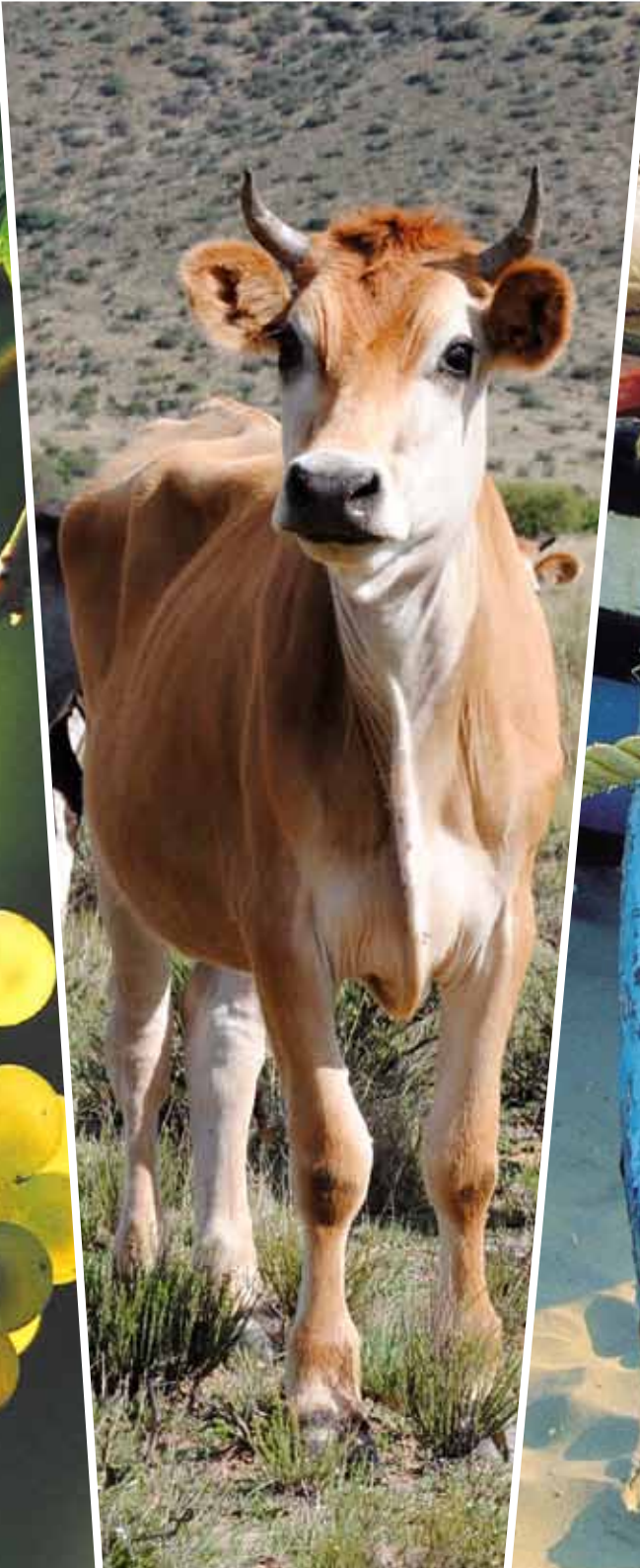


SOUTH AFRICA YEARBOOK 2012/13



# Agriculture, Forestry and Fisheries

Agriculture,

The agriculture, forestry and fisheries sectors are crucial to South Africa's socio-economic development. However, the future of these sectors depend 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 key priorities of the Department of Agriculture, Forestry and Fisheries are therefore aligned to alleviating poverty, creating employment and improving food security. Added to this, the department focuses on the conservation and sustainable use of the country's natural resources in the agricultural, forestry and fisheries sectors.

The department's overall responsibilities include production and resource management, agricultural support services, trade and economic development, food safety and bio-security, forestry and marine aquaculture.

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

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

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

The forestry industry is one of the strategic economic sectors in South Africa, with a sig-

About 8,5 million people depend on agriculture for their employment and income. Government's New Growth Path has targeted job opportunities for 300 000 households in agriculture smallholder schemes and 145 000 jobs in agro-processing. This in turn will have the potential to upgrade conditions for 660 000 farm workers by 2020. The department is committed to creating 130 000 jobs in the agriculture, forestry and fisheries sectors by 2014.

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

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

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

### Legislation and frameworks

Subsequent to a tender process, the University of Pretoria was appointed as the service provider to assist the department with the review of all its legislation in 2012.

The following key legislation guides the actions and decision-making of the sector:

- The Veterinary and Para-Veterinary Act, 1962 (Act 71 of 1962) provides for the establishment, powers and functions of the South African Veterinary Council, for the registration of people practising veterinary and para-veterinary professions and for control over the practising of veterinary and para-veterinary professions, and was amended in 2012.
- The Fertiliser and Farm Feeds, Agricultural Remedies and Stock Remedies Act, 1947 (Act 36 of 1947) regulates the registration of fertilisers, stock feeds, agricultural remedies, stock remedies, sterilising plants and pest control operators, and provides for control over the acquisition, disposal, sale and use of fertilisers, farm feeds, agricultural remedies and stock remedies.
- Consultation regarding the Plant Breeder’s 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 varieties of plants, which in turn positively impacts on the competitiveness of South Africa’s agricultural sector.
- The Genetically Modified Organisms (GMO) Act, 1997 (Act 15 of 1997) provides for the regulation of GMO activities in South Africa, and states that biosafety assessments should be conducted for every proposed

Gross value of agricultural production, 2011 (R' million)	
<b>Field crops</b>	
Maize	16 670
Wheat	4 340
Hay	3 141
Grain sorghum	297
Sugar cane	5 292
Groundnuts	374
Tobacco	455
Sunflower seed	3 340
Soya beans	2 255
Other	1 878
<b>Total</b>	<b>38 042</b>
<b>Horticulture</b>	
Viticulture	3 733
Citrus fruit	6 888
Subtropical fruit	2 364
Deciduous and other fruit	8 958
Vegetables	8 320
Potatoes	5 057
Other	2 136
<b>Total</b>	<b>37 456</b>
<b>Animal products</b>	
Wool	2 074
Poultry and poultry products	32 664
Cattle and cattle products	17 259
Sheep and goats slaughtered	3 788
Pigs slaughtered	3 228
Milk	9 200
Other	3 572
<b>Total</b>	<b>71 785</b>
<b>Grand total</b>	<b>147 283</b>

Source: Directorate: Agricultural Statistics, Department of Agriculture, Forestry and Fisheries

In February 2013, the Minister of Labour, Ms Mildred Oliphant, announced the new wage determination for farmworkers. The new minimum wage, as of 1 March 2013 to 28 February 2014, was pegged at R105 per day (up from the current R69 a day) for employees who work nine hours a day – or R11,66 per hour, R525 weekly or R2 274,82 per month. The Department of Labour warned that action would be taken against employers who did not comply with the new sectoral determination for farmworkers.

GMO activity. The Act provides a framework to ensure that all activities involving the use of GMOs are carried out in such a way as to limit possible harmful consequences.

- The Disaster Management Act, 2002 and the National Disaster Risk-Management Framework, 2005 address agricultural risk-management and climate change, and is supplemented by several 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; to establish and maintain essential national standards in respect of abattoirs; to regulate the import and export of meat; and to establish 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 combatting 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 carrying on or undertaking to carry on 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. Investigations are done by the provincial department in support of the execution of the Act.
- 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 in-ovulation 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 and the winding-up and dissolution 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 combatting 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 the packing, marking and labelling thereof.
- 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 known as Onderstepoort Biological Products, 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 these purposes to provide for the exercise of control over marine living resources in a fair and equitable manner to the benefit of all the citizens of South Africa.
- The National Forest 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.
- 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 also provides for the exercise of control over sea fishery.

## Budget and funding

### Agricultural economy

In 2012, government increased agro-processing investments to improve production of products such as soya beans, rooibos, beverages, fruit and vegetables, and forestry by allocating R50 million towards the promotion of local agro-processing businesses.

An equitable food security economy will improve access to markets for especially small-holder farmers. Government aims to increase the extent to which it exports processed rather than unprocessed agricultural products.

The entire value chain of biofuels will also be a priority.

Food processing and agro-industries have provided jobs, demonstrating growth of over 25 000 agricultural jobs in the sector for the third quarter of 2011. A further 6 000 agriculture-related jobs were created in the fourth quarter of 2011, which is a year-on-year growth of 3%. This has brought the total employment in the sector to 630 000.

For the period 2010 to 2013, R70 million was set aside to recapitalise the manufacturing plant and allow OBP to respond adequately to outbreaks of animal diseases. The LandCare allocation for 2012/13 is R115 million.

In 2011/12, 15 000 smallholder farmers were targeted, including support provided to small-scale foresters and fishers. Over R1 billion was allocated to the nine provinces for small-holder farmers. By June 2011, the provinces had received the initial 10% of their allocation, which was followed by a further 20% in the next month, and the remaining allocations in October 2011 and January 2012.

In 2012/13, R415 million was allocated to the Illima-Letsema Programme, which is aimed at ensuring food security.

R954 million was allocated for plant and animal production, including inspection and laboratory services; and R935 million for agricultural research, which represents a sub-

stantial increase over the previous year's allocation. Furthermore, R868 million was allocated to food security initiatives, and R349 million for extension support services including new farmer development support.

## Prices and income

The gross value of agricultural production (total production during the production season valued at the average basic prices received by producers) for 2011 was estimated at R147 283 million, compared to R132 136 million the previous year – an increase of 11,5%. This increase can be attributed mainly to an increase in the value of field crops.

The gross value of animal products, field crops and horticultural products contributed 48,8%, 25,8% and 25,4%, respectively, to the total gross value of agricultural production.

The poultry-meat industry made the largest contribution with 17,5%, followed by cattle and calves slaughtered (11,7%) and maize (11,3%).

Producer prices of agricultural products decreased on average by 12,4% from 2010 to 2011.

