

FARMING IN SOUTH AFRICA

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1 .Introduction

South Africa is situated at the southern point of Africa with a coastline along the western, southern and eastern borders of the country. Neighbouring to the North of South Africa is Namibia, Botswana, Zimbabwe and Mozambique and Swaziland. Nestled within South Africa is Lesotho.

South Africa is a country with a wide range of topography (plains, lowlands, open and closed hills, low and high mountains and table lands). An escarpment, stretch from the southern part of the country running 200 - 300 km inland up along the eastern part of South Africa to the north, with a highest point of 3292m above sea level. This so called Great Escarpment act as a barrier for rain-bearing air-masses from the east resulting in the east experiencing higher rainfall and higher frequencies of rainfall.

Rainfall in South Africa varies from less than 100mm annually in the west to an access of 1200 mm annually in the east. Approximately 35% of South Africa receives less then 300 mm and 7% more than 800 mm annual precipitation. South African can be divided in areas with all year, winter and summer (early, mid, late and very late) rainfall areas. The winter rainfall areas is predominantly in the south western part of the country, the all year rainfall in the south eastern part and the summer rainfall in the central, northern and eastern parts of South Africa.

Although South Africa has a broad diversity of vegetation types, 3 broad vegetation biomes can be distinguished in South Africa, Karoo, Grasslands and Savannas. The Karoo is arid (below 450 mm annual rainfall, mostly winter) and dominated by succulent and non-succulent shrubs and run from the central inland plateau towards the western and southern coasts. The Grasslands (climax and fire) receive mostly summer rainfall (above 450 mm annually) and run over most the central and eastern parts of the country. The Savannas is bushveld country located in the more tropical northern and north eastern parts of the country with high temperatures prevailing.

South Africa expand over more than 122 million ha, are divided into 9 Provinces varying in size form just over 1.8 million ha (Gauteng Province) to just over 36 million ha (Northern Cape Province). South Africa has a population 46.5 million people (79.5% black, 9.1% white, 8.9% coloured and 2.4% Indian / Asian), with 11 official languages.



South Africa has a dual agricultural economy comprising a well developed commercial sector and a predominantly subsistence-orientated sector. South Africa is self-sufficient in all vital and major agricultural products which makes an 8% contribution to the total South African export market. The South African Agricultural market is a free market with no subsidies and limited import tariffs, to protect the market against unfair international competition. Almost 9.6 % of South Africa is utilized by nature conservation and 83% of South Africa is farmland. Approximately 80% of the farmland is natural grazing and 16% arable land with 8% of the arable land under irrigation. The most important limiting factor in agriculture is the availability of water and some parts of the country are prone to drought having a negative influence on production. Almost 50% of South Africa's water is used for agricultural purposes.

Agriculture contributes to 3.7% to the gross domestic product of the South African economy and 7.5% to formal employment, however it is estimated that the agro-industrial sector contributes 15% to the gross domestic product of South Africa. South Africa had about 45 818 commercial farming units during the 2002 census. Approximately 5.1% of all farming units are high income, 18% medium income and 76.9% low income units. Approximately 43.9% of gross value of agricultural production is generated from animals and animal products, 26.9% from field crops and 29.2% from horticulture. Farming debt, to the market value of farming assets, are 29%. Wages and salaries present about 17.6% of the total farming cost, interest paid to banks and financiers amount to about 7.7% of the total farming cost.

2. Livestock

The **red meat** industry is one of the most important industries in the Agricultural sector and contributes approximately 11% to the gross value of agricultural production in South Africa. While mutton production is mainly extensive beef animals are mainly delivered from feedlots. Prices of meat are mainly the result of an interaction between demand and supply. The average beef price is about R14.00 (US\$ 2.34), pork R10.00 (US\$ 1.67) and mutton R18.00 (US\$ 3.00) per kg. Imports accounted for approximately 8% of beef consumption (630 000 mt), 7% of pork consumption (125 000 mt) and 34% of mutton consumption (140 000 mt). Beef imports are mainly from Argentina (43% of all imports), mutton from Australia (94% of all imports) and pork from Brazil (70% of all imports).

