



Development Planning Division
Working Paper Series No. 17

The economic performance of agriculture in South Africa since 1994: Implications for food security

Suggested citation

Vink, N. & Van Rooyen, J. 2009. *The economic performance of agriculture in South Africa since 1994: Implications for food security*. Development Planning Division Working Paper Series No.17, DBSA: Midrand.

Note

This paper is one of a set of papers on the theme of food security that the Development Planning Division of the DBSA commissioned in 2009. There is a list of these papers at the back of this document.

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Introduction

The performance of agriculture in South Africa has to be seen in the context of the economic history of the country, which saw heavy investment in (white) commercial agriculture, a key constituency of the apartheid state, through most of the twentieth century. The state supported farmers through legislation such as the Cooperative Societies Act (1925) and the Marketing Act (1968), through investment in research and development, infrastructure, extension services and the settlement of farmers, and through protection of domestic markets from international competition. At the same time, a range of measures, such as the Land Act (1913) and the creation of the homelands, were put in place to suppress black farmers, both in the commercial farming sector and the communal areas of the former homelands.

Four events between 1973 and 1976 catalysed a number of significant political, social and economic changes in South Africa that heralded a new approach to agricultural policy. These were: the labour unrest and 'unlawful' strikes by black trade unions in the Durban region in 1973; the OPEC oil crisis of 1973; the *coup d'etat* in Lisbon in April 1974 that resulted in South Africa's abortive invasion of Angola in 1975; and the Soweto students' uprising of June 1976. By 1976, the economy had fallen into recession, which turned into a period of prolonged stagflation that lasted until 1994. The late 1970s saw a shift in economic policy with a stronger focus on the deregulation of the financial markets, which, in turn initiated a process of deregulation in the agricultural sector that was partially completed by the early 1990s. However, with the advent of democracy in 1994, and the appointment of the first African National Congress (ANC) Minister of Agriculture in 1996, change started to take place much more rapidly.

The first purpose of this report is to summarise the performance of the agricultural sector between 1994 and 2008, and to examine the relationship between policy and performance. Accordingly, the first part of the report analyses commercial agriculture, followed by an overview of farming in the communal areas of the former homelands.

The second purpose of this report is to examine the connection between agricultural production and food security.

The growth performance of commercial agriculture¹

Output and GDP contribution

The performance of South African agriculture, a sector that has command over relatively poor natural resources, is strongly influenced by weather occurrences. Historically, there has been a severe country-wide drought in at least one year of each of the preceding decades (the most severe being in 1966, between 1982 and 1984, and from 1992 to 1993). The period from 1994 to 2008 is an exception to this trend, as there has not been a country-wide drought for more than a decade.

¹ Data in this section are from the National Department of Agriculture, 2008. Abstract of Agricultural Statistics. Pretoria, National Department of Agriculture unless otherwise specified.

The sector is also highly exposed to global markets, as farmers receive few subsidies; international trade (imports and exports) makes up a large proportion of total production; and trade at the country's borders has been substantially liberalised. Farmers' incomes are therefore highly dependent on movements in the exchange rate and on global economic conditions.

The agricultural sector's declining share of GDP does not mean that the sector is declining; it is more an indication that the services sectors are growing faster. Real gross farm income increased from around R25 billion in 1970 to almost R50 billion in 2006 (more than R90 billion in 2008 in nominal terms). This growth took place during a period when the South African population increased from around 20 million in 1970 to some 47 million people in 2008. Physical output increased from around 18 million metric tons in 1975 to 28 million metric tons in 2006. However, until the mid-1990s, the growth in physical production was not sufficient to keep pace with population growth, showing a declining physical production per capita until that time, and a flattening out since. This coincides with democratisation, accompanied by trade liberalisation and internal market deregulation in agriculture, to be discussed later in this report.

Productivity

Net farm income (NFI) is a measure of the profitability of farming enterprises. It is calculated as gross farm income (turnover) minus depreciation, salaries and wages, interest, and rent. The data show that expenditure by farmers on intermediate goods and services tracks the upward trend in real gross farm income over the entire period, while real NFI has remained stagnant. However, given that the prices of intermediate goods have risen faster than output prices, this reflects an increase in total factor productivity.

The increase in total factor productivity is supported by evidence of increases in the productivity of capital, labour and land:

- The value of capital assets in agriculture declined rapidly throughout the first half of the 1990s, and then increased moderately in the second half of the decade, as nominal land prices recovered with the upsurge in inflation and the increase in NFI that resulted from the collapse of the exchange rate in 2002. This resulted in the amount of real net farm income generated from each R100 in assets increasing in the second half of the decade, a reflection of improved efficiency in the use of capital.
- The unit cost of labour declined from 18.5 cents per Rand of output in 1993 to 10.8 cents per Rand in 2007², a reflection of declining overall employment and simultaneously the employment of more skilled workers³.
- There have been increases in production per hectare in almost all the major field crops, as will be discussed below.

² Statistics South Africa (various years) Agricultural Census. Pretoria, StatsSA.

³ Borat, H. 2000. The impact of trade and structural changes on sectoral employment in South Africa. Development Southern Africa. Vol. 17(3): 437 – 466.

Sub-sector composition

Given that most of South Africa is unsuited to cultivation, it is no surprise that the largest component of production comes from livestock, with field crop production substantially larger than horticulture in 1986-1990 but less so in 2001-2006 (table 1). These data reflect the increasing importance of horticultural exports as a share of total agricultural output. However, these aggregate changes mask a number of important changes within each of these sectors, as is explained below.