The weighted average price of field crops increased by 25,5%. The prices of summer grains increased by 48,5%, winter grains by 33,5%, oil seeds by 11,2%, sugar cane by 10,1%, dry beans by 8,0%, cotton by 7,9% and tobacco by 1,8%, while prices of hay declined by 8,7%.

Producer prices of horticultural products rose by 4,2%. Prices of fruit, vegetables and viticultural products increased by 4,9%, 3,7% and 2,7% respectively.

The weighted average price of animal products was 9,2% lower in 2011 than in 2010. Prices received for pastoral products, slaughtered stock and poultry meat increased by 37,9%, 21,3% and 2,3%, respectively. The price of milk, on the other hand, decreased by 2%.

## Farm income

The gross income of producers (the value of sales and production for other uses, plus the value of changes in inventories)

**Production of important field crops and horticulture products, 2011 ('000 t)**

Maize	10 924
Wheat	2 014
Sugar cane	16 800
Grain sorghum	178
Soya beans	710
Sunflower seed	894
Deciduous and other soft fruit	1 780
Citrus fruit	2 340
Subtropical fruit	674
Vegetables	2 578
Potatoes	2 195

Source: Directorate: Agricultural Statistics, Department of Agriculture, Forestry and Fisheries

for the year that ended 31 December 2011 amounted to R144 603 million, compared with R129 741 million in 2010 – an increase of 11,5%. The increase can be ascribed mainly to better prices that farmers received for products in general, but in particular prices of field crops, which improved by 25,5%; and those of animal products, which were 9,2% higher.

Gross income from field crops increased by 29,8%, to R35 798 million in 2011. Income from maize at R16 599 million was R3 096 million or 22,9% more than the previous 12 months. Income from sunflower seed and soya beans also showed substantial increases of 121,9% and 57,6%, respectively.

Income from wheat increased by 53,4% to R4 541 million. At R5 292 million, income from sugar cane was 9,7% higher than in the previous 12 months. Income from tobacco increased by 20,9% to R394 million and income from cotton also showed a marked improvement of 128,5%.

Gross income from horticultural products increased by 3,4%, from R35 787 million in 2010 to R37 020 million in 2011. Income from citrus increased by 6,7% to R6 888 million. This was mainly the result of improved sales and better prices realised on export markets. Income from deciduous fruit at R8 958 million was only 0,8% up on 2010. Income from veg-

etables increased by 6,9% to R13 257 million, and that from viticulture by 3,1% to R3 733 million.

Gross income from animal products was 8,1% higher in 2011 than in 2010 and amounted to R71 785 million, compared to R66 384 million. Red-meat producers earned R17 259 million from slaughtered cattle and calves, as against the previous R14 726 – an increase of 17,2%. Income from slaughtered sheep rose by 10,9%, from R3 220 million to R3 571 million. Income from poultry-meat production increased by 5,5% to R25 713 million. Income from egg production, at R6 951 million, was 4,4% higher than in the previous year. Producers earned R9 200 million from milk production, which is 1,9% less than in the previous year. Income from wool increased by 45,7% to R2 074 million.

Nett farm income amounted to R39 930 million for the year that ended on 31 December 2011, which is 14,6% higher than in the previous 12 months. Payments for salaries and wages, which represented 12,2% of total farming costs, amounted to R12 686 million. Interest paid by farmers to banks and other financiers was estimated at R5 211 million, or 5,0% of total farming costs.

Overall vegetable production in the 2011 season reached 2,578 million tons (Mt), up 2,7% from the previous season, when 2,510 Mt were harvested. Vegetable consumption increased in 2011 to 45,2 kg per capita (+1,0%).

## Role players

### Credit and assistance

The six major sources of credit for farmers are banks (50%), agricultural co-operatives and agribusinesses (12%), the Land and Agricultural Development Bank of South Africa (the Land Bank) (21%), private creditors (8%), other creditors and financial institutions (9%), and the state (1%).

In June 2012, the African Development Bank approved a R1-billion line of credit to the Land Bank to benefit both emerging and commercial farmers.

### DID YOU KNOW?

- In 1992, South Africa exported 21 Mℓ of wine. By 2001, the country exported 217 Mℓ and by August 2012, 377 Mℓ was exported.
- Local sales are growing with about 4% year-on-year and exports by 7,8%.
- There are about 3 600 wine farmers in the Western Cape and vineyards of more than 100 000 ha.
- South Africa is the eighth largest wine producer and its share in the international wine market is about 5%.
- Almost 22% of South Africa's wine exports are to the United Kingdom.
- Wine tourism generates almost R5 billion a year in the Western Cape and creates thousands of jobs.

Additionally, the support will be used to assist agricultural co-operatives and agri-related businesses; and will help mobilise financial resources, contributing to job creation and income generation.

The projected 2 700 loans to be given to emerging farmers are expected to generate some 14 000 jobs, while the financing to the commercial farmers, co-operatives and agri-related businesses is expected to create at least 2 000 jobs, especially for people in rural communities, women and black emerging farmers.

The credit also includes a technical assistance component for capacity-building at the Land Bank and will enable the government to support, promote and facilitate the development and transformation of the agricultural sector in South Africa.

In 2012, the Land Bank also made available R75 million to the National Emergent Red Meat Producers Organisation (Nerpo) to start a new financing facility for emerging farmers in South Africa. The funds will be available at a fixed 4% interest rate and will be dedicated to growing black farmers.

Nerpo will finance farmers with between R100 000 and R1 million to improve infrastructure such as fencing, farm access roads, irrigation, tunnels and general equipment.

## Land and Agricultural Development Bank of South Africa (Land Bank)

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

In March 2012, the Department of Agriculture, Forestry and Fisheries entered into an agreement with the Land Bank as an external agency to manage and administer the AgriBEE Equity Fund, which is geared towards increasing black entrepreneurs in the sector.

The scope of the fund also covers the funding of qualifying enterprise development initiatives, which are targeted at creating economic access and participation for black people in the agricultural sector.

## Micro-Agricultural Financial Institutions of South Africa (Mafisa)

Mafisa is a government-supported financial scheme that aims to increase productivity in farming and agri-business operations. It has nine intermediaries, both public and private, that are required to be registered with the National Credit Regulator to participate in the scheme.

The Department of Agriculture, Forestry and Fisheries presented annual review workshops to monitor and evaluate the performance of intermediaries. In future, workshops will be held on a quarterly basis.

Institutions accredited to retail Mafisa loans include co-operatives, commodity organisations and development finance institutions.

Mafisa loans are available for agriculture-related enterprises, covering the entire agricultural value chain. Funded enterprises include poultry, livestock, vegetables, sugar cane and grain crops.

## Agri South Africa (AgriSA)

AgriSA was established in 1904 as the South African Agricultural Union. It serves some 70 000 large and small commercial farmers.

On behalf of its members, AgriSA promotes the development, profitability and stability of commercial agriculture through its involvement in and input at national and international policy levels.

## Agricultural Business Chamber (ABC)

The ABC is a voluntary, dynamic and influential association of agribusinesses. Its mission is to negotiate and position for a favourable agribusiness environment where members can perform competitively and profitably, and prosper as a result. Other focus areas include:

- serving the broader and common business interests of agribusinesses in South Africa
- facilitating considerable networking opportunities so that South African agribusinesses can play an active and creative role within the local and international organised business environment
- being involved in the legislative and policy environment on many fronts.

ABC South Africa hosted its biennial congress in KwaZulu-Natal in June 2012 under the theme *Investing in the Future*. The congress addressed the strategic challenges of the macro-economic landscape, competitiveness and opportunities in the global agro-food system, transformation and land reform, business interaction with government on policy and legislation and local and international socio-political power dynamics. It also provided an outlook on agricultural commodities and resources.

This congress is one of the major events on the food, feed, fibre and wine sectors' agenda of South Africa. It is a premier agribusiness networking opportunity where business leaders and policy makers meet to shape the future of the South African agricultural sector.

In October 2012, Fruit SA received international recognition for devising internationally recognised ethical standards and audit process in response to South Africa's needs. This will guarantee South Africa's fruit is produced in accordance with acceptable labour and environmental practices.



### **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
- 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 to create a home for thousands of black farmers who had previously been excluded from the mainstream of agriculture. Nafu has members all over South Africa who have constituted themselves into regional unions. The union draws its members from a very broad base that includes farmers, agribusinesses, farmers' organisations, corporations and individuals who support Nafu's objectives and goals.

### **Agribusiness as an economic sector**

Agribusiness can be divided into two categories: nonco-operative business ventures and co-operatives or transformed co-operatives.

Nonco-operative business ventures, also known as profit companies, are involved in the production and distribution of agricultural equipment and production requisites, and the marketing of agricultural products.

Co-operatives dominate the distribution of intermediate requisites and the handling, processing and marketing of agricultural products.

Agricultural co-operatives or agribusinesses are regarded as the farmers' own independent business organisations. They supply their members with production input such as seed, fertiliser, fuel and repair services. They also provide credit and extension services, and handle a large percentage of their members' produce.

Central co-operatives in the country aim to supply the primary co-operatives with specific

services such as the processing and marketing of agricultural products, insurance services for crops, short-term cover and farming requisites.

The structure of agribusiness has changed since the deregulation of the agricultural sector into a free-market economy in 1994. Many co-operatives have transformed into private companies, consolidations and mergers have occurred, international groups have entered South Africa and agribusinesses have listed on the Johannesburg Stock Exchange Limited.

### **Products**

The largest area of farmland planted with field crops is maize, followed by wheat and, to a lesser extent, sugar cane and sunflower seed. The grain industry is one of the largest in South Africa and is a very strategic one.

According to the *Economic Review of South African Agriculture*, the gross income from field crops increased by 29,8% to R35 798 million for the year ended 31 December 2011.

### **Grains**

Maize is the largest locally produced field crop, and the most important source of carbohydrates in the Southern African Development Community (SADC) region for animal and human consumption. South Africa is the main maize producer in the SADC, with production averaging about 10,2 Mt a year over the past 10 years.

It is estimated that over 8 000 commercial maize producers are responsible for the majority 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. Some 10,8 Mt of maize were commercially produced in 2011/12 on 2,7 million ha of land.

