Some key requirements of the Occupational Health and Safety Act 1993 (Act No. 85 of 1993) were not in place for own-operations** **EVIDENCE:** There was no displayed copy of the health and safety policy No documented evidence of regular safety talks. Training records and certificates were not available for all training done. There was no current hazard identification and risk assessment system available.	3.2.1 3.2.3	12
24	**Use of inappropriate chemicals for unregistered use.** EVIDENCE: As reported by the manager, glyphosate is used to prepare tracer belts. This is not registered for this use and it has the potential to cause soil erosion in steep areas.	4.1.1	11.9
25	**The permit system for community members to access the plantations for resources such as firewood, medicinal plants and grazing is not always applied.** **EVIDENCE:** It appears that the community considers that they have rights of access for anything. People were encountered collecting medicinal plants close to the plantation office without any permit. Another group were collecting firewood. They discussed it with us openly, without appearing to be aware of the requirement for a permit.	5.3.8	11.3
26	The presence of likely presence of Threatened or Protected species has not been assessed and priority species, if they occur are not being managed according to best available information. **EVIDENCE:** The Management unit contains part of two Critical Biodiversity Areas (CBAs). There is no list of priority species likely to occur and the manager was unaware of any. There was no system for prioritising the conservation zones for protection.	5.3.3 5.3.4	11.3

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27	**There are no effective steps taken to control hunting or collecting of plants.** **EVIDENCE:** Community appears to have free access to the plantations making the risk of hunting or planting operation to can take place, is collecting very high. We found two people from the community collecting medicinal plants without permission from the management. Dogs were seen running through the plantations.	5.3.8	11.3
28	**There is no local adaption of the dispute resolution procedure that indicates that there is a systematic approach to dispute resolution.** **EVIDENCE:** There is a dispute resolution procedure contained in the DAFF P and C document and posted on the notice board but the manager seemed to be unaware of it. Given the large number of people living adjacent to the plantations and that there is a potential for disputes surrounding the matters involving access to resources it is important that there is a systematic approach to dispute resolution.	2.2.2	10.3
29	**There is no management of grazing by livestock to prevent damage to natural habitat** **EVIDENCE:** Community cattle graze on the grasslands (and within the plantations) in an uncontrolled way. The sward is dominated by *Arisitida junciforis* (Ngongoni grass). This species IS unpalatable and difficult to get rid of once established. The grasslands do not have signs of severe soil erosion.	5.3.7	10
30	**There is no implementation of a fire management plan for natural ecosystems** **EVIDENCE:** There is no documented fire management plan for conservation zones with maps. Grasslands are all burned every year. Fire breaks are not burned with consideration for ecological impacts. However, it would be very difficult to implement a rotational burning regime because it is likely that the community would burn any unburned grassland for grazing.	5.3.5	9
31	**Chemical store not fully complaint with legislation and best practice** **EVIDENCE:** There was no soap or eyewash in the store, no bund wall, expired or chemicals not in use kept in the store and should be correctly disposed of, some boxes with chemicals inside appeared to be leaking slowly. The chemical store has several old chemicals not intended for use stored in it. This includes termidam containing Chlordane which falls into the category, highly chlorinated hydrocarbons. These are banned by SAFAS. All the chemicals that are not to be used must be returned to a chemical company including the old chemical containers.	6.2.1 6.2.5	8.7
32	**The plantations value is declining each year due to lack of effective management** EVIDENCE: Plantation revenues are a small fraction of their potential. Costs of management are increasing due to neglect of infrastructure and natural assets.	7.2.6	6.8
33	**No evidence of measures taken to prevent chemical and hydrocarbon pollution and remediate areas in the event of spillage.** **EVIDENCE: There are documented procedures as part of the P and C document however they are not all implemented. For example** Diesel tanks do not have a bund wall. Regular monitoring of contractor operations do not take place.	6.2.3	6.5
34	**There has been no effort to reduce the potential impact of the spread of commercial species to neighbouring lands.** **EVIDENCE:** There is no evidence of any effort to appraise the landscape for signs that the plantations may be a source of invasion or to takes steps towards mitigation. However, during the audit it was clear that if timber does spread from the plantations it will be used by the community and probably does not pose a threat to environmental values.	5.2.1 5.2.2 5.2.3	6
35	Use of chemicals in contravention of the instructions given by the pesticide producer and registration. **EVIDENCE:** In 2018, Glyphosate was used to prepare tracer belts. This is not permitted as the chemical is not registered for this use. It has the potential to cause soil erosion.	6.2.6	6
36	The objectives of the plantation include Job creation, enabling environment for business development, poverty alleviation. The potential to achieve this could be greatly enhanced by improving the standards of forest management.	2.3.1	1
37	Discussion with stakeholders indicate that the community is relatively happy with the contribution the plantations play. Firewood is reported to be supplied to a local school. The community could be benefitting more through employment but this is sporadic.	2.3.4	1
38	Cattle damage in some areas. Without accurate monitoring data the impact cannot be assessed.	6.4.3	1

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