Milk production is the 5th largest agricultural industry in the country with an estimated 5200 milk producers producing 1 930 million litres (consumption 2 000 million litres) at a price of R2.00 (US\$ 0.33) per litre. Milk is produced in nearly all regions of South Africa; however the eastern and southern coastal areas are more suitable because of mild temperatures and good rainfall. The Western Cape Province contributes 24%, Eastern Cape Province 20% and KwaZulu-Natal Province 17% to the total milk production. Approximately 24 000 mt of concentrated milk powders, whey, butter and milk fats are imported annually.

Wool (80% Merino) is produced throughout South Africa but the main production areas are situated in the more arid Karoo regions of the country with the Eastern Cape producing 27%, Free State 22%, Western Cape 17% and Northern Cape 13% of the national clip. South Africa, like Australia, is mainly producing apparel wool while other wool producing countries produce coarse wool. Approximately 40 million kg of wool are produced annually fetching a price of R49.75 (US\$ 8.30) per kg (clean). More than 90% of all greasy wool is traded by means of wool auctions and the price are influenced by prices in the Australian market, the exchange



rate, quantities offered and the specific demand for different types of wool on that day. More than 90% of the national clip is exported to Europe and the East.

Mohair. South Africa produces 60% of the world mohair production, approximately 4.2 million kg of mohair fetching a price of R56 (US\$ 9.33) per kg on open cry auctions. Mohair is in essence an export commodity and nearly the total clip is exported.

Cattle are found throughout the country, but particularly in the Eastern and Northern parts of the country (Eastern Cape, KwaZulu-Natal, Free State, North West, Limpopo and Mpumalanga Provinces). Dairy cattle herd sizes vary between 50 - 300 breeding cows and beef cattle between 50 - 1000 breeding cows per farming unit. The total number of cattle in South Africa is estimated at 13.5 million consisting of various international breeds and indigenous breeds such as the Afrikaner and Nguni.

Sheep farms are found in all provinces, but they are more concentrated in the arid parts of the country. Sheep and goat farming occupies approximately 53% of all agricultural land in South Africa, this includes the vast arid Karoo areas of the Northern and Western Cape Provinces and mixed veld types of the Eastern Cape Province and Southern Free State. The largest number of sheep is found in the Eastern Cape (29%), Northern Cape (27%), Free State (21%) and Western Cape (11%) provinces. Commercial sheep farms are also found in other areas, like the desert-like Kalahari, the winter rainfall area of the Cape and the grasslands of Mpumalanga, eastern Free State and KwaZulu-Natal Provinces, where cattle farming are also practised. The total number of sheep in South Africa is estimated at approximately 29 million. Sheep are mainly kept for mutton and wool production and include international and indigenous breeds.

Goats are found mainly in the Savanna and Grasslands regions of the Eastern Cape (45%), Limpopo (15%), KwaZulu-Natal (14%) and North West (11%) provinces. The total number of goats in South Africa is estimated at approximately 6.6 million. Boer goats are kept for meat and Angora goats for mohair. The average number of goats on a farming unit is approximately 230 breeding ewes. A small number of milk goats are also farmed.

Pigs are found predominantly in the Eastern Cape (18%), Western Cape (15%) and Mpumalanga (15%) provinces. Pigs are mainly kept for pork (95%). The pig numbers are estimated at 1.6 million.

Poultry. The poultry industry consists of three distinctly separate branches, namely day-old chick supply, broilers and eggs. A small number of large producers handle approximately 66% of the total broiler production (545 million) in South Africa. The average weighted price to producers for broilers is estimated at R11.40 (US\$ 1.9) per kg. Approximately 7% of all broiler meat consumed is imported from Brazil, Canada and Australia. Approximately 17.4 million layer chickens produce approximately 415 million dozen eggs at R5.34 (US\$ 0.89) per dozen.

Ostriches. South Africa is the foremost supplier of ostrich products to the world, 67% of all ostrich meat, leather and feathers. Approximately 350 000 ostriches are slaughtered per year in South Africa. Ostrich meat are sold around R19 (US\$ 3.17) per kg, R90 (US\$ 15) for feathers per ostrich and leather R800 - R1200 (US\$ 130 - US\$ 200) per skin.

Game farming is found all over South Africa although certain areas are more suitable than others for a wider range of animal species. Game farming is a viable industry with great and growing economic potential. South Africa has more game and a wider variety of game species than most countries.

3. Crops

South African have a wide variation in soils although most cultivated soils is low in organic matter and tend to have a below normal pH. Soils have a definite influence on farming practices and crop selection.

a. Field crops

The largest area of arable farmland is planted with maize, wheat, sugar cane and sunflowers. The grain industry is one of the largest in South Africa and a strategic one. South Africa is a net importer of oilseeds.