Wheat is produced mainly in the winter rainfall areas of the Western Cape and the eastern parts of the Free State. In 2011, 2,0 Mt were produced on 604 700 ha of land.

Malting barley is produced mainly on the southern coastal plains of the Western Cape. The area of barley planted totalled 80 150 ha in 2011, and production totalled 312 000 t.

Sorghum is cultivated mostly in the drier parts of the summer rainfall areas such as Mpumalanga, the Free State, Limpopo and North West. In 2011/12, an estimated 48 550 ha were planted, with production totalling 137 150 t.

## Oilseeds

Groundnuts are grown mainly in the Free State, North West and the Northern Cape. An area of 45 450 ha was planted in 2011/12, producing 60 290 t.

Sunflower seed is produced in the Free State, North West, on the Mpumalanga Highveld and in Limpopo. South Africa is the world's 14th-largest producer of sunflower seed. An area of 453 350 ha was planted in 2011/12, producing 527 110 t.

Soya beans are produced mainly in Mpumalanga, the Free State and KwaZulu-Natal. Small quantities are also produced in Limpopo, Gauteng and North West.

For the 2012 production season, soya beans were planted on 472 000 ha, with production totalling 655 700 t.

Canola is an oilseed crop grown mainly in the Western Cape. However, since the 2001 production season, smaller quantities have been planted in North West and Limpopo.

Canola competes on the local market with other oilseeds such as sunflower seeds and soya beans. For the 2011 production season, the canola crop was estimated at 58 800 t on an area of 43 510 ha.

## Sugar

The South African sugar sector is one of the world's leading cost-competitive producers of high-quality sugar.

It 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 approximately 29 130 registered sugar-cane growers farming predominantly in KwaZulu-Natal, with a substantial investment in Mpumalanga and some farming operations in the Eastern Cape.

In September 2012, South African winemaker Bosman Family Vineyards established itself as one of the world's leading ethical wine producers by winning the Fairtrade Award at the 2012 International Wine Challenge in the United Kingdom.

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

The industry produces an estimated average of 2,2 Mt of sugar per season, of which about 80% of sugar is marketed in the Southern African Customs Union (Sacu). The remainder is exported to markets in Africa, Asia and the Middle East.

## 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 among others.

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.

In 2011, South Africa produced 1 644 825 t of deciduous fruit, 12 036 t more than in 2010.

## Cotton

Cotton is cultivated in the Northern Cape, Limpopo, Mpumalanga, KwaZulu-Natal and North West. It constitutes 74% of natural fibre and 42% of all fibre processed in South Africa.

It is grown under irrigation, as well as in dryland conditions. Some 10 580 ha are dedicated to cotton production, with 69% under irrigation.

## Tobacco

Virginia tobacco is produced mainly in Mpumalanga, Limpopo and North West. The production of Oriental tobacco ceased in 2001.

Jacky Goliath of De Fyne Nursery in the Western Cape won the 2011 South African Commercial Farmer of the Year Award. In 2011, she started a nursery with 1 000 seedlings in her back yard. By March 2012, the De Fyne Nursery handled more than 600 000 plants a year and counted Woolworths among its clients.

Flue-cured leaf tobacco contributes more than 80% to total production, with the number of hectares cultivated for flue-cured tobacco being about six times the land cultivated for air-cured leaf tobacco.

### **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 wetter and cooler southern slopes of mountains. Some species are mostly harvested in the wild, while other species are cultivated commercially.

Some 230 ha of honeybush tea are under cultivation. It is harvested from the natural mountainous veld and processed at on-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 increase turnover from R10 million to R100 million.

Local and international demand exceeds supply. Only 30% of honeybush tea is cultivated by fewer than 10 farmers, and the rest (70%) is harvested in the wild. A new guide that will help small and emerging farmers to get started with this indigenous crop was launched in August 2012 by the ARC.

Due to the growing interest in the health properties of natural products and specifically herbal teas, many biochemists around the world are investigating rooibos.

Stress, ageing, cancer and obesity are some of the lifestyle challenges that featured prominently in the South African Rooibos Council's R2-million research budget 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. Research projects are led by prominent, independent researchers at South African universities and science councils.

### **Floriculture**

In terms of products and markets, there is a strong demand for South African floriculture worldwide. In particular, Germany, the United Kingdom (UK), Japan and the Netherlands represent the greatest opportunities in the short term.

South Africa's indigenous flowers such as gladioli, nerines, freesias and gerberas have undergone many years of extensive research in Europe, and have become major crops worldwide.

South Africa is the leading exporter of protea cut-flowers, which account for more than half of the proteas sold on the world market. South African proteas and so-called Cape greens (fynbos) are marketed in Europe. Production occurs mainly in the Western Cape.

The floriculture industry employs about 17 500 people.

### **Indigenous food crops**

Indigenous food crops are crops that have their origin in South Africa or Africa, as well as those that were introduced into the country or in Africa long ago and are now recognised as naturalised or traditional crops. They are produced or grow naturally in a variety of climatic conditions. Crops are divided into three categories, namely grains, vegetables and fruits.

Grains can be subdivided into cereals and pulses such as millet, cowpea, sorghum, bambara groundnut, mung bean and marama bean.

Vegetables have three subdivisions, namely leafy, tuber and roots; and they include cassava, amadumbe, Zulu round potato, Livingstone potato, cleome, amaranth, Jews mallow, night shade, black jack and African kale.

Indigenous fruits are marula, kei apple, num-num, wild medlar, wild plum, red milkwood, raisin bush and African mangosteen.

The identification of producers and processors of indigenous crops is underway in selected provinces. The aim is to identify key issues and challenges associated with production and processing and how they can be addressed. Of the 16 projects that had been identified in Limpopo, Mpumalanga, KwaZulu-Natal and North West, seven are processing marula, wild medlar, tsamma melon, mobola plum and moringa tree into various products (jam, jelly, juice, achar, salad dressing, powder and chutney) while nine are producing cowpea, bambara groundnut, mung bean, cassava and amadumbe.

### Wine

South Africa is the eighth largest wine producer in the world. The 2011 wine grape crop size was estimated at 1 306 044 t, according to the South African Wine Industry Information and Systems.

This was 3,6% more than the 2010 crop. With the exception of the Orange River, Breede Kloof and Malmesbury, crops in all nine cultivation districts increased.

The 2011 crop – including juice and concentrate for non-alcoholic purposes, wine for brandy and distilling wine – amounted to 1 013,5 million litres. This was 2,8% more than the 2010 wine crop.

Domestic natural wine sales increased by 3,8% between June 2011 and May 2012. Exports of natural wine in bulk increased with 19,9% and exports of packaged natural wine decreased with 10,2% for the period July 2011 to June 2012.

South Africa is looking at a solution to counter the impact of a decision by UK retailers to import South African wine in bulk and bottle it in the UK.

In the 2011/12 period, 52% of South Africa's certified wine was exported in bulk, while in 2006, the figure was around 35%. Wine in bulk means that South Africa does not have the brand identity associated with its high-

quality wine. The decision is also likely to affect the development of other ancillary and downstream industries such as the glass bottle industry.

To reduce the impact of bulk import, Cabinet approved the development of a five-year industry strategy for sustainable growth and to reduce the environmental costs of producing wine. A consumer awareness programme, as well as a study on the impact of possible bulk imports of whisky from the UK, among other things, have also been approved.

### 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 (25 674 ha), the Eastern Cape (12 508 ha), the Western Cape (8 961 ha), Mpumalanga (6 817 ha), KwaZulu-Natal (3 405 ha), and the Northern Cape (1 215 ha).

Pineapples are grown mainly in the Eastern Cape and in 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 the subtropical coastal areas of KwaZulu-Natal and the Eastern Cape.

### Vegetables

Potatoes are grown in 16 distinct potato-production regions throughout the country. About 32% of South Africa's potato crop is produced in the Free State, 18% in Limpopo and 14% in the Sandveld area of the Western Cape.

South Africa's first trilingual dictionary for the wine industry is now available online. The specialised dictionary contains translations and descriptions of 3 500 industry terms in English, isiXhosa and Afrikaans. The dictionary can be accessed free of charge at [www.sawis.co.za/dictionary](http://www.sawis.co.za/dictionary).

The Cape Winemakers Guild has awarded study bursaries to three oenology and viticulture students at Stellenbosch University as part of its ongoing Protégé Programme to further the development of young aspiring winemakers.

The Cape Winemakers Guild Billy Hofmeyr SETA Bursary Programme pays tribute to the Guild's founding chairman, Billy Hofmeyr. Hofmeyr convened the first guild meeting at his home on the farm, Welgemeend, in Paarl on 24 August 1982. The bursaries provide students with financial support during their final year of study, after which they can apply to the guild's three-year Protégé Programme.

This year's bursary recipients are Tsholofelo Segone, who hails from Stellenbosch, Rudger van Wyk of George and Natasha Williams of Saron in the Western Cape.

Approximately 87% of the country's potato crops are produced under irrigation. Of the total crop, 39% is delivered to fresh produce markets and 17% is processed. Frozen French fries comprise 42% of all processed potato products.

In terms of gross income to the grower, potatoes are by far the most important vegetable crop, contributing about 38% to total income derived from vegetables. This is almost equal to the 40% derived collectively from tomatoes, onions, green mealies and sweet corn. In 2011, the gross value of potatoes was R5 056,7 million. During 2011, 2 195 000 t of potatoes were produced.

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 2011, 511 000 t of tomatoes were produced, with a gross value of R1 557,9 million.

In Limpopo, which is South Africa's main tomato-growing area, most of the crops are centred around Letaba (3 260 ha) Mooketsi, and Musina (860 ha). The total Limpopo annual production is approximately 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 Lim-

popo, 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. In 2011, the gross value of onions was R1 099,9 million. In 2011, 586 830 t of onions were produced.

Cabbages are grown countrywide, but the largest crops are in Mpumalanga and the Camperdown and Greytown districts of KwaZulu-Natal. South African cabbage production decreased in 2011 by 5 319 t or 3,5%, to 145 526 t. During 2011, the gross value of cabbage and red cabbage production totalled R186,2 million.

