



South Africa **Yearbook** 2018/19

Agriculture, Forestry and Fisheries

The agriculture, forestry and fisheries sectors are crucial to South Africa's socio-economic development. However, the future of these sectors depends on critical issues such as climate change, population growth, skills shortages, changes in consumer needs and shifts in the global economy and related markets.

As one of the most employment-intensive sectors of the economy, agriculture's potential impact on empowerment and poverty relief is much larger than its actual weight in the economy suggests.

While the primary agricultural sector contributes about 3% to the country's gross domestic product (GDP), it represents about 7% of formal employment. If the entire value chain of agriculture is taken into account, its contribution to GDP reaches about 12%.

The mandate of the Department of Agriculture, Forestry and Fisheries (DAFF) is to address production and consumption in the agriculture, forestry and fisheries sectors.

The department's strategic goals over the medium term, which are organised around the key priority areas of food security, job creation, and rural and economic development, are to:

- provide effective and efficient strategic leadership, governance and administration;
- increase production and productivity in the agriculture, forestry and fisheries sectors, to enhance employment and economic growth;
- provide an enabling environment for food security and sector transformation; and
- ensure the sustainable use of natural resources in the forestry and fisheries sectors through the conservation, protection, rehabilitation and recovery of natural resources within ecosystems.

Agricultural activities range from intensive crop production and mixed farming to cattle-ranching in the bushveld and sheep-farming in the more arid regions. About 12% of South Africa's surface area can be used for crop production. High-potential arable land comprises only 22% of total arable land. Some 1,3 million ha are under irrigation.

The forestry industry is one of the strategic economic sectors in South Africa, with a significant contribution towards economic

growth and job creation. Therefore, the expansion of South Africa's forest resources remains one of the department's main objectives to ensure growth, transformation and sustainability of the sector.

As a natural resource, the fisheries sector is also recognised as a potential area for economic growth. The mandate for fisheries management includes fresh water and inland fisheries, as well as aquaculture.

Broadening the scope of aquaculture will provide an opportunity to increase the production of fish and other aquatic food species, thereby decreasing the pressure on natural fish resources. Through the National Aquaculture Strategic Framework, the department strives to ensure effective stakeholder engagement and management, as well as advancing the transformation agenda in the sector.

Legislation and frameworks

Some of the legislation of the DAFF include:

- The Veterinary and Para-Veterinary Professions Act, 1982 (Act 19 of 1982), provides for the establishment, powers and functions of the South African Veterinary Council and also regulates the institutions and registration of professionals in the practising veterinary and para-veterinary fields.
- The Fertilizer, Farm Feeds, Agricultural Remedies and Stock Remedies Act, 1947 (Act 36 of 1947) regulates the registration, acquisition, disposal, sale and use of fertilisers, stock feeds, agricultural remedies, stock remedies, sterilising plants and pest control operators.
- The Plant Breeders' Rights Act, 2018 (Act 12 of 2018) will replace the Plant Breeders' Rights Act, 1976 (Act 15 of 1976). The Act provides for the granting of plant breeders' rights relating to varieties of certain kinds of plants.
- The Genetically Modified Organisms Act, 1997 (Act 15 of 1997) provides for the regulation of activities involving genetically modified organisms (GMO) in South Africa. The Act provides a framework to ensure that all activities involving the use of GMOs are carried out in such a way as to limit possible harmful consequences.
- The Disaster Management Act, 2002 (Act 57 of 2002) and the National Disaster Risk-Management Framework of 2005

address agricultural risk management and climate change, and are supplemented by climate change-related policies and programmes.

- The Meat Safety Act, 2000 (Act 40 of 2000) provides for measures to promote meat safety and the safety of animal products; establishes and maintains essential national standards in respect of abattoirs; regulates the import and export of meat; and establishes meat safety schemes.
- The Conservation of Agricultural Resources Act, 1983 (Act 43 of 1983) provides for control over the use of natural agricultural resources to promote the conservation of soil, water sources and vegetation, and the combating of weeds and invader plants.
- The Animal Identification Act, 2002 (Act 6 of 2002) regulates the registration of a brand in the name of an owner of livestock for the purpose of identifying the livestock.
- The Plant Improvement Act, 2018 (Act 11 of 2018) provides for the registration of certain types of business relating to plants and propagating material intended for cultivation and sale and the registration of premises on or from which that business is conducted; quality standards for plants and propagating material intended for cultivation and sale and conditions of sale of plants and propagating material; and a system for national listing of plant varieties.
- The Animal Improvement Act, 1998 (Act 62 of 1998) provides for the breeding, identification and utilisation of genetically superior animals in order to improve the production and performance of animals.
- The Liquor Products Act, 1989 (Act 60 of 1989) provides for control over the sale and production for sale of certain alcoholic products, the composition and properties of such products and the use of certain particulars in connection with the sale of such products; for the establishment of schemes; for control over the import and export of certain alcoholic products; and for matters connected therewith.
- The Co-operatives Act, 2005 (Act 14 of 2005) regulates the formation, registration, management and functioning of co-operatives.
- The Perishable Products Export Control Act, 1983 (Act 9 of 1983) provides for the control of perishable products intended

for export from South Africa and for the continued existence of a statutory board to bring about the orderly and efficient export of perishable products from the country.

- The Agricultural Pests Act, 1983 (Act 36 of 1983) introduces measures for the prevention and combating of agricultural pests.
- The Agricultural Research Act, 1990 (Act 86 of 1990) establishes a juristic person, the Agricultural Research Council (ARC), to undertake agricultural research and regulate matters regarding the ARC's proceedings, powers, duties, management, control, employees, financing and related matters.
- The Agricultural Product Standards Act, 1990 (Act 119 of 1990) provides for control over the sale and export of certain agricultural products and other related products, with a view to the maintenance of certain standards regarding the quality of products and packing, marking and labelling.
- The Agricultural Produce Agents Act, 1992 (Act 12 of 1992) provides for the establishment of an Agricultural Produce Agents Council and fidelity funds.
- The Onderstepoort Biological Products Incorporation Act, 1999 (Act 19 of 1999) provides for the establishment of a company to manage the institution, the appointment of directors and the holding and disposal of shares in the company.
- The Marine Living Resources Act, 1998 (Act 18 of 1998) provides for the conservation of the marine ecosystem, the long-term sustainable use of marine living resources and the orderly access to exploitation, use and protection of certain marine living resources; and for the exercising of control over marine living resources in a fair and equitable manner for the benefit of all the citizens of South Africa. The Marine Living Resources Act of 1998 was amended by the Marine Living Resources Amendment Act, 2014 (Act 5 of 2014).
- The National Forests Act, 1998 (Act 84 of 1998) allows for an exemption for the use and handling of protected trees and their products; and authorises the Minister to establish a trust, in respect of state forests under certain circumstances.
- The National Veld and Forest Fire Act, 1998 (Act 101 of 1998) reforms the law on veld and forest fires and repeals certain provisions of the Forest Act, 1984 (Act 122 of 1984).

- The Sea Fishery Act, 1988 (Act 12 of 1988) provides for the conservation of the marine ecosystem and the orderly exploitation, use and protection of certain marine resources; and provides for the exercise of control over sea fisheries.

The African Growth and Opportunity Act (AGOA) is a trade act of the United States of America (USA), enacted on 18 May 2000 as Public Law 106 of the 200th Congress. AGOA has since been renewed to 2025. It provides duty-free access to the USA market for almost all products exported from more than 40 eligible sub-Saharan African countries, including South Africa.

Agricultural Policy Action Plan (APAP)

The challenges facing the agricultural, forestry and fisheries sectors are numerous: rising input costs, an uneven international trade environment, lack of developmental infrastructure (rail, harbour, electricity), and a rapidly evolving policy and production environment while transformation of the agriculture, forestry and fisheries sectors has been slow and tentative.

Based on this analysis of the challenges within the agriculture, forestry and fisheries sectors, the Agriculture, Forestry and Fisheries Strategic Framework was developed to outline appropriate responses to these challenges.

The APAP aims to translate these high-level responses into tangible, concrete steps. The framework identifies four broad sector goals:

- equitable growth and competitiveness,
- equity and transformation,
- environmental sustainability and
- governance.

These goals translate into a comprehensive, abiding intervention framework, which will be supported through iterations of APAP via short and medium-term interventions, targeting specific value chains (sectoral interventions) or transversal challenges and interventions).

The APAP is the programmatic response to Priority One of the Nine-Point Plan to ignite growth and create jobs. It outlines a value chain approach in priority commodities, informed by the commodities with high-growth potential and high-labour absorption capacity identified in the National Development Plan (NDP).

The APAP has been reviewed to ensure that it becomes a jobs driver and promotes growth, employment, rural incomes, investment, output, exports and African regional development.

Agriculture sector

About three quarters of smallholder farms are within the former homelands, and the rest are split between urban areas and commercial farming areas. There is scope to increase the size of the smallholder sector in each of these areas. The DAFF works with provincial departments of agriculture to support these smallholders to become sustainable and meet the targets set out in the NDP.

In the former homelands, there are thousands of hectares of under-utilised arable land that can be put back under production. Currently, the total area that have been planted since the Fetsa Tlala food production initiative was launched in October 2013 is 381 396 ha and the balance is planned for the remaining years of the current Medium Term Strategic Framework.

The department continues to provide targeted support programmes such as the Comprehensive Agricultural Support Programme (CASP), Ilima/Letsema and LandCare in order to realise enhanced food production, contributing towards the eradication of hunger by 2030. With the approval of the National Policy on Food and Nutrition Security by cabinet, the department will reduce the percentage of households with inadequate to severely inadequate access to food.

The department will increase its inspection capacity and infrastructure for abattoirs and ports of entry for US imports to manage AGOA trade agreements.

The management of pests and diseases remains important in contributing to sustainable agricultural production and ensuring access of commodities to export markets. As such, the DAFF continues to provide intensified control measures to deal with outbreaks and maintain a foot-and-mouth disease (foot and mouth disease) free status.

Budget and funding

Over the medium term, the DAFF will focus on improving food security and safety; creating jobs; increasing the contribution

of the agriculture, forestry and fisheries sectors to GDP; and upgrading infrastructure.

Through pursuing these objectives, the department contributes to the realisation of the goal of the NDP to eliminate poverty and reduce inequality by 2030, and outcome 4 (decent employment through inclusive growth), outcome 7 (comprehensive rural development and land reform) and outcome 10 (protect and enhance our environmental assets and natural resources) of government's 2014 – 2019 medium-term strategic framework.

The department plans to support around 435 000 subsistence farmers and smallholder farmers through:

- providing farm equipment, fencing, fertilisers, seedlings and other essentials
- disbursing a grant through the comprehensive agricultural support programme
- repairing flood-damaged infrastructure.

The DAFF will support the agri-park initiative, in collaboration with the Department of Rural Development and Land Reform. The initiative aims to:

- establish and maintain producer support infrastructure such as markets and agro-processing facilities
- create networks and provide logistical services for producers and input suppliers
- coordinate activities for producer support and development to create jobs and develop rural economies.

Through the comprehensive agriculture support programme grant, the department will play a crucial role in supporting smallholder farmers who will supply produce to agri-park initiatives across South Africa.

The DAFF will also provide support to farmers by putting one million hectares of land into production, and provide them with advisory services and training on the basic components of food security.

The department plans to increase financial support to emerging producers by R370 million over the medium term, which will be accessed through the Land and Agricultural Development Bank of South Africa (Land Bank).

This amount has been reprioritised from funding for provincial conditional grants, and will provide loans to qualifying producers. The loans will improve producers' access to production inputs

(such as fertilisers, seeds, seedlings and chemicals) and farm infrastructure, to increase the participation of emerging producers in the agriculture, forestry and fisheries sectors.

The DAFF plans to spend R241 million on an agricultural census in collaboration with Statistics South Africa. The census will create a registry of subsistence, smallholder and commercial farmers, and gather baseline information. The gathered information will be used to properly target support to farmers, avoid duplicating support to emerging farmers, and allow for a proper ratio of extension officers to ensure the productivity of emerging farmers.

The DAFF aims to deploy at least 150 veterinarians each year over the medium term, to strengthen primary animal healthcare, support smallholder animal production, and contribute to productivity and food security.

This initiative will be supported by an allocation of R403 million over the medium term, in the Agricultural Production, Health and Food Safety programme. The department was allocated R7.7 billion for the 2018/19 financial year.

Improving food security

South Africa has been self-sufficient in most agriculture products with the exception of wheat, poultry and red meat. Between 50% and 60% of the country's wheat requirement is imported, due to the fact that it is cheaper to import than to produce locally.

Grains remain an important part of our food and nutrition security initiatives. Accordingly, the ARC has developed and disseminated at least seven new grain cultivars for improved yields and productivity in South Africa.

The country's investments in research and development continue to yield good results for market access. The ARC launched a new table grape, "Joybells", at the world's largest fruit exhibition in Berlin in 2018.

This table grape variety was well received by producers and fruit traders in the global market. After initially selling in Europe and the UK, producers and exporters from South Africa are expanding sales into other world markets. At least 200 hectares, and expanding, have been planted in South Africa to produce this table grape variety.

The DAFF promotes food and nutrition security by supporting food producers through the:

- Micro-Agricultural Financial Institutions of South Africa, which provides agricultural production loans to smallholder operators in the agriculture, forestry and fishery sectors;
- CASP grant, which provides post-settlement support to targeted beneficiaries of land reform and redistribution, as well as to other producers who have acquired land privately and are engaged in domestic value-adding enterprises or exporting agricultural produce; and
- Ilima/Letsema projects grant, which provides production inputs to subsistence and smallholder farmers.

Over the medium term, the allocation for the Ilima/Letsema projects grant will be used to promote the Fetsa Tlala food production initiative, which forms part of national policy on food and nutrition. Accordingly, the department plans to make R1.9 billion available through the grant to support 145 000 subsistence and smallholder producers each year of the Medium term; and, by 2030, as per the NDP, ensure that 1 million hectares are used to produce crops, and provide superior breeding animals to targeted smallholder and subsistence farmers.

In 2019/20, the department plans to finalise a register of farmers and agriculture statistics at a projected cost of R51 million. The project, which is conducted in collaboration with Statistics South Africa, is aimed at improving the accuracy of agricultural statistics, including information on smallholder farmers across South Africa.

One of the outcomes of Operation Phakisa is to provide support to 435 000 subsistence farmers over the medium term. This entails facilitating access to markets for targeted smallholder farmers, repairing infrastructure damaged by floods, providing drought relief, and revitalising provincial agricultural colleges. A projected R5 billion over the medium term is earmarked for these initiatives through the comprehensive agriculture support programme grant.

This funding will also provide for the recruitment and training of extension officers to enhance their technical expertise to support farmers, and the placement of 1 000 unemployed agricultural graduates on commercial farms across South Africa over the period ahead.

Aquaculture is expected to contribute significantly to food production, with production in the sector expected to increase from 4 000 tons of fish in 2018/19 to 20 000 tons per year over the medium term. To derive the most value from South Africa's coastal and inland aquaculture, a projected R137.9 million has been budgeted in the Aquaculture subprogramme in the Fisheries programme.

To increase animal healthcare services, a targeted 150 veterinary graduates are expected to be deployed each year to rural areas as part of their compulsory community service. To this effect, R456 million is allocated over the same period in the Agricultural Production, Health and Food Safety programme.

Informed by the agricultural policy action plan, animal improvement schemes are aimed at increasing the quality and yield of livestock. Over the medium term, the department plans to monitor two animal improvement schemes that produce commodities in prioritised value chains: the Kaonafatso ya Dikgomo national animal recording and improvement scheme, which focuses on beef production; and the poultry production improvement scheme.

These monitoring activities are carried out in the Animal Production and Health subprogramme of the Agricultural Production, Health and Food Safety programme at an expected cost of R842.3 million over the Medium term.

Creating jobs

The agriculture, forestry and fisheries sectors have undergone major structural changes, driven by drought, underinvestment, and depleted stocks.

In response to challenges in the agriculture sector, the department plans to promote sustainable land and soil management practices, and prevent land degradation and desertification in rural areas. Accordingly, R260.5 million will be made available through the LandCare programme grant to rehabilitate 48 900 hectares of land and create a projected 2 400 full-time equivalent jobs over the period.

The Working for Forests Programme, which is part of the Expanded Public Works Programme (EPWP), will focus on the revitalisation of state nurseries in QwaQwa (Free State), Rustplaas (Limpopo), Upington (Northern Cape), Bloemhof and

Mahikeng (North West), and Wolseley (Western Cape). The programme is allocated R7.6 million over the medium term and is expected to create 315 full-time equivalent jobs.

In an attempt to revive the forestry sector, the department plans to plant 5 175 hectares of state-owned forests over the medium term, creating an estimated 1 725 full-time equivalent jobs. These activities, including those carried out in the Working for Forests Programme, are carried out in the Forestry Operations subprogramme in the Forestry and Natural Resources Management programme. The subprogramme is allocated R1.7 billion over the Medium term.

To address the challenge faced by fisheries, R264.4 million is expected to be transferred to the Marine Living Resource Fund as part of the Working for Fisheries programme. The aim of the programme, which is also part of the broader EPWP, is to alleviate poverty while empowering beneficiaries to participate in the mainstream fishing economy.