Table 1: Agriculture sub-sector share of output, 1966-2006⁴

	Field crops	Horticulture	Animal production	Total
1966-1970	42.5	16.2	41.3	100
1971-1975	44.9	16.4	38.7	100
1976-1980	47.1	16.4	36.5	100
1981-1985	42.0	16.4	41.6	100
1986-1990	37.7	19.1	43.2	100
1991-1995	32.6	22.9	44.5	100
1996-2000	33.0	25.1	41.9	100
2001-2006	30.4	26.9	42.7	100

The balance of trade

Table 2 shows the trends in South Africa's agricultural trade since the mid-1960s. A number of important shifts can be identified from these data:

- Agriculture's share of total exports has remained at between 8% and 10% since the beginning of the 1980s. In the second half of the 1990s, the proportion increased from below 8% to above 9%, showing that during this period agriculture was a catalyst of export-led growth for the country as a whole.
- The next row in the table shows the share of exports in total agricultural production: the share declined from around a third between 1965 and 1979 to just above a fifth between 1980 and 1994, reflecting the effect of international economic sanctions on agriculture. This also partly explains the relative lack of competitiveness of agriculture (to be discussed below). During the latter part of the 1990s, the sector achieved little more than a re-entry into markets lost during the 1970s and 1980s.
- Exports of processed agricultural products⁵ have increased faster than exports of unprocessed agricultural products: their share has increased from 40% to 60% since 1965, with the sharpest increase occurring from 1990 to 2005

⁴ Adapted from: National Department of Agriculture. 2008. Abstract of Agricultural Statistics. Pretoria, National Department of Agriculture.
⁵ These are higher value agricultural exports, as opposed to manufactured agricultural goods, i.e. food and beverages.

- Agricultural imports have grown faster than agricultural exports, and agriculture's share of total imports has remained relatively stable since 1970. However, the greater import propensity of the rest of the economy has meant that agriculture's share of total imports declined from 6.6% to 5.2% after 1999.
- Between 1965 and 2005 imports increased from 4.6% of total agricultural output to a fifth of total agricultural output. As a result, import cover (the ratio of agricultural exports to agricultural imports, a measure of the ability of the agricultural sector to pay for its own imports) declined drastically from 7.64:1 between 1960 and 1965 to 1.63:1 between 2000 and 2005, and turned negative in 2007.
- In the final row of the table, total exports plus total imports are given as a proportion of total agricultural production as a measure of the 'openness' of the sector to trade. It is clear that there has been a significant increase in this measure over the period under review.

There are three further structural shifts in South Africa's agricultural trade portfolio that started during the 1990s that need to be noted:

- While the European Union remains the largest destination for agricultural exports, there has been a notable increase in exports to the rest of Africa, which by 2005, constituted 20% of total agricultural exports.
- Argentina emerged as the main origin of food and agricultural imports into South Africa (mainly in the form of animal feed), a consequence of the rapid increase in poultry consumption. By 2000, South Africa had a positive trade balance in agricultural and food products of around R2.5 billion with the non-Southern African Customs Union (SACU) member countries of the SADC; and only three SADC countries featured in the top 25 import sources, namely Zimbabwe, Zambia and Malawi.
- South Africa's trade balance in the manufactured goods category of food and beverages was positive for most of the second half of the 1990s; however, by 2005, imports were equal to exports, indicating a neutral trade balance.

The most important implications of trade policies for the agricultural sector since 1994 are:

- After deregulation, the prices of field crops adjusted downwards to world market levels, resulting in commercial farmers shifting to minimum intervention production systems. This led to a rapid decline in the use of inputs such as fertilisers, insecticides and herbicides, tractors, combine harvesters and other implements, and fuel. This has been accompanied by an on-farm shift in field crop production to better quality soils, and a sectoral shift in production out of more marginal areas. These locational and cropping pattern effects have allowed farmers to maintain total output of the major field crops while ploughing less land.
- Commercial farmers have adopted a wide variety of risk management strategies other than lower input use to cope with the greater instability. These strategies have been focused on income

diversification (such as more part-time farming and investment in on-farm agro-tourism facilities), and on asset diversification. (Large-scale farmers have tended to diversify into different subsectors of agriculture, or into different regions within the same subsector. For example, a maize farmer will diversify into horticulture, or a table grape farmer will buy additional land in a different production area). The result is a simultaneous consolidation of large commercial (industrial) farms with an increase in the number of smaller commercial farms, and an overall increase in the average farm size.

- South Africa has also increased its imports of animal feeds based on oilseeds, as the evidence shows that local commercial farmers are not competitive in the production of these commodities. One of the locational effects of this change has been a shift in the dairy industry to the coastal regions, i.e. to production systems based on natural pasturage.
- The notable exception to the effects of trade reform on field crop production is the sugar industry, which still enjoys high levels of tariff protection on account of several factors including: the large investment required in the processing of sugar; the fact that the world sugar market is even more severely distorted by the protectionism of the OECD countries than other agricultural products; the large number of small-scale sugar producers that need protection; and the greater lobbying power of the industry. South African sugar producers even enjoy protection from producers in other SACU and SADC countries. While the domestic pricing structure has been liberalised to some extent in the past eight years, producers in the sugar sector have not had to adjust to the same extent as maize and wheat producers.
- The tariff structure that has emerged from changes in trade policy in South Africa generally affords greater protection to value-added products than to commodities. One result of this is that farmers generally sell their products into oligopolistic markets, and buy their inputs from oligopsonistic suppliers, which adversely affects their terms of trade. Commercial farmers have been able to counter these effects by increasing multifactor productivity. However, continued increases in productivity are dependent on new technologies, which in turn are at least partly dependent on state funding. This issue will be discussed below.
- South Africa has traditionally been a net importer of red meat, with most imports sourced from Botswana and Namibia. The lowering of trade protection has resulted in increased competition from non-traditional suppliers such as Australia (mutton and lamb) and the (subsidised) EU producers (mostly low-quality beef cuts). However, over the past few years the weakening exchange rate seems to have resulted in a decline in these imports in the past few years.

