2016/17 SOUTH AFRICA YEARBOOK

AGRICULTURE

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.

The mandate of the Department of Agriculture, Forestry and Fisheries (DAFF) includes value chains, inputs, production and consumption in the agriculture, forestry and fishery sectors.

Over the medium term, the DAFF will focus on improving food security, creating decent jobs, and sustainably increasing the contribution of the agriculture, forestry and fisheries sectors to the gross domestic product.

By pursuing these objectives, the department contributes to the realisation of the goal of the National Development Plan (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 DAFF's main functions are:

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

Legislation and frameworks

Some of the legislation of the DAFF include:

- The Veterinary and Para-Veterinary Act, 1962 (Act 71 of 1962), as amended in 2012, 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 Fertiliser and 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.
- Consultation regarding the Plant Breeders' Rights Amendment Bill was underway to replace the Plant Breeders' Rights Act, 1976 (Act 15 of 1976). The Bill aims to strengthen the protection of intellectual property rights relevant to new plant varieties, which in turn positively impacts on the competitiveness of South Africa's agricultural sector.
- The Genetically Modified (GM) Organisms Act, 1997 (Act 15 of 1997) provides for the regulation of GM activities in South Africa, and states that biosafety assessments should be conducted for every proposed GM activity.

- 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 Control of Markets in Rural Areas Ordinance, 1965 (Ordinance 38 of 1965).
- The Problem Animals Control Ordinance, 1978 (Ordinance 14 of 1978).
- The Livestock Brands Act, 1962 (Act 87 of 1962) regulates the registration of a brand in the name of an owner of livestock for the purpose of identifying the livestock.
- The Agricultural Credit Act, 1966 (Act 28 of 1966) provides for a system of assistance to people or undertaking to farming operations, and for control in respect of assistance rendered.
- The Subdivision of Agricultural Land Act, 1970 (Act 70 of 1970) regulates the subdivision of agricultural land and its use for purposes other than agriculture.
- The Plant Improvement Act, 1976 (Act 53 of 1976) provides for the registration of establishments where plants and propagation material are sold and packed, for the introduction of schemes for the certification of certain propagation material, for the requirements to which plants and propagation material sold for the purposes of cultivation must conform and for quality control over plants and propagation material imported or exported.
- The Livestock Improvement Act, 1977 (Act 25 of 1977) regulates the collection and sale of semen and ova and the artificial insemination and inovulation of certain animals, the establishment of a system for the evaluation and certification of the performance of certain animals quality control regarding the importation and exportation of certain animals, semen, ova and eggs the incorporation of livestock breeders' societies and the maintenance of the legal personality of livestock breeders' societies and the granting of certain exclusive powers relating to the registration of pedigrees of certain livestock.
- The Co-Operatives Act, 1981 (Act 91 of 1981) regulates the formation, registration, management and functioning of various types 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 (OBP) 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.

Budget and funding

The DAFF's total budget for 2016/17 was R6,333 billion, of which R3,292 billion was ring-fenced for transfers of conditional and parliamentary grants:

In addition, R788,1 million of the budget was allocated to Administration. This division of the budget reflects the alignment of the department's budget to strategic priorities.

The Comprehensive Agricultural Support Programme (CASP) received an additional allocation of R1.642 billion, of which R1,148 billion was directly support farmers with infrastructure, production inputs, training and capacity-building that includes the South African Good Agricultural Practices certification.

A R346 million budget was to go towards strengthening extension services, R70,8 million was to be used to revitalise colleges of agriculture and R76,6 million was meant for recovery work of flood disasters.

Over the medium term, the department plans to support around 435 000 subsistence 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 R5,3 billion 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 farmers 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.

Improving food security

The DAFF promotes food 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
- Ilima/Letsema projects grant, which provides production inputs to subsistence and smallholder farmers

Creating jobs

The DAFF plans to support the production of commodities such as red meat, poultry, fruit, vegetables, wine and wheat.

This is expected to contribute to job creation, food security, growth and the export-import trade balance.

To contribute to the creation of 60 000 job opportunities over the medium term, the department plans to spend more than R1,7 billion on the Ilima/Letsema projects grant, which is transferred to provinces for food production initiatives.

The department's LandCare programme grant promotes sustainable land and soil management practices, and the prevention of land degradation and desertification in rural areas, thereby contributing to job creation through the establishment of more arable farmland.

Over the medium term, the programme is projected to create 4 725 local jobs through refurbishing forested and deforested plantations; as well as 2 400 full-time-equivalent local jobs through rehabilitating 48 900 hectares (ha) of land by reducing the spread of invasive alien plants, erecting fencing and protecting agricultural land from degradation.

About R233,7 million will be allocated towards the LandCare programme grant over the medium term.

The oceans economy Operation Phakisa is expected to increase the production of fish from 4 000 tonnes per year to 20 000 tonnes per year, over the medium term. This is expected to create 2 500 direct new jobs and 15 000 jobs in the fisheries value chain by 2020.

Over the medium term, the DAFF will spend R121 million in the Aquaculture subprogramme in the Fisheries programme to support Operation Phakisa initiatives.

An additional 1 674 jobs in the fisheries sector are expected to be created over the medium term, in the expanded public works programme through the Working for Fisheries project, which is implemented by the Marine Living Resources Fund.

An additional amount of R29,7 million over the period has been allocated to support this.

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)
- a rapidly evolving policy and production environment
- transformation of the agriculture, forestry and fisheries sectors has been slow and tentative.

Based on this analysis of the various 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 offered in the Agriculture, Forestry and Fisheries Strategic Framework into tangible, concrete steps.

The Agriculture, Forestry and Fisheries Strategic Framework identifies four broad sector goals:

- equitable growth and competitiveness
- equity and transformation
- environmental sustainability
- 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/ interventions).

The APAP, which was approved by Cabinet in March 2015, 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 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 and South Africa's role in the national and international economy

Agriculture is a catalyst for economic growth and the current contribution of the sector towards the gross domestic product (GDP) of about 2,5% is far below the capacity of the sector. The sector contributes another 12% to the GDP through value added from related manufacturing and processing.

The share of agriculture, forestry and fisheries products of the total South African trade is approximately 12% and South Africa remains in a positive trade balance.

The estimated value of imports for 2015/16 came to R76 511 million, an increase of 22,1% from R62 648 million for 2014/15. The value of exports increased by 0,2%, from R82 839 million in 2014/15 to R83 022 million in 2015/16.

According to the 2015/16 export values, citrus fruit (R12 565 million), wine (R8 036 million), grapes (R6 584 million), apples, pears and quinces (R6 255 million) and maize (R3 467 million), were the most important agricultural export products.

Wheat and meslin (R6 373 million), maize (R5 997 million), rice (R5 607 million), meat (R5 227 million) and undenatured ethyl alcohol (R3 903 million) accounted for the highest imports in terms of value.

During 2015/16, the Netherlands, with exports to the value of R8 615 million, the United Kingdom (UK) (R7 714 million), Mozambique (R6 021 million), Zimbabwe (R5 116 million) and China (R3 946 million) were the five largest trading partners of South Africa in terms of export destinations for agricultural products. About 19,7% of the total value of agricultural exports from South Africa for the period July 2015 to June 2016 went to the Netherlands and the UK, combined.

The five largest trading partners for South Africa's imported agricultural products during 2015/16 were Argentina (R8 841 million), Brazil (R5 008 million), the UK (R4 340 million), the Netherlands (R3 990 million) and the US (R3 653 million). About 18.1% of the total value of agricultural imports by South Africa during the period July 2015 to June 2016 was from Argentina and the UK, combined.

Agriculture, forestry and fisheries exports value has increased and South Africa remains in a positive trade balance. The value of agriculture, forestry and fisheries exports increased from R135 billion in 2014 to R144 billion in 2015. In the same period, the department's exports into other African countries increased from R59 billion to R62 billion and into Asia from R34.5 billion to R37,1 billion. The conclusion of the European Union (EU) Economic Partnership Agreement provided increased quota access for a number of existing and new products such as wine and sugar.

The DAFF will continue to focus on increasing intra-African trade and other global trade opportunities. The largest subsector

in the agriculture, forestry and fisheries' export basket in 2015, based on value, was fruit and nuts. The highest growth in the export of specific product within the agriculture, forestry and fisheries sector was paper and paper products with an increase of 94%.

The DAFF has continued to open new markets in 2014/15. A notable achievement in the Indonesian government's recognition of the competence of the department's food safety control measures. This comes after a protracted negotiation process between the technical teams of the two countries, which have eventually led to the opening of the Indonesian market to South African exporters.

This recognition was granted in respect of 15 exported agricultural commodities including deciduous fruit, citrus fruit, grapes and nuts. The South African exporters will be allowed to use the Port of Jarkata, Tanjung Priok Port, which is closer to the main Jarkata market thus reducing transport costs and preventing quality loss.

This recognition will be in place for two years, beginning from 11 April 2016 to 10 April 2018 and will offer the necessary guarantees in terms of market access for the listed commodities.

Farming income

Gross farming income from all agricultural products for the year ended 31 December 2016 increased by 12,7% and was estimated at R259 620 million, compared to R230 306 million of the previous year. This was a result of the increase in gross income from horticultural products by 20,9% (from R65 374 million to R79 043 million), field crops by 11,3% (from R51 227 million to R57 018 million) and animal products by 8,7% (from R113 705 million to R123 559 million).

Prices received by farmers for their agricultural products increased on average by 16,8%, while prices paid by farmers for farming requisites increased by 6% and this resulted in the domestic terms of trade strengthening by 9,5%, from 1,05 to 1,15.