Projects include conserving fish stocks, constructing and maintaining aquaculture production systems, and cleaning coastal areas. This investment is expected to result in the creation of 1 683 full-time equivalent jobs over the medium term.

Increasing the contribution to GDP

To capitalise on the increased production of field crops, the department plans to spend R330.5 million over the medium term in the Trade Promotion and Market Access Programme to facilitate greater exports to Africa, China and other parts of the world, mainly of apples, grapes, pears, wine, sugar, maize and fish.

To streamline the provision of agricultural finance, the department will transfer R1.2 billion over the medium term to the LandBank. This transfer will enable the bank to offer blended finance in the form of a combination of government grants and loans at cheaper rates to emerging black farmers in the black producer commercialisation programme. The aim is to create a projected 450 black commercial farmers over the period ahead.

The South African good agricultural practice certification and accreditation programme is aimed at enabling market access and trade for black smallholder and commercial producers. To implement the certification and accreditation programme,

R21.5 million is allocated in the Agro-processing and Marketing subprogramme of the Trade Promotion and Market Access programme.

Upgrading infrastructure

The department's planned infrastructure projects amount to an estimated R768 million over the medium term, mainly in the Agricultural Production, Health and Food Safety programme and the Food Security and Agrarian Reform programme.

Spending on these projects includes:

- transfer payments to the ARC amounting to R400 million over the medium term for the construction and establishment of an foot and mouth disease vaccine production facility;
- R73.4 million for the erection of boundary fences to prevent the spread of foot and mouth disease in Kruger National Park;
- R65.6 million in 2019/20 through the comprehensive agriculture support programme grant to repair infrastructure damaged by floods in Western Cape, Limpopo and Mpumalanga;
- R33.6 million for the drilling and fitting of boreholes in various provinces;
- R15 million for the upgrading of infrastructure at the Grootfontein Agricultural Development Institute in Eastern Cape; and
- R10 million for the construction of water reservoirs in all provinces.

Sector transformation

In addressing the developmental challenges in the sector to achieve policy imperatives of the NDP, National Growth Path, APAP, Revitalisation of Agriculture and Value Chains (RAAVC) and Land Reform, farmer training is crucial.

Colleges of agriculture are best suited to offer practical accredited training for farmers, agricultural technicians, producers, processors, and farm managers. The colleges are playing a pivotal role in agricultural vocational education and training (ATVET) through a three-year diploma qualification and vocational skills training to farming communities, youth and women. Correctly elevating these colleges to become a national competency will ensure that they are strategically

positioned to respond to the agri-skills shortage challenge in a more comprehensive and uniform manner.

On average, each college admits 400 full time students and trains 1 000 farmers per annum. This relates to close to 1 000 potential entrant farmers and over 10 000 skills trainings per year.

In 2018, the DAFF was expected to place 1 000 unemployed agricultural graduates within the sector across the nine provinces on a two-year internship program, training them to be future agri-preneurs. The initiative will contribute to addressing the unemployment challenge in the sector.

Government is also working with the private sector to achieve transformation in the fishing industry. Old Mutual's Sea Harvest, Brimstone and Masisizane Fund have committed to the establishment of a R100 million fisheries development fund. The fund will ensure the empowerment of small businesses entering the fishing industry in order to truly revitalise the Oceans Economy. Focus will not only be on supporting smallholder production, but also on increasing the number of black commercial producers.

The DAFF, with the assistance of the department of Trade and Industry (dti) the Land Bank, the National Empowerment Fund and the Industrial Development corporation (IDC), have developed a programme to commercialise black producers in the agriculture, forestry and fisheries sectors. This is an incentive-based programme to provide access to small, medium and large scale black producers in these sectors.

The Land Bank has been identified as the grant fund administrator, but together with commercial banks will provide the loan portion of the funds required to commercialise these producers.

For small scale producers that have a turnover of less than R500 000 per year, the development support will remain the responsibility of the provincial departments of agriculture in partnership with the commodity associations.

The department continues to support livestock farmers to develop and improve their livestock through dedicated programmes. One such programme is Kaonafatso ya Dikgomo – an animal improvement scheme dedicated to the development and improvement of livestock breeding and production among black farmers.

To date, more than 8 800 farmers are participating in the Kaonafatso ya Dikgomo programme, which is designed to improve the health of livestock in rural areas. The majority of these farmers own an average of 20 cattle. Participation in the programme has led to improved herd performance.

Through participating in the Kaonafatso ya Dikgomo programme, smallholder farmers were able to generate higher incomes.

Agriculture's role in the national and international economy

The value of primary agricultural production in South Africa showed an increase of 3.2% and was estimated at R288.6 billion in 2018, according to the Economic Review of the South African Agriculture 2018.

The primary agricultural sector has shown a growth of 7.5% annually since 1994, while the total economy grew by 10.7% per annum over the same period.

Despite its relatively small share of the total GDP, primary agriculture is an important sector in the South African economy. Agriculture remains a significant provider of employment, especially in the rural areas and a major earner of foreign exchange.

Farming income

The gross income of producers for the year ended 31 December 2018 amounted to R281 835 million, compared to R278 531 million the previous year—an increase of 1.2%. This can be attributed to the increase in prices and production levels of horticultural and animal products, particularly of subtropical fruit, citrus fruit, pigs slaughtered, poultry meat, milk and eggs.

The gross income from field crops decreased by 9.8% to R57 329 million. Income from maize at R23 517 million was 25.3% less than in the previous 12 months. The average seasonal price for white and yellow maize has decreased by 55.3% and 37.7%, respectively, compared to the previous season. Income from sunflower seed has declined by 4.4% to R3 826 million and income from wheat at R6 823 million was 16.4% more than the income earned in the previous year. Income from sugar cane at R7 993 million was 4.4% lower

than in the previous 12 months. Income from groundnuts has decreased by 38.0% to R505 million.

Income from dry beans decreased by 3.1% to R1 002 million. Income from soya beans increased by 7.3% to R6 900 million in 2018.

The gross income from horticultural products increased by 6.7% to R84 478 million in 2018. Income from citrus fruit increased by 7.0%, amounting to R20 686 million. Income from deciduous fruit was at R21 865 million, which was 10.8% higher than in the previous year. Income from vegetables increased by 4.7% to R23 099 million. Income from subtropical fruit increased by 20.2% to R4 791 million.

The gross income from animal products was 3.1% higher in 2018 and amounted to R140 028 million, compared to R135 789 million of the previous year. Producers earned R35 967 million from slaughtered cattle, a slight increase of 0.3%. Income from poultry meat showed an increase of 8.9% to R47 964 million. Income from egg production, at R12 268 million, was 14.0% higher than in the previous year. Producers earned R16 302 million from milk production, which is 6.7% less than in the previous year. Income from wool increased by 16.2% to R4 234 million.

The net farm income (after the deduction of all production expenditure, excluding expenditure on fixed assets and capital goods) amounted to R98 758 million for the 12 months that ended on 31 December 2018, which is 5.6% less than during the previous 12 months.

Payments for salaries and wages, which represented 10.2% of the total farming costs, amounted to R19 322 million. Interest paid by farmers to banks and other financiers during the 12 months up to 31 December 2018 is estimated at R10 068 million, or 5.3% of total farming costs.

Consumer prices

The consumer prices of all agricultural items increased by 4.4% for the year ended 31 December 2018, compared to an increase of 5.3% in the previous year.

The consumer price index of food increased by 3.3% and that of non-food items by 4.6%. The prices of meat increased by 6.8%, and dairy products and eggs by 3.8%, while that of

grain products decreased by 2.6%. The consumer price index of vegetables and fish increased by 5.5% each, coffee and tea by 4.0% and other food by 3.0%. The consumer price index of fruit, fats and oil and sugar decreased by 4.0%, 0.7% and 0.6%, respectively.

Volume of agricultural production

The estimated volume of agricultural production during 2018 was 0.02% higher than in the previous year.

The volume of field crop production decreased by 5.63% during 2018, mainly as a result of a decrease in the production of summer grains (maize and sorghum) and oilseeds (especially sunflower seed and groundnuts).

Horticultural production increased by 2.15% for the mentioned period, which can mainly be attributed to increases in the production of subtropical and citrus fruit.

The production of animal products increased by 1.92%, mainly because of an increase in the production of poultry meat and fresh milk, as well as the number of pigs slaughtered during 2018.

Imports and exports of agricultural products

The estimated value of imports during 2018 came to approximately R75 225 million, from R76 596 million the previous year—a decrease of 1.8%.

The estimated value of exports showed an increase of 6.4%, to about R110 035 million in 2018.

According to the 2018 agricultural export figures, citrus fruit (R20 173 million), wine (R9 614 million), grapes (R9 062 million), apples, pears and quinces (R7 364 million) and wool (R5 265 million) were the five most important export products in terms of value.

With regard to agricultural imports during 2018, rice (R6 860 million), wheat (R6 467 million), undenatured ethyl alcohol (R5 303 million), palm oil (R4 050 million) and food preparations (R3 931 million) were the five major products in terms of value.

The five largest trading partners in terms of exports in 2018 were the Netherlands, with exports to the value of R12 496 million, the United Kingdom (R10 986 million), China (R8 752

million), Mozambique (R6 801 million) and the US (R4 777 million).

The five largest trading partners from whom South Africa imported agricultural products during 2018 were Thailand, with imports valued at R5 448 million, Brazil (R5 430 million), Argentina (R4 388 million), the US (R3 856 million) and Germany (R3 729 million).

Role players Credit and assistance

The six major sources of credit for farmers are banks (56%), agricultural cooperatives and agribusinesses (9%), the Land Bank (30%), private creditors (3%) and other creditors and financial institutions (2%).

Land and Agricultural Development Bank of South Africa

Established in 1912, the Land Bank is a government-owned development finance institution with the mandate of financing agricultural development to achieve food security, and to drive economic growth and development in South African agricultural sector.

The bank is a specialist agricultural bank guided by a government mandate to provide financial services, including crop insurance, to established commercial farmers, developing farmers and agri-enterprises.

Through its direct lending, Land Bank currently supports approximately 1 500 black farmers and relinquished approximately R74 million of its profits to subsidise interest rates to these farmers.

The bank provided support to farmers impacted by the drought, disbursing more than R240 million in loans under its drought relief programme, administered in conjunction with the IDC.

As part of its transformation objective, the Land Bank Insurance Company (LBIC) subsidiary launched and implemented the Agricultural Insurance Assessors Development Programme to train agricultural economist graduates (or equivalent) in crop insurance assessment protocols to service the agricultural sector. It is charged with promoting agricultural and rural development, as well as providing a range of financial products and services, including crop insurance to farmers and agribusinesses.

Micro Agricultural Financial Institutions of South Africa (MAFISA)

MAFISA provides production loans to smallholder operators within the agriculture, forestry and fisheries sectors. The scheme's operations are guided by the MAFISA Credit Policy.

MAFISA loans were initially restricted to agricultural enterprises, but following the incorporation of the forestry and fisheries subsectors into the department of agriculture, the credit policy was revised and adjusted so that it can also accommodate these two subsectors.

Loans are provided at a low interest rate and accessed through a network of institutions accredited by the DAFF as retail intermediaries.

Intermediaries submit monthly and quarterly reports to the DAFF as part of its monitoring process. Regular workshops and inspection visits to intermediaries are also conducted as part of monitoring.

The scheme offers production loans of up to R500 000 per person, with the repayment terms structured according to the income cycle of the enterprise. The loans are limited to South African citizens who meet the eligibility criteria set in the MAFISA Credit Policy.

MAFISA loans are available for the entire value chains of agriculture, forestry and fisheries, though most of the loans are still in respect of primary production and largely in agriculture. To date, most of the loans are in respect of livestock, sugar cane, vegetables and grain crops.

Currently, MAFISA is accessed through the following intermediaries:

- National Emergent Red Meat Producer Organisation – livestock in all provinces
- South African Sugar Association – sugar cane in KwaZulu-Natal and Mpumalanga
- Peulwana Agricultural Financial Services – grains, vegetables, sugar cane and fruits in KwaZulu-Natal
- Mpumalanga Economic Growth Agency – various agricultural commodities in Mpumalanga
- Eastern Cape Rural Development Agency – various agricultural commodities in the Eastern Cape.

Farmers' organisations

Agri SA

Agri SA was established in 1904 as the South African Agricultural Union.

Its mission is to promote the development, profitability, stability and sustainability of agriculture in South Africa by means of its involvement and input on national and international policy and the implementation thereof.

Essentially Agri SA, through its affiliated membership, represents a diverse group of individual farmers regardless of gender, colour or creed.

Agri SA's policy advocacy includes work on trade negotiations, industrial policy, taxation, financing, land reform, labour laws, training, farmer development, environmental affairs, water rights and water pricing, other input-related issues, farm safety, law and order, infrastructure, technology development and transfer, statistical information and local government.

Furthermore, the organisation maintains an extensive communication network with its members and other affected communities, organisations and individuals. Agri SA is a member of high-level business, trade and agricultural entities that includes Business Unity South Africa, the International Chamber of Commerce, the World Farmers' Organisation, the Southern African Confederation of Agricultural Unions and the Cairns Group Farm Leaders.

Agri SA communicates with its members via its two-monthly magazine, namely Agri (incorporating Die Boer/The Farmer) and an electronic newsletter. The magazine provides background information on policy, legislation and programmes of interest to farmers. It also offers advice, extension and news on topical events to about 28 000 farmers who are members of Agri SA via the respective affiliates. The magazine is sent directly to each member. It is also distributed more widely to include opinion-formers and decision-makers.

AgriSA is preoccupied with ensuring a safe environment for all people involved in the agricultural sector. A sound working relationship has been established with the South African Police Service at both policy and operational level, with a view of addressing the relevant rural safety problems.

Agricultural Business Chamber (Agbiz)

Agbiz is a voluntary, dynamic and influential association of agribusinesses operating in South and southern Africa.

Agbiz's function is to ensure that agribusiness plays a constructive role in the country's economic growth, development and transformation, and to create an environment in which agribusinesses of all sizes and in all sectors can thrive, expand and be competitive.

- Agbiz is the only organisation that serves the broader and common over-arching business interests of agribusinesses in South Africa.
- Agbiz addresses the legislative and policy environment on the many fronts that it impacts on the agribusiness environment.
- Agbiz facilitates considerable networking opportunities so that South African agribusinesses can play an active and creative role within the local and international organised business environment.

The strategic intent of Agbiz is to advocate for and facilitate a favourable agribusiness environment in order for its members to perform competitively and sustainably.

Transvaal Agricultural Union South Africa (TAU SA)

TAU SA was established in 1897 as the Transvaal Agricultural Union. In 2002, the union reorganised to become a national agricultural union serving commercial farmers. It also renders services to its members in terms of property rights, economic issues, and safety and security. TAU SA conducts various projects to enhance the concept of successful agriculture.

National African Farmers' Union of South Africa (NAFU SA)

NAFU SA is an independent, autonomous farmers organisation governed by and representing farmers in South Africa, united for the purpose of analysing their problems and formulating action to achieve economic emancipation and development through production efficiencies, access to market opportunities, and education.

It was formed over 28 years ago as part of the broader process of economic liberation and empowerment of mainly black farmers who were excluded from mainstream economic

landscape of South Africa. Its predecessor, the National African Chamber of Commerce and Industries, for many years had fought against economic oppression and marginalisation of African people in this country. Over many years the Union has acted an advocacy and pressure group calling for policy reforms and the support and development of farmers. Through its interventions and contribution to policy formulation, the Union has contributed to the following:

- Access to productive land being made available to farmers
- Access to finance and other support for farmers
- Access to markets and information for farmers
- Skills development and technical support.

NAFU SA pursues these items by implementing the following broad programmes.

- Advocacy, Lobbying and Policy Research
- Cooperatives and Commodity Group Development
- Farm Enterprise Development.

African Farmers' Association of South Africa (AFASA)

AFASA's objectives are to create a sustainable united body of African farmers with capacity to influence policies through lobbying and advocacy, to facilitate development of competencies of African farmers in order for them to participate meaningfully in formal and informal markets, and to mobilise resources for the benefit of African farmers.

Grain SA

Grain SA was established in June 1999. Its mission of is to provide commodity strategic support and services to South African grain producers to support sustainability.

Grain SA is a voluntary association of grain farmers established to represent the interests of its members. It wants to be recognised as an autonomous and independent grain producers' organisation.

The organisation wants to be involved in all matters bearing on the wellbeing of the industry and to be consulted about policy issues relating to the industry. It is strongly apolitical and issues are dealt with only on merit and sound business principles without any party political consideration.

Grain SA is controlled by farmers for farmers and structured to ensure members' democratic control over their elected office bearers.

State entities Agricultural Research Council

The ARC was established by the Agricultural Research Act of 1990 and is the main agricultural research institution in South Africa. In terms of the Act, the council's primary mandate is to conduct research and development, and effect the transfer of technology to promote agriculture and industry, contribute to a better quality of life, and facilitate and ensure conservation of natural resources.

The ARC continues to disseminate a wide range of scientific solutions, information and technology to the agricultural sector to respond to different challenges.