Table 2: South Africa's trade in agricultural goods, 1965-2005⁶

	1965-1969	1970-1974	1975-1979	1980-1984	1985-1989	1990-1994	1995-1999	2000-2005
Exports								
Total exports (Rm)	1 222	2 092	7 305	20 746	45 164	72 534	13 3623	27 2382
Total agricultural exports (Rm)	430	689	1 412	1 946	3 613	5 520	12 132	22 293
Gross value of output (Rm)	1 237	2 100	4 234	8 458	16 087	25 581	42 349	68 282
Agricultural exports as a percentage of total exports	35.21	32.92	19.33	9.38	8.00	7.61	9.08	8.18
Agricultural exports as a percentage of total agricultural output	34.79	32.80	33.35	23.01	22.46	21.58	28.65	32.65
Processed agricultural exports (Rm)	182	341	724	942	2010	2865	6650	13384
Unprocessed agricultural exports (Rm)	249	347	688	1004	1604	2654	5482	8909
Processed agricultural exports/total agricultural exports	42.18	49.56	51.25	48.42	55.62	51.91	54.81	60.04
Imports								
Total imports (Rm)	1 862	3 243	6 536	18 240	32 499	55 122	125 364	264 682
Total agricultural imports (Rm)	56	174	290	870	1 689	3 476	8 317	13 687
Agricultural imports as a percentage of total imports	3.02	5.38	4.43	4.77	5.20	6.31	6.63	5.17
Agricultural imports as a percentage of output	4.55	8.30	6.84	10.29	10.50	13.59	19.64	20.05
Import cover	7.64	3.95	4.88	2.24	2.14	1.59	1.46	1.63
Openness	39.34	41.10	40.19	33.30	32.96	35.16	48.29	52.69

⁶ Author's calculations.

Investment

The propensity to invest in the agricultural sector is a function of the expectations of people and businesses active within the sector, as well as the expectations of prospective investors, both foreign and domestic. Unfortunately, South Africa keeps no official disaggregated data on foreign direct investment. Nevertheless, table 3 shows real gross capital formation in agriculture over the past four decades.

Table 3: Real gross capital formation in agriculture, 1970-2005⁷

	Fixed capital (Rm)	Working capital (Rm)	Total capital (Rm)
1970-1974	1 529	2 293	3 790
1975-1979	1 746	3 111	5 166
1980-1984	1 607	3 447	4 732
1985-1989	1 381	2 437	4 469
1990-1994	1 481	2 020	3 249
1995-1999	1 791	2 509	4 453
2000-2005	1 929	2 494	4 449

The data show that participants in the sector had started to invest in fixed capital ahead of the political and economic policy changes of the first half of the 1990s. Fixed capital formation, which declined from R1746 million annually in the late 1970s to R1381 million a decade later, increased to almost R2 billion by 2005. Working capital investment, on the other hand, declined from almost R3.5 billion annually in the first half of the 1980s to just above R2 billion in the period between 1990 and 1994. This is largely due to the changes in management practices in the field crop sector, including the switch to minimum intervention farming, and to the increasing average age of the nation's tractor fleet, as commercial farmers no longer received a preferential tax regime on capital purchases, and thus kept their tractors for longer.

Table 4 shows foreign direct investment (FDI) in the agricultural sector from 1994-2006. In nominal terms, the size of FDI grew by 180% over the period. However, when this amount is adjusted by the effective exchange rate, the growth in FDI from 1994-2006 was in fact 40%. Nevertheless, FDI levels in agriculture were extremely low in 2005: the value of total capital invested in agriculture was R143 348 million of which R734 million, or 0.5%, was FDI.

⁷ Adapted from: National Department of Agriculture 2008. Abstract of Agricultural Statistics. Pretoria, National Department of Agriculture.

Table 4: FDI in the agricultural sector, 1994-2006⁸

	FDI in agriculture, hunting and fishing (Rm)	FDI Total (R m)	Agriculture as a % of total FDI	Nominal effective exchange rate 2000 base	Real FDI in agriculture (deflated by effective exchange rate) (Rm)
1998	387	91 862	0.42	107.72	417
1999	406	318 630	0.13	106.32	432
2001	457	328 859	0.14	60.64	277
2002	653	370 695	0.18	75.33	492
2003	500	303 438	0.16	87.53	438
2004	719	355 088	0.20	97.74	703
2005	734	489 317	0.15	95.76	703
2006	888	611 722	0.15	81.02	719

If investment is driven by investor confidence, the Agricultural Business Confidence Index developed by the Agricultural Business Chamber provides useful insight into the sector. As figure 1 shows, from 2001 to 2002, confidence in the agricultural sector rose on the back of high commodity prices, and was stimulated by the devaluation of the Rand. Persistent drought and the strengthening of the Rand in 2003 led to a loss in confidence and a concomitant decline in the growth of agricultural investment for the period. The positive general outlook for the South African economy that prevailed in 2006, together with higher commodity prices in 2008, prompted renewed confidence in the sector and investment rose accordingly.