Dry beans are produced mainly in Mpumalanga, the Free State, Gauteng and North West. KwaZulu-Natal, Limpopo, the Western Cape and Northern Cape produce small quantities of this crop. Local demand is substantially higher than local production and therefore large quantities of dry beans are imported each year. In 2012, 47 695 t of dry beans were produced on 39 750 ha of land.

### Organic agriculture

Organic farming avoids the use of synthetic pesticides, herbicides and chemical fertilisers by using a range of techniques that help sustain ecosystems and reduce pollution. There are an estimated 250 farms on 45 000 ha of certified land in South Africa.

Organic crops include various cereals, vegetables, roots and tubers, herbs and spices, fruit, nuts and rooibos tea. The largest fruit crops, in terms of hectares, are bananas, avocados and mangoes, while the largest vegetable crops are cucurbits, tomatoes, asparagus, brassicas and potatoes. Organic wine and olive oil are also produced and organic dairy farming is gaining ground.

As a follow-up to the commitments made in 2011 at the 17th Conference of the Parties to the United Nations (UN) Framework Convention on Climate Change (better known as COP17), the department will promote climate-smart agriculture. This will entail promoting the adoption of sustainable production systems,

namely organic farming, agro-ecology and conservation agriculture.

Regarding conservation agriculture, pilot projects have been implemented in several provinces. This was done in collaboration with the ARC and the Food and Agriculture Organisation (FAO) of the UN.

### **Livestock**

Agriculture forms a critical part of South Africa's socio-economic and socio-political stability. Animal production contributes approximately 41% to the country's agricultural GDP. About 500 000 people are employed by the industry.

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 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 and 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.

### **Dairy farming**

Milk production in South Africa contributes approximately 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, cheese and its byproducts.

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

In November 2012, South Africa hosted the World Dairy Summit. The summit was attended by 56 member countries of the International Dairy Federation that represent 86% of the world dairy production community. The Department of Agriculture, Forestry and Fisheries is also a member of its committee.

### **Beef cattle farming**

Beef is produced throughout South Africa. The amount 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 highly developed transport infrastructure that allows movement of cattle from one area to another, even to and from neighbouring countries such as Namibia.

Mpumalanga commands the greatest share of beef production in South Africa, accounting for 23% in 2009, followed with the Free State and Gauteng, taking up 20% and 13% respectively. Commercial farmers own 60% of the 14,1 million 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 approximately 8 000 commercial sheep farms and about 5 800 communal farmers. In 2011, most of the estimated 28,8 million sheep in South Africa were found in the Eastern Cape, followed by the Northern Cape, Free State, Western Cape and Mpumalanga. Most sheep are woolled or dual-purpose sheep.

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 Mut-

ton Merino, Afrino and Letelle breeds. Dual-purpose breeds are bred with the specific aim of maximising wool and mutton income.

Mutton sheep are found mostly in the semi-desert 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 (37%), followed by Limpopo (21%). 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 kilogrammes accounts for 60% of the world's mohair production. About 63% of all goats in South Africa are so-called indigenous goats.

### **Poultry and pig farming**

The poultry industry is an essential component of South Africa's food value chain. It is the biggest single supplier of protein to the South African consumer and the single largest component of the agricultural sector in the country by turnover, with more chicken meat and eggs consumed per capita than all other animal protein sources combined.

In 2011, broiler production, especially broiler meat production, was the largest segment of South African agriculture at 17%, while all animal products in South Africa contributed 49%.

The farm income from broiler meat for 2011

Professor Kobus Eloff of the Phytomedicine Programme in Veterinary Science at the University of Pretoria was awarded the 2012 Science for Society Gold Medal by the Academy of Science of South Africa. He has made significant contributions to areas that benefit society, including soil fertility, toxic plant and cyanobacteria metabolism and ecology, as well as the use of compounds from plants as medicines and biopesticides.

was R25,556 billion.

The South African pork industry contributes about 2,2% to the primary agricultural sector. The gross value of pork production is dependent on the quantity produced and the price received by farmers. The average gross value of pork over the past 10 years amounted to R1,988 billion.

The predominant pig breeds are the South African Landrace, the Large White, Duroc and the Pietrain. Some 2,4 million pigs were slaughtered during 2011.

### **Game ranching**

Over the past 40 years, there has been a growing interest in the use of wild herbivores in multipurpose systems that include the production of meat, as well as value-added activities such as hunting and eco-tourism. This has led to the emergence of a wildlife ranching sector as a sustainable alternative to more conventional livestock farming systems. The sector uses about 20% of the country's natural veldt resources and provides employment for an estimated 45 000 people.

The game industry is well-organised and regulated. Hunting and game capture are subject to very strict rules and regulations. These include the 2011 *Norms and Standards for Hunting Methods in South Africa* incorporated in the National Environment Management: Biodiversity Act, 2004 (Act 10 of 2004). A key clause states that natural resources must be used in an ecologically sustainable way to maintain viable populations of indigenous species.

In addition, the Professional Hunters' Association of South Africa – the largest organisation of its kind in the world – has a wide-ranging code of conduct and veterinarian services have their own rules and regulations.

The commercial game industry benefits conservation. Hunting is a client of the conservation industry. Between 55% and 60% of the income of the commercial game industry is derived from hunting. Game auctions have become a major revenue stream for conservation agencies.

Statistics over the past six years suggest

that the demand for exotic or scarce species is still outstripping supply.

Trophy hunting makes a notable contribution to the industry, although most of the trophy-type animals sold on auctions are used for breeding purposes.

### **Veterinary services**

In the global trade of food and food products, veterinary public health and food safety aspects in relation to animal products remain a priority and are receiving increasing attention.

In 2011/12, animal disease outbreaks such as Rift Valley fever, Newcastle disease, avian flu, foot-and-mouth disease, African horse sickness and African swine fever posed serious challenges to the industry.

R100 million was set aside for the Primary Animal Health Care Programme. Special attention is given to major rehabilitation of existing infrastructure, as well as the building of new clinics, animal health centres and other animal-handling facilities. Mobile veterinary vehicles will also be considered for remote areas.

These efforts are supporting the creation of an enabling environment for the planned Compulsory Community Service Programme for newly qualified veterinarians.

### **Onderstepoort Biological Products (OBP)**

OBP is a state-owned public company based in Onderstepoort, Pretoria. It is the sole or main producer of a number of vaccines against tropical animal diseases with the potential to cause serious economic disasters.

During the last few years, OBP manufactured a variety of animal health products and played a crucial role in programmes aimed at developing emerging livestock farming and providing food security.

OBP contributes expert advice and vaccines to control other transboundary animal diseases such as contagious bovine pleural pneumonia, lumpy-skin disease, African horse sickness and anthrax, which affect most African countries.

Over the years, OBP has been cooperating

with organisations such as the Pan-African Vaccine Network, World Organisation for Animal Health, SADC and the FAO of the UN to share and gain technology in improving its services.

It has also collaborated with the FAO and the European Union, to provide both technical support and vaccines to countries such as the Democratic Republic of Congo (DRC), Zimbabwe, Lesotho and Angola.

OBP interacts with both national and international research and academic institutions to introduce new, improved and affordable products.

OBP's quality control system has been accredited to ensure that no substandard batches of vaccines leave the plant. One of the company's key strategic objectives is the establishment of a vaccine bank.

Other efforts to improve animal health will include the development of diagnostic tools for major diseases such as foot-and-mouth disease, and African horse sickness.

## **Programmes and projects**

### **Regulatory services**

The department's regulatory services include a variety of activities, including the regulation of plant imports and propagating material of varieties not included in the national varietal lists.

Regulatory activities also include the inspection of plants, animals and their products to ensure that imported animals and their products are free from disease, and imported and exported plants and 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 is regulated to prevent the entry of diseases.

The department also conducts inspections at designated ports of entry. Pre-border 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. Various surveys are also conducted throughout the country.

The Pest Risk-Analysis Division conducts scientific analyses of risks posed, based on scientific data. Risks associated with the importation of plant propagation material are managed by prescribing a compulsory pre-determined 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.

Early detection of economically important exotic pests is ensured through surveillance, detection and rapid response to prevent them from spreading. Closely linked to early detection is implementing proper pest-awareness programmes to keep the agricultural sector and the general public informed.

Through its Import/Export Protocols Division, the department 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.

### **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 directorate also coordinates promotion and awareness programmes addressing cross-cutting standards and legislative requirements for food safety, quality, plant and animal health.

### **National analytical services**

The Department of Agriculture, Forestry and Fisheries have 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.

The laboratory has been working on a project to expand the scope of testing for pesticide residues. By June 2011, 19 chemicals had been included in the existing scope of testing with the liquid chromatography-mass spectrometry/mass spectrometer. This is expected to ensure that South Africa meets its obligations in terms of food safety and quality risk monitoring and improve market access for South African agricultural products of plant origin.

### **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, AgriSA, TAU SA, the ARC and relevant directorates within the department.

The established National Drought Task Team, chaired by the Department of Agriculture, Forestry and Fisheries, advises the National Disaster Management Advisory Forum on drought management. The task team comprises provincial disaster-management centres, organised agriculture such as Nafu, AgriSA, TAU SA, ARC and relevant director-

ates within the department.

During 2011/12, research was carried out to address disaster risk management. Awareness campaigns were also implemented and education and training was provided to strengthen disaster risk management.

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

## Weather and climate

### Climate change

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

South Africa responds to international obligations regarding climate mainly through the Department of Environmental Affairs, but the Department of Agriculture, Forestry and Fisheries, as well as other departments such as the departments of mineral resources, energy, science and technology, and water affairs are also involved.

The Climate Change Programme implemented by the Department of Agriculture Forestry and Fisheries include programmes on raising awareness, policy development, 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 aim to enhance collaborative research into agricultural emission reductions and increase support and resourcing for agricultural emission research.

The research report on the *Agricultural Greenhouse Gas Inventory* as well as capacity-building for the sector was published in 2011. The results of the project will inform the development of the mitigation strategy, which

is expected to assist in achieving food security.