The weighted average price of field crops increased by 33.9% as a result of the increase in prices of summer grains by 49%, dry beans by 21.9%, cotton by 21%, oilseeds by 18%, sugar cane by 17,3%, winter grains by 16,2%, hay by 10,6% and tobacco by 6,2%.

Prices of horticultural products increased by 19,6%, mainly because of the increase in prices of vegetables by 35,6%, fruit by 13.4% and viticulture by 5%.

Prices of animal products increased by 5.7% due to the increase in prices of pastoral products by 24.9%, slaughtered stock by 9,1%, milk by 7,9% and poultry meat by 1,3%.

The prices paid for farming requisites rose by 6%, compared to 3,6% in the previous year. Prices paid for tractors increased by 11,7%, building material by 8,2%, feeds by 7,1%, trucks by 6,3%, seeds by 6,1%, fencing material by 5,7%, packaging material and animal health and crop protection by 5,4% each, fuel by 4,7%, maintenance and repairs by 4% and fertilisers by 3%.

Net farming income increased substantially by 26,6% and was estimated to be R96 337 million for the period up to 31 December 2016, compared to R76 084 million in the previous period.

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

The Land Bank is a specialist agricultural bank guided by a government mandate to provide financial services to the commercial farming sector and agribusiness. It also makes available financial products to new entrants to agriculture from historically disadvantaged backgrounds.

The Land Bank contributed R40,9 billion on the GDP, which resulted in more than 23 975 job opportunities and more than 313 404 maintained jobs. As the drought continued in the 2015/16 production season, the Land Bank was already in negotiations with the Industrial Development Corporation (IDC) for a concessionary loan scheme to assist distressed farmers in the declared disaster areas.

A drought relief concessionary loan scheme was launched by the Land Bank in March 2016 priced at prime less 3%. This facility was meant to reduce the interest burden to ease the cash flow during the recovery years.

The Land Bank also participated in several drought forums led by stakeholders in agriculture to propose solutions to the DAFF.

Micro Agricultural Financial Institutions of South Africa (MAFISA)

MAFISA is a scheme that provides production loans to smallholder operators within the agriculture, forestry and fisheries sectors.

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 is under review so that it can also accommodate these two subsectors.

Loans are provided at 8% interest and accessed through a network of institutions accredited by the DAFF as retail intermediaries. Intermediaries submit monthly and quarterly reports to the department as part of its monitoring process. Regular workshops and inspection visits to intermediaries are also conducted.

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. Loans of up to R25 000 can be granted without security. Most of the loans disbursed are in respect of livestock, sugar cane and grain crops.

Agri South Africa (AgriSA)

AgriSA was established in 1904 as the South African Agricultural Union. It serves approximately 32 000 large and small commercial farmers.

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

AgriSA'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. AgriSA 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.

AgriSA 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 more than 29 000 farmers who are members of AgriSA 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. It is also responsible for programme content for an agricultural radio programme aired on Radio Sonder Grense (RSG).

Agriculture in South Africa remains an important sector despite its relatively small contribution to the GDP. The sector plays an important role in terms of job creation, especially in rural areas, but is also a foremost earner of foreign exchange.

Agriculture's prominent indirect role in the economy is a result of backward and forward linkages with other sectors. Purchases of intermediate goods and services form backward linkages with the manufacturing sector, while forward linkages are established through the supply of raw materials to industry.

Approximately 70% of agricultural output is used as intermediate products. Agriculture is therefore a crucial sector and a key driver of growth for the rest of the economy – a fact also acknowledged in policy-related documents such as the NDP: Vision 2030.

Essentially, the NDP entails that agriculture – both emerging and commercial – should still be afforded the opportunity to contribute optimally to economic growth, job creation, foreign-exchange earnings and development of the industrial sector within a safe and non-discriminatory environment. 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 (SAPS) 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)

NAFU was established in 1991 with the aim of creating a "home" for thousands of black farmers who had previously been excluded from the mainstream of agriculture. At the time of its formation, there was no farmer organisation operating at national level in South Africa. Between 1979 and 1991, the only organisation which attempted to address the needs of black farmers at national level was National African Federated Chamber of Commerce and Industry. This organisation eventually facilitated the formation of the NAFU.

NAFU is a mouthpiece of predominantly black smallholder farmers in South Africa. It strives to promote the interests of primarily black farmers who are largely a disproportionately disadvantaged farming community. NAFU therefore represents the aspirations of those who have been disadvantaged, neglected and marginalised.

The focus of NAFU has been on advocacy, and it has and continues to lobby for access to critical resources such as land, credit, information, extension and other support services. However, NAFU also played and continues to play a role in building the capacity and strength of its membership through the use of effective communication systems, training, improving management skills and exposing farming to the latest and most up-to-date production techniques.

The 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. AFASA, like any other organisation, is a collection of individuals who come together for a common purpose.

The DAFF is expected to support smallholder farmers through conditional grants such as the CASP, the LandCare Programme, the Ilima/Letsema Programme, as well as the mobilisation of farmers, women and youth into agricultural co-operatives.

Veterinary services

Veterinary public health and food safety aspects, in relation to animal products, remain a priority and are receiving increasing attention. The DAFF has set aside R100 million for the Primary Animal Health Care Programme. Special attention is being given to the major rehabilitation of existing infrastructure, as well as the building of new clinics, animal healthcare centres and other animal-handling facilities. Mobile veterinary vehicles will also be considered for remote areas. These efforts support the creation of an enabling environment for the Compulsory Community Service (CSS) Programme for newly qualified veternarians.

To strengthen the DAFF's animal healthcare, 18 primary healthcare clinics were delivered to provinces and the Veterinary Strategy, as part of the Animal Disease Management Plan, was finalised.

In addition, the DAFF requested the World Organisation for Animal Health to conduct an evaluation on the performance of veterinary services in South Africa. The recommendations from the World Organisation for Animal Health's report will be applied to further enrich interventions on all veterinary issues.

The department initiated the CCS for newly qualified veterinarians in 2016. The first group of 125 has been strategically placed to service resource poor farmers in the rural and under-serviced areas of South Africa.

The CCS is aimed at promoting primary animal healthcare in rural areas and at improving access to veterinary services.

CCS service for young professionals is a government policy which started in 1998 when the medical doctors were deployed to rural areas. The deployment of veterinarians entrenches the department's commitment towards community service. This programme will also incorporate the training of veterinary technicians or paravets.

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's spending focus over the medium term will be on:

- generating knowledge and technologies that will enhance the efficiencies of crop production, animal production and health
- the management of natural resources
- research and development
- maintaining national assets
- providing diagnostic and analytical services on behalf of the DAFF and industry stakeholders.

Over the medium term, the ARC will spend its total budget of R4 billion on supporting 1 130 farmers participating in animal health improvement schemes, conducting 1 777 diagnostic and analytical services, and producing 238 peer-reviewed scientific publications in natural resource management.

In response to climate change, the council is working on 25 research studies into new crop cultivars that will be registered. The new cultivars are expected to benefit rural South Africa and the Southern African Development Community (SADC) region.

The council's staff complement will remain constant at 3 297 over the medium term to contain growth in expenditure on compensation of employees, which constitutes R2,7 billion or 68,3% of total expenditure. The council's main revenue stream over the medium term will be transfers of R2,8 billion received from the DAFF, and the Department of Science and Technology, constituting about 66% of total revenue. Other income, of R1,5 billion, will be generated by sales of publications, research material and technology to supplement transfers received.

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.

Grain SA

Grain SA was established in June 1999 and was formed out of the following organisations:

- National Maize Producers' Organisation (known as NAMPO) – maize
- National Oilseed Processors Association – soybeans, sunflower and groundnuts
- Wheat Producers' Organisation – wheat, barley and oats
- SPO – grain and sorghum.

The mission of Grain SA 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 well-being 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.

Grains

Maize

Maize is the largest locally produced field crop, and the most important source of carbohydrates in the SADC region for animal and human consumption.

South Africa is the main maize producer in the SADC, with production at 12 million tons (Mt) to 14 Mt a year over the past 10 years.

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 responsible for 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 (2016). White maize is primarily used for human consumption, while yellow maize is mostly used for animal feed production.

The 2016 season, following an El Niño-induced drought, the Free State and North West produced only 58% of the white maize harvest as it experienced one of its poorest harvests in recent years, where a lack of rain had caused crop failures.

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

Maize is planted during late spring/early summer, with optimal planting times in November and December. However, planting can start as early as October and extend to January.

In a particular season, the rainfall pattern and other weather conditions determine the planting period as well as the length of the growing season.

Most of the maize is harvested from late May up to the end of August.

The commercial maize crop for the 2015/16 production season is estimated to be 7,537 Mt, with an estimated yield of 3,87 t/ha.

The production represents a decrease of 24,3% from the previous season (2014/15), which was estimated at 9,955 Mt. The main reason for the decrease in the production of maize is severe drought conditions in the major maize-producing areas. This is also the smallest crop since the 2006/07 production season, when the production was 7,125 Mt.

The area planted to maize by the non-commercial sector during 2015/16 is estimated at 266 130 ha, which comprises 191 225 ha of white maize and 74 905 ha of yellow maize. Production by the non-commercial sector is estimated at 435 740 t; 286 175 t of white maize and 149 565 t of yellow maize. Maize grown by this sector is mainly for own use and contributes only approximately 6% to total production.

Sorghum

Sorghum is an indigenous crop in Africa 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 is mainly cultivated in low and erratic rainfall areas, especially on shallow and heavy clay soils. It is planted mainly between mid-October and mid-December.

The rainfall pattern and other weather conditions of a particular season can determine the planting period as well as the length of the growing season to a large extent.

During the 2016 season (March to February), sorghum for commercial purposes was produced mainly in Mpumalanga (47,2%) followed by Free State (34,0%), Limpopo (13,2%), and North West (3,2%). An estimated 48 500 ha were planted to sorghum for commercial use, representing a decrease of 31,2% from the 70 500 ha planted for the 2015 season.