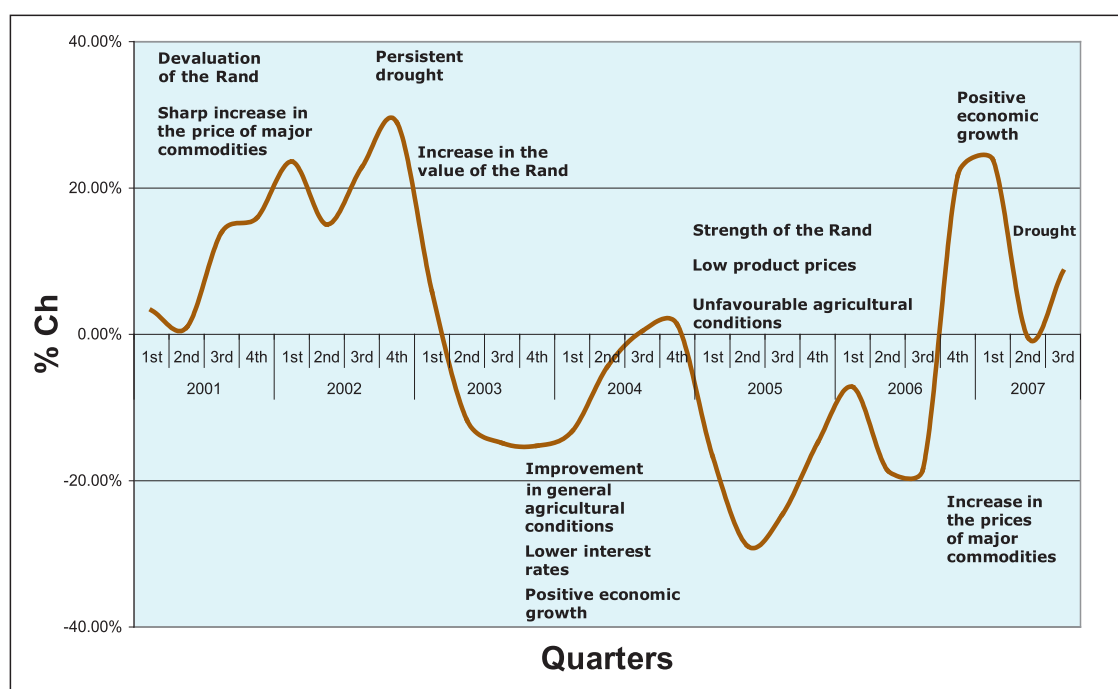


Figure 1: Trends in the confidence of agribusiness in South Africa, 2001-2007⁹

⁸ Adapted from: South African Reserve Bank, 2007.

⁹ Kirsten, 2008.

Competitiveness

Esterhuizen¹⁰ used the Revealed Trade Advantage Index to measure the extent of competitiveness of agribusiness supply chains in South Africa. The most important conclusions drawn from this analysis are:

- South African agriculture as a whole is no more than marginally competitive in the global market.
- South African agriculture was at its most competitive in the mid-1970s and at its least competitive in 1985, but the degree of competitiveness has been increasing since 1993.
- When compared internationally, South Africa can be classified as a 'rising moderate performer' along with a number of EU member states such as Belgium, Germany, Italy and the UK, as well as Canada. This is in contrast to 'winner' states such as Argentina, Brazil, Chile, Australia and New Zealand, all strong competitors in the country's import and export markets.
- In the 1990s, South Africa's primary production was generally more competitive than the value-adding downstream industries, while the competitiveness of both was increasing over time. Competitive subsectors that showed increasing competitiveness include maize, apples, pineapples, grapefruit and mohair during the period 1993-2002. These trends are shown in table 5.

Table 5: Competitiveness trends in agricultural supply chains, 1993-2002¹¹

Competitiveness trend in the value chain	Competitiveness of the primary product		
	Competitive	Marginal	Not competitive
Increasing	Maize, apples, pineapples, grapefruit, mohair	Wheat, tobacco, chicken meat, pork	Cotton, barley
Decreasing	Sugar, groundnuts, oranges, grapes, wool, plums, hen eggs, hides and skins	Potatoes, sunflower, tomatoes, milk, soybeans, mushrooms, olives, beef	

Employment

Agricultural census data show that the number of commercial farmers in South Africa declined by a fifth over the 1990s. Employment declined by less in the same period: by 15% to below 1 million in 2002. More recent data from 2005¹² show that agricultural employment constituted some 8.5% of the country's total labour force, compared to 10.5% in 2001, but up from 7.5% in 2005.

At the same time, the real cash remuneration of employees increased by 8%, in the years before the introduction of the minimum wage in 2003. Furthermore, the unit cost of labour, measured as the ratio of the total cost of labour to the total value of output, has fluctuated, within a declining trend

¹⁰ Esterhuizen, D., 2006. An evaluation of the competitiveness of the South African agribusiness sector. University of Pretoria, Unpublished PhD thesis.

¹¹ Esterhuizen, D., 2006.