It provides diagnostic and analytical services for identification and elimination of prevailing pests and diseases such as tomato leaf miner (*Tuta absoluta*), fall armyworm (*Spodoptera frugiperda*), Mirafiore lettuce big vein disease, nematode root knot (*Meloidogyne*) and false codling moth.

Effective diagnostic and analytical services of the ARC have enabled South Africa's livestock and wildlife sectors to continue to provide the necessary animal products for food and nutrition security.

Income generation among small enterprises is an important mechanism towards economic growth, poverty alleviation and sustainable agriculture development. The ARC has embarked on information and technology dissemination programmes that integrate scientific research into production systems of smallholder livestock producers, popularly known as Kaonafatso ya Dikgomo. Following training by the ARC, Kaonafatso ya Dikgomo has registered more than 8 400 small holder livestock farmers on the Integrated Registration Genetic Information System, a national animal improvement database. Evidence suggests that participants market off-take for participants increased by 16%.

Climate change is a serious threat to South Africa's primary objective of food security, sustainable agricultural production, rural development and economic growth. To enable the

agricultural sector to respond with practical solutions towards climate change, the ARC has been engaged in a range of scientific and development initiatives, including learning about experiences and solutions from other countries.

Programmes include rainwater harvesting, biogas production from manure, and sustainable use and conservation of indigenous genetic resources.

The ARC has also been mandated by government to maintain National Public Goods Assets. These comprise national collections or gene banks of animals, bacteria, animal databases, range and forage gene banks, fungi, genetic material, insects, crops, yeast and viruses, among others.

Onderstepoort Biological Products State-Owned Company (SOC) Ltd

OBP SOC was corporatised in 2000 under the OBP Incorporation Act of 1999.

The OBP's mandate is the prevention and control of animal diseases that impact on food security, human health and livelihood. This mandate is delivered through the continued development of innovative products and efficient manufacturing processes that ensure the affordability and accessibility of vaccines through diverse distribution channels.

The OBP possesses the capability, skills and scientific expertise to combat animal disease through the large-scale production of specialised animal vaccines. The company produces millions of doses a year to control as many as 50 different diseases and is an acknowledged world leader in the battle against animal disease.

Experiments at the OBP have seen encouraging progress in the development of new and improved vaccines against African horse sickness, which, despite the development of immunisation programmes, remains a constant threat to farmers, breeders and owners.

A new manufacturing plant is currently being constructed at a cost of R347 million and is expected to be completed by 2020. This will lead to large scale production of competitively priced vaccines manufactured under global quality standards; consistent availability of OBP vaccines and improved response to animal disease outbreaks; penetration of previously

inaccessible markets; and sustainable job creation in the fields of veterinary and biotechnological sciences.

It is the objective and target of OBP to improve performance and production efficiencies of current products. The government is expected to increase the number of new distribution points of OBP products in rural areas to nine.

OBP takes priority in advocating for farming skills to alleviate poverty. OBP has implemented two learnership programmes. The objective of the learnerships are to bridge the gap between the current education and training provided and the needs of the labour market. It offers youth an opportunity to gain a qualification through a structured learning programme.

National Agricultural Marketing Council (NAMC)

Currently, there are 18 industries that are subjected to statutory measures, collecting R517 million through statutory levies. The funds collected are used to finance industry-oriented activities including transformation. One of the approval conditions is that at least 20% of levy income be spent on transformation. NAMC works directly with eleven industry trusts that were formed during the process of deregulation. The total asset value of the trusts is R2.4 billion from the initial value of R678 million.

Monthly, NAMC provides analysis of food price trends and tracks the cost of a basket of 28 selected basic food items. This information is made available to, amongst others, community radio stations. This enables citizens to make informed choices in household spending on food.

The Competition Commission has raised competition issues in the industry, including barriers to entry for emerging farmers throughout the value chain.

As such, a Transformation Review Committee was established to, among others, ensure the statutory levies collected are used by industries to contribute meaningfully to the development of black farmers. Milk SA's commercialisation project in the Free State developed nine projects that support black farmers with cattle, feed, milking parlours and electrification of the farms. The result is that black farmers are able to supply formal markets such as Nestlé.

Positive signs are emanating with other industries like mohair, potatoes, and grains ensuring that transformation occurs.

NAMC together with the DAFF and Buhle Farmers' Academy deliver an annual accredited training programme for female agri-entrepreneurs.

The Youth Agriculture programme aims to promote corporate careers in agriculture and entrepreneurship opportunities. Through this programme the NAMC adopts agricultural high schools, conducts career guidance, offers bursaries to best performing Grade 12 learners and provide internships to graduates at NAMC and industry organisations where they are assigned mentors.

Perishable Products Export Control Board (PPECB)

The PPECB is an independent service provider of quality certification and cold chain management services for producers and exporters of perishable food products.

Established in 1926, the PPECB has delivered valuable services to the perishable products industry for over 90 years by enhancing the credibility of the South African export certificate and supporting the export competitiveness of South Africa's perishable product industries.

The PPECB also delivers inspection and food safety services assigned by the DAFF. The presence of the PPECB in the export industry is enhanced by its recognition as an approved third country under the European Commission Regulation 543 of 2011. This agreement recognises the South African inspection systems as equivalent to that of the European Union (EU) inspection bodies and therefore ensures less frequent checks at the port of import into the EU.

The PPECB's Agricultural Export Technologist Programme remains one of the entity's flagship development programmes. It is aimed at attracting and developing young qualified black professionals and up skilling them in matters relating to export of perishable products.

Products

Crop estimates

According to the second production forecast for summer crops by the Crop Estimates Committee (CEC) for the 2019 production season, the expected commercial maize crop was

10.560 million tons.

The estimated area planted to maize by South African commercial maize producers during the 2019 season was 2.3 million ha.

The estimated maize crop was 16% smaller than the 2018 crop. The three main maize producing areas, namely the Free State, Mpumalanga and North West provinces were expected to produce 79% of the 2019 crop.

The production forecast for sunflower seed was 563 590 tons. The area estimate for sunflower seed was 515 350 ha, while the expected yield was 1.09 t/ha.

The production forecast for soya beans was 1.276 million tons, which is 8.7% more than the 1.316 million tons of the previous season. The estimated area planted to soya beans was 730 500 ha and the expected yield is 1.75 t/ha.

The expected groundnut crop was 20 100 tons. The area planted to groundnuts was estimated at 56 300 ha, which is 0.5% or 300 ha more than the 56 000 ha planted the previous season. The expected yield was 1.43 t/ha.

The production forecast for sorghum was 163 400 tons. The area planted to sorghum was estimated to be 20 050 ha, with an expected yield of 1.00 t/ha

The production of dry beans was expected to be 70 950 tons. The estimated area planted was 59 300 ha, with an expected yield of 1.20 t/ha.

Grains

Maize

Maize is the largest locally produced field crop, and the most important source of carbohydrates in the Southern African Development Community (SADC) region for animal and human consumption.

South Africa is the main maize producer in the SADC. It is estimated that about 6 500 commercial maize producers are responsible for most of the South African crop, while thousands of small-scale producers are contributing the rest. Maize is produced mainly in North West, the Free State and Mpumalanga.

About 43% of maize produced in South Africa is white and the remaining 57% is yellow maize. White maize is primarily

used for human consumption, while yellow maize is mostly used for animal feed production.

White maize is generally produced in the western parts of the maize belt, while yellow maize is planted in the eastern parts.

An opening maize stock of over 4 million tons in 2018/19 was forecast for South Africa.

Sorghum

Sorghum is an indigenous crop in Africa, and is regarded as the fifth most important cereal in the world. There are two types of sorghum, namely bitter and sweet sorghum cultivars.

Preference is given to the sweet cultivars. Bitter sorghum is planted in areas where birds are a problem because it contains tannin, which gives a bitter taste and consequently birds tend to avoid feeding on it.

Sorghum for commercial purposes is mainly produced in the Western Free State, Mpumalanga, the drier parts of the North West and Limpopo provinces.

South Africa has moved from being a net exporter of sorghum to a net importer.

Wheat

Wheat is the second most important grain crop produced in South Africa and plays an important role in national food security. Most of the wheat produced in the country is bread wheat. Small quantities of durum wheat, used to produce pasta, is produced in certain areas. In South Africa, wheat is mainly used for human consumption (bread, biscuits, breakfast cereals, rusks, etc.) and the remaining as seed and animal feed.

Other non-food uses include production of alcohol for ethanol, absorbing agents for disposable diapers, adhesives and industrial uses as starch on coatings. Producers of wheat are estimated to be approximately between 3 800 to 4 000.

South Africa is a net importer of wheat. The price farmers get for their crop is, therefore, tied to import parity. There is also an import tariff.

A quota of 300 000 tons can be imported duty free from the EU under the new Economic Partnership Agreement (EPA). South Africa is expected to import almost two million tons by 2026.

South Africa remains the largest wheat producer in Sub-Saharan Africa after Ethiopia.

Barley

Barley is one of the most important grain crops in South Africa, surpassed only by wheat and maize and is, following wheat, the most important small grain type.

The cultivation area for malting barley under dryland conditions is at present restricted to a very specific region, namely the Southern Cape, which stretches from Bot River in the west to Heidelberg in the east. It would not be economically viable to cultivate malting barley on dryland in an area that does not receive 350 mm of well-distributed rainfall during the growing season (April to October).

The concentration of the production of a relatively minor commodity, for instance malting barley, in a specific area, has various advantages, for example, it facilitates transport, storage, control, extension and research, which also implies cost advantages.

However, because of the risk of unpredictable weather conditions in the southern Cape, barley production has also been introduced to the cooler central irrigation areas in the Northern Cape. There are also farmers in other areas of South Africa, such as the North West, Limpopo and Free State, who plant small quantities of malting barley under irrigation.

Malting barley under irrigation has a higher yield and is more stable than in the southern Cape, where the crop is dependent on rainfall.

Barley is mainly used for the production of malt (for brewing beer), animal feed and pearl barley.

Dry beans

Dry beans are warm-season annual legumes. Gross returns from dry beans can easily be higher than for soya beans. While yields are typically lower, dry beans fetch a relatively higher price.

South Africa has a dry bean deficit and relies on imports. This provides an opportunity for the whole of southern Africa to increase production.

The crop is mainly produced in the Free State, KwaZulu-

Natal, Limpopo, North West and the Northern Cape. Producers sell directly to the trade or to wholesalers and co-operatives.

Oilseeds

Groundnuts

Groundnuts are grown mainly in the Free State, North West and Northern Cape. They are also produced in Limpopo, Mpumalanga and KwaZulu-Natal but production is lower in these provinces.

Oil made from groundnuts can be used for cooking and to make peanut butter. It can also be used to manufacture soap, massage oil, body, shaving and hair creams.

Sunflower seed

The Free State and North West are the major producers of sunflower seed, followed by Limpopo, Mpumalanga and Gauteng. South Africa is the world's 10th largest producer of sunflower seed.

Compared to other crops, sunflower performs well under dry conditions. This is probably the main reason for the crop's popularity in the marginal production areas of South Africa. A close link exists between the area planted to maize and the area planted to sunflower seed because farmers can easily switch to sunflower if the normal period for maize planting has passed.

Major exporters of sunflower seed to South Africa are Romania, Botswana, Bulgaria and Argentina. Importing from SADC countries utilises the SADC Free Trade Agreement which facilitates flow of commodities among countries in the region at no tariff charges.

Sales of sunflower seed are mostly to the domestic market with very small quantities destined for the export market. Mostly, South Africa remains a net importer of sunflower seed.

Soya beans

Soya beans are produced mainly in Mpumalanga, the Free State and KwaZulu-Natal. Small quantities are also produced in Limpopo, Gauteng and North West. Various soya bean cultivars have adapted quite well to South African conditions.

Domestic soya bean oilcake production has exceeded imported oilcake since 2014 and is projected to increase to over

1.8 million tons by 2026, continually replacing imports so that only 250 thousand tons or 13% of domestic soya bean oilcake use is projected to be imported by 2026. Soya oil imports are projected to decrease from 160 thousand tons in 2017 to merely 50 thousand tons by 2026.

Canola

Canola is an oilseed crop grown mainly in the Western Cape. Canola competes on the local market with other oilseeds such as sunflower seeds and soya beans.

Local and international investors in the oilseed crushing sector are boosting South Africa's capacity to process local oilseed crops such as soya beans, canola and sunflower seed.

About 99% of the canola crop in South Africa is produced in the Western Cape province, particularly in the southern Cape.

Cotton

In South Africa, cotton is grown in the warm regions of the Limpopo, Mpumalanga, Northern Cape, North West and KwaZulu-Natal where minimum night temperatures are at least 15°C during the growing season.

The cotton industry is labour-intensive and provides work for roughly one worker per hectare of cotton planted. Oil extracted from cotton seed can be used for cooking and salad dressings. Extracted seed can also be used as a fertiliser or as feed for livestock, poultry and fish.

Tobacco

Virginia tobacco is produced mainly in Mpumalanga, Limpopo, Eastern Cape, Western Cape and North West.

Flue-cured leaf tobacco contributes more than 79% to total production, with the number of ha cultivated for flue-cured tobacco being about six times the land cultivated for air-cured leaf tobacco. The industry produces 15 000 t of tobacco a year.

There are 176 commercial tobacco growers in South Africa operating on some 5 000 ha of land and 155 small-scale tobacco farmers. Tobacco farmers employ about 8 000 to 10 000 farmworkers; in addition, more than 35 000 dependants are also able to make a living in deep rural areas thanks to the tobacco industry.

The total annual tobacco crop about 15 million kg. More than 90% of tobacco used in South Africa goes toward the manufacturing high-quality tobacco products.

Sugar

South Africa produces cost-competitive high-quality sugar. The sugar sector is a diverse industry, combining the agricultural activities of sugar-cane cultivation with the industrial factory production of raw and refined sugar, syrups and specialised sugars, as well as a range of byproducts.

The South African sugar industry is cost-competitive, consistently ranking in the top 15 out of approximately 120 sugar producing countries worldwide. The industry makes a positive difference to the lives of more than a one million people and is a catalyst to economic growth and development. Sugarcane is a strategic crop for Kwazulu-Natal and Mpumalanga, where sugarcane production is located, comprising nearly 50% of field crop gross farming income across the two provinces.

Sugarcane is grown by approximately 24 000 registered growers, farming predominantly in KwaZulu-Natal with substantial operations in Mpumalanga, and some sugarcane production in the Eastern Cape. Employment within the industry is estimated at 429 000 people (direct and indirect) and the industry produces an average of approximately 2.2 million tons of sugar per season.

About 75% of the sugar on average is marketed in the SACU region. The remainder is exported to markets in Africa, Asia and the USA.

Horticulture

Deciduous fruit

The deciduous fruit industry in South Africa, including fresh, dried and canned fruit for local consumption and export, is a multimillion rand industry. The exporting of deciduous fruit is a major earner of foreign exchange for South Africa.

Deciduous fruits grown in South Africa include apples, pears, apricots, nectarines, peaches, plums, grapes, olives, figs and cherries.

Although some producers grow fruit both for processing (canning, juice and drying) as well as fresh consumption, it is

estimated that in South Africa there are about 2 231 producers of fruit for fresh consumption, 1 066 producers of dry and table grapes, 924 producers of stone fruit and 618 producers of pome fruit.

The main deciduous fruit producing areas of South Africa are situated in the Western and Eastern Cape provinces, mostly in areas where warm, dry summers and cold winters prevail.

Dried fruit

Dried fruit is produced mainly in the western and southern parts of the Western Cape and the Lower and Upper Orange River areas in the Northern Cape. Tree fruit, as opposed to vine fruit, is dried mainly in the Western Cape.

The most important dried fruit products in terms of volume are Thompson seedless raisins, golden sultanas, unbleached sultanas, currants, peaches, pears, apricots and prunes.

Apricots are grown mainly in the Little Karoo and prunes are produced almost exclusively in the Tulbagh District in the Western Cape.

Most raisins are produced in the area along the Lower Orange River and currants are mainly from the Vredendal District in the Western Cape.

The total production of dried vine fruit and dried tree fruit decreased by 10.6% to 66 646 tons in 2018.

Honeybush and rooibos tea

Honeybush production is a young, growing industry that is unique to South Africa. Honeybush is part of the fynbos that grows wild in the Western Cape and is not produced anywhere else in the world. The plant grows naturally on the wetter and cooler southern slopes of mountains. Some species are mostly harvested in the wild, while others are cultivated commercially.

About 394 tons of dry tea are harvested per annum. Most of the crop is exported to countries such as the Netherlands, Germany, the UK and the USA.

Currently, 82% of honeybush tea is wild-harvested and only 18% cultivated. The cultivated tea comes from a few farmers who have established successful honey bush plantations, as well as a handful of community-based projects.

Rooibos tea is exclusively farmed in the Cederberg and Sandveld areas of the Western Cape.

On average, South Africa produces about 15 000 t of rooibos tea a year. According to the Rooibos Tea Council, South Africans consumed 8 000 t in 2016. The balance is exported.

In 2014, South Africa won the right to secure geographical indicator status for Rooibos tea. This enables Rooibos tea growers to look for new markets in Asia and increase those that already exist.