The *Atlas of Climate Change* and *The South African Agricultural Sector: A 2010 Perspective*, aimed at investigating the first- to fourth-order impacts of climate change on agriculture, were also completed and published.

### Early warning unit

Reducing disaster risk through strengthening early warning systems and disseminating early warnings, as well as raising awareness through campaigns, helps to build resilient farming communities. The Department of Agriculture, Forestry and Fisheries has therefore developed and implemented an Early Warning System (EWS) disseminating extreme weather warnings to farming communities.

The EWS communicates monthly advisories and daily extreme weather warnings in support of disaster risk reduction. 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.

### Floods and droughts

Between December 2010 and January 2011, the country experienced devastating floods in Limpopo, the Free State, North West, Gauteng, the Eastern Cape and the Northern Cape. The department has started the process of implementing the Flood Assistance Scheme, with an emphasis on infrastructure repairs. An amount of more than R990 million has been made available through the Medium Term Expenditure Framework period until 2014/15 as part of the flood-assistance scheme.

Linked to the floods that occurred from December 2010 to February 2011, government allocated R12,066 million to the Free State for support to farmers that have suffered losses on farms, including infrastructure losses such as irrigation, soil conservation structures and dams.

During August 2012, farmers in the Free State also suffered crop and livestock losses and damage to infrastructure. Close to 150 000 ha

of veld in the province were destroyed during widespread veld fires. The district that was affected the most was Dewetsdorp, with farmers having lost 65 000 ha.

Other districts affected by fires included Memel (55 000 ha), Reitz (10 000 ha), Viljoenskroon and Verkeerdevlei (6 000 ha) and Bethlehem; the latter reporting five different veld fires in which 1 500 ha were destroyed.

Climate variability has induced drought interspersed with flooding, resulting in lower-than-average agricultural production yields. The Department of Agriculture, Forestry and Fisheries has completed two policy documents: the Agricultural Disaster Risk-Management Plan and the Agricultural Drought-Management Plan.

Limpopo suffers from recurring droughts that alternate with devastating floods, and the farming sector bears the brunt of these harsh climatic changes. While the province was still recovering from the negative effects of drought and veld fires, the Mopani District and in particular the Maruleng Municipality was swept by floods. Farmers suffered crop losses, livestock losses and damage to infrastructure.

In response to the plight of the affected farmers, R5 million was made available in addition to R5 million already made available for drought relief.

### Sustainable resource management and use

The Department of Agriculture, Forestry and Fisheries 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,

Working through the World Economic Forum's New Vision for Agriculture initiative, more than 250 organisations are collaborating to improve sustainable food production and opportunities for farmers in 11 countries in Africa, Asia and Latin America. Together, these activities will have a direct impact on more than 12 million smallholder farmers in the next three to five years.

Agis provides access to spatial information, industry-specific information and decision-support tools.

The Advanced Fires Information System (Afis) tracks all fire outbreaks in the SADC region, through the use of Moderate Resolution Imaging Spectroradiometer satellite imagery. The information can be viewed at [afis.meraka.org.za](http://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 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 thereof and awareness of it have increased sharply over the last two decades. Switching to overhead and micro-regulation systems and the widespread effects these have on crusting-prone soils has contributed to the problem.

Human-induced soil acidification is also 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 (GMOs)

Genetic modification (GM) provides a way of meeting 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 2007, for GM maize that is resistant to certain insect species and herbicide-tolerant; and also for GM cotton that has an improved mechanism to enable herbicide tolerance.

Since the adoption of biotech crops in 1996, the areas planted with GM maize, soya beans and cotton in South Africa have increased to about 2,2 million ha. In 2010, white GM maize plantings totalled 1,139 million ha, representing a market share of about 80,3%; yellow maize plantings totalled 759 000 ha, representing 79,6% of the total yellow maize crop; GM soya bean plantings increased to 332 000 ha, representing 79,4% of the total soya bean crop; and GM cotton plantings totalled 12 925 ha, representing 98% of the total cotton crop.

### 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 fifth Biennial National Landcare Conference was held at the Mmabatho Convention Centre in Mafikeng, North West from 1 to 4 October 2012. The theme of the conference was *LandCare: Sustaining Natural Resource Management 15 Years and Beyond for Better Livelihoods*.

It brought together interested parties within the agricultural resources management sector, to discuss how the programme has addressed degradation, poverty and food security, to reward communities that have taken bold leadership on custodianship of natural agricultural resources and to seek ways to address challenges facing the sector.

Delegates included farmers, members of the executive councils, mayors, traditional leaders, councillors and officials from the Department of Agriculture, Forestry and Fisheries and from provincial departments of agriculture, as well as local and international members of the public.

### **WaterCare**

The WaterCare Programme works with communities to develop action plans for managing and restoring irrigation schemes and preventing the silting up of dams for irrigation.

The rehabilitation of irrigation schemes increases water supply and household food security. WaterCare promotes the development of techniques for water-resource management and encourages opportunities for training in this field.

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 Department of Agriculture, Forestry and Fisheries 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. The department has identified the revitalisation of irrigation schemes and development as a priority area.

### **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**

This programme encourages rural farmers to build innovative structures to combat soil erosion. This includes reducing the depletion of soil fertility and acidity. Through SoilCare, sustainable agricultural production systems such as diversification, management of input and conservation tillage are introduced.

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 residues
- 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.

In 2011/12, 18 schools benefitted from the Junior LandCare Programme in Mpumalanga. Through this intervention, 714 green jobs were created in the province during 2011/12.

### **Smallholder development**

Smallholder farming has become central to job creation and economic growth in South Africa. Therefore, smallholder farmers are encouraged to produce and drive economies in their respective communities. To this end,

the Department of Agriculture, Forestry and Fisheries increased its support to new and existing smallholder farmers, working in close collaboration with the provinces to achieve its targets.

A Smallholder Development Working Group was established to strengthen collaboration between the parties that deal with the smallholder support mandate.

The department encourages household food production through backyard gardens and programmes such as the Household Food Security and Ilima-Letsema Campaign, whose main objective is to motivate communities to plough, plant and produce their own food.

The Ilima-Letsema Programme focused on increasing food production and rehabilitating irrigation schemes and other value-adding projects. In 2011/12, 14 029 jobs were created through the programme.

Smallholder farms not only contribute to food security, but also create jobs for women in poverty-stricken communities. An example is the Ezemvelo Direct Farm Programme in Tzaneen, Limpopo where the majority of participants are women. The programme is aimed at identifying, developing and supporting small farmers to supply Massmart with fresh produce in line with the objective of ensuring that small farmers benefit from the group's fresh produce retail proposition. The programme, representing an investment of more than R15 million, includes training, mentoring, technical assistance and establishing essential links to finance and retail markets.

### Extension and advisory services

Over the past three years, the Department of Agriculture, Forestry and Fisheries has implemented an extension and advisory service

In 2012, Elizabeth Smith of Victor Khanye Municipality in Nkangala District was the overall winner of the Female Entrepreneur Awards in Mpumalanga. She went on to win the Small-Scale Category at national level. Smith has a small-scale operation focusing on tilapia fish species.

revitalisation programme of R555,5 million. To improve the ratio of extension officers to farmers, by the end of 2010/11, more than 1 000 extension and advisory officers had been recruited.

To ensure that these officers are visible on the ground and accountable, the *Farmer's Green Book* was instituted as a tool to be used by farmers to record extension officers' visits.

To ensure access to appropriate information, the department facilitated the countrywide adoption of the state-of-the-art Extension Suite On-Line. This computerised system enables extension officers to access relevant information on the spot as and when it is needed by farmers.

By June 2011, 1 149 extension officers were registered for qualification upgrades in line with the approved norms and standards, and 5 110 extension officers had completed short technical, generic and information and communications technology skills training programmes.

### Training and research

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. In 2011, the department started the process of transforming colleges of agriculture into national agricultural training institutes and completed a comprehensive audit of these institutions. Glen College of Agriculture in the Free State, for example has been repositioned towards an agricultural training institute delivering both further and higher education. The

number of students has increased from 56 to 100 in the 2012 academic year and bursaries have been provided to the lecturers to further their qualifications. The college will further improve capacity by recruiting highly experienced academic and administrative staff.

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 a 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.

Agricultural research is conducted by 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.

The Directorate: Policy Research Support in the Department of Agriculture, Forestry and Fisheries coordinates all agricultural research and development activities.

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 matters within the national agricultural research system.

The NARF facilitates consensus and makes recommendations to government and others on the coordination of research and development and technology transfer to enhance national economic growth, social welfare and environmental sustainability. Annual meetings are held to discuss research needs, priorities and budgeting.

In 2012, the Mpumalanga Provincial Department of Agriculture, Rural Development and Land Administration continued with the research demonstrations on fruits, blueberries and blackberries under the Highveld climate and also evaluated the potential of certain species of medicinal and essential oil plants.

### **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 South African Police Service 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 Department of Agriculture, Forestry and Fisheries.

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

In February 2012, the South African Ostrich Business Chamber enlisted the support of internationally recognised avian influenza experts to assess the country's ostrich industry and advise on the sustainability of the industry. The export of ostrich meat from South Africa has been banned since April 2011 owing to the outbreak of H5N2 avian influenza.

Consumer goods firm Unilever South Africa recently formed a sunflower farming partnership as part of its sustainable living plan and has successfully developed hybrid seeds, which are expected to reduce the country's dependence on sunflower oil imports, to basic services. It falls under the firm's sustainable living plan, established in 2010 to reduce its environmental footprint.

The ostrich industry, in partnership with government, is working towards ensuring a reliable and sustainable disease-control system in the interest of other susceptible birds and also to resume meat exports.

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 to quarantine fruit flies. The technical forum continues to identify, prioritise and manage quarantine pest risks such as the African invader fruit fly.

To strengthen contingency planning regarding pests and diseases, the Emergency Plant Pest Response Plan is being developed for implementation in 2013/14.

In the global trade of food and food products, veterinary public health and food safety aspects in relation to animal products received increasing attention. A policy on independent meat inspection will be concluded by 2012/13.