¹² Statistics South Africa, 2006. Labour force survey September 2006. Statistical release Po210.

over time. In 1970, 16 cents was spent on labour for every R1 of output produced. This decreased to 13 cents in 1980, increased to 19 cents in 1994 and decreased to 17 cents in 1998. By 2001, it had again decreased to 11.7 cents, and further to 10.8 cents in 2007.¹³

The relative performance of the small-scale sector¹⁴

There has been a significant increase in the concentration of farm holdings within the commercial agricultural sector. In 1996, there were 60 000 farming units, but by 2007 this had declined to fewer than 40 000 units. This suggests a consolidation of landholding into larger units of ownership and production.

With respect to the difference between commercial and small-scale agriculture, there has been an expectation that the transformation of South African agriculture would result in a wider range of farm sizes, a less stark distinction between commercial and 'traditional' agriculture, and a less marked border between the commercial and communal farming areas. The remainder of this section considers the extent to which this agricultural dualism has been transformed since 1994, and includes a discussion of the changes that have occurred in small-scale agriculture.

An overview of small-scale farmers

Of the estimated 8 million households living in the non-metro areas of South Africa, 17% or 1.3 million households have access to land for farming purposes. Most of these households (97%) engage in some farming activity, mostly on relatively small plots of land (table 6). Geographically, these households are clustered in the former homeland areas, with 64% of these households living in 10 districts. Six of those districts have been declared presidential poverty nodes.

Table 6: South African households' access to agricultural land, 2006¹⁵

	Number (weighted)	%
<0.5ha	831 871	64.5
0.5ha-1ha	235 454	18.3
1ha-5ha	138 196	10.7
5ha-10ha	38 146	3.0
10-20ha	11 940	0.9
20+ha	34 546	2.7
Unknown	17 556	—
Total	1 307 710	100

¹³ Statistics South Africa, various years. Agricultural survey. Pretoria, Statistics South Africa.

¹⁴ This section is based on Tregurtha, Norma, Nick Vink and Johann Kirsten, 2008. Presidency Fifteen Year Review Project: Review of agricultural policies and support instruments 1994-2007. Pretoria, Unpublished.

¹⁵ General Household Survey, 2006.

Small-scale farming households rely on multiple livelihood strategies, of which farming production makes an important, though small, contribution (table 7). The most important source of income for the majority of these farmers is from social grants, such as pensions and child support grants. Some 96% of household heads are black, and 56.5% household heads are women. A total of 64.1% of these farming households spend less than R800 per month, while 20.8% fall in the R800-R1200 band.

Typically, these households undertake farming to supplement household food requirements (figure 2). Estimates of the contribution of subsistence agriculture to household incomes (in cash and kind) range from 6% to 12% for rural dryland settlements and between 24% and 30% for irrigated land. Land is an important livelihood asset for the rural poor. Subsistence farmers typically adopt a transitional type of livelihood portfolio and undertake farming when other sources of income fall away. Life histories of rural households with access to land show that at some stage in the past, the majority of these households were forced to rely on farming their plots for income, in response to a livelihood shock¹⁶.

Table 7: Main income source, small-scale non-metro households with access to land, 2006¹⁷

	Households weighted	%
Salaries and/or wages	292 229	22.9
Remittances	237 189	18.6
Pensions and grants	642 520	50.4
Sales of farm products	47 787	3.7
Other non-farm income	39 680	3.1
No income	12 188	1.0
Unspecified	3 781	0.3
Total	1 275 374	100

While reasons for changes in the contribution of agriculture to household incomes over time are unclear, changes in access to land suggest its role as an asset is decreasing.

By comparing data for the period between 2002 and 2006, the following trends can be observed:

- In absolute terms, the number of South African households with access to land for farming purposes declined from 1.8 million in 2002 to 1.4 million in 2006 (or a decline of 21%).
- The relative decline in land access was even greater. In 2002, 15.3% of all South African households indicated they had access to land, but by 2006 this had decreased to 10.7%.
- The largest relative loss in access was experienced by those with access to very small land parcels (i.e. marginal subsistence farmers with less than one hectare).

¹⁶ Van Averbeké W. and Mohamed S., 2006, Smallholder Irrigation Schemes in South Africa: Past Present and Future. Paper presented at the second symposium of the South African Commission on Irrigation and Drainage, 15-17 November 2006 Mpumalanga.

¹⁷ General Household Survey, 2006.