This can be attributed to the expected establishment of a bioethanol production facility not having materialised, therefore farmers were no longer encouraged to expand their plantings, as well as the impact of the 2015/16 drought.

For the past five seasons, South Africa produced an average 164 640 t of sorghum a year, which is relatively small compared to domestic maize and wheat production.

During the 2016 production season, sorghum contributed only approximately 0,6% to the gross value of field crops. The estimated average annual gross value of sorghum for the five years up to 2015/16 amounts to R461 million.

The commercial sorghum crop for the 2016 season was estimated at 74 150 t, which is 38,5% less than the 120 500 t of the previous season and 55% less than the five-year average production of 164 640 t up to 2015. The yield for 2016 was estimated at 1,53 t/ha, which was 38,8% less than the five-year average yield of 2,50 t/ha up to 2015.

Wheat

In terms of value of production, wheat is the fourth most important field crop produced in South Africa. In the 2015/16 season, this crop contributed approximately 9% to the gross value of field crops. The average annual gross value of wheat for the past five years up to 2015/16 amounts to R5 297 million, compared to R26 095 million for maize, which is the most important field crop.

Wheat is mainly planted between mid-April and mid-June in the winter rainfall area and between mid-May and the end of July in the summer rainfall area. The crop is harvested from November to January. Most of the wheat produced in South Africa is bread wheat, with small quantities of durum wheat being produced in certain areas.

Wheat is generally classed as "hard" or "soft". Hard wheat tends to have higher protein content than softer wheat and is used mainly for bread. Soft wheat, on the other hand, is more suitable for confectionery.

The estimated area planted to wheat for the 2016 season is 508 365 ha, which is 5,4% more than the 482 150 ha of the previous season. Of this area, 323 000 ha (64%) are in the Western Cape and 110 000 ha (22%) are in the Free State. The main production areas for wheat remain the Western Cape and the Free State, with both areas showing increased production patterns.

For the 2016 production season, weather conditions across South Africa's wheat growing areas were fairly favourable. The Western Cape especially, which is the major wheat growing area in South Africa, received rainfall which is favourable for the wheat crop.

Based on conditions prevailing towards the end of October 2016, the expected commercial wheat crop for 2016 was

1,734 Mt, of which 936 700 t (54%) were from the Western Cape, 308 000 t (18%) from the Free State and 252 000 t (15%) from the Northern Cape. The expected average yield was 3,41 t/ha.

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 dry land 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 dry land 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 planted over a relatively short period of time (from three weeks in certain areas to five weeks in others).

The earlier plantings generally have a higher yield potential. This results in greater yield increases with disease and pest control programmes in earlier plantings. Barley planted later than the optimum planting period is therefore at greater risk in terms of both yield and quality.

Barley is mainly used for the production of malt (for brewing beer), animal feed and pearl barley. However, the Crop Estimates Committee's barley estimates only involve malting barley, therefore excluding barley for animal feed.

The area planted to malting barley for the 2016 season is estimated at 88 695 ha. This is a decrease of 5,4% or 5 035 ha from the plantings of 93 730 ha during 2015. It is also 4,3% or 3 642 ha more than the five-year average of 85 059 ha planted up to 2015.

Of the 88 695 ha planted in 2016, 83 000 ha (94%) are in the Western Cape, 2 700 ha (3%) in the Northern Cape, 1 300 ha (1%) in Limpopo, 1 400 ha (2%) in the North West and only 285 ha (0,3%) in the Free State.

A total crop of 291 595 t of malting barley is expected for the 2016 season.

Dry beans

During the 2015/16 season, according to the Crop Estimates Committee, an estimated 34 400 ha were planted to dry beans for commercial markets. This is 53,1% lower than the area planted in 2014/15. The estimated commercial crop of 35 445 t for 2015/16 is, however, 44,6% lower than the previous crop of 73 390 t. The average yield for the 2015/16 crop is approximately 1,03 t/ha – a decrease of 0,12 t/ha from the previous season. The decrease in production can mainly be ascribed to unfavourable production conditions that prevailed during the first quarter of 2016 when a lack of rain caused crop failures.

The Free State province produced 48,0% (17 000 t) of the 2015/16 commercial crop, Mpumalanga 16,9% (6 000 t) and Limpopo 10,6% (3 750 t). The remaining 24,5% was produced in the other provinces. The estimated gross value of dry beans for the 2015/16 season amounts to R510 million, 42,3% lower than the previous season.

The contribution of different types of dry beans to total production in 2015/16 is estimated to be as follows: light speckle kidney beans 63%, white pea beans 33%, large white kidney 3% and other dry beans, mainly cariocas, 1%.

The most extensive seed production takes place in the Lowveld area of Mpumalanga, followed by the Limpopo and Northern Cape.

Oilseeds

Groundnuts

Groundnuts are grown mainly in the Free State, North West and Northern Cape. The normal planting time for groundnuts is mid-October to mid-November.

Groundnuts are mainly produced in the north-western regions of South Africa, namely the western and north-western Free State province and the North West and Northern Cape.

During the 2015/16 production season, 42% of the plantings were in the North West, 28.8% in the Free State and 22,1% in the Northern Cape.

Groundnuts contributed approximately 0,5% to the value of local field crops in 2015/16, while the average annual gross value of groundnuts for the five years up to 2015/16 amounts to approximately R501 million.

An estimated 22 600 ha were planted to groundnuts for commercial use, compared to 58 000 ha planted during 2014/15. This represents a decrease of 61,0% and is 56,1% lower than the average of 51 525 ha planted during the five years up to 2014/15.

An estimated commercial crop of 18 850 t of groundnuts was produced during 2015/16. This represents a decrease of 69,7% from the 2014/15 crop of 62 300 t.

It was expected that the South African groundnuts imports could reach 50 000 t in the 2016/17 marketing season, which is the highest volume on record as far back as in 1998.

The expected groundnuts exports shows a decrease of 35.1%, from 15 400 t in 2015/16 to 10 000 t in 2016/17. The major export destinations for South African groundnuts are Mozambique, Japan, the Netherlands, Belgium and Zimbabwe.

Sunflower seed

Sunflower seed is produced in the Free State, North West, the Mpumalanga Highveld and in Limpopo. South Africa is the world's 10th largest producer of sunflower seed. Sunflower seed can be planted from the beginning of November to the end of December in the eastern parts of the production areas and up to the middle of January in the western part.

Sunflowers grow best when planted in midsummer to ensure that less moisture is lost from the soil during the crucial growing phases.

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.

During the 2016 production season, the bulk of the crop was produced in the Free State (55,7%), North West (34.1%) and Limpopo (9,1%).

The contribution of sunflower seed to the gross value of field crops during the season is approximately 7,9%, compared to the 44,8% of maize, the largest contributor. The average annual estimated gross value of sunflower seed for the five years up to 2015/16 amounts to R3 382 million, compared to the R26 095 million of maize.

The annual plantings of sunflower show remarkable variation, from as low as 316 000 ha to 828 000 ha during the past two decades.

The area planted to sunflower seed for commercial use during the 2016 season increased by 24,7% to 718 500 ha, from an estimated 5 76 000 ha the previous season. The increase in the plantings of 2016 can mainly be attributed to the decrease in plantings of the other summer crops such as yellow maize, soya beans, groundnuts and dry beans.

Commercial seed production during 2016 was approximately 755 000 t, which is 13,9% more than the previous season and 9,9% higher than the average of 686 800 t for the previous five years. The increase in production can mainly be attributed to high yields.

The average yield for 2016 is approximately 1,05 t/ha, which is 8,7% less than the 1,15 t/ha during the previous season and 15,3% less than the five-year average of 1,24 t/ha up to 2015. The decreased yield can be attributed to unfavourable production conditions that prevailed, following insufficient follow-up rainfall received during February/March 2016.

Sunflower seed production is expected to reach 41,2 Mt in 2016, a 5% increase from 2015 levels on a slightly larger area.

Therefore, total sunflower seed production is expected to amount to 730 000 t, a 10% increase from 2015 levels.

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. Depending on prevailing local conditions, soya beans are usually planted in November and December.

It is a relatively difficult crop to grow and not all areas are suitable for soya bean cultivation. The plants thrive in warm,

fertile, clayish soil and are mainly cultivated under dry land conditions.

Soya beans contributed approximately 7,7% to the gross value of field crops during 2015/16. The estimated average annual gross value of soya beans for the past five seasons up to 2015/16 amounts to R4 208 million.

The plantings of soya beans ranged between 68 000 ha and 687 300 ha over the past 20 years. During the 2016 season, soya beans were grown primarily in Mpumalanga (240 000 ha or 47,7%), the Free State (174 000 ha or 34,6%) and KwaZulu-Natal (28 000 ha or 5,8%).

During the 2016 season, an estimated 502 800 ha were planted for commercial use, compared to an estimated 687 300 ha the previous season. This represents a decrease of 26,8% and is 3,2% less than the five-year average of 519 340 ha up to 2015. The decrease in plantings can mainly be attributed to an increase in the plantings of other summer crops, specifically sunflower seed.

The crop of an estimated 741 550 t in 2016 (the lowest since 2012) represents a decrease of 30,7% from the 2015 crop of 1 070 Mt. It is also 10,9% lower than the average of 832 500 t for the five years up to 2015. The average yield of 1,47 t/ha is 5,8% less than the 1,56 t/ha of the previous season.

Seasonal rains arrived several weeks late during the latter part of 2015, delaying the start of the planting season. Limited follow-up rains were received during 2016 as severe drought conditions persisted and extremely high temperatures were experienced, which all impacted negatively on soya bean yields.