### Food security

The Integrated Food Security and Nutrition Programme aims to achieve physical, social and economic access to safe and nutritious food for all South Africans. Its goal is to eradicate hunger, malnutrition and food insecurity by 2015.

The Integrated Food Security and Nutrition Programme recognises the broad regional food-security framework that the Regional Indicative Sustainable Development Programme highlighted, and which prompted South Africa to respond to the humanitarian appeal by the UN World Food Programme for emergency food relief in the SADC region.

According to the *General Household Survey Series Report on Food Security and Agriculture 2002 to 2011* by Statistics South Africa, South African households' vulnerability to hunger has declined in the past 10 years from 23,8% to 11,5% in 2011.

According to FoodBank SA, 2,8 million South African households, comprising 11 million people, are deemed food insecure.

A further 14 million South Africans are vulnerable to food insecurity. In spite of strong commitment from government, corporate and civil society to address development issues, there are signs of increasing food insecurity in rural and urban areas. This is owing to rising unemployment, food price increases, HIV and AIDS, adverse environmental conditions, a decrease in cultural support, and poverty in general.

Less than a quarter of households in South Africa are involved in agriculture, including doing agriculture as a hobby. Nationally, more than 84% of households that are engaged in agriculture do so to produce extra food for the household, while only 4,2% of households use agriculture to produce the majority of their food.

The draft Food Security Policy and Zero Hunger Strategy promotes equity and prioritises the eradication of poverty and reduction of inequality among people. The creation of self-employment opportunities is at the centre of this.

To this end, smallholder farmers are supported in the provision of livestock, tractors, implements, seeds and fertilisers. Government is promoting the idea of one family, one vegetable garden in South Africa.

A plan to make food accessible to South Africa's poor was presented in September 2012 when the Minister of Agriculture, Forestry and Fisheries, Ms Tina Joemat-Pettersson, invited representatives from FoodBank SA and the TAU SA to present strategies on how they could contribute towards assisting the poor in urban and rural areas.

The Department of Agriculture, Forestry and Fisheries supports and works closely with FoodBank SA to address these issues.



## Mechanisation

Mechanisation in agriculture is important towards ensuring food security. To this end, government has embarked on a mechanisation strategy aimed at stimulating production by smallholders, with a special focus on rural areas and the former homelands.

By April 2012, 72 tractors had been donated to black farmers as part of a plan by the Department of Agriculture, Forestry and Fisheries to donate 502 tractors to seven provinces. The plan falls under the department's mechanisation programme and follows on the successful delivery in June 2011 of 85 new tractors to Mpumalanga and KwaZulu-Natal, respectively.

Under the plan, each of the seven provinces will receive 62 tractors valued at about R160 million.

Gauteng has received 36 tractors, while the Free State, the Western Cape and the North West have received 12 tractors each. Tractors are still to be allocated in the Eastern Cape, Northern Cape and Limpopo.

By August 2011, 272 were used in 40 projects to till 12 835 ha of land, benefitting 1 608 people in Mpumalanga.

In KwaZulu-Natal, 190 tractors were used by nearly 200 traditional leaders to service over 9 000 ha. In Mpumalanga, a fleet of tractors is part of the Masibuyele Emasimini Programme, while in KwaZulu-Natal the state owns and manages a fleet of tractors and employs and trains the tractor drivers.

In 2012, the Gauteng Department of Agriculture and Rural Development made 72 tractors available to farmers through a three-tier system mechanisation policy. Fifty-nine co-operatives benefitted directly through leases of these assets, which will collectively cultivate 6 000 ha, and 611 beneficiaries stand to benefit.

Agri-Parks such as Onverwacht Agri-Park attracted greater investment from mines with more hydroponics infrastructure, which have benefitted 65 people who are seasonally employed on the farm. The household food security project is key to the alleviation of poverty and hunger.

The co-hosting of the second African Farmers Expo exposed at least 500 farmers to new agricultural technologies and services they can benefit from the development of their enterprises.

## 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 Southern SADC and Sacu. The department continues to expand its trade relations with other countries in the African continent and other countries in the world through bilateral cooperation agreements.

South Africa participates in the Regional Advisory Committee of the Regional Food Security Training Programme.

The Regional Food Security Training Programme was developed over a five-year period as endorsed by the Regional Advisory Committee. Its activities focus on strengthening the supply of food-security training services; strengthening the effective demand for training and development; and sustaining regional markets for food-security-related training services.

The SADC has instituted the Subcommittee for Plant Protection, which is tasked with harmonising phytosanitary requirements in southern Africa. South Africa is also a member of the Inter-African Phytosanitary Council, which was established in 1954.

Regional plant-protection organisations such as these are able to provide valuable regional coordination of the activities and objectives of the International Plant Protection Convention. The Inter-Africa Phytosanitary Council is officially recognised as the Regional Plant Protection Organisation for Africa. The council came into being as the African Union's phytosanitary coordinating body.

The SADC has produced the Memorandum of Understanding (MoU) on the Harmonisation of Seed Regulations in the SADC Region, which is based on three technical documents,

namely the *Regional Variety Release System*, *Seed Certification and Quality Assurance*, and *Quarantine and Phytosanitary Measures*.

Lower costs and simpler administration will encourage local, small-scale seed producers and suppliers to expand their activities.

### Regional trade

South Africa, as a member of Sacu and a signatory of the SADC Treaty, is committed to sharing its objectives with the other nations in the region. Free trade within southern Africa under the SADC Trade Protocol started between Sacu and Mauritius in September 2000. Sacu opened its markets to the countries of the region by implementing the first phase of tariff reduction.

Since 2000, SADC tariffs have declined steadily, making it possible for the participating members to trade at a lower cost. Sacu can import from the region over 80% of agricultural products at zero duty. All other countries will have the same advantage at different deadlines between 2012 and 2015.

The signatories to the SADC Agreement are Angola, Botswana, the DRC, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, the Seychelles, Swaziland, Tanzania, Zambia and Zimbabwe.

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 Department of Agriculture, Forestry and Fisheries is involved as a contact point to receive traders' complaints.

### International cooperation

The department is committed to participate in a meaningful way as member of the Brazil, Russia, India, China and South Africa (BRICS) group of countries. As part of the BRICS' Action Plan for 2012 – 2016, South Africa will coordinate the group's effort to reduce the harmful effects of climate change on food security. This will include adapting agricultural practices to climate change.

The department will open offices in Russia, India and Brazil, in addition to the one which is already operating in China.

On the international front, South Africa has reaffirmed the Doha Development Mandate. The fundamental priority remains to redress the imbalances and inequities that continue to be a disadvantage to developing countries. Agriculture remains at the centre of the multi-lateral trade negotiations of the Doha Round (of the World Trade Organisation) and will determine the desired outcome.

As a signatory to the Rome Declaration of 2003, South Africa has committed itself to the implementation of the World Food Summit Plan of Action. For this purpose, South Africa reports annually to the World Committee for Food Security. South Africa also collaborates with the UN FAO on the implementation of the Special Programme for Food Security.

The department is a member of the FAO, Consultative Group on International Agricultural Research, the International Seed-Testing Association, the Organisation for Economic Cooperation and Development, the Union for Protection of New Varieties of Plants, the World Organisation for Animal Health, the International Organisation of Vine and Wine, the International Grain Council and the International Cotton Advisory Committee.

South Africa is an active participant in other international standard-setting bodies that are vital to its global market share, such as the International Plant Protection Convention, Organisation for Animal Health and Codex Alimentarius.

### International trade

The Directorate: International Trade of the Department of Agriculture, Forestry and Fisheries is responsible for implementing, monitoring and reporting on South Africa's commitments under the WTO Agreement on Agriculture.

In 2012, growing exports to Asia have led to it becoming the largest market for South African agricultural products. China, Hong Kong, South Korea and the United Arab Emirates (UAE) buy 12% of South Africa's agri-

food exports. The country has also increased exports of agricultural products to Zimbabwe from 2% to 8%. Mexico imports 5% of South Africa's agricultural products. Trade with Asia increased from R1,4 billion in 2006 to just over R4 billion in 2010.

South Africa's trade of both primary and processed agricultural products have grown from R10-billion exports in 1996 to about R48 billion in 2011. Wine exports are soaring despite the recent global economic slowdown.

Exports of fish and fish products have rapidly expanded in China and Cameroon, while timber and forestry products are gaining ground in China and Indonesia.

Export markets have undergone structural changes from 2001 to 2011 with new destinations in Asia, the Middle East and North America.

Exports to South Korea have increased from 2% to 3%; to China from 1% to 3%; to the UAE from 1% to 3%; and to Mexico from no trade to 5%.

For the period January to December 2011, compared to the same period in 2010, the value of exports to Singapore has increased by 78% for products such as grapes, apples, pears and avocados; to Hong Kong it increased by more than 5% and to Malaysia an increase of 20% was achieved.

## Forestry

The Department of Agriculture, Forestry and Fisheries is the custodian of South Africa's forest resources, which cover over 40 million ha of the country's land surface area. R1,2 billion from the department's budget has been allocated to forestry and natural resources management.

The forest sector employs around 201 025 workers and provides about 77 000 direct jobs and 30 000 indirect jobs. Forestry provides livelihood support to 2,3 million people of the country's rural population.

The pulp and paper industry provides approximately 13 200 direct and 11 000 indirect employment opportunities. Some 20 000 workers are employed in sawmilling, 6 000 in

the timber board and 2 200 in the mining timber industries, while a further 11 000 workers are employed in miscellaneous jobs in forestry.

In terms of land use, the area under forest is about 1,28 million ha or approximately 1,0% of the total South African land area of 122,3 million ha. The forestry sector (forestry and forest products) contributes about 1,2% to the GDP. In terms of regional GDP, forestry in KwaZulu-Natal contributes 4,5%; in Mpumalanga 4,7%; in the Eastern Cape 0,9%; and about 0,5% in Limpopo.

Tonnage sales for 2011, although marginally more than in 2010, were 1,1% or 176 000 t less than the budget of 15,5 Mt.