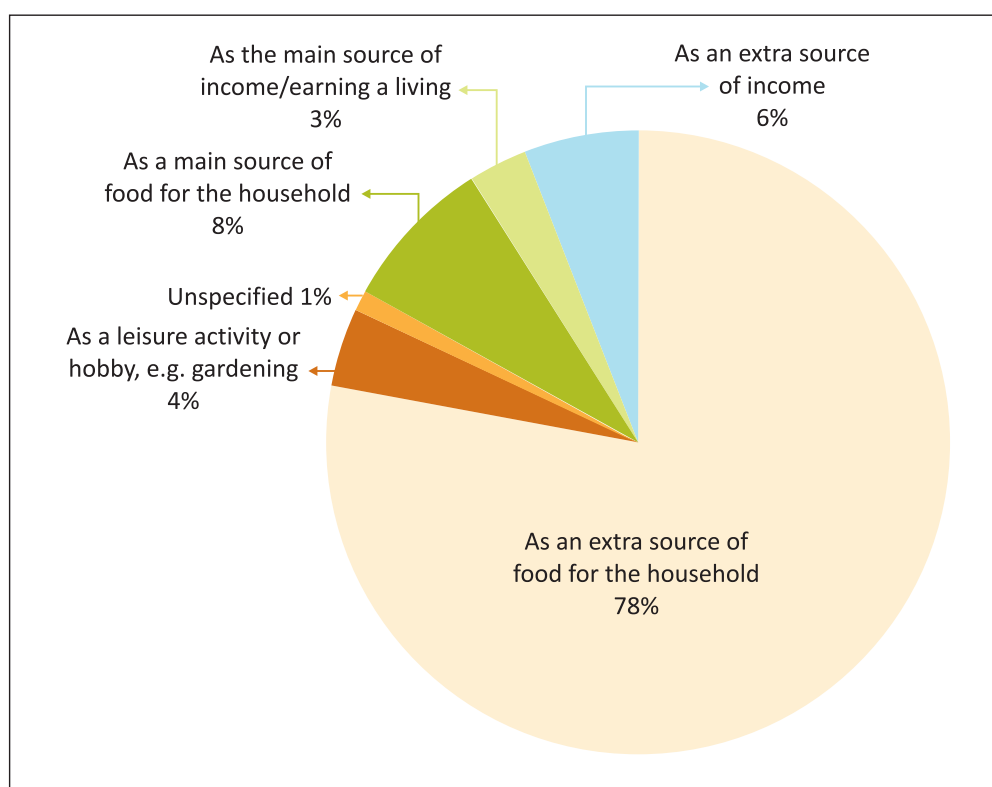


Figure 2: Main reason why South African farmers engage in agricultural production¹⁸

Summary

In summary, smallholder production has declined over the past 10 years. Smallholder productivity lags behind the commercial sector, and this divide appears to be growing. A number of micro-level surveys of smallholder agriculture have established that small-scale South African farmers face a number of binding constraints that limit production and productivity. These include: agronomic factors such as disease and adverse climatic conditions, coupled with a lack of adequate information on how to manage these events; institutional factors such as insecure land tenure and access to production credit to purchase inputs; and declining agricultural support services such as research and the provision of extension services.

Agricultural policy since 1994¹⁹

A number of policy initiatives were referred to in the sections on the growth performance of commercial agriculture and the small-scale sector. The purpose here is to provide more information on policies in the agricultural sector that have been put in place and implemented since 1994, and to provide some

¹⁸ Tregurtha, N. & Vink, N. 2008. Review of agricultural policies and support Instruments 1994-2007 Presidency Fifteen Year Review Project, Commissioned by the Department of the Presidency, Pretoria, South Africa.

¹⁹ This section is based on Norma Tregurtha, Nick Vink and Johann Kirsten, 2008. Presidency Fifteen Year Review Project: Review of agricultural policies and support instruments 1994-2007. Pretoria, Unpublished

evidence on the impact of these policies. Policies related to trade, marketing, land, natural resources, labour and financial markets, and technology development and transfer will be discussed, followed by an assessment of AgriBEE policy.

Since 1994, the strategic direction of the agricultural sector has been shaped by three main policy documents: the White Paper on Agricultural Policy; the Agricultural Policy in South Africa discussion document; and the Strategic Plan for South African Agriculture. More recently, the Accelerated and Shared Growth Initiative for South Africa (ASGISA) identified a critical role for the agricultural sector in stimulating employment and building the second economy.

Trade policy

Trade liberalisation

The key feature of post-1994 trade policy in South African agriculture has been the replacement of direct controls over imports and exports, exercised in terms of the Marketing Act (1968), by tariffs, and the lowering of those tariffs below the bound rates agreed to in the Marrakech Agreement of 1994. The initial progress in rationalising the tariff regime and in lowering nominal and effective protection was fast. In agriculture, virtually all tariffs are now below the bound rates of the Marrakech Agreement.

The structure of protection also affects agriculture. In South Africa, the average tariff cascades from a relatively high rate on consumer goods to a moderate rate on intermediate goods and a low rate on capital goods. This pattern, which is typical of protection in many developing countries, implies that less progress has been made in rationalising *effective* protection.

In addition, countries in the Southern African region have been granted preferential access through the abolition of quantitative controls over agricultural trade within the SACU, a range of bilateral treaties and the free trade agreement with the SADC. Finally, South Africa has signed a free trade agreement with the EU. These changes came about in accordance with national trade policy, which aimed to lower the average level of tariffs, to maintain a typical tariff escalation profile, and to simplify the tariff structure.

Marketing policy

Marketing deregulation

Until early 1998, the marketing of most agricultural products in South Africa was extensively regulated by statute, based on the original Marketing Act (1968) (some 70% of agricultural output by value), under the Cooperative Societies Act (38 of 1925) (in the case of ostriches (1958) and tobacco (1932))

or by industry-specific statutes (such as the Sugar Act (1978) and the Wine and Spirit Control Act (1970)). Most products were regulated under the 22 marketing schemes introduced from 1931 and especially from the time of the 1937 Marketing Act (consolidated in the Marketing Act of 1968).

Sweeping change was brought about by the Marketing of Agricultural Products Act (1996). This Act set up the National Agricultural Marketing Council (NAMC), whose immediate task was to dismantle the existing marketing control boards, and subsequently to manage and monitor state intervention in the sector.