In October 2016, the intended soya bean plantings of South African farmers were estimated to be 516 000 ha for the 2017 season, which is 2,6% more than the 502 800 ha planted during 2015/16. This is expected to be the fourth largest soya bean plantings on record.

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.

Canola was developed in the early 1970s using traditional plant breeding techniques by Canadian plant breeders to remove the antinutritional components (erucic acid and glucosinolates) from rapeseed to assure its safety for human and animal consumption. The canola plant produces seeds with a very low level of saturated fat.

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. Over time, there were also farmers in other areas of South Africa, such as the Northern Cape, Free State, Eastern Cape, KwaZulu-Natal, Limpopo and North West, who started to plant small quantities of canola.

The estimated area planted to canola decreased by 12,8%, from 78 050 ha in 2015 to 68 075 ha in 2016, while production was expected to increase by 9,7%, from 93 000 t to 102 060 t despite the ongoing drought.

The expected average yield increased significantly, by 26,1%, from 1,19 t/ha in 2015 to 1,50 t/ha in 2016.

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 cane-growing sector comprises about 29 000 registered sugarcane growers farming predominantly in KwaZulu-Natal, with a substantial investment in Mpumalanga and the Eastern Cape.

Sugar cane is a ratoon crop, which means that after cropping, new shoots emerge from the roots. It yields up to 10 crops from the original rootstock, after which it is uprooted and the field is replanted. This is done on a rotational basis, with approximately 10% of the area under cane being replanted each season. Planting usually coincides with the first spring rains.

Sugar is manufactured by six milling companies with 14 sugar mills operating in these cane-growing regions.

About 340 000 ha was planted and 245 000 ha was harvested. About two-thirds of South Africa's sugarcane is grown within 30 km of the coast and one-sixth in the high rainfall areas of KwaZulu-Natal. The remainder is grown in the northern irrigated areas that comprise Pongola and Mpumalanga lowveld. The industry produces an estimated average of 18,8 Mt of sugarcane (2,2 Mt of sugar) per season. About 60% of this sugar is marketed in the Southern African Customs Union (SACU).

The production of sugar cane decreased by 16,3% to 14,9 Mt from 2014/15 to 2015/16, while production for the 2016/17 season at 14,6 Mt is expected to be 2% lower than in 2015/16.

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. It is based on scientific research and development, resulting in optimum harvests and quality, a large variety of cultivars, and finely controlled storage methods. Deciduous fruits grown in South Africa include apples, pears, apricots, nectarines, peaches, plums, grapes, olives, figs and cherries.

Deciduous fruit is grown mainly in the Western Cape and in the Langkloof Valley of the Eastern Cape. Smaller production areas are found along the Orange River and in the Free State, Mpumalanga and Gauteng.

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 2 300 producers of fruit for fresh consumption, 1 246 producers of dry and table grapes, 925 producers of stone fruit and 706 producers of pome fruit.

The production of deciduous fruit increased by 2,5%, from 1,913 Mt in 2014/15 to 1,960 Mt in 2015/16. Pears showed an increase of 6,2%, followed by apples with 4,1%, table grapes by 2,7% and plums with an increase of 0,8%. The production of apricots showed a huge decrease of 31,1%, followed by peaches and nectarines with a decrease of 3,9%.

Dried fruit

Dried fruit is produced mainly in the western and southern parts of the Western Cape province and the Lower and Upper Orange River areas in the Northern Cape province. 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.

The quantities of dried fruit produced vary per fruit type, depending on the factors that influence production and the opportunities offered by alternative marketing channels.

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 19,8%, from 67 444 t in 2015 to 54 086 t in 2016.

According to the Dried Fruit Technical Services (DFTS), this decrease resulted from unseasonal rains occurring during the drying season, especially in the Orange River region.

This caused grapes to crack and berries to shatter and because of the weather, some grapes destined for raisins were taken to the wineries instead.

Production of dried vine fruit decreased by 20,9%, from 60 537 t in 2015 to 47 905 t in 2016, while that of dried tree fruit decreased by 10,5%, from 6 907 t in 2015 to 6 181 t in 2016.

Under the dried vine fruit, all the fruit types showed decreases, except unbleached sultanas which showed an increase from 5 368 t in 2015 to 8 720 t in 2016 and Muscat raisins, from 14 t in 2015 to 74 t in 2016, respectively.

While under the dried tree fruit type, prunes showed an increase of 63,6% and the rest of the fruit types showed a decrease.

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. Cotton is planted mainly during October, although planting can be done until the second half of November.

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.

The total area planted to cotton in South Africa for the 2015/16 production season is estimated at 8 353 ha, which is a decrease of 45,9% from the 15 428 ha of the previous season. The area

planted to cotton reached its peak during the 1987/88 production season, when an estimated 181 676 ha were planted. Since then, plantings have decreased substantially.

Yields per hectare under irrigation are up to seven times higher than on dry land. An estimated average yield of 4 689 kg/ha seed cotton was realised on irrigated land during the 2015/16 production season, compared to 635 kg/ha realised on dry land.

During 2015/16, an estimated 30% of the total area planted to cotton was on dry land, as against 43% the previous season. The area under irrigation also decreased by 33,5% from 2014/15 to 2015/16. High prices for summer grains resulted in many farmers opting to plant maize instead.

The domestic production of cotton lint for the 2015/16 marketing season (April to March) is estimated at 53 146 bales of 200 kg each, which is an decrease of 43,4% from the 93 922 bales produced during the 2014/15 season.

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 million kg tobacco a year.

There are 187 tobacco growers in South Africa operating on some 5 005 ha of land. Tobacco farmers employ about 8 000 – 10 000 farmworkers; in addition, more than 35 000 dependants are also able make a living in deep rural areas thanks to the tobacco industry.

More than 90% of tobacco used in South Africa goes toward the manufacturing high-quality tobacco products.

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 Cederberg area of 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.

Some 230 ha of honeybush tea are under cultivation. It is harvested from the natural mountainous veld in the Langeberg and Swartberg in the Eastern and Western Cape and processed at farm-processing facilities.

The honeybush industry has the potential to grow from an annual average of 150 t of processed tea to 1 500 t by 2021 and to increase turnover from R10 million to R100 million. South Africa produces about 200 t of honeybush tea a year. Local and international demand exceeds supply.

Fewer than 10 farmers cultivate only 30% of honeybush tea and the rest (70%) is harvested in the wild.

Owing to the growing interest in the health properties of natural products and specifically, herbal teas, many biochemists around the world are investigating rooibos. The rooibos plant grows well in the Cederberg area, where temperatures drop to 0°C during the winter months and rise to 48°C at the height of summer. On average, South Africa produces about 15 000 t of rooibos tea a year. South Africans consume 4 500 t to 5 000 t and the rest is exported.

Stress, ageing, cancer and obesity are some of the lifestyle challenges that featured prominently in the South African Rooibos Council's research budget of R2 million in 2012. In addition to these health-focused projects, researchers also received funding to explore the chemistry, composition and flavour profile of this unique African herbal tea, or to advance organic and environmentally friendly rooibos farming. Prominent, independent researchers at South African universities and science councils lead the research projects.

Since July 2014, South Africa has 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.

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.

Your much-loved cup of rooibos or honeybush tea not only tastes great – new research presented at the CANSA Research in Action Conference shows that it may help to ward off cancer too.

Two distinctly South African teas have been fingered for their potential to treat two of the country's biggest cancer killers.

New research, presented recently at the CANSA's Research in Action Conference, showed that rooibos and honeybush both have anti-cancer properties that may be useful in the treatment of prostate and breast cancer.

These are the two most common cancers affecting South Africans. One in every 26 men will be affected by prostate cancer in their lifetime, while one in every 33 women will develop breast cancer, according to the latest data from the National Cancer Registry.

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

In laboratory studies, Stellenbosch University (SU) biochemist Prof Amanda Swart found rooibos extract interferes with the male sex hormone dihydrotestosterone – which is one of the main drivers of prostate cancer. This action is similar to that of current drugs used in the treatment of prostate cancers.

Molecular testing showed that honeybush extract contained chemicals that can either block or increase oestrogen, which may drive the growth of some types of cancers.

Although still in the testing phases, honeybush-derived therapy may one day be used as a second-line drug against some of these cancers.

Wine

South Africa is the eighth-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 98 597 ha, which is 0,9% less than the 99 470 ha of the previous year.

The wine industry is labour intensive and provides employment to approximately 270 000 people directly and indirectly. The number of primary wine grape producers in South Africa is estimated at 3 232.

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

The 2016 wine grape crop was estimated at 1 378 596 tons, according to the estimate of the South African Wine Industry Information and Systems released in April 2016. This is 6.7% lower than in 2015.

The 2016 wine harvest – juice and concentrate for non-alcoholic purposes, wine for brandy and distilling wine included – was expected to amount to 1 070.8 million litres, calculated at an average recovery of 777 litres per ton of grapes.

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.

Citrus production is largely limited to irrigation areas and occurs in Limpopo (23 970 ha), Eastern Cape (14 770 ha), Western Cape (9 232 ha), Mpumalanga (9 375 ha), KwaZulu-Natal (3 192 ha), and Northern Cape (1 451 ha). 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.

Oranges contributed about 64,4% to the total production of citrus fruit in South Africa during 2015/16. Citrus fruit production decreased by 1,7%, from 2 768 684 t in 2014/15 to 2 722 455 t in 2015/16. There has been an annual average increase of 5,3% over the past five years in citrus production.

Measured in terms of value of production, the subtropical fruit industry earned R3 500 million in 2015/16 – a decrease of 6,5% on the 2014/15 figure of R3 742 million.