With its high levels of antioxidants, rooibos has long been known for its ability to help prevent cancer from developing, but recent research shows that it could potentially also be used to treat – but not cure – the disease.

Wine

South Africa is the eight-largest wine producer in the world, with a contribution of 4.1% to the world's wine production.

The area under wine grape vineyards is estimated at 94 545 ha.

The wine industry is labour intensive and provides employment to approximately 290 000 people directly and indirectly. The number of primary wine grape producers in South Africa is estimated at 3 029.

Wine is produced mainly in the Western Cape and along parts of the Orange River in the Northern Cape.

The traditional winegrowing areas along the coastal zone benefit from its cooling breezes that moderate the summer temperatures. The Cape mountain ranges form a backdrop to what is internationally recognised as one of the most beautiful wine producing areas of the world. The vineyards lie in valleys and mountain foothills in some areas, and in flatter plains in others. One of the potential competitive advantages of the Cape wine lands is great variety of soils.

Nietvoorbij, the internationally acclaimed research farm of the ARC, is synonymous with quality research in oenology and viticulture. Annually, 1 000 different wines (10 – 20 l) are made for research purposes in the modern experimental cellar. Next door, in the old, thatched roof cellar, traditional and modern winemaking methods are combined to create unique wines for enjoyment.

Citrus and subtropical fruit

South Africa ranks 13th in world citrus production and despite increased competition, its citrus exports are growing. The country is also the world's third largest exporter of fresh citrus fruit by volume, after Spain and Turkey.

In terms of gross value, the citrus industry is the third largest horticultural industry after deciduous fruits and vegetables.

Citrus fruit is grown in Limpopo, Eastern Cape, Mpumalanga, Western Cape and KwaZulu-Natal in areas where subtropical conditions (warm to hot summers and mild winters) prevail.

The Western Cape and Eastern Cape are considered 'cooler' citrus growing areas and production is focused on Navel oranges and lemons. The cooler climate allows farmers to respond to consumer demand for easy peelers like clementines and satsumas. Farm sizes are also smaller and most citrus in the Western and Eastern Cape is packed by privatised cooperatives in facilities that are amongst the largest in the world.

i ARC Infruitec-Nietvoorbij is responsible for managing nine genebanks. The genebanks include field collections of various deciduous tree fruit crops, grapevines, olives, indigenous flowers of the Proteaceae and honeybush, in vitro collections of yeasts, fungi and bacteria as well as some tree fruit and berry crops in medium-term cold storage.

The main purpose of the field genebanks is to conserve genetic diversity of fruits, grapes and indigenous crops, particularly in support of breeding programmes; the yeast collection contributes to oenological research; and the fungal and bacterial collections provide for research and diagnostics.

In Mpumalanga, Limpopo and KwaZulu-Natal, the climate is warmer and better suited to the cultivation of grapefruit and Valencia oranges. Farms in these regions are larger and many farmers pack in smaller privately owned facilities.

Pineapples are grown mainly in the Eastern Cape and northern KwaZulu-Natal.

Other subtropical crops such as avocados, mangoes, bananas, litchis, guavas, papayas, granadillas and macadamia and pecan nuts are produced mainly in Mpumalanga and Limpopo, as well as in the subtropical coastal areas of KwaZulu-

Natal and the Eastern Cape.

The largest contributors to the sales of subtropical fruit on the major fresh produce markets are bananas, pineapples and avocados, followed by mangoes and papayas.

Vegetables (excluding potatoes)

Vegetables are produced in most parts of the country. However, in certain areas farmers tend to concentrate on specific crops, such as green beans that are grown mainly in Kaapmuiden, Marble Hall and Tzaneen, green peas in George and Vaalharts, and asparagus mainly in Krugersdorp and Ficksburg.

Tomatoes are produced countrywide, but on the largest scale in Limpopo, the Mpumalanga Lowveld and Middleveld, the Pongola area of KwaZulu-Natal, the southern parts of the Eastern Cape and the Western Cape. In Limpopo, South Africa's main tomato-growing area, most of the crops are found in Letaba, Mooketsi and Musina.

Onions are grown mainly in Mpumalanga, certain areas of the Western Cape and the southern Free State and in all areas of Limpopo, with the main production areas being Polokwane and Mokopane. Onions have an estimated planting area of 6 500 ha to 9 000 ha.

Cabbages are grown countrywide, but the largest crops are in Mpumalanga and the Camperdown and Greytown districts of KwaZulu-Natal.

Potatoes

There are 16 distinct potato-production regions in South Africa, which are spread throughout the country. The main regions are situated in the Free State, Western Cape, Limpopo and Mpumalanga.

Potatoes are planted at different times because of climate differences in the production areas, resulting in fresh potatoes being available throughout the year.

In the early 1990s, there was a major shift in production from dryland to irrigation and currently almost 80% of plantings are under irrigation.

Livestock

Animal production contributes approximately 48% to the

country's agricultural output in terms of value. The total number of cattle in South Africa at the end of August 2018 was estimated at 12.83 million (Trends in the Agricultural Sector 2018). The national herd comprises various international dairy and beef cattle breeds as well as indigenous breeds such as the Afrikaner and the Nguni.

Approximately 80% of the agricultural land in South Africa is suitable mainly for extensive livestock farming. However, livestock is also found in areas where the animals are kept in combination with other farming enterprises.

Dairy farming

Although milk is produced in all the areas of South Africa, the coastal areas are the most suitable because of their mild temperatures and good rainfall conditions, which lead to improvements in animals and pasture conditions.

The number of milk producers in South Africa decreased drastically by 61.6%, from 3 551 in January 2009 to 1 364 in January 2018.

Milk production in South Africa contributes only about 0.4% to the world's milk production. However, in terms of the value of agricultural production, the milk industry was the seventh largest agricultural industry in the country in 2017.

South Africa has four major dairy breeds, namely Holstein, Jersey, Guernsey and Ayrshire. The industry comprises various economic activities with significant differences in farming methods and the processing of dairy products, including the production and marketing of raw milk, pasteurised milk and cream, fermented milk, long-life milk and cream, yoghurt, and cheese and its byproducts.

Beef cattle farming

Beef is produced throughout South Africa. The production of weaners for the feedlot industry is the main form of cattle farming – feedlots account for approximately 75% of all beef produced in the country.

Beef cattle contribute approximately 80% to the total number of cattle in the country, while dairy cattle make up the remaining 20%.

Small stock (sheep and goat) farming

Although sheep farms are found in all provinces, these are concentrated in the more arid parts of the country.

The total number of sheep in South Africa at the end of August 2018 were estimated at 22.55 million. The largest numbers of sheep were estimated to be in the Eastern Cape (30%), Northern Cape (24%), Free State (20%) and Western Cape (12%) provinces.

Flock sizes vary between less than 50 and 1 800 animals. Sheep flocks in the Eastern, Western and Northern Cape provinces tend to be much larger than those in the other provinces.

The animals are kept mainly for wool and mutton production and the industry is therefore represented by organisations from the mutton as well as the wool industry.

The sheep breed with the highest wool production per head is the South African Merino, followed by other dual-purpose Merino breeds, such as the Dohne Merino, South African Mutton Merino, Afrino and Letelle breeds. Dual-purpose breeds are bred with the specific aim of maximising wool and mutton produce.

Limited numbers of indigenous fat-tailed and Karakul sheep are still found in the more arid areas.

The Eastern Cape has the largest number of goats, followed by Limpopo. Estimates indicate that there was a decrease of 1.00% in the number of goats, from 5.475 million in the previous year to 5.420 million in August 2018.

The indigenous meat-producing Boer goat accounts for about 40% of all goats in South Africa.

Almost all of South Africa's Angora goat (mohair) farmers are located in the Eastern Cape, where they farm with about one million goats.

South Africa produces approximately 53% of the world mohair clip. Through selective breeding and farming techniques, the Angora goat farmer plays a crucial role in promoting the constant availability of quality natural fibres.

Most of the world mohair production is imported to South Africa for further processing, after which it is exported together with locally (including Lesotho) produced mohair. China remains the leader in mohair imports from South Africa, followed by Italy and Taiwan.

Pig farming

The South African pork industry is small in terms of the overall South African agricultural sector. It contributes 2.2% to the primary agricultural sector.

The gross value of pork production is dependent on the quantity produced and the price farmers received. The trend in gross value follows a pattern of prices, because the industry is characterised by volatile prices.

Pork is produced throughout South Africa, with Gauteng and Western Cape being the largest producers, contributing to 40% and 21%, respectively, to total production.

There are about 132 commercial, four stud and about 400 smallholder pig farmers. They own about 120 000 sows (100 000 commercial and 10 000 smallholder sows) and employ about 3 005 workers, comprising about 2 200 farm workers and 805 workers in the abattoir sectors. The 145 registered pig abattoirs use modern technology to ensure a streamlined slaughtering process.

Poultry farming

The poultry industry (including meat and eggs) continues to dominate the agricultural sector in South Africa as the main supplier of protein in kilogramme terms to the South African consumer, as more poultry products are consumed per year than all other animal protein sources combined.

The consumption of poultry meat accounts to about 60% of total meat consumption (beef, mutton, goat, pork and poultry).

The distribution of broiler birds per province is as follows: North West (22.0%), Mpumalanga (20.7%), Northern and Western Cape (19.5%), Free State (12.1%), Gauteng (9.9%), Eastern Cape (6.7%), KwaZulu-Natal (6.6%) and Limpopo (2.5%).

During the first six months of 2018, an average of 17.8 million broilers were slaughtered per week, totalling to 427.2 million birds.

The average weighted basic gross price (before rebates, advertising and distribution costs are deducted) received by producers of broilers decreased by 11.9% to R21.44/kg in the first nine months of 2018, as against R24.33/kg in the previous year

The poultry industry faces several significant challenges that have hindered its competitiveness and growth potential. The principal challenge were the Avian Influenza outbreaks, which led to millions of birds being culled to prevent the spread of the disease. During the first semester of 2018, hatcheries projected 19,11 million chicks per week and a potential broiler production of 17.86 million per week.

The Avian Influenza, outbreak also lead to a severe shortage of eggs. The industry imported fertile eggs to close the supply gap. Egg production started to pick up during the second half of 2018.

Hunting and wildlife sector

Hunting can be divided into trophy hunting and meat hunting. South Africa is a popular hunting destination for international hunters that may want to take a trophy of their hunting experience home as memorabilia.

Local hunters, often referred to as biltong hunters, hunt for their own use as an alternative protein source, which also contributes to food security.

The five most popular hunting provinces are Limpopo, Northern Cape, Eastern Cape, North West and Free State. The five most popular species among biltong hunters are springbok, impala, blesbuck, blue wildebeest and kudu.

Hunting primarily occurs in rural and remote rural areas. The Limpopo, North West and Eastern Cape provinces are prime hunting destinations that generate employment for the unskilled workforce where other viable land-use options are often limited.

The hunting sector in South Africa is represented by various voluntary associations and organisations that serve in the interest of both consumptive and professional hunters. The Confederation of Hunting Associations of South Africa is a federation of over 25 hunting, hunting related and shooting affiliates across South Africa. The SA Hunters and Game Conservation Association is the biggest representative body for hunters in South Africa.

SA Hunters and other hunting associations in South Africa have taken the lead in the wildlife economy by advocating and practising responsible, sustainable hunting as the most effective wildlife management mechanism that supports the game ranching sector in the country.

Programmes and projects

Regulatory services

As a result of an increase in trade in regulated agricultural products, illegal import or export of products poses the risk of introducing a range of diseases and pests.

The DAFF's regulatory activities include the inspection of plants, animals and their products to prevent the introduction and distribution of quarantine pests and diseases and ensuring that exported animals, plants and their products are free from quarantine pests and diseases.

The DAFF also ensures compliance with agricultural legislation by conducting inspections at designated ports of entry.

Plants and plant products are inspected for compliance with plant health, genetic resources and food and quality-assurance legislation. The department conducts surveillance for regulated pests and/or national pests of concern throughout the country.

The Pest Risk Analysis Division conducts scientific analysis of risks posed based on scientific data. Risks associated with the importation of plant propagation material are managed by prescribing a compulsory predetermined quarantine detention period for specific high-risk categories.

To prevent the introduction of harmful exotic plant pests, all imported plant material is tested and audited. The DAFF renders diagnostic services to ensure that all imported and exported products comply with international standards.

Closely linked to early detection is the implementation of proper pest-awareness programmes to keep the agricultural sector and the general public informed.

Through its Import/Export Protocols Division, the DAFF ensures and maintains market access for South African plants and plant products. This includes exchanging plant health information and expertise in terms of bilateral engagements, and maintaining bilateral export/import programmes.

Despite having maintained the country's lucrative fruit export markets, production and exports are still under threat. Accordingly, imports of host fruit from countries where pests have been established must be appropriately managed. This emphasises the importance of border control and risk management responsibilities.

Over the medium term, the department expects to receive an additional allocation to address biosecurity issues at South Africa's 16 land border posts, acquire two additional plant quarantine stations and two additional animal quarantine stations, strengthen pest surveillance and control and inspection and laboratory services.

The National Surveillance Programme for Quarantine Fruit Flies continues. The invasive oriental fruit fly (*Bactrocera dorsalis*, previously known as *Bactrocera invadens*) occurs in Limpopo, Mpumalanga, North West, Gauteng and KwaZulu-Natal where it is under official control.

Through the ongoing surveillance programme, it was also detected in the Western Cape. In line with the applicable regulations, the necessary regulatory measures were instituted to quarantine the area. This detection in the Western Cape is of particular concern in light of the important contribution of the deciduous fruit industry to the agricultural sector. This surveillance programme is continuing.

South Africa is an active member of the World Organisation for Animal Health. Disease reports are received from the Organisation for Animal Health and through direct contact with veterinary administrations in exporting countries.

The Directorate: Animal Health works to curb outbreaks of diseases such as highly pathogenic avian influenza, foot-and-mouth disease, and African horse sickness. The DAFF is working with the equine industry on protective measures for horses in the AHS infected zone in order to reduce the severity of outbreaks.

Trade in animals and animal products are regulated to prevent the entry of diseases.

Information for international travellers

Pests and invasive species are not only introduced through formal trade, but are also brought into South Africa by tourists.

Once a pest has entered South Africa, climate change may influence its establishment and spread, as well as the damage it causes.

When travelling to South Africa, tourists should make sure that they do not bring in prohibited agricultural products. These products may harbour pests that occur in other countries and

their introduction may endanger South Africa's competitiveness in trade and agricultural productivity.

Animals and animal products such as meat and dairy products, plants and plant products, honey and honey products as well as other regulated goods, are all potentially high-risk materials. These materials may only be imported into South Africa by means of an import permit, unless exempted, and must be declared with the DAFF inspectors for inspection at ports of entry before entering South Africa.

Inspectors from DAFF conduct luggage and consignment inspections at the ports of entry with the help of sniffer dogs to ensure compliance with the import permit requirements.

Prohibited products will either be confiscated, destroyed or returned to the country of export and those found carrying them may face a fine of up to R20 000 or imprisonment.

Food import and export standards

Internationally, standards for food imports and exports are harmonised through various international standard-setting bodies subscribed to under the World Trade Organisation (WTO) and to which South Africa is a signatory, including the Sanitary and Phytosanitary Measurements Agreement, World Organisation for Animal Health, Codex Alimentarius Commission and the Intergovernmental Panel on Climate Change. These requirements aim to protect consumer rights, the environment, animal life and public health.

Through its Directorate: Food Import and Export Standards, the department collates information regarding the standards for sanitary and phytosanitary measures applicable to trade in animal and plant products. The DAFF also coordinates promotion and awareness programmes addressing cross-cutting standards and legislative requirements for food safety, quality, and plant and animal health.

The department and the PPECB work closely to assist South Africans to export their products successfully in a highly competitive global arena.

Food safety and quality assurance

The Directorate: Food Safety and Quality Assurance (D: FSQA) is responsible for the development of regulations, standards

and requirements regarding control of the export of agricultural products of plant and animal origin under the Agricultural Product Standards Act of 1990 and to control the production, sale, import and export of certain alcoholic products in terms of the Liquor Products Act of 1989.

These standards and regulations are harmonised with various international standard-setting bodies such as the Codex Alimentarius Commission, the Organization for Economic Co-operation and Development, United Nations (UN) Economic Commission for Europe, and the International Dairy Federation.

South African products can compete on an equal footing with overseas products and can also be marketed more competitively.

The Agricultural Product Standards Act of 1990 makes provision for the appointment of assignees to undertake inspections at the point of sale, manufacture, packing or export to ensure that the set standards and requirements are complied with.

The following assignees are currently appointed:

- The PPECB conducts quality inspection and food safety services under the Agricultural Products Standards Act of 1990 for regulated agricultural products intended for export;
- Nejahmogul Technologies and Agric Services (Pty) Ltd conducts quality inspection for dairy and related products on the local market;
- The Agency for Food Safety conducts inspection for regulated animal products (poultry meat and eggs) on the local market;
- Impumelelo Agribusiness (Pty) Ltd conducts quality inspections on processed products on the local market;
- Leaf Services conducts quality inspections on grain and grain products on the local market;
- Product Control of South Africa conducts quality inspections of fresh fruit and vegetables; and
- The South African Meat Industry Company conducts inspections of meat carcasses on the local market.