The Department of Agriculture, Forestry and Fisheries contribute to eradicating poverty through the Forestry Livelihoods Programme. Firewood, construction poles, medicinal plants and edible fruits are all critical to the livelihoods of the rural poor.

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

The department pursues the afforestation target of 10 000 ha of nett new afforestation a year.

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

In terms of the economic growth and development that forestry offers, the Department of Agriculture, Forestry and Fisheries is working closely with other government structures in the Eastern Cape and KwaZulu-Natal to fast-track the afforestation licensing process. In the Eastern Cape, funds have been secured to assist communities with the processes of environmental impact assessments – a prerequisite to precede any afforestation activity.

Afforestation is taking place in rural areas

where there are few other viable opportunities for job creation and economic activity. The development of these additional raw material resources will attract greater processing capacity in the form of sawmills, board mills, chipping plants and treatment plants, which will lead to broad economic growth. An additional R500 million a year could be generated from such plantations.

The forestry programme also includes greening and tree-planting projects. The programme prioritises work on fire-fighting programmes such as the Working on Fire Programme and encourages the establishment of fire-protection associations.

### Legislation

The National Forests Act, 1998 (Act 84 of 1998) and the Forestry Laws Amendment Act, 2005 (Act 35 of 2005) reflect the vision for the future of forestry in South Africa. This vision emphasises sustainable forest management, and explains how people and communities can use forests without destroying them. The Acts set out rules for protecting indigenous forests, and ensures that the public has reasonable access to state-forest land for recreational, cultural, spiritual and educational purposes.

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; 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, 1998, all natural forests are protected.

The National Veld and Forest Fire Act, 1998 (Act 101 of 1998) and the National Forest and 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. It provides a variety of institutions, methods and

practices for achieving the purpose.

These 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 fire-protection associations, which may be formed by landowners for purposes of veldfire management in a specific area.

### Industry and exports

The forestry industry was a nett exporter of almost R4,5 billion worth of goods in 2011, of which more than 99% took the form of converted value-added products.

The forest products industry ranks among the top exporting industries in the country, having contributed 2,12% to total exports and 1,45% to total imports in 2011. Capital investment in the industry amounted to an estimated R45 billion in 2010.

The value of forest product exports grew by 58% over the past decade, from R9,5 billion in 2001 to R15 billion in 2011. In real terms, however, (taking inflation into account) this growth was -10% over the period in question. Consequently, the nett trade balance in foreign trade in forest products decreased from 2001 by -8% in nominal terms (-54% in real terms) to R4,5 billion in 2011.

In 2011, pulp products were the most important exports (R7 064 billion or 47% of the total), followed by paper (R4 622 billion or 31%), solid wood products (R2 741 billion or 18%) and other products (R553 million or 4%). Woodchip exports, mainly to Japan, accounted for 62% (R1 699 billion) of total solid-wood product exports.

As with other export-based industries, the continuing unfavourable economic environment has had a negative impact on demand, particularly in Japan, which is still recovering from the damage caused to some of its pulp and paper mills by the tsunami in March 2011. Despite this, exports of forest products from South Africa increased in value by R1,6 billion or 10,8% from R13,4 billion in 2010 to R15 billion in 2011.

In July 2012, an anti-poaching campaign led by the Department of Agriculture, Forestry and Fisheries resulted in the arrest of seven men and confiscation of 26 429 units of abalone. The 3,2 tons of abalone were confiscated in five different incidents of illegal poaching.

## Role players

### National Forest Advisory Council

The National Forest Advisory Council advises the Minister of Agriculture, Forestry and Fisheries on all aspects of forestry in the country. The council 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 can 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. The group currently has 18 plantations covering 187 320 ha with one sawmill and renting capacity at two others.

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. Between 2009 and 2011, 11 social compacts were signed with community clusters in Mpumalanga, KwaZulu-Natal and Limpopo.

In 2012, Safcol remained committed to socio-economic development. 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. In the areas where the group signed social compacts, an amount of R8,1 million was spent on socio-economic development projects.

In the same year, Safcol received an award

at the South African Enterprise Development Awards for the Most Innovative Enterprise Development Projects, as per the BBBEE codes. Initiatives towards green building include implementing timber frame structures within socio-economic and enterprise development projects, which also received huge support from our communities.

In support of the drive on skills development and making forestry a career of choice, the group's bursary committee awarded 22 new internal bursaries for 2012/13. The in-house training centre, outside Sabie, offered training courses to 1 144 people and outsourced training courses to 244 people. 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.

Despite difficult trading conditions and operating environment, the Safcol group's financial performance for the 2012 financial year improved as compared to the previous two financial years, resulting in an operating profit of R51 million (excluding the effect of the adjustment of plantation valuation). The profit to date has been attributed to the group's efforts to implement its turnaround strategy.

The group's share in the lumber market has increased from 4% to 12%, following the introduction of its new marketing and sales approach.

### 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:

- monitoring and evaluation of bark-harvesting techniques of two indigenous tree species in the Letaba State Forest
- sustainable harvesting of plants used for medicinal purposes
- sustainable use of monkey rope (*Secamone*)

- gerradii*) 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 gerradii* within the Dr Hamilton Nature Reserve.

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

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

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

Current 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 investment in KwaZulu-Natal aims to increase national production to 100 000 t and employ over 100 000 people.

### National Arbour Week

National Arbour Week is celebrated annually around the first week in September to promote the planting and maintenance of indigenous trees. It highlights the opportunities for sustainable economic development, community participation, poverty alleviation and job creation in forestry.

Every Arbour Week, two to three indigenous trees are selected and promoted as the trees of the year; they include a common variety and a scarcer, possibly endangered species.

The Tree of the Year is a government initiative to raise awareness about the need to value and protect indigenous trees and to educate the public about South African trees.

The common tree of the year for 2012 was *Syzygium cordatum*, also known as the water berry; and the rare trees were the *Protorhus longifolia*, also known as the red beech and *Bruguiera gymnorhiza*, also known as the black mangrove.

The Trees of the Year for 2013 are *Virgilia*

In September 2012, the Department of Agriculture, Forestry and Fisheries and the Northern Cape MEC for Agriculture, Norman Shushu, launched Arbour Week by planting fruit trees, establishing vegetable gardens and distributing seed packs and seedlings to local communities in Galeshewe. The establishment of vegetable gardens helps rural communities produce food in their own backyards, which helps them to feed their families and fight soaring food prices.

*oroboides*, also known as the blossom tree; the *Grewia occidentalis*, also known as the cross-berry; and *Barringtonia racemosa*, also known as the powder-puff tree.

### 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 owing 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.

Any person or organisation may nominate trees for champion status. The trees may be indigenous or non-indigenous. Nomination forms with guidelines for the nomination process are available from the Department of Agriculture, Forestry and Fisheries. Every nomination cycle starts on 1 August of each year, and ends on 31 July the following year.

The first individual tree to be declared as protected under the National Forests Act, 1998 in 2003, was a historic English oak tree, the only remnant of the old Sophiatown that was razed by the previous government when it resettled that community in the 1950s.

This intervention was an attempt by a property owner to stop the imminent destruction of the tree. Protection was afforded only after the tree was severely pruned. This was the starting point of the Champion Tree Project, aimed at preventing similar destruction of other important trees.

Currently, more than 70 trees and groups of trees have been declared by the department as champion trees, based on criteria such as size, age and historical value. These trees are all protected under the National Forests Act. 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 founder member of the South African Communist Party.

On 4 January 2013, an international team of tree climbers arrived in Cape Town for a month-long expedition to climb champion trees throughout the country.

The aim of the expedition, under the leadership of David Wiles of the UK, is to scale about 20 of the largest and oldest trees in South Africa – all listed under the Champion Tree Project.

The tree climbers have a passion for scaling the biggest and the oldest trees, and height is not always the defining criterion. While the Sagole baobab, for example, is only 22 m tall, a mathematical formula established it as the largest indigenous tree in the country on the basis of its extensive trunk circumference, which is more than 33 m.

Through this tree-climbing expedition, the climbers hope to raise awareness of trees and the need to protect our heritage. The department, in partnership with the Dendrological Society of South Africa, assisted in organising the expedition and obtaining necessary approval from various landowners and conservation authorities.

### 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.

Since its inception, more than four million

trees have been planted, 40% of which were fruit trees planted mostly in poorer rural areas of the country.

In an effort to ensure the programme is implemented widely, government is calling on the corporate sector to make a contribution, and for citizens and organisations to become involved.

### Resources

#### Sustainable forest management

Broadly speaking, there are three categories of forests, 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 their 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 species that are harvested and processed into pulp for the paper and packaging industries, sawn timber, furniture, shelving and flooring.

By the end of June 2012, 1 539 752 ha of plantation forestry land (planted and conservation areas combined) in South Africa were certified by the Forest Stewardship Council (FSC), the second-largest area in the southern hemisphere after Brazil.

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 carried out.

There has been an increase in the number of non-corporate growers who have become certified. This can 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.

As part of its commitment to the practice of sustainable forest management, the forestry industry is also involved in the National Forest Advisory Council Committee for Sustainable Forest Management, which develops criteria, indicators and standards for sustainable forest management, tailored to meet South Africa's specific conditions.

The indigenous forests of the southern Cape received FSC-certification – a first on the continent for high forests. This represents a major step towards the sustainable management of the country's natural forests.

#### 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 found in South Africa, 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

The Department of Agriculture, Forestry and Fisheries has urged residents and tourists in coastal areas to help curb the exploitation of the country's marine resources. In October and November 2012 alone, 143 391 units of abalone (about 16 tons) were confiscated. Members of the public can report suspected poaching by calling the anonymous tip-off line on +27 28 313 2703 or +27 28 312 2609, or by calling CrimeStop on 08600 10111.



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 to play 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<sup>3</sup> of round logs are harvested annually (150 m<sup>3</sup> of stinkwood, 750 m<sup>3</sup> of yellowwood, 2 500 m<sup>3</sup> of Australian blackwood and 350 m<sup>3</sup> 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 savannas, 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 of value to poor households annually. While natural forests cover less than one million ha of land in

total, and plantation forestry covers less than 1,5 million ha, 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 savanna 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 savanna, such as camel thorn and leadwood, contribute substantially to the lucrative braaiwood 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 a protected woodland under the National Forests Act, 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.