The cultivation of some types of subtropical fruit is only possible in certain specific areas of the country because of particular climatic requirements. In general, subtropical fruit types need warmer conditions and are sensitive to large temperature fluctuations and frost. The best areas for the production of these types of fruit in South Africa are in Limpopo, Mpumalanga and KwaZulu-Natal. Fruit types such as granadillas and guavas are also grown in the Western Cape, while pineapples are cultivated in the Eastern Cape and KwaZulu-Natal.

The total production area of avocados in 2015/16 is estimated at approximately 16 000 ha, mangoes at 7 000 ha, and litchis at 1 700 ha.

The total production of subtropical fruit decreased by 10,3%, from 750 736 t in 2014/15 to 673 537 t in 2015/16. Production of pineapples rose by 3,2% while granadillas remains constant. However the production of mangoes dropped by 45,8%, papayas by 30,2%, avocados by 15,7%, litchis by 9,6%, bananas by 5,4% and guavas by 5,3%.

Bananas, pineapples and avocados contributed 59,6%, 14,7% and 12,3%, respectively, to the total production of subtropical fruit during the 2015/16 season.

Vegetables (excluding potatoes)

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 (3 260 ha), Mooketsi and Musina (860 ha). Limpopo's total annual production is about 230 000 t.

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 and a retail value of R200 million a year.

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

Vegetables are produced in most parts of the country. However, in certain areas farmers tend to concentrate on specific crops; for example, green beans are grown mainly in Kaapmuiden, Marble Hall and Tzaneen, green peas mainly in George and Vaalharts, onions mainly in Caledon, Pretoria and Brits and asparagus mainly in Krugersdorp and Ficksburg.

From 2014/15 to 2015/16 (July to June), the total production of vegetables (excluding potatoes) increased by 1%, from 2 832 480 t to 2 859 745 t. Concerning the major vegetable types in terms of volumes produced, the production of carrots rose by 12 080 t or 6%, tomatoes by 13 060 t or 2,4%, onions by 12 264 t or 1,8% and that of green mealies rose by 4 592 t or 1,3%.

The production of pumpkins decreased by 2000 t or 0,9% and that of cabbage decreased by 7 298 t or 5%.

Production of tomatoes increased by 2,4%, from 547 467 t in 2014/15 (July to June) to 560 418 t during 2015 /16.

The gross value of production increased by 15,8%, from R2 101 million in 2014/15 to R2 433 million in 2015/16.

Onions are produced in almost all the provinces of South Africa. Approximately 689 777 t of onions were produced during the 2015/16 season (July to June). This is 2,2% more than the 674 940 t of the previous season. The industry experienced an average annual increase of 4,3% in production from 2011/12 to 2015/16.

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 into irrigation and currently almost 80% of plantings are under irrigation.

Plantings for 2015 were 53 933 ha, which was 4,9% higher than the 51 435 ha of the previous year.

In 2015, the average yield was approximately 4 611 x 10-kg pockets per hectare, compared to 4 370 x 10-kg pockets per hectare in 2014, which is an in crease of 5,5%.

During 2015, approximately 117 million x 10-kg pockets of potatoes were sold on the major fresh produce markets, as against 106 million in 2014 – an increase of 10,4%.

The Johannesburg Fresh Produce Market remains the biggest outlet, followed by the Tshwane, Cape Town and Durban markets.

During the five years from 2011 to 2015, potato sales on the major fresh produce markets on average showed an increase of approximately 3,7%.

Livestock

Animal production contributes approximately 48% to the country's agricultural output in terms of value. The industry employs about 500 000 people.

The ARC, in partnership with all the provinces, will roll out the implementation of the Livestock Development Programme. In this initiative, the ARC will introduce and expand on the dissemination of technologies, such as artificial insemination and embryo transfer.

The National Agriculture Marketing Council (NAMC) is also actively engaged in a programme to introduce farmers to the structure, operation and requirements of the formal red meat market. This is the National Red Meat Development Programme. It works with emerging and communal farmers to increase the income earned from raising cattle through greater and more beneficial participation in formal red meat markets.

The National Livestock Development Strategy aims to enhance the sustainability of animal agriculture in South Africa across the entire production, processing and supply chain.

By mid-2016, a conservative estimate of the value of South Africa's livestock industry was around R50 billion. The foot-and-mouth disease (FMD)-free status has enabled the country to negotiate market access for cloven-hoofed animal products. The DAFF is in the process of negotiating the export of game meat to the EU and beef to the Middle East.

In safeguarding the country's biosecurity, the ARC has developed a new vaccine against Heartwater that will be made available to farmers after evaluating for safety and registration by the authorities. The availability of a Heartwater vaccine will boost mohair production as Angora goats are the most susceptible to animal diseases.

Development of new vaccines will play a vital role in expanding the number of successful livestock farmers resulting in reduced losses and increase in revenue for the farmers

Dairy farming

Milk production in South Africa contributes about 0,5% to the world's milk production. 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.

The South African dairy industry is important to the job market, with some 2 700 milk producers employing 60 000 farmworkers and providing 40 000 people with indirect jobs within the value chain, such as milk processing.

Beef cattle farming

Beef is produced throughout South Africa. The quantity of beef produced depends on infrastructure such as feedlots and abattoirs, and not necessarily on the number of cattle available in those areas. South Africa has a highly developed transport infrastructure that allows for movement of cattle from one area to another, even to and from neighbouring countries, for example, Namibia. Commercial farmers own 59% of the 14 million head of cattle available in South Africa. There are 27 popular breeds in South Africa including the Brahman, indigenous Afrikaner and Nguni, Tuli, Boron, Bonsmara, Drakensberger, Simbra, Beefmaster, Angus and Braford.

Small stock (sheep and goat) farming

South Africa has about 8 000 commercial sheep farms and about 5 800 communal farmers. Most of the estimated 24,4 million sheep in South Africa is found in the Eastern Cape, followed by the Northern Cape, Free State, Western Cape and Mpumalanga.

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.

Mutton sheep are found mostly in the semidesert areas of the Northern and Western Cape, with the most popular mutton breed being the locally developed Dorper. Limited numbers of indigenous fat-tailed and Karakul sheep are still found. Karakul sheep are found in the more arid areas.

The Eastern Cape has the largest number of goats (38%), followed by Limpopo (19%). 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.

The South African mohair clip of four million kilograms, accounts for 60% of the world's mohair production. About 63% of all goats in South Africa are so-called indigenous goats.

South Africa is also geared towards the conservation of indigenous Speckle goat and Namaqua Afrikaner Sheep breeds.

Pig and poultry farming

The South African pork industry is relatively large, in terms of the overall South African agricultural sector. It contributes 1,9% 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 Limpopo and North West being the largest producers, contributing to 44% of total production. There are about 4 000 commercial, 19 stud and about 110 smallholder pig farmers; they own about 125 000 sows (100 000 commercial and 25 000, smallholder farmers); they employ about 10 000 workers, comprising about 4 000 farm workers and 6 000 workers in the processing and abattoir sectors.

The 46 registered pig abattoirs use modern technology to ensure a streamlined slaughtering process. The predominant pig breeds are the South African Land Race, the Large White, Duroc and the Pietrain.

The poultry industry (including meat and eggs) continues to dominate the agricultural sector in South Africa, and is 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 poultry industry is an essential component of South Africa's food value chain. It is the single largest component of the agricultural sector in the country by turnover.

Although poultry producers remain the largest segment of South African agriculture, they have been facing challenges regarding input prices, which put profit margins in broiler production under pressure.

The volatility in price and profitability is inherent to the broiler industry, because biological factors, such as poultry diseases and prolonged turnaround times in the production chain, combined with hikes in feed costs, electricity and fuel have a direct impact on production costs.

Along with being the primary source of protein, the poultry industry remains an important contributor to job creation and employment opportunities. Some 10% of all agricultural sector workers are employed in the poultry sector.

Considering the dominance of the poultry industry in South Africa, it also has the largest influence on the feed industry as its main customer. The South African Poultry Association estimates that a total of 107 857 people (48 118 direct and 59 739 indirect) are employed in the broiler, hatchery, rearing, processing and distribution industries.

At a gross turnover of R8,6 billion at producer level, eggs take their place as the fourth largest animal product sector in agriculture in South Africa.

Considerable scope exists for increased per capita consumption, particularly taking into account the price competitiveness of eggs as a protein source, compared to other animal proteins.

The industry remains an important employer with an estimated 8 000 workers.

Regarding the AGOA trade, although the deadline of 31 December 2015 passed without agreement, an agreement was reached on 6 January 2016 on the relevant three meats, namely beef, pork and poultry. The proclamation made by the USA not to suspend agricultural imports was extended to 15 March 2016. However, the agreement was eventually signed by the USA and is currently in force.

The DAFF has already issued permits for the first 16 250 t of poultry meat to 29 importers, of which nine are HDIs. Under AGOA, the agricultural sector has advantages for the exports of citrus, macadamia nuts, wine and other food products.

However, implications of the concessions are that the EU and other partners may require equal treatment, which will require readjustment of the current agreements with trading partners. Concerning SPS-issues, a protocol for highly pathogenic avian influenza was signed between the two countries in November 2015.

Hunting and wildlife sector

South Africa has a proud tradition of consumptive hunting that has made a major positive impact on conservation and sound game management practices. Consumptive use includes venison production (game meat and biltong), and trophy and recreational hunting; while non-consumptive use includes ecotourism activities and accommodation.

Hunters are the backbone of the private wildlife industry and the main source of income for the 11 500 private game farms of which many are located on marginal agricultural land in South Africa. South Africa is a popular destination for trophy hunters and receives approximately 9 000 international hunters a year whose combined expenditure on hunting and related industries contribute R1,24 billion to the economy.