National analytical services

The National Analytical Services (NAS) laboratories reside under the D: FSQA. There are two in-house laboratories within NAS: one situated in Stellenbosch and one in Pretoria.

The laboratories provide and coordinate the analysis of certain agricultural products (fresh fruit and vegetables, grains, wines and spirits, dairy products and processed food) in support of the enforcement of the food safety and quality standards and requirements as laid down in the Agricultural Product Standards Act of 1990 and the Liquor Products Act of 1989.

Disaster and risk management

The National Agricultural Disaster Risk Management Committee provides strategic guidance on policy and advises the Ministry of Agriculture, Forestry and Fisheries on issues relating to agricultural disaster risk management. The committee comprises members from provincial departments of agriculture, organised agriculture such as NAFU, Agri SA, TAU SA and the ARC and relevant directorates within the DAFF.

The established National Drought Task Team, chaired by the DAFF, advises the National Disaster Management Advisory Forum on drought management. The task team comprises provincial disaster management centres, organised agriculture, and relevant directorates within the department.

The department frequently responds to hazards such as droughts, veld fires, floods and outbreaks of pests and disease, which includes the control of migratory pests such as locusts and quelea. It is also responsible for the control of blackfly.

International cooperation

The DAFF maintains a number of trade agreements, including with the EU and the United States (AGOA).

Under AGOA, the agricultural sector has advantages for the exports of citrus, macadamia nuts, wine and other food products to the USA.

The DAFF has continued to open new markets. A notable recent achievement is the Indonesian government's recognition of the competence of South Africa's food safety control measures. This comes after a protracted negotiation process between the technical teams of the two countries, which eventually led to the opening of the Indonesian market to South African exporters.

The recognition was granted in respect of 15 commodities, including deciduous fruit, citrus, grapes and nuts. South African

exporters will be allowed to use the port of Jakarta, Tanjung Priok, which is closer to the main Jakarta market, therefore reducing transport costs and preventing quality loss.

The department has identified that for South Africa to trade on a common footing with the global economy, it needs to migrate from the current paper-based certification and permit system. In this regard, the South African Revenue Service has pledged technical support to the department towards the development of an internationally recognised and interphase ready import and export system, at a projected cost of R80 million over the medium term.

Weather and climate

Climate change

The agricultural sector in South Africa faces considerable impact from climate change, which affects the livelihoods of most people, especially those who are vulnerable to food insecurity.

South Africa responds to international obligations regarding climate mainly through the Department of Environmental Affairs, but the DAFF, as well as other departments such as those of mineral resources, energy, science and technology, and water affairs are also involved. The Climate Change Programme implemented by the DAFF includes programmes on raising awareness, policy development, the development of sector mitigation and adaptation plans, conducting vulnerability assessments countrywide, and identifying and coordinating climate-related research projects.

The Climate Change Adaptation and Mitigation Plan for Agriculture, Forestry and Fisheries has been approved. The plan outlines useful mitigation and adaptation options promoting soil, water and nutrient conservation for agricultural production.

DAFF's crop suitability programme is aimed at promoting best adaptation management practices and enhancing adaptive capacity and resilience of the agricultural systems to minimise the risk of the negative impacts of climate change as drastic increases in temperature have a negative impact on crop growth and crop yields.

South Africa is a full member of the Global Research Alliance which, among other objectives, aims to enhance collaborative

research into reducing agricultural emissions and increasing support and resourcing for agricultural emissions research.

Early warning unit

The increasing risk of disaster is reduced by strengthening early warning systems and disseminating early warnings, as well as raising awareness through campaigns. This helps to build resilient farming communities.

The DAFF has therefore developed and implemented an Early Warning System (EWS) that disseminates extreme weather warnings to farming communities. The EWS communicates monthly advisories and daily extreme weather warnings, in support of reducing disaster risk.

The implementation of the EWS is continuously monitored and evaluated to identify and address gaps in the system. National Agro-Meteorological Committee meetings are held quarterly.

Other risk reduction activities include continuous research to identify areas and measures in addressing and improving disaster risk management, including awareness campaigns and education and training so as to strengthen disaster risk management. In addition, DAFF continues to encourage integration of disaster risk management into all departmental programmes and projects.

DAFF also encourages the strengthening of early-warning systems by all relevant role players to be prioritised and creation of disaster units in provinces. .

Sustainable resource management and use

The DAFF and the ARC's Institute for Soil, Climate and Water have developed an inventory of soils, terrain forms and climate (land types). The National Land Type Survey, available for use at a 1:250 000 scale, aims to assist and guide land-use planning and decision-making at national level.

All available natural-resource spatial information and other required data sets, including the latest Spot 5 satellite imagery and agricultural information, are found on the internet-based Agricultural Geo-Referenced Information System (Agris). Using interactive web-based applications, Agris provides access to spatial information, industry-specific information and decision-support tools.

The Advanced Fire Information System (Afis) tracks all fire outbreaks in the SADC region through the use of Moderate-Resolution Imaging Spectroradiometer satellite imagery. The information may be viewed at afis.meraka.org.za.

Soil degradation

Soil degradation is largely related to the decline in organic soil matter. Monoculture cereal production, intensive tillage, short-term fallow periods and limited crop rotation have contributed to this in the commercial sector.

Excessive fuel-wood collection, inappropriate land use, population density and overgrazing are the main causes of soil degradation in communal areas. In addition, it is estimated that about 60% of the cropland area is moderately to severely acidic, and probably at least 15% is affected by subsoil acidity.

It is calculated that 1.5 million ha (around 1% of the land surface) have a high to extremely high erosion risk. More than 11 million ha (9%) are classified as having a moderate erosion risk, and 17% as low to very low risk.

It is estimated that 25% of South Africa is covered by soils that are also potentially highly susceptible to wind erosion. These include the sandy soils in the western half of the "maize quadrangle" in the North West and the north-western Free State – the areas that produce 75% of the country's maize.

South African soils are also extremely prone to serious soil compaction, particularly under intensive mechanised cultivated agriculture, in both dryland and irrigated land. It is a problem throughout the country and much more widespread and serious than the global norm.

Human-induced soil acidification is a major problem. Its effect is severe since it impacts on the country's scarce, arable land, especially the limited high-potential agricultural land. Soil-fertility degradation is a concern.

In commercial agriculture, there has been capital-building of some nutrients, especially phosphorus and zinc. In some cases, phosphorus has built up to excessive levels, where it starts to reduce crop yields.

Genetically modified organisms

Genetic modification (GM) provides a way to meet the growing

demand for food without placing greater pressure on scarce resources.

South Africa has commercialised three different GM crops, namely maize, cotton and soya beans.

South Africa is the ninth largest producer of genetically modified crops in the world and remains the pioneer for the adoption of genetically modified crops. This is aligned to Section 24 of the Constitution, which advocates for sustainable use of biodiversity

LandCare Programme

The National LandCare Programme is a government-supported community-based initiative, which is active throughout the country. Driven by both the public and private sectors through partnerships and cooperation, it seeks to:

- conserve natural resources
- use them in a sustainable way
- create a conservation ethic through education and awareness
- create jobs and address poverty by launching various natural resource rehabilitation, improvement and conservation projects.

Serious concerns about land and water degradation are identified in each province and specific projects address these issues. Projects have been implemented in all nine provinces through the LandCare Conditional Grant, whereby ring-fenced funding is transferred to provinces.

Four subprogrammes, namely WaterCare, VeldCare, SoilCare and JuniorCare, are all part of the LandCare Programme.

The LandCare Programme is aligned with Government's broader objective of job creation. The temporary jobs created under the programme are funded through the Expanded Public Works Programme (EPWP). The LandCare Programme adheres to the target of 55% women, 40% youth and 2% people with disabilities as specified by the EPWP.

Funding for these projects is transferred quarterly to the respective provincial departments as implementing agents, as conditional grants under the Division of Revenue Act, 2913(Act 2 of 2013). Assessment and reporting requirements are specified in the Act, as well as by the EPWP. The provincial departments use the reporting tools provided by the EPWP to report on the number of jobs created.

Additional monthly, quarterly and annual reports are forwarded by the provincial departments to DAFF to monitor performance and the impact of the programme on the state of the natural agricultural resources.

Extension and advisory services

The National Policy on Extension and Advisory Services for the agricultural, forestry and fisheries sectors recognises and calls for the involvement of a wide array of stakeholders involved in the delivery of extension and advisory services through a pluralistic and integrated approach.

The implementation process of the National Policy on Extension and Advisory Services implementation commenced with the establishment of the Provincial Extension Coordinating Forum (PECF). The PECF is operational in all provinces and meetings are held on a quarterly basis. DAFF provides support to the PECF to ensure provincial integrated service delivery.

Since the implementation of the Extension Recovery Programme in 2008/09, the number of extension officers has increased from 2 210 to the current 3 200.

The DAFF targets deploying 20 extension practitioners to commodity organisations per financial year.

The intention is to deploy 100 extension practitioners by 2019/20, to ensure that extension practitioners acquire skills and gain experience of a specific commodity value chain.

Training

The agricultural sector boasts state-of-the-art training and research facilities.

South Africa has a number of regular schools offering a range of agricultural subjects as well as specialised agricultural high schools such as Bekker High School in North West, Harry Oppenheimer Agricultural High School in Limpopo and Boland Agricultural High School in the Western Cape.

Prospective farmers and technicians are trained at the country's colleges of agriculture such as Grootfontein Agricultural Development Institute in the Eastern Cape, Cedara College of Agriculture in KwaZulu-Natal and Madzivhandila College of Agriculture in Limpopo.

On average, each college admits 400 full-time students and trains 1 000 farmers annually. This relates to close to 1 000

potential entrant farmers and over 10 000 skills trainings per year.

A Joint Technical Task Team (JTTC) was formed as recommended by Cabinet after the Mangaung Resolution of 2012 to advise on the implications of transferring the colleges of agriculture to the Department of Higher Education and Training. The JTTC has since completed the due diligence report and the report was consulted with all the relevant stakeholders.

Universities, some with designated faculties of agriculture, offer degree courses. Veterinary surgeons are trained at the University of Pretoria's Faculty of Veterinary Sciences at Onderstepoort.

This training potential is coupled with productive and robust research capacity in terms of scientists and researchers based at various organisations who are world leaders in their respective fields of agricultural research.

The ARC, several universities and various private-sector organisations, as well as some provincial departments of agriculture, which are responsible for technological development and transfer aimed at improving managerial efficiency on farms, conduct agricultural research.

Research and innovation

It is only through proper research that the country can be able to increase productivity, come up with disease resistant plants and animals, and alleviate the impact of climate change.

The ARC, several universities and various private-sector organisations, as well as some provincial departments of agriculture, which are responsible for technological development and transfer aimed at improving managerial efficiency on farms, conduct agricultural research.

Through the Agricultural Science, Technology and Innovation Activities Coordination Committee, the department engages the Department of Science and Technology on joint issues of national importance within the National System of Innovation.

The research unit is also involved in the development and implementation of national research policies and strategies, such as the National Agricultural Research and Development Strategy. This encompasses the national priority-setting process, developing guidelines, administering a national

research and technology fund and overall monitoring and evaluation.

The National Agricultural Research Forum (NARF) provides a platform for stakeholder consultations on research and development while the Government Agricultural Research and Development Action Group provide a platform for government and state-owned entities to plan research and technology development within the national agricultural research system.

The NARF facilitates consensus and makes recommendations to government on the coordination of research, development and transfer of technology to enhance national economic growth, social welfare and environmental sustainability.

Policy research support

The Directorate: Policy Research Support in the DAFF coordinates all agricultural research and development activities. The mandate of the Policy Research Support on policies extends beyond policies and strategies in research but covers the entire sector related policies.

The Policy Research Support Unit is responsible for ensuring that available sector policies are aligned to government protocols, which is conducted by subjecting available policies to the objectives of the main government policies, such as the NDP, to ensure that sector policies address Government's priorities.

The unit is also responsible for conducting the review of sector policies for alignment with the NDP.

Animal identification

Any owner of cattle, sheep, goats or pigs, is compelled by law to mark their livestock. The registered mark is put on the National Register of Animal Identification System. This register is available to the SAPS to help it trace individual animals in cases of stock theft.

However, this can only be implemented successfully if all cattle, goats, pigs and sheep are marked in accordance with the Animal Identification Act, 2002 (Act 6 of 2002).

Pest control

The South African Pest Control Association (SAPCA) is the

official representative of the pest, termite and woodborer-control industries. All SAPCA-qualified inspectors have to register with the DAFF.

South Africa regularly liaises with other countries and international organisations to ensure the transfer of pest-control technology.

To respond comprehensively to the management of regulated plant pests and diseases, the department, in close collaboration with the South African fruit industries, has developed an early warning surveillance programme for the quarantine of fruit flies. The technical forum continues to identify, prioritise and manage quarantine pest risks such as the African invader fruit fly.

In the global trade of food and food products, veterinary public health and food safety aspects in relation to animal products received increasing attention.

Food security

To address the challenges of households vulnerable to poverty, inequality, unemployment and persons with inadequate or severely inadequate access to food, the department has prioritised food and nutrition security, including agrarian transformation.

In 2013, the South African Cabinet approved the National Policy on Food and Nutrition Security, the Household Food and Nutrition Security Strategy and the Fetsa Tlala Integrated Food Production Initiative. These policy frameworks are intended to streamline, harmonise and integrate the diverse food and nutrition security interventions in South Africa.

The strategic objective of the National Policy on Food and Nutrition Security is to ensure the availability, accessibility and affordability of safe and nutritious food at national and household levels.

The National Food and Nutrition Security Plan (NFNSP) 2017 – 2022 embodies a collective response of government to the challenges of food insecurity and malnutrition in the country. It reflects a common vision across government departments and entails a unified set of national goals and objectives, indicators and targets for monitoring progress, as well as a common budget for implementation of activities.

It enables the country to address problems such as hunger,

malnutrition and micronutrient deficiencies that affect physical growth and cognitive development, especially among children, as directed by the NDP 2030.

The goal of the NFNSP is to implement a priority set of actions and establish the necessary institutional architecture to lead, coordinate, budget and monitor the implementation of these actions to deliver significant improvements in food and nutrition status by 2030.

The NFNSP actions are guided by six strategic objectives which were derived from a consultative process aimed at establishing a governance and leadership system; to review current policies and strategies; reform the current duplicated and uncoordinated delivery of food and nutrition security (FNS) interventions and to ensure the implementation of strategic and comprehensive FNS initiatives in a coordinated manner.

It also took into account the recommendations from Cabinet; the Policy on Food and Nutrition Security, and the Diagnostic/Implementation Evaluation of Nutrition Interventions for Children from Conception to Age 5 (2014), which compared South Africa to Brazil, Colombia, Malaysia, Malawi and Mozambique.

The department also worked with the private sector to develop the APAP, which will bring one million ha of underused land into full production over the next three years.

Through APAP and B , the department aims to bring more smallholders into the mainstream as envisaged in the NDP. However, the effective participation of the previously excluded black majority in agriculture and food production will only occur meaningfully, when they have access to land and the means to work it.

An inclusive and scientific process will be used to assess the situation in terms of land capability for different commodities and in different localities, so as to inform land acquisition and allocation for different categories of producers across the country.

Smallholder development

In support of food security, the DAFF has persistently strengthened its support for smallholder producers and continues to do so with the involvement of both internal and external partners.

These producers are supported in various ways, among others, by providing production inputs, training and advisory services, as well as access to finance and credit through MAFISA, CASP and Ilima/Letsema. These interventions have increased their competitive edge towards becoming sustainable producers to provide products to markets. Through the Fetsa Tlala initiative, the department's strategic objective is to use one million ha of land in rural areas for the production of crops.

A web-based platform of the supported small-holder producers is being developed to ensure proper data and updates on all smallholder activities. The implementation of the approved Strategic Plan for Smallholder Support is on track with support funding received from the Department of Trade and Industry's Employment Creation Fund.

With all conditions favourable, the agriculture and agro-processing value chain has the potential to increase the number of smallholders from 171 670 in 2013 to 471 670 in 2019; increase the value added of the sectors from R42.5 billion in 2012 to R48.9 billion in 2019 (or 2% real growth per year); real increase in the value of net exports from an annual average of R5.1 billion in 2012 to R5.8 billion in 2019 (or 2% real growth per year); decrease in the value of diesel, fertiliser and machinery imports from an annual average of R9.6 billion in 2012 to R7.4 billion in 2019 (or 3% real decline per year) and increase the number of jobs in the sector from 660 000 in 2012 to a potential one million jobs by 2030.

The intensification of the Revitalisation of the Agriculture and Agro-Processing Value Chain (RAAVC) will focus on the following crucial areas, namely:

- implementing the Agri-parks — expanding infrastructure support to 44 Agri-hubs and 88 farmer production support units; implementing APAP with special focus on the production of high-value crops. R3.2 billion will be spent on projects and 11 082 jobs created;
- collaborating with private sector partners to advance the Fetsa Tlala and the One Family One Hectare initiatives;
- increasing market access for smallholders through the implementation of programmes such as South African Good Agricultural Practice (SA-GAP) and increasing intra-African trade and other global trade opportunities;

- continuing implementation of the Aquaculture Lab where 40 projects will be registered under Operation Phakisa. The Aquaculture Bill will also provide a legislative framework for the sector development. It is envisaged that aquaculture production will increase to 20 000 tons, with 2 500 direct new jobs and 15 000 jobs in the value chain by 2019, and an additional investment of R500 million.