Savanna 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 savanna woodland types, and

although the biome as a whole is fairly well protected in formal and private reserves, many under-protected savanna types have been identified.

Another woodland type is the albania 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 its high carbon-sequestration rates as a climate change offset.

### Commercial forests

South Africa's demand for wood is met predominantly by commercial forest plantations. 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. Currently, South Africa's plantation forests cover about 1,4% of cultivated 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 completed its role in developing the National Forest Protection Strategy for the Department of Agriculture, Forestry and Fisheries, a project funded by the FAO of the UN.

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

FABI's state-of-the-art biological control and quarantine facility at the university was officially opened in May 2011.

The National Forest Protection Strategy,

which includes forest fire matters, was approved by the FAO and the Department of Agriculture, Forestry and Fisheries in 2011.

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 has 290 million commercial trees on their land. The company harvests 35 million trees and plants 37 million trees every year. Sappi manages about 140 000 ha under natural vegetation, which includes grasslands, indigenous forests, wetlands and riverine areas.

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

### 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 a 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 is 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 to transform 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, facilitating ownership and management of enterprise and productive assets by communities, workers, co-operatives 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 management 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 Department of Agriculture, Forestry and Fisheries 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.

Ninety-six community stream flow reduction activity applications, totalling about 13 000 ha, were being supported by the departments of agriculture, forestry and fisheries and of 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. Its 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. By August 2011, the FTFA had planted more than 4,1 million trees, facilitated over 2 500 organic food gardens for the poorest in South Africa and launched the first carbon calculator and the Carbon Standard (now the Carbon Protocol) in this country.

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 Urban Greening Fund is managed by the FTFA; the departments of water affairs and of agriculture, forestry and fisheries; and the Institute of Environment and Recreation Management.

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 Department of Agriculture, Forestry and Fisheries 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 having been 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 while 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 through the inclusion of 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 other coastal, as well as inland provinces. These are economic decisions, which contribute to employment creation and poverty alleviation.

### Industry and products

South Africa has a well-established fishery sector, with 22 commercial fisheries subsectors and new fisheries being explored and experimented with.

There are two fishery sector components, namely the wild capture fisheries, which includes commercial, recreational and small-scale fisheries each with its own specific research and management mandates.

The other component is the aquaculture (fish

farming) sector, which is considered underdeveloped and as a result has been prioritised due to declining wild stocks.

Wild capture fisheries currently includes three distinct components (commercial, recreational and subsistence fisheries), each of which requires specific research and management interventions.

Fishing contributes approximately 0,5% to the GDP and is regionally important, especially in the Western Cape where it contributes about 2% to the GDP. South Africa is a net exporter of fish and fish products and 55% of the demersal trawl catches are exported. In rock lobster, squid, tuna and demersal longline, almost the total production is exported.

On average, South Africa exports about 160 000 t of fish a year, and imports approximately 55 000 t. The value of exports and imports during 2008 was approximately R3,1 billion and R1 billion, respectively.

The commercial fishing industry currently employs approximately 27 000 people directly and approximately 100 000 indirectly, while aquaculture provides about 1 850 direct employment opportunities on farms.

Regarding commercial fisheries, marine living resources are considered to be fully used and high-value species largely overexploited. However, some rebuilding strategies are underway, for example in hake, rock lobster and abalone. The annual production of commercial fisheries is more than 600 000 t, valued at R5,8 billion. Demersal fishing industries contribute about 70% of the total value of fishing.

In 2012, the Department of Agriculture, Forestry and Fisheries hosted the sixth session of the UN FAO Committee on Fisheries Sub-Committee on Aquaculture. This sector has shown increased production at an annual average of 11,6%. The Fisheries Management Branch received R400 million in 2012/13 to oversee the management of the fishing industry, including R253 million for the Marine Living Resources Fund.

In line with the Free State Provincial Department of Agriculture's intent to unlock the potential of the province, the department has

declared Xhariep district as the Fish Hub of the province. Some 39 fish ponds have already been established in Springfontein, Bethulie and Koffiefontein. The department will be involved as the custodian for three years, after which the infrastructure will be handed over to fish farmers.

In 2012/13 the department allocated R11 million for further development of aquaculture, and this will address a fish processing plant and more ponds.

Growth in the industry is not only dependent on labour and capital inputs, but is determined by the stock of fish available.

There are currently over 2 900 rights holders using 1 788 vessels in 21 different fisheries. This has decreased since 2002, which is in line with the international trend to decrease the number of fishing vessels to reduce the pressure on the resources.

## Legislation and policies

By March 2012, the department was in the process of developing the transformation framework for fisheries.

The Small-Scale Fisheries Policy was finalised and implemented in 2012. The 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.

In March 2012, the Department of Agriculture, Forestry and Fisheries temporarily suspended the harvesting of West Coast rock lobster under the sixth interim relief dispensation.

Interim relief was agreed upon in May 2007, following an Equality Court settlement between the department and small-scale fishers. According to the settlement, the department agreed to grant small-scale fishers access to marine resources until the Small-Scale Fisher-

ies Policy is implemented.

In September 2012, Cabinet approved the ratification of the Maritime Labour Convention 2006 and the Convention on Work in the Fishing Sector, 2007.

The ratification of the convention will provide for improved conditions for decent work in the maritime sector, ensuring that fisheries have decent conditions of work on board fishing vessels.

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 Working for Fisheries Programme.

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.

In 2012, the department published the draft National Plan of Action for the Conservation and Management of Sharks (NPOA-Sharks). It serves as a guideline aimed at promoting the conservation and management of sharks and their long-term sustainable use, and is based on principles of the *Code of Conduct for Responsible Fisheries*, to which South Africa is a signatory. South Africa has one of the most diverse shark faunas in the world and many species are caught in appreciable quantities in directed and non-directed shark fisheries.

Once adopted, this voluntary guideline will provide a mechanism for identifying and resolving the outstanding issues around management and conservation of sharks to ensure their optimal, long-term, sustainable use for the benefit of all South Africans.

## Aquaculture

The development of aquaculture production is regarded as a viable solution to increase the production of fish, thereby decreasing the pressure on natural fish resources.

Rehabilitation programmes to rebuild depleted fish stocks will further contribute towards job creation and sustainable livelihoods. To this end, the department developed the national Aquaculture Development Programme and Strategic Framework.

In support of the adoption of sustainable aquaculture that benefits the poor, the department committed to investing in infrastructure and skills transfer to the amount of R150 million over the 2010/13 period.

The department initiated the Aquaculture and Rural Livelihoods Programme, which is formulated to assist in developing provincial aquaculture strategic plans, revitalising state hatcheries and training aquaculture extension officers. The department also initiated a regional capacity-building programme in aquatic animal diseases diagnostics and management for state veterinarians at Rhodes University in the Eastern Cape.

Aquaculture development programmes have the potential to play an important role in the fishing industry. However, aquaculture production is currently underdeveloped and focuses mainly on high-value products (abalone, oysters and mussels).

The current aquaculture production level is 3 543 t worth – about R218 million. Production can increase to over 90 000 t worth (about R2,4 billion) over the next 10 to 20 years.

Most marine aquaculture is capital and skills intensive. It also has limited potential because of the coastline – few protected areas, high energy coastline and high cost of land-based activities. Distance from the markets means the focus is on high-value products. There are also concerns about genetic contamination and environmental impact on sensitive areas.

## Subsistence fisheries

Participation in subsistence fisheries is broad – coastal communities have traditionally made

use of intertidal and shallow-water resources as a source of food. Only surplus not consumed by fishers are sold locally.

Some 147 fishing communities, 28 338 fisher households and about 29 233 people are considered as true subsistence fishers. A draft policy for the recognition, allocation and management of small-scale fishing rights is being developed for small-scale fishing.

## Recreational fishing

With South Africa's extensive coastline spanning two oceans and with its numerous dams, lakes, rivers and streams, South Africa 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 limited to bag limits of fish on a per-day basis.

The department's Fisheries Division has published a recreational fishing pamphlet to guide recreational fishers regarding the number and species of fish they may catch and where they may catch fish.

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.

## Conclusion

The department's key priorities remain food security, job creation and rural and economic development. Against the background of an increasing global population, the gradual decrease of natural resources and the effects of climate change, food security is a vital focus area for the department.

Both commercial and emerging farmers are important role players in making a success of agriculture in South Africa and in so doing, ensure food security and contribute to rural development and job creation.

Food security will be strengthened by implementing the Food Security Policy to support the Zero Hunger Campaign.

In the next five years, the programme will focus on integrating all the support services within and outside the department by developing a regulatory framework in the form of an Agrarian Beneficiary Assistance Policy.

Efforts to eradicate deeply entrenched poverty in rural areas include programmes that will overhaul the entire social system.

This includes developing an agribusiness sector that will create more employment opportunities. To this end, government is assisting smallholder farmers to become commercial farmers and to turn rural areas into commercially viable zones.

In addition, the rail freight network will be made more easily and cheaply available for the transport of bulk agriculture, forestry and fisheries commodities.

The department's mandate for fisheries management has been extended to include freshwater and inland fisheries, as well as aquaculture. Offices of the fisheries branch will gradually be established in other coastal and inland provinces, which will contribute to job creation and poverty alleviation.

The Small-scale Fisheries Policy, which is being finalised, 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 basis, rather than on an individual basis.

To boost the forestry sector's potential to contribute to job and wealth creation, as well as conservation of biological diversity, government has prioritised the expansion of plantations in areas where it is economically, environmentally and socially appropriate to do so.

Over the medium term, 32 million ha of degraded indigenous forests and woodland will be rehabilitated. About 2 500 small growers will be supported.

In view of the impact of climate change on the sector, future plans also deal with the sustainable use and management of limited natural resources through the promotion of LandCare programmes, the expansion of forests and the conservation of fisheries.

The department will continue to support and conduct research initiatives and programmes to gain a better understanding of the processes behind climate change, vulnerability and eco-friendly agricultural practices.

## Acknowledgements

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