The five most popular hunting provinces in South Africa are Limpopo, Northern Cape, Eastern Cape, North West and Free State. The top five game species among international trophy hunters are, among others, springbok, impala, kudu, blesbok and black wildebeest. This is very similar to the five most popular species among biltong/consumptive hunters: springbok, impala, blesbok, warthog and kudu. It is kudu in particular, that is a popular and profitable species for game farmers.

The hunting sector in South Africa is represented by various voluntary associations and organisations that serve the interest of both consumptive and professional hunters. The SA Hunters and Game Conservation Association (SAHGCA) with over 38 000 members is the biggest single representative body for hunters in South Africa.

SAHGCA and other hunting associations in South Africa have taken the lead in wildlife conservation by advocating and practising responsible, sustainable hunting as the most effective wildlife management mechanisms that support the game ranching sector in the country.

Macadamia nuts

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

This is a private, public partnership with landowners, the community and private partners. 180 ha of Macadamia Nuts have been planted with 80 ha harvested for export market, creating 110 permanent jobs. The project is estimated to be completed by 2017/18 with 300 sustainable jobs created.

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.

Programmes and projects

Regulatory services

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; to also ensure that exported animals/plants and their products are free from quarantine pests and diseases.

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.

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

The DAFF also ensure compliance with agricultural legislation by conducting inspections at designated ports of entry. Preborder inspections are aimed at exports for compliance with international requirements among trading partners. Post-border inspections are intended for those regulated articles that were given extended detentions at borders or escaped the border control inspections.

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.

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 Perishable Products Export Control Board (PPECB) work closely to assist South Africans – within the ambit of the law – to export their products successfully in a highly competitive global arena.

National analytical services

The DAFF has laboratories in Pretoria and Stellenbosch that conduct analytical services. They support the units within the department responsible for formulating and updating regulations regarding agricultural foods of plant origin and liquor products.

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 ARC and relevant directorates within the department.

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 such as NAFU, Agri SA, TAU SA and ARC, 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 the blackfly pest.

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.

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.

Drought

The impact of the nationwide drought has had a devastating effect on the agriculture sector and its value chain.

In 2016/17, the Minister of Finance, in collaboration with the DAFF and the private sector, was working on initiatives to ensure higher agricultural production, efficient water licensing, the facilitation of agricultural exports, and increased efficiency to increase agriculture's contribution to GDP.

Crop and livestock production decreased sharply in 2016/17. Maize production, for example, decreased by 24%, from 7,54 million tonnes in 2015/16 to 5,7 million tonnes in 2016/17.

Higher yields were expected in 2017/18 as the drought is predicted to end.

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 (Agis). Using interactive web-based applications, Agis 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 on *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 very 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 dry land and irrigated land. It is a problem throughout the country and much more widespread and serious than the global norm.

Large areas of South Africa are covered with soils prone to serious crusting (surface sealing). The extent resulting and awareness of it have increased sharply over the last two decades.

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 nutrient 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. The latest approval of GM crops for commercial use was in 2012, for GM maize that is resistant to certain insect species and herbicide-tolerant. In 2012, the area under GM crop production was estimated to be 2,9 million ha. Of the total (2,73 million ha) maize produced, 86% (2,428 million ha) is estimated to be genetically modified. The adoption rate for herbicide-tolerant soya bean is 90%, and for cotton, 100%.

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, in terms of the Yearly Division of Revenue.

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 EPWP and 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 (DORA). Assessment and reporting requirements are specified in DORA, 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.

WaterCare

WaterCare promotes the development of techniques for water-resource management and encourages opportunities for training in this field.

The rehabilitation of irrigation schemes increases water supply and household food security. Irrigated agriculture is by far the biggest single user of run-off water in South Africa and has substantial potential to make a significant socio-economic and social impact on rural society. It contributes more than 30% of the gross value of the country's crop production.

The DAFF has embarked on a process to rehabilitate irrigation schemes that have the potential to increase food production, eradicate poverty, create jobs and contribute to economic growth.

About 90% of the country's fruit, vegetables and wine are produced under irrigation.

VeldCare

This programme promotes best grazing systems and erosion-prevention practices to improve production.

It develops and maintains agricultural activities in accordance with the principles of ecologically sustainable development.

Economic and social development opportunities are realised by improving grazing areas and maintaining viable grazing areas throughout rural communities.

SoilCare

The Conservation Agriculture (CA) approach has encouraged the proactive and sustainable use of agricultural natural resources. CA aims to ensure the effective and sustainable use and management of natural resources through minimum disturbance of the soil.

CA integrates the management of soil, water and biological resources, to maintain and enhance land productivity and reduce the level of risk.

It further aims to protect the potential of natural resources, prevent soil and water degradation and ensure economic viability with a reduction in vulnerability to the effects of climate change.

The result of these practices will ensure continued household and national food security through crop production, while conserving the environment. CA is characterised by three principles:

- minimum mechanical soil disturbance (minimum tillage)
- permanent organic soil cover, particularly through available crop *residue*
- diversified crop-rotation practices.

Junior LandCare

The objectives of Junior LandCare are to empower previously disadvantaged youth by providing training in facilitation and leadership skills.

This includes promoting food security at home and in schools, enhancing awareness of sustainable agriculture and stimulating the formation of youth clubs and projects that promote other components of LandCare.

Junior LandCare addresses the needs of young people in an integrated way and involves interdisciplinary approaches. This is done for youth both in and out of school.

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.

Support to smallholder producers is being synchronised through the department's coordinated Programme Management Unit, which comprises all DAFF technical support units.

The Programme Management Unit has been established to reinforce smallholder support activities of the already existing Smallholder Development Working Group, which is constituted by other national government departments, the ARC and the provincial departments of agriculture. Smallholder access to markets is pursued and engagements with institutions such as the World Food Programme and the Food and Agriculture Organisation for such market opportunities are at an advanced stage.

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.

Small-scale sugar cane farmers in the Nkomazi area of Mpumalanga are to benefit significantly from government's Jobs Fund and are expected to double their production and create 1 544 new and sustainable jobs.

The farms should, over a five-year period, increase production from 450 000 t of cane to 850 000 t per year.

The fund is targeted at established companies with a good track record and which plan to expand existing programmes or pilot innovative approaches to employment creation, with a special focus on opportunities for young people.

Akwandze Agricultural Finance Ltd, through funding provided by the Jobs Fund, is addressing this need by ensuring these

farmers can get adequate, cost-effective and appropriate financing with favourable terms.

Akwandze is also providing a package of associated farmer support initiatives such as on-site service back-up, training and capacity building.

According to the South Africa Sugar Association, the number of small-scale sugar growers has declined by 33% – from 50 000 in 2005 to around 33 700 in 2011. The productivity of small-scale farmers has also been declining. The tonnage in sugar produced by small-scale farmers has dropped from 850 000 at its peak to 450 000 t per year.

Akwandze is also supporting a cooperative of 216 small-scale farmers called Siboshwa to expand their growing area of 83 ha by 20 ha, developing their irrigation infrastructure and ensuring everything is in place to maintain it according to manufacturer specifications. This should allow them to produce another 2 000 t of cane.

Akwandze has matched a grant of R50 million from the Jobs Fund with a further R70 million and will recapitalise irrigation infrastructure for 1 281 small-scale growers, which will help to rehabilitate 10 000 ha of sugar cane land.

Akwandze will also extend its lending capacity to the growers for replanting, fertiliser, weeding and irrigation costs. The result should be to double the total annual tonnage of sugar cane produced by small-scale growers in Nkomazi.

It is anticipated that the Akwandze Project will create 1 544 new full-time jobs and increase turnover for these small-scale growers.

The agricultural, forestry and fisheries sectors have the best multiplier effect for every rand invested in terms of employment, exports, fiscal revenue and economic output.

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 RAAVC will focus on the following five crucial areas, namely the implementation of 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 where R3,2 billion will be spent on projects and 11 082 jobs created; collaborating with private sector partners to leverage new investments; increasing market access for smallholders through the implementation of programmes such as SA-GAP and increasing intra-African trade and other global trade opportunities and continued implementation of the Aquaculture Lab to strive towards achieving total production of 8 100 t, 3 200 jobs and an additional R500 million investment.

Public entities, the ARC and the NAMC in particular, have been actively involved in the development of APAP/RAAVC over the past two financial years. 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 South African Good Agricultural Practice (SA-GAP) certification. The organisation is also working with the OBP to secure adequate funding to ramp up vaccine production.

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.

Such an approach is expected to ensure that extension and advisory services benefit from the distributed technical expertise, financial capital and other resources located across the stakeholder base. The DAFF targets to deploy 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.

At grassroots level, South Africa has a number of regular schools offering a range of agricultural subjects and 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.

Universities (including those with and without designated faculties of agriculture) offer advanced degree courses and Bachelor of Technology degrees. 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.

Research and innovation

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

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 and 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

Under the Animal Identification Act, 2002 (Act 6 of 2002) the Minister declares animals for compulsory identification. The national register is available to the SAPS through the State Information Technology Agency to help it trace individual animals to their owners.

However, this can only be implemented successfully if all cattle, goats, pigs and sheep are marked in accordance with the Act.

Regulation services

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 poverty, unemployment and inadequate access to food, the department has prioritised food security and agrarian transformation.

The 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 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/RAAVC, 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.

Although the country can maintain the ability under normal weather conditions to meet national food requirements, more than 14 million citizens have insufficient access to food, are vulnerable to hunger and are food insecure. To reduce hunger and ensure that good nutrition is attained, the DAFF will focus on the promotion and empowerment of smallholder producers.

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.

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.

The final small-scale fisheries regulations were gazetted on 8 March 2016, along with the Marine Living Resources Amendment Act signed by the President. These now 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.