To ensure mechanisation support to smallholder producers, the National Mechanisation Policy creates a favourable regulatory environment in which Government will continue to make agricultural machinery such as tractors available to smallholder producers to ensure the optimal production of food.

An innovation of which the department is particularly proud is the drought tolerant maize cultivar which was launched by the ARC in 2014. Results indicate that farmers who planted the new maize cultivar experienced on average 50% increased yields when compared to conventional varieties available on the market. The department now has to ensure that sufficient seed is available for farmers.

Public entities, the ARC and the NAMC in particular, have been actively involved in the development of APAP/RAAVC. The research and databases from the ARC's Soil Testing Laboratories was used in its spatial analysis and maps to determine which commodities can be produced in which places.

These maps have been overlaid with the mapping by the Department of Rural Development and Land Reform following their land audit.

The NAMC also supported APAP/RAAVC with economic analysis and their expertise in value chain mapping. The NAMC is also the coordinator for Strategic Infrastructure Project 11, which pertains to agrologistics and rural infrastructure.

The PPECB has committed to expand the number of smallholder farmers with SA-GAP certification. The organisation is also working with the OBP to secure adequate funding to ramp up vaccine production.

The DAFF together with the Eastern Cape Department of Rural Development and Agrarian Reform has invested R40 million of CASP funds since 2006 to establish 300 ha of macadamia nuts in Ncera area.

This is a private, public partnership with landowners, the community and private companies. A total of 180 ha of macadamia nuts have been planted with 80 ha harvested for the export market, creating 110 permanent jobs. This project has turned the tide of unemployment, unskilled communities and poverty. It created a vibrant society with better prospects for the future.

This macadamia development programme will be further expanded in the Eastern Cape, KwaZulu-Natal, Mpumalanga and Limpopo, focusing on growing the participation of black producers in this industry.

Fetsa Tlala Food Production Initiative

The Fetsa Tlala Food Production Initiative mobilised smallholder producers to increase production and to access export market opportunities through, for example, the World Food Programme.

Initially, the initiative sought to put one million ha of underutilised agricultural land in communal areas and land reform farms back in production.

The department will accelerate support programmes and continue to forge partnerships with the private sector and other relevant stakeholders to claw back on the upward trajectory for Fetsa Tlala for the coming production seasons.

Work on a Government-led food procurement model, linked to the smallholder producers, is currently under way. This is one of the interventions by Government to sustain the economic viability of this vulnerable agricultural sector.

Through this initiative, Government will reprioritise its procurement on food to create markets for subsistence and smallholder producers in rural, urban and peri-urban areas.

Sector interventions to assist smallholder producers with technical, infrastructure and financial support will continue to be rolled out. These include the CASP and the Ilima/Letsema and LandCare programmes.

Agricultural census

To ensure focused support to smallholder producers, DAFF is working with Stats SA to conduct an agricultural census. The technical team comprising DAFF and Statistics South Africa (Stats SA) officials has been established.

A Memorandum of Understanding (MoU) has been compiled to undertake this intervention. The focus is to approach it in two phases. The first phase to be done in 2018/19 will be focusing on the census to cover commercial agriculture at enterprise level. This area of work will be managed by Stats SA.

The second phase will be done over two financial years of 2019/20 and 2020/21. Stats SA will provide technical support and advice to support DAFF with the development and implementation of the Farmer Register to cover smallholder and subsistence producers.

Female Entrepreneur Awards

The Female Entrepreneur Awards programme is a joint venture between the DAFF, the provinces and key partners in the sector aimed at honouring female farmers, recognising their role in the sector and their entrepreneurial skills in the mainstream agriculture, forestry and fisheries. The major thrust of the programme is to underline the fact that women play a significant role in food security, job creation, economic growth and poverty alleviation.

Hundreds of female farmers compete in various categories, including that of Best Female Worker; Best Subsistence Producer; Top Entrepreneur: Smallholder; Top Entrepreneur: Processing; Top Entrepreneur: Commercial; Top Entrepreneur: Export Markets and two Ministerial Awards for Young and Female Entrepreneurs with disability in the sector.

The overall winner for 2018 was Portia Mngomezulu from Gauteng who also received an award in the Top Entrepreneur: Processing category for her international brand, PortiaM. She produces marula skin care products.

World Food Day

South Africa joins the world in marking World Food Day on 16 October every year to highlight the plight of millions of undernourished people in the world. World Food Day is commemorated annually around the world in remembrance of the founding of the Food and Agriculture Organisation (FAO) of the UN in 1945.

In South Africa, October has been declared Food Security Month. The objective of Food Security Month is to create a

platform for heightening public awareness on issues pertaining to food (in) security in the country.

The theme for 2018 was “Our actions are our future. # A Zero Hunger World by 2030 is possible”.

Regional and international cooperation and trade

Regional cooperation

South Africa has strong and mutually dependent economic links with countries in the southern African region through the SADC and the Southern African Customs Union (SACU).

As contribution to the African regional development, the DAFF continues to implement South Africa’s foreign policy objectives, through the facilitation of SADC and African Union engagements and implementation of the South-South Cooperation.

The International Relations Strategy is an instrument put into place to interact with various sector stakeholders at regional and international level in support of producers to access international markets.

Regional trade

South Africa, as a member of the SACU and a signatory of the SADC Treaty, is committed to sharing its objectives with other nations in the region. SACU opened its markets to the countries of the SADC region by implementing its tariff reduction commitments under the SADC Trade Protocol.

The signatories to the SADC Trade Protocol are: Botswana, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, the Seychelles, Swaziland, Tanzania, Zambia and Zimbabwe. Angola and the Democratic Republic of the Congo are still in the process of acceding to the protocol.

The first objective of the trade protocol is to remove both tariff and non-tariff barriers to trade between SADC countries.

The SADC has set up an electronic reporting system for non-tariff barriers, in which the DAFF is involved as a contact point to receive traders’ complaints.

The South African agriculture products continue to benefit from the Tripartite Free Trade Area agreement of the Southern African Development Community, Common Market for Eastern and Southern Africa and the East African Community.

Forestry

The DAFF is the custodian of South Africa’s forest resources, which cover over 38 million ha (about 31.1%) of the country’s land surface area.

The forestry sector employs around 157 500 workers with the forest sub-sector providing about 59 800 direct jobs and 27 500 indirect jobs. Forestry provides livelihood support to 688 000 people of the country’s rural population. The pulp and paper industry provides about 13 200 direct and 10 800 indirect employment opportunities.

Some 20 000 direct workers are employed and 8 000 indirect in sawmilling, and 6 000 in the timber-board and 2 200 in the mining timber industries, while a further 10 000 workers are employed in miscellaneous jobs in forestry.

In terms of land use, the afforested area is about 1.21 million ha or about 1.0% of the total South African land area of 122.3 million ha. The forest sector (forestry and forest products) contributes about 0.90% to the GDP, a considerable decline from the usual average of 1.2% to the GDP in the previous few years. In terms of regional GDP, forestry in KwaZulu-Natal contributes 3.3%; Mpumalanga 3.2%; the Eastern Cape 0.8%; Limpopo 0.7% and Western Cape about 0.2%.

The DAFF contributes to eradicating poverty through the Forestry Livelihoods Programme. Firewood, construction poles, medicinal plants and edible fruit are all critical to the livelihoods of the rural poor.

The department develops human resources through forestry-sector skills development initiatives and promotes employment through commercial forestry activities such as forestation and downstream activities. The integration of forestry programmes into provincial and municipal development plans assist with the UN’ Plant a Million Trees Campaign.

The DAFF is pursuing a target of 10 000 ha of new afforestation a year. However, the target has not been met due to various reasons that include challenges with acquisition of water use licences for afforestation and the need to conduct environmental impact assessments since forestry is classified as a stream flow reduction activity in terms of environmental law. There are new efforts to review the target. However, it has emerged that afforestation on areas issued with planting

licences has been slow due to various reasons.

The focus will remain on encouraging cooperatives, simplifying and streamlining the regulatory environment, training and extension, supporting the implementation of rural credit and offering incentives for new entrants.

In terms of the economic growth and development that forestry offers, the DAFF is working closely with other government structures in the Eastern Cape and KwaZulu-Natal to fast-track the afforestation licensing process.

In the Eastern Cape, the DAFF and the dti have recently funded the processes of conducting environmental impact assessments – a prerequisite preceding any afforestation activity.

Afforestation is taking place in rural areas where there are few other viable opportunities for job creation and economic activity.

The development of these additional raw material resources will attract greater processing capacity in the form of sawmills, board mills, chipping plants and treatment plants, which will lead to broad economic growth. An additional R500 million a year could be generated from such plantations.

The forestry programme also includes greening and tree-planting projects. The programme prioritises work on integrated fire management and the Working on Fire Programme and fire protection associations registered in terms of the fire law are playing a crucial role in this regard. The department encourages the establishment and registration of fire-protection associations (FPAs), which are community-based organisations established in terms of the National Veld and Forest Fire Act of 1998.

Although forestry contributes a modest 0.6% to the GDP, it supports manufacturing subsectors such as pulp, paper and cellulose manufacture, sawmilling, pole treating, panel and fibre board manufacturing, as well as mining timber, tannin extract (used in leather tanning) and charcoal manufacture.

Of the total land area of 122.3 million ha in South Africa, only 1% or 1.221 million ha is used for commercial forestry.

Mpumalanga has the highest investment in plantations at R19.6 billion (41.9%) followed by KwaZulu-Natal with R16.6 billion (35.6%), the Eastern Cape at R6.4 billion (13.7%), Limpopo R2.1 billion (4.75%) and the Western Cape at R2.0 billion (4.4%).

An analysis of the trends of commercial forestry area planted by tree species and primary use indicates that, firstly, there has been a marked decline in new afforestation since the mid-1990s, secondly there has been a shift away from softwood to hardwood, and thirdly, an increase in plantations for pulpwood purposes as compared to the area for sawlogs and mining timber.

Underlying these trends are various factors, but in particular the tighter regulatory framework governing water usage – forestry is regarded as a “stream flow reduction activity”, therefore, new water use licences are required to expand the area under plantations. Other factors include the removal of large areas within riparian zones to comply with certification and water legislation requirements, the removal of over 50 000 ha in terms of the State’s “exit strategy” and the conversion of plantations to more profitable crops such as macadamia nuts and avocados.

The forest products industry ranks among the top exporting industries in the country. Paper and paper board, wood pulp, wood and articles of wood and charcoal were the leading export products and constituted 94% of total forestry products. The forest sector continues to generate substantial net trade surpluses. Production from plantations has been declining in recent years.

While it is clear that the private sector does have good management capacity and has also ushered in efficiencies across the value chain, the State must still play a role to ensure adequate levels of investment in long-rotation sawlog plantations as the State produces sawlogs for the private sector to process. The State’s role to forestry has, however, declined substantially since the partial privatisation of South African Forestry Company Limited (SAFCOL) through the leasing out of most of its plantation assets to the private sector. SAFCOL, through Komatiand Forests (KLF), is nevertheless an important player in the industry and continues to play a role in providing the private sector sawmilling sector with sawlogs.

The DAFF manages approximately 64 000 ha of plantations categorised into Category B and C. These plantations have vast areas suitable for planting but are currently unplanted. The department intends to revitalise the plantations, which will

create jobs for people in the surrounding communities.

South Africa is currently experiencing a shortage of timber and is constrained to meet the national demand for saw log timber. Approximately 30 000 ha of currently fallow areas could be a strategic contribution to timber supply in order to meet needs along the value chain.

Furthermore, 8 351 ha have been replanted within the Jobs Fund/DAFF Rehabilitation Programme.

The forestry sector offers long-term investment opportunities for rural economic development. Increased production and productivity in prioritised areas will be ensured by sustainable forest management through the replanting of 1 725 hectares in temporary unplanted areas; certification of one plantation for the Forestry Stewardship Council; and the implementation of the Agro-forestry Strategy.

Regarding integrated fire management, the DAFF has facilitated the registration of Fire Protection Associations (FPAs) in high-risk areas, and has also embarked on the process of the consolidation of non-viable FPAs and alignment of FPAs with municipal boundaries to ensure the effective utilisation of limited resources.

Sustainable management of natural resources, such as land, soil, water and climate systems is critical for the sustainable use of resources and food security. To address the loss of prime agricultural land to other sectors, the department has developed and formulated the Preservation and Development of Agricultural Land Framework.

Legislation

The Forestry and Natural Resources Management Branch of the DAFF is responsible for the administration of the National Forests Act of 2008, as amended. The Act has been amended twice in 2001 and 2005, and work is currently being done on the third amendment.

The main objective of the National Forests Act of 2008 is to promote the sustainable management and development of forests and to provide protection for certain forests and trees. This protection is provided through the protection of all natural forests (Section 7 (1)), the protection of all trees declared to be protected in terms of section 12(1) of the Act, and the regulation

of certain activities in a proclaimed State forest (Section 23(1)(a) – (k)). The Act sets out rules for protecting indigenous forests, and ensures that the public has reasonable access to state-forest land for recreational, cultural, spiritual and educational purposes

There are at the moment 47 protected tree species in terms of the National Forests Act of 1998. Information on these trees can be found on the website www.daff.gov.za/ under Forestry. In terms of the Act these trees may not be cut, destroyed, damaged or removed. Neither may the tree or their products be collected, removed, exported or donated, unless a licence has been granted by the DAFF. The National Forests Act of 2008 also protects live trees occurring in natural forests.

The National Veld and Forest Fire Act of 1998 is the primary legislation regulating veldfire management in the country.

The purpose of the Act is to prevent and combat veld, forest and mountain fires. The legislation provides a variety of institutions, methods and practices for achieving the purpose. The Act places an individual duty on every landowner where there is a risk of fire to take certain minimum precautions to prevent and combat fires. It also introduces the concept of voluntary FPAs, which may be formed by landowners for veldfire management in a specific area. The Act provides for FPAs for two reasons:

- Veldfires often become emergencies because they threaten life and assets on the property where they have started, or when they spread, or threaten to spread, beyond the boundaries of any one property,
- Veldfires require cooperation to manage the conditions that determine their occurrence, to prevent and control veldfires, and to use controlled burning for environmental and other purposes.

Veldfires are a problem because they pose a risk to social, economic and environmental assets. Over time South Africa has become more and more vulnerable to this risk. This is because urban and peri-urban human settlements steadily expand, exposing lives and homes to fires in the neighbouring veld, and simultaneously increasing the chance of veldfires being started. As the country’s rural areas develop, especially through plantation forests and other plantations such as sugarcane,

more economic assets have been created that are vulnerable to losses in fires. And as the people become more urbanised, only a few understand veldfires, thereby increasing chances of them starting fires or becoming victims.

Without preventive measures, veldfires will continue to burn for as long as the weather is favourable and there is vegetation to burn. To address the challenge, the country needs to develop clear policies and plans on individual responsibility as well as cooperative and co-ordinated roles and responsibilities.

Role players

National Forest Advisory Council (NFAC)

The function of the NFAC is to advise the Minister on any matter related to forestry in South Africa. The functions of the Committee on Sustainable Forest Management (CSFM) are to advise:

- the council, the department, and the Minister on all aspects of sustainable forest management in the country
- the department and the Minister on the administration of criteria, indicators and standards for sustainable forest management
- the department on convening forum for interested persons to participate in the formulation of criteria, indicators and standards.

The functions of the NFAC are to advise the Minister on promoting the granting and exercise of access to forests; promoting education on the sustainable management and use of forests, and the use of the National Forest Recreation and Access Trust funds.

South African Forestry Company Limited

SAFCOL is government's forestry company, conducting timber harvesting, timber processing and related activities, both domestically and internationally.

Through its operations, it employs about 5 000 people through direct and indirect employment and by extension, are responsible for about 20 000 lives in communities adjacent to its operations.

It subscribes to the Forest Sector Charter and plays a leading role in transformation within the industry. With the focus on

communities adjacent to its plantations and specifically the youth in those communities, it makes a difference in the physical circumstances and networking in the communities.

The structured approach of community partnerships was strengthened, with the focus on implementing needs-driven development and making a positive impact in community members' lives.

SAFCOL sponsors a Forestry Chair at the University of Pretoria, which is an opportunity for students who wish to further their studies in forestry-related fields.

Forestry South Africa (FSA)

FSA was formed in 2002 through the amalgamation of the erstwhile Forestry Owners Association and the South African Timber Growers Association.

FSA represents the interests of its members in particular and the promotion and wellbeing of the South African commercial forestry industry in general. Although voluntary in its nature, FSA's membership includes all 11 corporate timber companies operating in South Africa, including their subsidiaries, 1 100 commercial timber farmers and over 20 000 small-scale black timber growers. This membership represents over 90% of the industry as a whole and virtually all the private sector involved in the industry. Due to this representivity, FSA is viewed by both government and the private sector as the body which represents the South African Forestry Industry.