Maize is one of South Africa's most important agricultural products, used as a staple food by millions of people in Southern Africa (88% of all white maize) and the most important ingredient in feed rations for animals (83% of all yellow maize). Maize contributes approximately 42% to the gross value of field crops. The major areas of production are situated in the Free State, North West and Mpumalanga Provinces. The present ratio of production varies from season to season but is about 65% white and 35% yellow. Approximately 7% of all maize is produced under irrigation and 93% on dryland. The production of maize varies from season to season between 4.5 and 11 million mt (commercial consumption average 8 million mt per year), produced on an average of 3 million ha with an average seasonal yield of 1.5 to 3.4 mt per ha. About 9000 commercial farmers (20%) are producing most of the crop. In seasons with excess production South Africa export maize to countries like Zimbabwe, Angola, Mozambique and Japan. Maize prices vary substantially during the season (day to day), from one season to the next and from one area to another. Prices have shown variation from R400 - R2000 (US\$66 - US\$333) since 1996.

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Wheat is the second most important field crop produced in South Africa and is mostly used for human consumption (97%). Wheat contributes approximately 15% to the gross value of field crops. Wheat is mainly planted in the winter rainfall areas of South Africa (Western Cape Province, 34%) and south eastern summer rainfall area depending on soil moisture gathered during the summer season (southern and eastern parts of the Free State Province, 33%). Most wheat produced is bread wheat with small quantities of durum wheat. Approximately 20% of all wheat produced is cultivated under irrigation (mostly in the Northern Cape Province) and 80% under dryland conditions. The production of wheat varies from season to season between 1.54 and 2.70 million mt (commercial consumption average 2.8 million mt per year), produced on 718 000 - 1 300 000 ha with an average seasonal yield of 1.44 to 2.58 mt per ha. Wheat are imported each year (400 000 - 750 000 mt) due to the high demand. Wheat prices vary substantially during the season (day to day), from one season to the next and from one area to another. Prices have shown variation from R800 to R1600 (US\$133 - US\$266) since 1997.

Sunflower seed is the main source of plant oil for human consumption in South Africa. About 50% of the local demand for plant oil is satisfied by sunflower seeds produced in South Africa, the balance is made up from other plant oils such as canola, cottonseed, soybeans and imports. Sunflower oil-cake is an important by product, used for animal feeds. Almost 90% of the sunflower seed crop is produced in the Free State (52%) and North West (35%) provinces. Sunflower seeds contribute approximately 5.4% to the gross value of field crops. The production of sunflower varies from season to season between 0.450 and 1.109 million mt (commercial consumption average 0.8 million mt per year), produced on 396 350 - 828 000 ha with an average seasonal yield of 1.1 to 1.4 mt per ha. Prices vary substantially during the season (day to day), from one season to the next and from one area to another. Prices have shown variation from R800 to R2800 (US\$133 - US\$466) since 1998.

Sorghum is indigenous to Africa and is mainly cultivated on soils with a high clay percentage that are less suitable for maize cultivation. Less than 1% of the arable land in South Africa is used for the cultivation of sorghum. Sorghum is mainly produced in the Free State (58%) and Mpumalanga (27%). Sorghum is mainly used for human consumption (malt for beer, sorghum meal and sorghum rice). In years of excess production the excess is channeled towards the stock feed market. The production of sorghum varies from season to season between 156 000 - 445 000 mt (commercial consumption average 210 000 mt per year), produced on 75 250 - 174 100 ha with an average seasonal yield of 1.58 to 2.88 mt per ha. Prices vary substantially during the season (day to day), from one season to the next and from one area to another. Prices have shown variation from R500 to R1500 (US\$83 - US\$250).

Soybeans are well adapted to South African conditions and are mainly cultivated under dryland conditions in the Mpumalanga (51%) and KwaZulu-Natal provinces. Soybeans are used for animal feed (>60%) and human consumption (<40%). The production of sorghum varies from season to season between 58 200 and 277 370 mt (commercial consumption average 210 000 mt per year), produced on 65 000 - 135 000 ha with an average seasonal yield of 0.9 to 1.82 mt per ha. Since 1998 soybeans price variations of between R1200 to R2000 (US\$200 - US\$333) occurred.