Aquaculture has been given a boost through its inclusion in the Oceans Economy Operation Phakisa. Through Operation Phakisa and the detailed plans on the development of 24 marine and inland aquaculture projects, which are being implemented, the department expects to increase production from the current 4 000 t to 20 000 t per year, increase the current value of the subsector from R400 million to R6 billion per year and create up to 210 000 sector jobs by 2030.

Fetsa Tlala Food Production Initiative

The Fetsa Tlala Food Production Initiative that was launched in 2013 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.

However, provinces achieved a mere 52 015 ha (43%) of the targeted 120 000 ha under Fetsa Tlala for 2015/16 due to the drought. 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.

For example, 150 000 ha of land are targeted for production through CASP and Ilima/Letsema in 2016/17 and R880 million is set aside for this purpose. Collaboration with the private sector partners like Massmart, Tiger Brands, Pioneer Foods and Motsepe Foundation and InBev to advance the Fetsa Tlala and the One Family One Hectare has been initiated. This also includes leveraging the current government funding to secure participation and investment.

To contribute positively towards the food security status of the country, the department supported 7 111 smallholder producers in various ways, among others, the provision of technical, training and advisory services.

A total of R2,8 billion has also been allocated over the MTEF to Fetsa Tlala. The Department of Water and Sanitation has further reprioritised R502 million to deliver water, protect springs and refurbish boreholes.

The Agri-parks programme, which is aimed at increasing the participation of smallholder producers in the agricultural value chain, has been extended to 44 districts and a total of 17 projects associated with the programme are at various stages of construction.

During 2015, the department also supported 16 447 smallholder producers against an annual target of 16 000; 78 077 ha were reported to have been cultivated against an annual target of 120 000 ha and 25 207,29 ha for agricultural land and 302,65 ha of woodlands and indigenous forest were rehabilitated. A total of 2 279,79 ha of forests in KwaZulu-Natal, Eastern Cape and Limpopo were planted.

This initiative created 12 537 jobs and going forward the support to producers will be expanded through the establishment of 88 producer production support units and bringing new areas into production with commodities aligned to APAP, as well as annually putting 150 000 ha of land into productive use.

In addition, 25 000 producers will be supported focusing on commodities such as grain, fruit, vegetables and red meat. The Agri-parks programme aims to generate 100 000 jobs over the next three years.

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

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 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 AU engagements and implementation of the South-South Cooperation.

Agreement with emphasis on BRICS (Brazil, Russia, India, China and South Africa). 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 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.

South Africa, as part of the SACU and SADC, is in the process with negotiating with the Common Market for Southern and Eastern Africa and the East African Community for the Tripartite Free Trade Area Agreement.

Forestry

The DAFF is the custodian of South Africa's forest resources, which cover over 40 million ha (about 36,7%) of the country's land surface area.

Although forestry contributes a modest 0,7% to the GDP, it supports manufacturing subsectors such as sawmilling and paper and pulp production, as well as mining and construction.

Of the total land area of 122,3 million ha in South Africa, only 1% or 1,273 million ha is used for forestry.

In 2012, plantation area as a percentage of land area by province totaled 40,9% in Mpumalanga, 39,6% in KwaZulu-Natal, 11,2% in the Eastern Cape, 4,4% in the Western Cape and 3,8% in Limpopo. The production of round wood in the same year came to 18,776 million m², while the value of sales amounted to R20,7 billion.

An analysis of the trends of commercial forestry ha planted by tree type and primary use indicates that, firstly, there has been a marked decline in both softwood and hardwood plantation ha planted since the mid-1990s and secondly, there has been a marked increase in ha for pulpwood purposes as compared to the ha for saw logs and mining timber.

Underlying these trends are various factors, but in particular the tighter regulatory framework governing water usage – forestry is regarded as a water diversion land use, therefore, permits are required to expand the area under plantations.

Other factors include the privatisation of much of what had been state forests, which has resulted in private sector lessees favouring shorter-term returns via pulpwood use over longer-term returns from saw logs, as well as the State's poor upkeep of Category B and C plantations, which has reduced their productivity.

While there is still a net surplus of sector exports over imports, the margin has narrowed by 32% since 1992 and the sector predicts that South Africa will soon become a net importer, especially of saw logs. These in turn will likely result in a significant increase in costs in the construction industry, with further implications for the property market and human settlement.

One subsector that has already been affected by the decline in timber supply is sawmilling, with
the number of sawmills increasing from 96 to 115 between 1996 and 2004, but then declining to 90 by 2010.

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 significant role to ensure adequate levels of investment, especially for longer-rotation timber/saw log plantations.

The forest products industry ranks among the top exporting industries in the country. Paperand paper board, wood pulp, wood and articles of wood and charcoal were the leading export products and constituted 94% of total forestry products. Total investment in forestry amounts to R25,6 billion.

Mpumalanga has the highest investment in plantations of 42% or R10,7 billion, followed by KwaZulu-Natal with R8,9 billion (35%), the Eastern Cape at R3,2 billion (12,8%), the Western Cape amounting to R1,5 billion (6%) and Limpopo at R1,1 billion (4,2%).

Legislation

The National Forests Act of 1998 and the Forestry Laws Amendment Act, 2005 (Act 35 of 2005), reflect the vision for the future of forestry in South Africa. They emphasise sustainable forest management, and explain how people and communities can use forests without destroying them. The Acts set out rules for protecting indigenous forests, and ensure that the public has reasonable access to state-forest land for recreational, cultural, spiritual and educational purposes.

South Africa is richly endowed with more than 1 700 tree and shrub species. Some are threatened, and 47 species are protected under the Act.

Protected trees may not be cut down, damaged, destroyed or possessed, collected, removed, transported, exported, purchased, sold, donated or in any other way acquired or disposed of except under a licence granted by the Minister or in terms of an exemption. In terms of the National Forests Act of 1998, all natural forests are protected. In 2014, the National Forests Act of 1998 was ammended to ensure ease of implementation.

The National Veld and Forest Fire Act of 1998 and the National Veld and Forest Fire Laws Amendment, 2001 (Act 12 of 2001), are the primary legislation regulating veldfire management in the country.

The purpose of these Acts 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 Acts place 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 purposes of veldfire management in a specific area.

Role players

National Forest Advisory Council (NFAC)

The NFAC advises the Minister of Agriculture, Forestry and Fisheries on all aspects of forestry in the country.

The NFAC is actively involved in developing local criteria, indicators and standards for sustainable forest management, and makes recommendations on how public access to state-owned forests may be improved.

South African Forestry Company Limited (SAFCOL)

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.

Of special note is the launch of the SAFCOL-sponsored Forestry Chair at the University of Pretoria, which is an opportunity for students who wish to further their studies in forestry-related fields.

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 amilton 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 Week

South Africa celebrates Arbor Week from 1 – 7 September annually. The DAFF, as the custodian of forestry in South Africa, is responsible for the campaign.

Arbor Week 2016 was celebrated under the theme; "Forests and Water". The theme has been adopted from the United Nations Forum on Forests (UNFF) theme for the International Day of Forests celebrated on 21 March annually.

National Arbor Week is an opportune time to urge all 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 whose occurrence has become scarce, the concept of the trees of the year was born some years ago. Previously there were two selected trees of the year comprising a rare and common species. However, at times there are three trees of the year.

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.

Every nomination cycle starts on 1 August each year, and ends on 31 July the following year.

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 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.

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, which will also be used for the publication of a book on the champion trees within a year.

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 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 United Nations 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

Broadly speaking, there are three categories of forests in South Africa, namely indigenous forests, woodlands and plantation forests.

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; 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 other 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.

To promote transparency, members of the public are invited to join company staff when regular audits are conducted.

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 m^3 of round logs are harvested annually (150 m^3 of stinkwood, 750 m^3 of yellowwood, 2 500 m^3 of Australian Blackwood and 350 m^3 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 about 29 million ha to 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 some 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 MoU, formalising FSA's support and funding for these activities at the Forestry and Agriculture Biotechnical Institute (Fabi), 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

Sappi Forests supplies over 78% of the wood requirements of Sappi Southern Africa from both its own and committed commercial timber plantations of 492 000 ha. This equates to approximately 30 Mt of standing timber.

The Lomati Sawmill produces 102 000 m^3 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 us, is Forest Stewardship Council® (FSC®) and ISO 9000 certified.

Approximately 140 000 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.

Sappi has identified investment in low-cost wood as both a growth driver and a strategic resource to supply its operations and to secure its margins in competitive commodity markets, such as dissolving wood pulp.

To this end, Sappi continues to work with local government and communities to accelerate afforestation in KwaZulu-Natal and the northern region of the Eastern Cape.

This development not only provides one of the only sources of income and jobs to these local communities, but will also secure

valuable hardwood timber resources close to the Saiccor Mill in KwaZulu-Natal.

In addition to Sappi's own plantation area, the company continues to identify ways to ensure access to pulpwood in the wood baskets close to its key operations, by means of land or timber delivery swaps.

The plantation industry in South Africa faces an increasing threat from pests and diseases. Sappi Forests, a leader in research and development, continues to mitigate these risks through improved site species matching, the deployment of improved genetic planting stock and the introduction of specific hybrids from its conventional breeding programmes.

The construction of the state-of-the-art Clan Nursery, with a capacity of 17 million cuttings (vegetatively propagated plants), and the upgrade of the Ngodwana Nursery, provides Sappi Forests with the required facilities to rapidly deploy the improved genetic planting stock to mitigate these threats.

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.

Forestry 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 for the next 10 years to obtain a nett 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.

Some 96 community-stream flow-reduction activity applications, totalling about 13 000 ha, were supported by the departments of agriculture, forestry and fisheries and trade and industry through assistance provided in the undertaking of environmental impact assessments in the Eastern Cape.

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.