It is evident that the effects of deregulation differed between the field crop, the horticultural and the livestock subsectors of agriculture, partly because of their different modes of production, and partly because the nature of control under the old 1968 Act and its predecessor differed between different commodities. Each of these is discussed in turn:

The impact of marketing deregulation

Field crops

The discussion on trade policy above sheds some light on the general impact of trade policy reform on the performance of the field crop sector. Yet the process of deregulation of the agricultural marketing system involved more than just a change in the trade regime. The most important changes included the abolition of pan-territorial and pan-seasonal pricing mechanisms, concomitant changes to physical access to the market and the food processing sector, as well as a range of institutional impacts that are elaborated on below:

- Most of the major field crops were sold under a 'single channel fixed price' marketing regime, characterised by pan-territorial and pan-seasonal pricing. The main consequence of pan-territorial prices was that farmers closer to the market were effectively cross-subsidising those further away and who faced higher transport costs. With deregulation, prices started to become regionally differentiated to reflect transport costs and regional variations in demand and supply. Another consequence was that processors moved closer to the market, as they also paid the same price irrespective of the point of delivery. The main result of pan-seasonal pricing was that no grain was stored on-farm, and that the entire crop was sold immediately after harvest. This tended to cause havoc on the money markets, especially when the maize crop was harvested, as farmers were paid in full on delivery to the cooperatives. The result was an over-supply of storage capacity, which was also arguably sub-optimally located.
- Another feature of the regulated market was that the price differentials between different grades and cultivars of grains did not reflect differential demand. This was particularly evident in the wheat industry, where wheat produced in the Western Cape, for example, was unsuited to the production of bread, while there were few incentives to produce for specific baking qualities, or for the production of pasta, for example.

- With deregulation, the major grain industries (maize, wheat) became more differentiated as the location of production shifted in response to differential prices across space and over time. One of the first manifestations of this has been that an increasing proportion of the maize crop is now milled by small-scale millers, both on- and off-farm (industry estimates suggest this can be as high as 30% of the crop). This has impacted the rural areas in three ways: first, there are increased opportunities for small and medium scale businesses in processing and distributing maize and maize products. This increased activity in the rural areas has provided a stimulus to rural economies; second, there has been a marked increase in agro-tourism throughout the country. While agro-tourism has long been a feature of the wine industry, there has been a marked increase in farm stores and farm stays in most parts of the country; and third, small-scale farmers have, in theory at least, better access to the market than before, as the cooperatives that acted as agents under the single channel schemes would only take delivery in bulk. However, the slow pace of land reform (see below) means that few new entrants to agriculture have been able to take advantage of these benefits.
- The abolition of pan-territorial and pan-seasonal pricing has also had interesting consequences for the rural finance sector. Under the control schemes, the control boards appointed agents, mostly farmer cooperatives, to carry out the physical functions of receipt of the crop, payment, storage, and onward consignment to the processors. These input supply cooperatives therefore became effective regional monopolies, which enabled them to become preferred suppliers of seasonal credit to farmers. They generally used the Land Bank as their preferred source of funds. With deregulation, however, the commercial banks have been able to expand their share of this market.
- An additional consequence of the abolition of pan-territorial and pan-seasonal pricing has been the advent of a wide range of strategies (increased part-time farming, contract farming, strategic selling throughout the season, price hedging, etc.) and institutions (the agricultural futures market, or SAFEX, grain trading firms, brokerage firms, etc.) that have enabled farmers to participate in the market with greater certainty and lower transaction costs. These institutional changes have generally served to lower the transaction costs of market participation. Price hedging instruments such as SAFEX are mainly used to hedge or insure against price risk and thus manage farmers' liquidity in a deregulated market. SAFEX price formation for field crops is generally considered efficient (see caveat below) and a true reflection of prices in the domestic market. Thus, by using SAFEX instruments effectively, farmers can minimise their price risk, which in turn lowers their cost of doing business. The uptake of SAFEX derivatives among South African farmers has not been scale neutral for two reasons. The first relates to contract size: a 100-ton contract is the only contract size traded on SAFEX and this translates into a farmer threshold entry level of above 50 hectares in the case of maize. The second reason relates to the substantial legal and financial knowledge, computer literacy and infrastructure requirements such as electricity and internet access that are needed to be able to make full use of these market instruments.
- A recent investigation into the performance of SAFEX identified a number of potential weaknesses in the operation of the market that might have contributed to high food prices and price volatility

observed in the period of deregulation. The main recommendation yielded by this investigation was the need to revisit a number of the rules and regulations governing SAFEX with respect to restrictions on the size of the trading position taken, as well as limiting the opportunistic behaviour of traders.

Livestock

Control over the livestock industry was exercised through a wide range of marketing control schemes. Red meat and eggs were controlled under 'surplus removal (price support)' schemes, whereby a floor price was set with the relevant board responsible for manipulating supply in order to maintain prices above this floor. In the case of red meat, the main consuming areas were designated as 'controlled' areas, and meat could only be sold there under a permit. Meat could also only be slaughtered in approved abattoirs, most of which were in the controlled areas. This created an artificial shortage in the consumer market and an artificial surplus in the producing areas, with the result that the holders of permits gained windfall rents. Wool and milk were controlled under 'single channel pool' schemes.