Groundnuts are mainly produced in the western and north-western Free State (38%), North West (33%) and Northern Cape (24%) provinces. Groundnuts are mainly used for human consumption in the form of peanut butter (38%) and the edible market (47%). The production of groundnuts varies from season to season between 60 000 and 183 840 mt (commercial consumption average 60 000 mt per year), produced on 42 800 - 165 250 ha with an average seasonal yield of 1.00 to 1.74 mt per ha. Since 1998 price variations of between R1600 to R4525 (US\$266 - US\$755) per mt occurred. The excess production is exported.

Commercial dry-beans are mostly produced in Mpumalanga (57%) and the Free State (25%) provinces. Because the demand (consumption 95 000 - 110 000) is substantially higher than production (42 150 - 91 630 mt on 38 800 - 77 950 ha yielding 0.76 - 1.42 mt per ha) large quantities (45 000 mt) have to be imported most years. Prices vary from R2800 - R4500 (US\$466 - US\$750) per mt between seasons.

Barley is mostly produced under dryland conditions in the Western Cape (68% of production) and irrigation in the Northern Cape (26% of production). Barley is mostly used for the production of malt for brewing beer animal feed and pearl barley. Approximately 73 440 - 112 000 ha of barley are planted each year with a production of 90 800 - 248 610 mt and a yield of 0.89 - 2.85 mt per ha. Marketing of barley is different from other agricultural commodities as there is only one major barley buyer, Southern Associated Maltsters with major share holder SA Breweries. Barley producers have a guaranteed market with a written contract. When the local crop is falling short barley are imported from Canada and Australia (+/- 150 000 mt barley and 65 000 mt malt).

Canola is mainly grown in the Western Cape Province. Canola is used for human consumption (household oil, margarine, mayonnaise, salad oils). The production of Canola is increasing as a result of the high demand and favourable prices. Approximately 45 000 ha of Canola are planted, producing 39 000 mt from an average yield of 1.0 mt / ha with pricing varying between R1 500 - R2 500 (US\$250 - US\$416) per mt within the season. Pricing is mostly based on imported soybean oil cake prices.



Sweet Lupine are mainly grown in the Western Cape Province (winter rainfall area) and is mainly utilised in animal feeds due to its high protein content. Approximately 10 000 - 19 000 ha are planted producing 3 500 - 17 500 mt at a yield of 0.4 - 1.2 mt per ha. Pricing is mostly based on imported soybean oil cake prices and vary between R1 500 - R1 600 (US\$250 - US\$266) per mt.

Cotton is produced in areas with night temperatures above 15 °C (Limpopo, Mpumalanga, Northern Cape, North West and KwaZulu-Natal Provinces). Approximately 60 - 80 % of the area planted is dryland production but the majority of the crop come from production under irrigation since irrigated yields is 6 times higher than dryland yields. Approximately 22 000 ha (12 000 irrigation and 10 000 dryland) are planted, producing 76 000 bales (200kg) fetching R2.50 - R3.50 (US\$ 0.42 - US\$ 0.58) per kg for seed cotton and R8.00 - R12.00 (US\$ 1.33 - US\$ 2.00) per kg for lint cotton. The consumption of cotton is 320 000 - 380 000 bales (200kg) and cotton imports are mainly from the neighbouring countries Zimbabwe and Zambia.

Sugar. The South African sugar industry makes an important contribution to the agricultural sector due to the employment opportunities it create and its foreign exchange earnings. Sugar cane is mostly produced in the north-eastern high rainfall areas of the South Africa (KwaZulu-Natal and Mpumalanga). South Africa produce about 23 million mt of sugar cane (2.8 million mt of sugar) on about 330 000 ha fetching prices between R120 - R170 (US\$ 20 - US\$ 28) per mt sugar cane. About 50% of the sugar produced is sold locally; the rest is exported to other African countries, the Middle East North America and Asia.

b. Horticulture

Deciduous fruit. The main production areas for deciduous fruit (apples - 38%, pears - 21%, table grapes - 12%, peaches, nectarines, apricots and plums) in South Africa are situated in the Western (76%), Eastern (13%) and Northern Cape (11%) provinces, mainly in areas where warm dry summers and cold winters prevail. Although some producers produce both fruit for canning and fresh consumption, it is estimated that there are about 2455 producers of fruit for fresh consumption, 1101 producers of canned and 1104 producers of dried fruit in South Africa producing on 77 500 ha. The production of deciduous fruit is estimated at 1.658 million mt. The exporting of deciduous fruit is a very important earner of foreign exchange for South Africa. Approximately 38 - 50% of deciduous fruit are exported (76% to Europe) and about 70% of the gross values come from foreign exchange. Deciduous fruit contribute approximately 25% to the gross value of horticultural products. Prices vary from season to season and between fruit types from R2000 - R3600 (US\$ 334 - US\$ 600) per mt.