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, etc.) 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/or 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 Amenment Act of 2014 will grant small-scale fishing communities better access to fishing rights and resources.

The effective management of the existing 12 harbours and proclamation of additional new harbours will 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.

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. 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.

Through Operation Phakisa and the detailed plans on the development of 24 marine and inland aquaculture projects, which are being implemented, the expectation is to increase production from the current 4 000 t to 20 000 t per year, increase the current value of aquaculture from R400 million to R6 billion and create up to 210 000 sector jobs by 2030.

Aquaculture is an important element of the Ocean's Economy Strategy, Operation Phakisa. It is anticipated that Operation Phakisa will place marine resources in a central position in the economy. Through Operation Phakisa, government plans to grow the sector value from its current R400 million to R6 billion, with a possible job creation of up to 210 000 jobs in this sector by 2030.

The WfFP will remain one of the vehicles for economic growth and sustainable livelihoods for fishing communities. Plans include focusing on ensuring that the commercial Fishing Rights Allocation Process 2015/16 reflects the commitment of government and the industry to transform the sector.

To further transform this sector, the implementation of the Small-Scale Fisheries Policy will contribute towards equitable participation of coastal and fishing communities and ensure that they gain access to marine resources.

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 will be allocated on a group, rather than an individual basis. 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.

The department has entered into a service level agreement with the South African Navy to manage its fleet of four patrol vessels and three research vessels for a year, while the department considers its various options regarding the long-term management of these vessels.

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 fishermen and women.

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 has increased in abundance 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 by any person.

Recreational west coast rock lobster permits are obtainable at the Post Office, at a cost of R92 per permit and are valid for the entire recreational fishing season.

The department's decision to pursue the recovery target has been welcomed by WWF and carries the unanimous support of all the WCRL user sectors.

The International Commission for the Conservation of Atlantic Tunas (ICCAT) is an RFMO)that 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/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.

Fisheries and aquaculture support the livelihoods of an estimated 540 million people. Aquaculture, is the farming of aquatic organisms and 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 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 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.

To fast-track the growth of the aquacultural sector an amount of R338 million in private sector investment has been committed to supplement the R106 million government investments. In the nine aquaculture farms that are already in production, 521 jobs have been created while a further 335 jobs are envisaged. These nine aquaculture farms are located in the Eastern Cape, KwaZulu-Natal, Northern Cape and the Western Cape and produce kob, oysters, abalone and trout.

The President signed into law the Amended Marine Living Resources Amendment Act of 2014 on 24 February 2016. Small-scale fishing, is for the first time in the history of the country, recognised as a fishing sector. The entire legal framework is currently in place to implement the small-scale fisheries policy in the four coastal provinces.

Through the Small-Scale Fisheries Policy, the fisheries sector is to be transformed by providing support to small-scale fishing communities, ensuring sufficient access to fish stocks and providing access to long-term fishing rights, thereby changing the socio-economic profile of the sector. This policy will also generate job opportunities in fish processing establishments, promote the development of aquaculture hatcheries and fish farms and promote the establishment of ownership schemes to realise the vision of an inclusive, integrated rural economy.

Aquaculture has been given a boost through its inclusion in the Oceans Economy Operation Phakisa. Through Operation Phakisa and the detailed plans on the development of 24 marine and inland aquaculture projects, which are being implemented, the department expects to increase production from the current 4 000 t to 20 000 t per year, increase the current value of the subsector from R400 million to R6 billion per year and create up to 210 000 sector jobs by 2030.

In the case of aquaculture, the DAFF is busy with the implementation of nine aquaculture projects under Phase 2 of Operation Phakisa (Developing the Ocean's Economy).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 (kabeljou — fish) 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.

The expansion of aquaculture projects to inland and other coastal areas in support of SMMEs will create 3 200 jobs and contribute R500 million to the GDP over the next three years. Furthermore, the draft Aquaculture Bill was by mid-2016 ready for public consultation. The DAFF has also established the Interdepartmental Authorisations Committee and the Aquaculture Development Fund.

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Subsistence fisheries

Participation in subsistence fisheries is comprehensive – coastal communities have traditionally made use of intertidal and shallow-water resources as a source of food. Only surplus not consumed by fishers is sold locally.

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.

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

President Jacob Zuma signed into law the Amended Marine Living Resources Amendment of 2014 on 24 February 2016. Small scale fishing is now for the first time in the history of South Africa recognised as a fishing sector. The entire legal framework is now in place to implement the small-scale fishing sector in the four coastal provinces.

Fisheries Crime Law Enforcement Academy

An agreement of cooperation by the Norwegian Government will see the injection of R50 million over three years towards establishing a new Fisheries Crime Law Enforcement Academy that will tackle fish crime in South African waters.

The academy was established at the Nelson Mandela University as a focused project of the Fisheries Crime Working Group under Operation Phakisa. It will offer short learning programmes on fisheries law enforcement. These will be accredited and credits can be accumulated towards a Higher Certificate or Diploma. The academy will collaborate with partners for the development and evaluation of training materials. Among the partners are INTERPOL, The United Nations Office on Drugs and Crime and the Norwegian Government.

The mandate of MCS is to ensure compliance, monitoring and enforcement along South Africa's vast coastline and its national waters. However, due to its limited capabilities, other government departments and law enforcement agencies continue to play a crucial role to complement the existing resources for comprehensive compliance.

The first cohort to receive training will be 300 DAFF employed fisheries control officers who currently possess NQF Level 4 and 5 qualifications.

Fall army worm outbreak

In February 2017, the DAFF received a diagnostic report from the ARC Plant Protection Research Institute (ARC PPRI) that confirmed that the fall army worm was positively identified from samples collected in the Limpopo Province.

The samples were jointly collected by scientists from the ARC Grain Institute and the North West University. These were caterpillars that had to pupate and emerge as moths before a positive identification could be done. In addition, moths were

collected from the northern parts of Gauteng and positively identified as Fall Army Worm.

The fall army worm is native to South and Central America and also occurs in the southern states of the USA. The first detection of fall army worm in Africa was notified in January 2016, when it was reported from Nigeria. From there it spread to several other West African countries and to Central Africa by April 2016. Media reports from Zambia, Zimbabwe and Malawi indicated an outbreak of this pest during December 2016. DAFF informed commodity and research organisations of a possible threat and encouraged producers to report suspicious pest damage. This initiated possible pest reports which led to sample collection and positive identifications.

The fall army worm is a strong flyer and could be distributed by prevailing winds over large distances. The department realises that transboundary pests and diseases, especially migratory pests threaten food security and that coordinated regional efforts are important to address these risks. The department therefore participated in the engagement hosted by the Food and Agricultural Organisation, which claims to strengthen and align efforts strengthen controls of plant and animal pests and diseases. The DAFF equally continued to engage with SADC to ensure early warnings of these biological threats are in place.

The South African Emergency Plant Pest Response Plan is already in motion which deals with new pest detections in South Africa. The actions implemented depend on the pest, the extent of the spread and extent of the damage. After a positive identification, the DAFF continued with assessment of spread and damage, awareness actions to provide farmers with accurate technical information and control options. Pheromone traps will be imported into South Africa to determine the exact extent of the spread and the specific strain of fall army worm present in South Africa. Diagnostic support has been increased to deal with the bulk of sample identification.

As the fall army worm is a new pest to South Africa, no pesticide was previously registered to be used against it. A process of emergency registration of agricultural chemicals was ongoing with two active ingredients already registered to be applied against this pest. As with all agricultural remedy applications the label instructions must be followed in accordance to the supplier's recommendations.

In conjunction with the sample collection and the various reports received, the DAFF undertook a more comprehensive survey to determine the spread of the pest. In parallel to this, damage assessment was done and, as appropriate, the necessary actions were undertaken to manage the pest.

An awareness campaign was rolled out to all provinces to provide technically correct information regarding the management of the pest. The department had identified specific research focus areas in South Africa that will allow for a deeper understanding of the behaviour and biology of the pest. This will enable the improvement of relevant management and control strategies.

The DAFF has also initiated a plant pest action group which consists of members from provincial department of agriculture, researchers, several producers associations and industries which may be affected by this pest. The group met regularly to evaluate progress and results.

The presence of the pest was notified on the International Plant Protection Convention's portal in terms of South Africa's international pest reporting obligations. SADC member countries were also notified and regional control measures were discussed.

Rural Enterprise Development (RED) Hub

In March 2017, President Jacob Zuma launched a RED hub in the Eastern Cape.

The hub is one of government's efforts to stimulate growth through agriculture and agro-processing.

This development will alleviate poverty and address low levels of development in the district.

Agriculture is the third highest contributor to the Alfred Nzo District's economy. There is an urgent need for major new private sector investments to create jobs and improve livelihoods in the area.

The establishment of the RED Hub will thus stimulate local economic development as well as the investment drive to expand beyond agriculture and traditional subsistence farming.

Farmers will also move from subsistence to commercial farming.

The creation of the RED hubs is another effort to stimulate primary and agro-processing as well as the marketing of products from the rural areas.

In addition to this RED Hub, the province has other three RED hubs: in Mqanduli in the King Sabatha Dalindyebo Municipality, Ncora at Intsika Yethu Municipality and Lady Frere in Emalahleni Municipality.

The total amount invested by government in the RED hubs over the past three years is R190 million.

Of the four existing RED Hubs, the hub in Mbizana leads the pack in terms of investment as government has invested R53 million for the state-of-the-art structure.

Fourteen primary co-operatives that have been formed, which in turn formed a secondary co-operative which is a structure that owns the RED Hub.

In April 2017, the Griekwaland-Wes Korporatief's factory in Kimberley in the Northern Cape was opened. This is a R400-million investment that will see the company creating 100 new permanent jobs in the province.