FSA is involved in a host of areas such as research, education and training, water and environmental affairs, forest protection, bio-energy, business development and transport.

Food and Trees for Africa (FTFA)

The FTFA is the sub-Saharan African partner of Global ReLeaf, an international greening organisation.

The FTFA's mission is to contribute to healthier living, especially in disadvantaged communities, through environmental awareness and greening programmes. The FTFA was started in 1990 to address sustainable development through greening, climate change action, sustainable natural resource management and food-security programmes.

The FTFA works in partnership with government, the private

and public sectors and civil society. Its goal is to provide trees to as many underserved communities as possible, with the help of sponsors and certificate programmes.

The FTFA; the departments of water affairs and of agriculture, forestry and fisheries; and the Institute of Environment and Recreation Management, manage the Urban Greening Fund. It is a collective fund that supports partnerships aimed at sustainable development through tree planting, parks, food-gardening projects and environmental education.

Organisations, companies and individuals can contribute to the fund to help disadvantaged South Africans create a greener, healthier and more secure life.

Research and training

South Africa has world-class forestry research infrastructure and personnel, with almost 2% of the forestry industry's turnover (private and public sectors) devoted to research. The forest research function within the department has been coordinating a number of research projects focusing on sustainable management of forest resources. These include:

- the monitoring and evaluation of bark-harvesting techniques used for two indigenous tree species in the Letaba State Forest
- sustainable harvesting of plants used for medicinal purposes
- the sustainable use of monkey rope (*Secamone alpini*) by local subsistence farmers
- ex situ and in situ conservation of the critically endangered *Protea roupelliae* sbsp. *hamiltonii*
- conservation of the co-occurring endangered *Leucospermum gerrardii* within the Dr Hamilton Nature Reserve.

The major institutes servicing the research needs of the industry are the Institute of Commercial Forestry Research in Pietermaritzburg, the Forestry and Agriculture Biotechnology Institute, and the Council for Scientific and Industrial Research in Pretoria. The South African National Biodiversity Institute also plays an important role, in terms of species protection.

The faculties of agricultural and forestry sciences at the universities of Stellenbosch, KwaZulu-Natal and Venda offer forestry degrees. The Nelson Mandela Metropolitan University (George Saasveld Campus) offers diplomas and limited degree courses in forestry disciplines.

The Natal University of Technology offers a diploma in Pulp and Paper Technology, and the Fort Cox College of Agriculture and Forestry offers a diploma in Social Forestry.

Skills training is provided by a number of industry-sponsored and in-house training centres. Industry-sponsored bursaries are available, as are company-sponsored bursaries for study at these institutions.

The Fibre Processing and Manufacturing (FPM) Sector Education and Training Authority (SETA) is responsible for ensuring that the training undertaken by the industry meets certain quality standards.

The department, together with the FPM SETA, offers study bursaries in forestry-related fields.

Programmes and initiatives

Participative forestry

The department supports the establishment of community projects through regional forestry staff. An estimated R2 million has already been spent from the Community Facilitation Fund to support the establishment of projects on the ground. Projects include the establishment of medicinal plant nurseries, in partnership with various stakeholders, and beekeeping, in partnership with the ARC.

In addition to producing honey, beekeepers play a critical role in agriculture, contributing to crop pollination and the development of products worth billions of rand.

The honey industry in South Africa has an average annual turnover of R3.2 billion and produces some 2 000 t a year. Government's investment in KwaZulu-Natal aims to increase national production to 100 000 t and employ over 100 000 people.

National Arbor Month

South Africa celebrates Arbor Month in September every year. Arbor Week is commemorated in the first week of September annually. The DAFF, as the custodian of forestry in South Africa, is responsible for the campaign.

Arbor Month 2018 was celebrated under the theme "Forests and Sustainable Cities". This was the first time that the country celebrated the campaign as Arbor Month.

For Arbor Week 2018, once again, trees were planted using trained community-based educators to ensure that departmental programmes have economic spin-offs for the communities.

Arbor Month is an opportune time to urge South Africans to plant indigenous trees as a practical and symbolic gesture of sustainable environmental management.

The primary purpose of the campaign is to spread and herald the importance of protection, conservation and preservation of the country's green heritage, namely forests, indigenous trees and related green resources. The secondary aim is to educate, change attitudes and modify the general behaviour of the South African public in a way and a manner they perceive and relate to the green heritage.

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.

To promote greening, especially the planting of indigenous trees that are becoming scarce, the concept of the trees of the year was born some years ago. Two trees are selected – a rare and a common species. The common tree of the year for 2019 is *Sclerocarya birrea* (marula) and the rare tree of the year is *Philenoptera violacea* (Apple-leaf).

Arbor City Awards

The National Arbor City Awards are greening competitions that take place in line with the national greening strategy. It is a partnership programme between the DAFF, Total South Africa and the Institute for Environment and Recreation Management (IERM). The competition is sponsored by Total South Africa.

The purpose of the competition is to encourage municipalities to green their areas of jurisdiction and promote environmental conservation and development, thereby securing a healthy living environment for residents in all settlement areas. It provides incentives and rewards to municipalities that are doing

their best in terms of greening and landscape management, especially in townships and new settlement areas.

The competition further encourages the municipalities to create awareness around the importance of green landscapes and provide a platform for the diagnosis of challenges facing municipalities in the area of greening.

There are three categories – metropolitan municipalities, local municipalities and rural-based municipalities. For each category the winner receives prize money to promote greening in their area.

Champion Tree Project

The purpose of the Champion Tree Project is to identify and protect trees that are of national importance and worthy of special protection, due to their remarkable size, age, aesthetic, cultural, historic or tourism value. Similar projects have been established in several other countries, but this is the first of its kind in Africa.

Nomination forms with guidelines for the nomination process are available from the DAFF.

Since the start of the project in 2003, 86 trees or groups of trees have been declared by the department as champion trees, based on criteria such as size, age and historical value. These trees are all protected under the National Forests Act of 1998. They include the Tsitsikamma Big Tree along the Garden Route, the post office milkwood tree of Mossel Bay, the Sagole baobab in Limpopo and camphor trees planted at Vergelegen Estate in the Western Cape three centuries ago. The Sagole baobab has the second biggest trunk in the world, while a stand of saligna gum trees planted in 1906 near Tzaneen in Limpopo are the tallest trees in Africa.

A few champion trees have died since the launch of the project, including the Platland Baobab in Limpopo, which collapsed in 2017. In Cape Town, the Tokai Arboretum was damaged by fire, and extensive work had to be undertaken by arborists to fell dead trees and prune or treat others.

The Adopt a Champion Tree project initiated by Aurecon assisted with the development of a visitor's site to a champion tree in the Eastern Cape, and the treatment of a diseased champion oak tree in Gauteng. Through the DAFF-Aurecon

partnership, a number of information boards have been erected, and launch events have been held at some newly proclaimed trees, such as the Whisper Tree in Albertinia, Western Cape.

Some exciting new discoveries of remarkable trees have been made. The latest list of proposed champion trees, published for comment before final declaration, includes a baobab near Tshipise in Limpopo which appears to have the third thickest trunk in the world.

The oldest planted tree in South Africa is a saffron pear, brought from the Netherlands and planted in the Dutch East India Company's gardens in Cape Town more than three centuries ago, supposedly by Jan van Riebeeck. Historic trees include a poplar tree, which served as a landmark for refugees during the apartheid regime who found a safe haven in the Johannesburg house of Ruth Fischer, the daughter of Bram Fischer, who was a founding member of the South African Communist Party.

In 2015 a new record-breaking tree was discovered in an old tree lane in the Boschendal wine estate. This karri gum tree of 50.4 m tall has a massive crown and a trunk circumference of over 8 m, and is now officially the largest tree in South Africa.

A group of international and local tree climbers has visited and climbed the champion trees around the country, contributing to more accurate height measurements, and installing nesting boxes for the rare Cape parrot in some of the large champion trees that occur in natural forests.

All the trees were also visited by a professional photographer, to create a proper photographic record of the trees.

Million Trees Programme

The Million Trees Programme was launched in 2007 as part of a UN greening initiative to encourage countries worldwide to plant more trees. Its purpose is to ensure that at least one million trees, including fruit trees and indigenous ornamental shade trees, are planted every year in various member states of the United Nations.

In South Africa, the Million Trees Programme is a partnership between the three spheres of government, non-governmental and community-based organisations, schools and the corporate sector.

It is part of the South African contribution to the UN Environment Programme "Plant for the Planet: Billion Tree Campaign", where communities, industry, civil society organisations and governments are encouraged to plant at least one billion trees worldwide.

Resources

Sustainable forest management

Forest products contribute about R34.5 billion to the economy – about 0.6% of the GDP. Export value increased by 13%, from R26 to R29 billion. This is underpinned by 1.2 million hectares of well-developed plantation forestry.

The forestry industry is at continuous risks from fire, pests, diseases and drought. Forestry has also been impacted negatively by drought. This calls for more efficient usage of water. A report by the Western Cape Department of Agriculture with the Bureau for Food and Agricultural Policy estimates that the impact of the drought equates to an average production decline of about 20%.

In an effort to address the issue of competing land use between agriculture and forestry, the department developed a strategy on agro-forestry. Agro-forestry is a practice that integrates forestry and agriculture on the same piece of land with social, economic and environmental benefits. This strategy will ensure household food security and increase the country's fibre.

Forestry is one of the sectors that have a huge potential for job creation while ensuring the sustainable use of natural resources. Through the EPWP in the environment and culture sectors, the department has managed to create 720 temporary and 211 permanent jobs. The interventions are intended to enhance the resilience of agricultural and food production systems; contribute to the reduction of the greenhouse gas emissions; intensify agricultural and forestry production while safeguarding food security and creating job opportunities.

There are three categories of forests in South Africa, namely indigenous forests, woodlands and plantation forests. Natural indigenous forests cover approximately half a million ha of land in total, plantation forestry covers less than 1.3 million ha and the woodlands collectively cover approximately 38 million ha.

Forestry activities in indigenous forests and woodlands are not limited to the protection of the resource as a natural heritage, but include its development, use and management, as well as the management and processing of non-timber forest products.

Plantation forestry practices include, among other things, the establishment of vast areas of land with exotic tree species that are harvested and processed into pulp for the paper and packaging industries; sawn timber for the production of structural and industrial timber used in the construction industry; poles for telephone and electricity supply; and mining timber for use as underground support structures in primarily the gold and platinum mining sectors. The balance of other timber produced is used for a variety of products such as charcoal and match manufacture.

Although large forestry companies do not own all the certified forests, having their own specialist environmental departments has helped the rapid expansion of certification, as they ensure that land is managed according to their own stringent environmental codes of practice. Being FSC certified means that a forest, or supply chain, is managed responsibly and complies with environmental, social, and economic standards.

There has been an increase in the number of non-corporate growers who have become certified. This may be attributed to factors such as the FSC's acceptance of group-certification schemes and the availability of local FSC auditors, both of which have reduced the cost of certification considerably.

The introduction of small, low-intensity managed forest audits enables small and community forestry schemes to be FSC-certified.

Indigenous forests

Only about 0.5% of South Africa's total land area is covered by natural forests. About half of the more than 1 700 indigenous tree and shrub species, representing some 530 000 ha of dense growth, grow along the south and east coasts and on the southern and south-eastern slopes of inland mountains. The other half is spread over the interior plateaux in isolated valleys and ravines.

A number of these natural forest regions, such as the Tsitsikamma National Park, are important tourist attractions.

The large Afro-temperate forests of the southern Cape, although distributed close to the coast, are aligned with the inland forest types of the Eastern Cape, KwaZulu-Natal, Mpumalanga and Limpopo. This is because the southerly temperate latitudes compensate for the altitude of inland forests.

Almost half of all natural forests in South Africa are found on private property or land under communal tenure. A detailed inventory of natural forests helps government to monitor changes in forest areas.

Although the country's low natural forest coverage has led to the development of the commercial forestry sector over the last 100 years, natural forests have continued playing a major role in the livelihoods and well-being of many rural communities. The use of natural forests as sources of building material, fuel wood, 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 forests.

The forest-type classification for natural forests represents 24 broad forest types. The Natural Forests Protected Areas System guides the setting aside and demarcation of natural forests as protected areas.

Systematic timber harvesting occurs in certain areas of southern Cape forests and on a smaller scale, in the Amathole forests in the Eastern Cape. This sustainable harvesting system concentrates on the removal of small quantities of senile trees dying off within the forest. On average, 3 750 m³ of round logs are harvested annually (150 m³ of stinkwood, 750 m³ of yellowwood, 2 500 m³ of Australian blackwood and 350 m³ of other species).

The seven-week fern (*Rumohra adiantiformis*), harvested in the Knysna and Tsitsikamma forests, is another valuable product of indigenous forests. The South African market for this fern is considerable and reaches its peak in September, when sales have been known to exceed 420 000 bunches.

Woodlands

The woodlands, also known as savannahs, constitute a forest resource of major importance in South Africa. It is the most accessible forest resource for poor communities and contributes in the region of R2 000 to R5 000 to poor households

annually. Natural forests cover less than one million ha of land in total, plantation forestry covers less than 1.3 million ha and the woodlands collectively cover between 29 million and 46 million ha.

The cover includes extensive areas in the low-lying, drier areas of Limpopo, KwaZulu-Natal and Mpumalanga. Rich biodiversity is found in savannah woodland comprising 5 900 plants, 540 bird species and 175 mammals.

These include iconic species such as the Big Five group of mammals that are important to the tourism industry. Several protected tree species of the savannah, such as camel thorn and leadwood, contribute substantially to the lucrative braai wood market, and guidelines have been set for licensing processes to assist with the control of their use.

Kathu Forest in the Northern Cape is the first woodland area to be declared protected woodland under the National Forests Act of 1998.

In the past, this resource was not really recognised as a forestry responsibility, except where woodland occurred on state-forest land in conservation areas. However, the National Forestry Action Programme of 1997 identified woodland management as a key area of operation for forestry.

The New Forests Act of 1998 also includes woodland in its definition of forests and mandates monitoring and reporting on the state of the woodlands. This legislation protects woodlands on private and communal land, as well as in state forests, while promoting sustainable use.

Savannah woodlands are the most extensive vegetation type in southern Africa and dominate Africa as a whole. Globally, woodlands cover between an eighth and a sixth of the Earth's land surface.

The woodlands are a valuable source of fuel, building material, craft timber and a variety of non-timber products. These include fruit, fodder, medicinal compounds, honey, meat and mushrooms. They form the backbone of the livelihoods of millions of people. The annual marula fruit (*Sclerocarya birrea*) harvest, for example, is worth some R1.1 billion a year to rural communities.

There are 87 savannah woodland types, and although the biome as a whole is fairly well protected in formal and private

reserves, many underprotected savannah types have been identified.

Another woodland type is the Albany thicket biome, characterised by dense growth of woody and succulent plant species. There are 13 thicket types, which together cover about three million ha. Extensive spekboom plantings are underway in the Eastern Cape to restore the carrying capacity of degraded thicket areas, and to capitalise on the high carbon sequestration rates of this species as a climate change offset.

Commercial forests

Commercial forest plantations predominantly meet South Africa's demand for wood. During the 1930s, government started extensive commercial plantations to make South Africa self-sufficient in its timber requirements, and to provide more job opportunities.

Commercial plantations of exotic species proved to be a sound investment and the private sector established large plantations of pine, eucalyptus and wattle. South Africa's plantation forests cover about 1% of the combined cultivated (arable) and grazing land.

The commercial forestry industry in South Africa is committed to practising sustainable forest management and is a world leader in forest certification. Stringent environmental codes of practice are implemented in all plantation and processing activities.

The Institute for Commercial Forestry Research (ICFR) completed its role in developing the National Forest Protection Strategy for the DAFF, a project funded by the FAO of the UN.

Another development which will assist in enhancing forest protection is the memorandum of understanding, formalising FSA's support and funding for these activities at the Forestry and Agriculture Biotechnical Institute, which has been entered into with the University of Pretoria.

The FAO and DAFF approved the National Forest Protection Strategy, which includes forest-fire related matters. Once fully implemented, the strategy is expected to provide the industry with additional resources and enhance the coordination of responses to combat forest fires.

Plantation yields

South Africa's intensively managed commercial forestry plantations are recognised as some of the most productive in the world. Consequently, from a limited geographic footprint of 1.2 million ha, the industry can produce, on a sustainable and annual basis, between 15 and 18 million tons of timber a year.

Sappi Forests supplies over 70% of the wood requirements of Sappi Southern Africa from both its own and committed commercial timber plantations covering 492 000 ha. This equates to approximately 30 Mt of standing timber.

The Lomati Sawmill produces 102 000 m³ per year of sawn timber for the construction and furniture manufacturing industry.

All wood grown on Sappi-owned land and a large proportion grown on plantations managed by the company, is FSC certified.

Approximately 150 000 ha of land is set aside and maintained by Sappi Forests to conserve the natural habitat and biodiversity found there, including indigenous forests and wetlands.

The timber is used in wood products such as roof trusses. It is also pulped, with the wood fibre used for newspapers, boxes, paper bags and paper.