Viticulture. Approximately 110 200 ha are under 317 million vines in South Africa with wine producers. South Africa is the 8th highest producer of wine in the world producing about 974 million litres from 1.257 million mt of grapes. Wine is mainly produced in the Western Cape Province and along parts of the Orange River in the Northern Cape Province. The most common wines produced are Chenin Blanc, Colombar, Cabernet Sauvignon, Chardonnay, Pinotage, Sauvignon Blanc, Shiraz Merlot, and Hanepoot. Prices vary from R1.03 - R3.80 (US\$ 0.17 - US\$ 0.63) per litre, depending on the wine quality. Approximately 232 745 litres of wine are exported (82% to Europe) annually.

Subtropical fruit. The particular climatic requirements of some types of subtropical fruit make the cultivation thereof possible in only certain specific areas of the country. The main production areas for subtropical fruit (avocado's, bananas, pineapples, mangoes, papayas, granadillas, litchis and guavas) are parts of the Limpopo, Mpumalanga and KwaZulu-Natal Provinces. Approximately 580 000 mt of subtropical fruit are produced annually on about 50 000 ha. Bananas (37%) and Pineapples (25%) contributed the major percentage of the subtropical fruit produced. Approximately 32% of all subtropical fruits are processed with pineapples accounting for 75% of all subtropical fruit processed. Approximately 12% subtropical fruit are exported with avocados (61% of the total value of all exports) being the major subtropical fruit exported.

Citrus fruit is grown where warm to hot summers and mild winters prevail (Limpopo, Mpumalanga, KwaZulu-Natal Eastern Cape Provinces). An estimated 3500 citrus growers manage 16 million trees, 100 - 500 000 trees per grower. Approximately 2 million mt of citrus fruit (oranges, grapefruit, lemons, naartjies and soft citrus) are produced annually with oranges constituting about 67% of all citrus production. South Africa is one of the top 5 citrus fruit exporters in the world exporting about 1.1 million mt (55% of all citrus produced) of citrus fruit each year. Approximately 25% of all citrus are processed.

Vegetables (tomatoes, onions, green mealies, cabbages, pumpkins, carrots and others) are produced in most parts of the country but farmers in certain areas tend to concentrate on specific crops. The total production of vegetables is about 3.5 million mt (43% potatoes, 8.5% green mealies, 12.5% tomatoes, 10% onions). Approximately 60% of all vegetables produced are traded on the fresh market, 14% processed, 20% traded or consumed directly and 5% exported.

4. Challenges

Production costs increase faster than product prices marginalizing the net farming income (a 23% decrease from 2003 to 2004). The production cost maize in South Africa is similar to USA but the yield per ha is a lot less, bringing the product yield per production cost to high to compete against USA products.



Product prices are influenced by a number of fundamental factors playing a role in determining product prices: International product prices, exchange rate of ZAR, production levels locally and international, stock levels local and international and weather conditions.

Crime with regard to theft and personal safety is in some ways unique to South Africa. The averaged number of attacks on farms since 1997-2004 where 828 per year with 123 farm murders per year. Theft amounted to an average of R26 190 (US\$ 4 365) per farming unit (45 000 units) annually.

Land reform in South Africa is in process to move ownership of land from previously advantaged groups to previously disadvantaged groups. The government wants all land restitution claims settled within the next three years, and 30% of agricultural land to be delivered to the previously disadvantaged by 2014. By December 2004, only 3% of commercial farm land had been redistributed. The challenge is to manage it in a way to ensure sustained production of agricultural products. The process is slow and the political pressure high.

Research with state funds has been cut severely due to the demand for funds needed for housing, medical and education projects. Most of the challenges has been there for many years and surely will be there for many more. Meeting these challenges will require strategies that include innovation, creativity, technology, skilled personnel, sound management and teamwork.

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