According to the latest production figures, pulpwood production at 11,8 Mt was the highest, representing 66,1% of total production. Sawlog production was 4,8 Mt (26,1% of total). Mining-timber production of 557 000 tons and other products such as poles and charcoal at 711 600 tons made up the balance.

Socio-economic reform and growth

The forestry vision states that forests are managed for people and that there is a need to create an enabling environment for economic and social development through sustainable forestry, especially at local level.

Strategies to achieve this vision include forestry enterprise development, aimed at creating opportunities for people to use forests, including indigenous forests, woodlands and plantations, and forest-based resources for economic growth, income-generation and job creation.

The forestry enterprise development concept is central to government's pro-poor agenda and also a key component of Broad-Based Black Economic Empowerment (BBBEE) in the forestry sector.

BBBEE Charter

The BBBEE Charter process is one of many government strategies aimed at transforming the economy. The formulation and implementation of BEE programmes at different levels and in different sectors of the economy include partnerships between government and the private sector, including trade unions and community-based organisations.

The BBBEE Charter for the forestry sector will be instrumental in achieving objectives such as increasing the number of black people, particularly women, who own, manage and control enterprises and productive assets; and facilitating ownership and management of enterprise and productive assets by communities, workers, cooperatives and other collective enterprises.

Under the charter, Government aims to process about 15 000 ha of water-use licence applications a year over 10 years to obtain a net increase in afforested land of about 10 000 ha a year or 100 000 ha over the entire period.

Community forestry

Community forestry is designed and applied to meet local social, household and environmental needs and to benefit local economic development.

Community forestry is implemented by communities or with the participation of communities, and includes tree-centred projects in urban and rural areas, woodlots, and woodland being managed by communities and individuals.

Community forestry has gained impetus through more focused core functions, particularly in urban greening and forest enterprise development.

Participatory forest management of the DAFF is an integrated approach that contributes to achieving the sustainable management of South African forests.

Elements of participatory forest management were initially developed for indigenous state forests.

However, the aim is to use participatory forest management as an approach to managing all forest types, where feasible (indigenous forests, plantations, woodlots and woodlands) and where different types of ownership and management (State, provincial, communal, private and community) exist.

Fisheries

The DAFF is tasked with managing the development and sustainable use of marine and coastal resources; maximising the economic potential of the fisheries sector; and protecting the integrity and quality of the country's marine and coastal ecosystems.

The South African coastline covers more than 3 000 km, linking the east and west coasts of Africa. These shores are particularly rich in biodiversity, with some 10 000 species of marine plants and animals recorded.

The productive waters of the West Coast support a variety of commercially exploited marine life, including hake, anchovy, sardine, horse mackerel, tuna, snoek, rock lobster and abalone.

On the east coast, squid, linefish and a wide range of intertidal resources provide an important source of food and livelihood for coastal communities.

Marine life that is not harvested, such as whales, dolphins and seabirds, is increasingly recognised as a valuable resource for nature-based tourism.

The main challenge in fisheries is to create a balance between maximising the social and economic potential of the fisheries industry, protecting the integrity and quality of the country's marine and coastal ecosystems, and addressing transformation in the sector.

In line with international trends, the department recognises fisheries as an economic activity rather than a purely environmental or biodiversity matter.

Government has expanded the mandate for fisheries management by adding fresh-water and inland fisheries, as well as aquaculture, to the department's existing responsibilities.

The department will gradually establish offices of the fisheries branch in coastal, as well as inland provinces. These are economic decisions, which contribute to employment creation and poverty alleviation.

The fisheries sector contributes roughly 0.1% to the GDP, which is small even by the standards of agriculture. However, it is more important for economic development in the Western Cape where 11 of the 13 proclaimed fishing harbours are situated. These contribute more the 5% to Gross Provincial Domestic Product.

The total output is estimated at 600 000 t worth about R6 billion, depending on the pelagic catch of pilchards and anchovy, which could be as much as 600 000 t.

It is estimated that the direct employment in the industry constitutes approximately 27 000 jobs (16 000 in the primary sector and 11 000 in the secondary and tertiary sectors), while an additional 81 000 people are indirectly (net building, bait preparing, among others.) employed in industries that are at least partially dependent on the fishing sector (figures based on industry estimates and the Total Allowable Catch and Total Allowable Effort, calculated as a function of tonnage).

Fisheries output is determined by catch volumes, which in turn depends on the health and management of fish stocks, varying according to ecological changes and subjected to overexploitation through illegal, unreported and unregulated fishing activities.

Inshore species are especially vulnerable to stock depletion, as they are easily accessed, especially illegally. According to one study, 68% of commercial line fish stocks have collapsed and another 11% are overexploited.

The DAFF seeks to prevent overexploitation by means of assigning Total Allowable Catch and Total Allowable Effort per species, which are adjusted regularly depending on the estimated state of the resource. The DAFF has also sought to promote transformation in the sector through inclusion of small-scale fishing communities. The Marine Living Resources Amendment Act of 2014 grant small-scale fishing communities better access to fishing rights and resources.

The small-scale fishing sector was expected to directly benefit approximately 30 000 people from coastal communities and is expected to transform the entire fishing industry. This sector is designed to address food security needs within the local community, and allow fishers to derive maximum benefit through value-adding of products and accessing markets.

The effective management of the existing harbours and proclamation of additional new harbours support resource management.

Although wild catch fisheries appear unlikely to expand beyond their present levels, aquaculture is becoming more important as a substitute for wild capture fisheries.

South Africa, under the leadership of DAFF, has acceded to the Indian Ocean Tuna Commission and the Commission for the Conservation of Southern Bluefin Tuna, thereby allowing the country greater influence in negotiating for increased tuna quota allocations and access.

The associated benefits has resulted in the immediate increase in the allocation of Southern Bluefin Tuna from 150 t to 450 t until 2020.

Working for Fisheries Programme

The Working for Fisheries Programme serves to render a programme management support function to the DAFF Branch Fisheries. The main objective of the programme is to contribute towards poverty alleviation through interventions that are public-driven, while advancing the mandates of the DAFF and the EPWP's environment and culture sector to provide work opportunities and income support to poor and unemployed people.

The programme, through the implementation of projects, aims to contribute towards the alleviation of poverty, while empowering beneficiaries to participate in the mainstream fishing economy in a manner that aligns the programme and projects to government outcomes.

The programme focuses on supporting three key directorates within the department in terms of both mandate and the projects funded. These directorates are:

- Aquaculture and Economic Development
- Monitoring, Control and Surveillance
- Marine Resource Management.

Small-scale fisheries sector

To establish the small scale fisheries sector, the DAFF conducts a series of training programmes with small scale fisheries cooperatives.

Following the completion of the cooperative training programme, the official registration of the cooperatives will be finalised and rights allocated.

The training programme includes understanding what a cooperative model is, how to run and manage cooperatives successfully and how to register cooperatives among others.

The sector is aimed at redressing the inequality suffered by coastal fishing communities which, as a result of unintended consequences, have remained marginalised through previous rights allocation systems. Furthermore, the establishment of the small-scale sector seeks to empower small-scale fishers to contribute meaningfully to the national GDP and to play a meaningful role in food security and job creation.

This process is informed by the Marine Living Resources Act of 1998 and the regulations thereof which was amended to legally recognise small-scale fishers who have been living in coastal communities and depending on fishing and its related activities as a source of livelihood.

The small-scale fisheries regulations, along with the Marine Living Resources Amendment Act of 2014 provide the legal mechanism for the implementation of the small-scale fisheries policy. These reforms give legal recognition to small-scale fishers and will promote the transformation of the subsector to assist fishing communities living along the coastal areas in creating sustainable livelihoods, generating income and creating jobs.

The ABALOB app is an empowerment tool for small-scale fishers which they can use to engage in a range of activities that enable them to participate fully, equitably and effectively in the fishing value chain. This initiative consists of a series of mobile applications, allowing fishers to log their catch, communicate within the community.

ABALOB has pilot sites in five fishing communities in the Western Cape, with over 200 fishers participating. Currently, there are over 120 top restaurants sourcing fish directly from small-scale fishers through the ABALOB MARKETPLACE app. This cut out middlemen and significantly increased a fairer price for fish sold by small-scale fishers.

The ABALOB app initiative is directly in line with the current establishment of the small-scale fisheries sector with about 11 000 small-scale fishers from the four coastal provinces of our country.

Industry and products

South Africa is among the global fishing nations that have identified the challenges within their fishing industry. With 22

commercial fisheries sectors and new fisheries being explored and experimented with, South Africa has two fisheries sector components.

Wild capture fisheries include three distinct components, namely commercial, recreational and subsistence fisheries, each of which requires specific research and management interventions.

The aquaculture (fish farming) sector is considered underdeveloped and as a result, has been prioritised, owing to declining wild stocks.

Legislation and policies

The Small-Scale Fisheries Policy seeks to address imbalances of the past and ensure that small-scale fishers are accommodated and properly managed. For the first time, fishing rights can be allocated on a group, rather than an individual. The policy further aims to support investment in community entities to take joint responsibility for sustainably managing the fisheries resources and to address the depletion of critical fisheries stocks.

Resource management

The department increased its capacity to combat illegal, unregulated and unreported fishing, and launched an anti-poaching project in the Western Cape, funded through the WfFP.

This enabled the department to deploy 60 military veterans in the Overberg region to serve as the “eyes and ears” of government.

The fishing sector comprises large-scale operators and small-scale and recreational fishers.

According to a recent UN report, more than two-thirds of the world’s fisheries have been overfished or are fully harvested, and more than one third is in a state of decline, owing to the loss of fish habitats, soaring pollution levels in oceans and rivers and climate change.

According to the report, abalone stocks remain in a depleted to heavily depleted state as the resources continue to decline, due to increasing levels of poaching and ecological factors.

Meanwhile, line fish resources range from heavily depleted to optimal states, depending on species.

There are, however, signs of a positive response by some species to the emergency management measures implemented in 2000.

Given the low population sizes of many line fish species, however, present management measures are expected to assist in allowing stock to increase.

Under the operational management procedure, the West Coast rock lobster is showing signs of recovery.

Deep-water hake remains depleted. However, its status is improving, whereas shallow-water hake is considered optimal to abundant.

The implementation of precautionary management approaches to hake fisheries in recent years has resulted in a faster than anticipated recovery of deep-water hake.

Harders, which are the main target of the beach-seine and gillnet fisheries, remain in a depleted to heavily depleted state.

Environmental anomalies and illegal netting have affected the recruitment of the species in recent years.

The abundance of Agulhas sole has remained relatively constant over the past 15 years, while Cape horse mackerel numbers have grown in recent years, due to good recruitment, and the stock is considered to be in an optimal state.

The anchovy stock is at the lowest level observed in the past 15 years, but sardine and round herring stocks continue to increase.

In South Africa, the fisheries sector is worth around R6 billion a year and directly employs some 27 000 people in the commercial sector. Thousands more and their families depend on these resources for food and the basic needs of life.

The total allowable catch apportioned for the subsistence (small-scale/interim relief) subsector, is set at 276 t (138 kg per fisher).

The apportionment for the recreational fishing subsector remains unchanged at four West Coast rock lobsters per person per day for the duration of the fishing season.

The size restriction remains at 80 mm carapace length and recreational fishing permits will only be issued to persons above the age of 12 years. Any West Coast rock lobster caught, collected or transported shall be kept in a whole state.

West Coast rock lobster caught with a recreational permit may not be sold.

Recreational West Coast rock lobster permits are obtainable at the Post Office, at a cost of R94 per permit and are valid for the entire recreational fishing season.

The International Commission for the Conservation of Atlantic Tunas (ICCAT) is responsible for the management of tuna and tuna-like species in the Atlantic Ocean and Mediterranean Sea.

South Africa’s strategic intent with participating in the ICCAT is to ensure long-term fishing access in the Atlantic Ocean for South African fishing companies in the tuna pole fisheries and the developing large pelagic fisheries.

Access to the Atlantic Ocean is essential for encouraging future investment in the tuna and swordfish fisheries, to create the enabling environment for these fisheries to develop.

The ICCAT will benefit South Africa with management activities, including collating fisheries data, guiding research, conducting stock assessments, establishing management and conservation measures and issuing country quotas.

Aquaculture

Aquaculture incorporates the breeding, trading or rearing of aquatic organisms in a controlled or selected aquatic environment for recreational, commercial or subsistence purposes. It is divided into fresh-water culture and mariculture.

Species farmed in the latter include dusky kob, abalone, Pacific oysters, Mediterranean mussels and black mussels, among others. According to the National Aquaculture Strategic Framework, the sector is relatively small and the government wants to create a climate in which it can grow.

Special attention will be paid to freshwater aquaculture, as it has shown growth potential.

Government will also boost investments in research, development technology, transfer and extension, as well as education and training programmes in aquaculture.

The Agriculture Development Enhancement Programme, which offers cost-sharing grants of R40 million per company, aims to create more jobs in the sector. The grants will be made available for machinery, equipment, infrastructure, commercial vehicles and work boats, in pursuit of boosting competition in the industry.

Abalone fishing is severely restricted in South African waters, however, poaching is rife, as it is a lucrative trade.

Poaching has caused the decline in abalone numbers over the years. The species is highly coveted and fetches high prices, especially in the Far East.

The National Aquaculture Policy Framework was developed against the backdrop of a global aquaculture sector that has seen an increased demand for fishery products.

The policy provides a unified framework for the establishment and development of an industry that contributes towards sustainable job creation and increased investment.

In order to create an enabling legislative environment to promote sustainable aquaculture sector growth, the first dedicated aquaculture legislation, the Aquaculture Development Bill, was developed to address the current fragmented regulations and red tape. The Bill has gone through all relevant processes and public participation and is now with Parliament.

The department has also commenced with the process of developing a 'National Freshwater (Inland) Wild Capture Fisheries' policy which seeks to create an efficient regulatory regime for the inland fisheries sector that will promote sustainable growth and transformation of the sector.

In South Africa, marine and freshwater aquaculture presents a good opportunity to diversify fish production to satisfy local demand; contribute to food security, job creation, economic development and rural development; and improve export opportunities.

Aquaculture has been given a boost through its inclusion in the Oceans Economy Operation Phakisa. While the marine-based "mariculture" part of aquaculture has been around for some years, focusing on species such as abalone, oysters and mussels, freshwater aquaculture is experiencing a rapid expansion, owing in part to Government's multipronged aquaculture promotion campaign.

Globally, wild fish stocks have been dwindling, growing at a modest 1% per annum, while aquaculture has grown by 7% and accounts for 44% of the global fish production. Therefore, aquaculture is seen as a quick win for growing the oceans economy.

While the marine-based "mariculture" part of aquaculture has been around for some years, focusing on species such as abalone, oysters and mussels, freshwater aquaculture is experiencing a rapid expansion, owing in part to Government's multipronged aquaculture promotion campaign.

Aquaculture has been included in the Oceans Economy Operation Phakisa. The number of Operation Phakisa projects has increased from 24 to 35. These projects have committed to increase production in the sector from 5 000 to 25 000 t, create over 3 000 additional jobs and increase GDP contribution by over R1 billion per annum.

The aquaculture sector has unlocked investments of more than R400 million across 10 aquaculture farms, which are already in production. The community in Hamburg in the Eastern Cape has seen its first harvest of dusky kob and the Siyazama Aquaculture Cooperative in Hamburg sold its first harvest of dusky kob to the Cape Town Fish Market at the V&A Waterfront.

In the Eastern Cape and Northern Cape, the department is looking at establishing multispecies hatcheries that will support community based aquaculture farms, stock enhancement and skills development.

The hatcheries will supply seed and fingerlings and provide training for the local community. To promote transformation of the sector and to ensure support for small scale and rural aquaculture enterprises, DAFF is developing a small scale aquaculture model and transformation strategy. To create an enabling environment, DAFF is implementing Aquaculture Development Zones.

Since the Gariiep Aquaculture Training Centre was officially handed over to South Africa in June 2017, 236 potential farmers and government officials were trained and the aim is to broaden it to SADC countries.

Recreational fishing

While the illegal harvesting of abalone poses the greatest threat to management objectives, the DAFF will continue to work with all stakeholders in the abalone sector and continue to strengthen partnerships with other law-enforcement agencies and communities to ensure that the country grows and protects its resources.

South Africa's extensive coastline spanning two oceans and its numerous dams, lakes, rivers and streams, make the country a recreational fisher's paradise. However, recreational fishing may only be undertaken with a valid permit, and is limited to certain times of the fishing season.

To reduce user conflicts between commercial and recreational fishing, and to, protect stocks during breeding periods, certain areas have been declared closed areas.

Recreational fishers are also subject to bag limits of fish on a per-day basis.

Annual recreational fishing licences in all industries total about 300 000, with income generated from these licences amounting to R18 million. The actual annual catch is about 17 000 t of high-value species.

World Fisheries Day

South Africa celebrates World Fisheries Day every year on 21 November with fishing communities throughout the world.

The World Fisheries Day helps in highlighting the critical importance to human lives, of water and the lives it sustains, both in and out of water.

World Soil Day

World Soil Day is observed and celebrated every year on 5 December by all UN member states, organisations of the UN system and other international and regional organisations, civil society, non-governmental organisations and individuals to emphasise the importance of soil.