The major sources of animal feeds were also controlled, with maize under a single channel fixed price scheme, and oilseeds and lucerne under single channel pool schemes. The poultry industry was never subjected to statutory control. The effects of deregulation on the livestock subsector have not been subject to rigorous analysis, partly because of the heterogeneity of the sector, and partly because of the lack of reliable data, especially on consumption of red meat. However, some effects of deregulation include:

- An increase in the proportion of red meat sold in the informal sector directly into poor urban and peri-urban communities. Live sheep and cattle are bought on the farm, or even delivered to these townships, and slaughtered at the roadside, where the meat is sold raw or cooked in various forms. While it is known that this trade makes up a substantial proportion of total red meat sales, its exact magnitude has not been established. Similarly, there is an active market in pig and poultry by-products such as offal, chicken heads and feet.
- Deregulation resulted in a rapid increase in the number of smaller abattoirs in the rural areas, mostly on-farm facilities that are combined with retail outlets or that supply directly to retailers in the formal market. One consequence is that the large metropolitan abattoirs are all running at less than a third of capacity, leading to severe financial problems for the holding company, Abakor.
- A relatively large proportion (up to 80% of formal sector sales) of South Africa's red meat comes from feedlots, mostly as a final finishing phase, ostensibly because of the lack of winter grazing in the summer rainfall areas. It is not clear whether this practice has increased in the post-deregulation era, although there is little evidence that it has decreased. For this reason, red meat prices are particularly sensitive to changes in the cost of animal feeds. The decline in the real price of yellow maize, oilseeds and other components of animal feeds since deregulation has therefore resulted in relatively low red meat prices, at least until the recent increase in grain prices.

Horticulture

Most of South Africa's fresh vegetable and subtropical fruit industry escaped controls under the old agricultural marketing regime, while the domestic market for fresh deciduous and citrus fruit was deregulated in the 1970s. Hence, the focus here is on exports of deciduous and citrus fruit. These products were marketed under 'single channel pool' schemes, whereby producers had to channel their produce into a pool operated by a statutory monopoly empowered by the deciduous fruit and citrus control boards respectively. The main implications of the deregulation of these industries include the effect on the quality and quantities exported, as well as the destination of exports:

- The main advantage of the single channel export schemes was obviously the ability to manage the price of exports, and more specifically to use the monopoly power to keep prices high. The main disadvantages were that: products were pooled (individual producers had no incentive to deliver a quality higher than the average); prices were maintained at high levels by restricting output; there was little incentive to develop new markets; and there was little incentive to save on marketing costs. The results of this were that: South African production lagged behind that of its competitors; the country became vulnerable to changes in individual clients, given its concentration on the most lucrative short-term markets; the country lagged in the innovation of cultivars; and the marketing costs were high. Deregulation changed the calculus in each of these dimensions.
- The first effect of deregulation in the fruit export industries was the entry of literally hundreds of marketers, and hence a sharp decline in price and in quality delivered into a global market characterised by a rising demand for new products and a stagnant demand for conventional cultivars. In this regard, the apple industry was hardest hit, and experienced a decline in exports in the period immediately after deregulation in the mid to late-1990s. As apples are grown in only a few specialised areas, these areas experienced a negative impact on farmer incomes and employment, while the impact on the wider economy was limited. Nevertheless, total fruit exports increased in volume and value in the post-deregulation era.
- Under the new, deregulated trading regime, producers were more exposed to the shifting demand for new fruit types and varieties. While this has had a negative impact on sales in the short term, it has also resulted in a new investment boom as farmers have strategically shifted the locations for crop replanting and new plantings to reflect changes in demand from consumers. In the citrus industry, for example, the Western Cape producing area has been favoured over Mpumalanga, Limpopo and Eastern Cape provinces, as the demand shifted to easy-peelers, which are more suited to the climate, with the result that the Western Cape has become the largest source of citrus exports.
- A further result of deregulation is that farmers are now better able to withstand shocks in individual markets. While the bulk of deciduous fruit and citrus exports are still destined for the UK market, the concentration of exports has diminished considerably, with new markets being exploited in Eastern Europe, South and East Asia, the Middle East and Africa. There is also anecdotal evidence

that competition between marketers has resulted in a lowering of supply chain costs, although the market for shipping space and harbour facilities is not competitive, and South African exporters face higher costs than those of their competitors.

- Producers' ability to shift a wider variety of products to a wider range of markets has also provided a measure of protection against competition from heavily subsidised producers in northern hemisphere countries. New technologies have resulted in an extension of the production and marketing season for these producers, thereby closing the 'marketing windows' for counter-seasonal southern hemisphere countries. This disadvantage has been partially offset by new storage and shipping technologies for South African producers. However, the reduction in state support for research and development presents a real threat to the deciduous fruit and citrus industries which will fall behind competitors in the innovation of new cultivars.
- The regions that have benefited most from these changes in market conditions and the new opportunities that have arisen as a result of deregulation include the new table grape production areas along the Orange River in the interior of the country, and the wine producing areas of the Western Cape. Table grape exports from South Africa have grown fastest from among the deciduous and citrus exports, largely because of rapid expansion of production capacity in the Northern Cape province. This expansion has been driven largely by the early harvest opportunity which generates favourable market conditions, by production technologies such as precision irrigation, and by infrastructural investments aimed at improving air and shipping transport.
- The wine industry has also undergone radical structural changes. For example, exports have increased more than threefold over the past decade, and from less than 10% of the total harvest to more than a third. These changes have been driven by investment to replace current production capacity and to create new capacity. In the wine industry, this implies a smaller total crop, as high-yielding grape varieties are replaced by low-yielding 'noble' cultivars. This also implies that the area under vines has grown only slowly, as most of the investment is targeted at replanting. Nevertheless, new areas in the Western Cape, including the Malmesbury district on the West Coast, and the southern Cape have been the focus of a rapid expansion in wine grape production. At the same time, the processing capacity of the industry has also been expanded, with new wineries being set up, mostly in the traditional high-quality producing areas of Stellenbosch and Paarl.

Food prices

Price controls for bread, maize meal and dairy products were abolished in 1991 and from then on retail prices were set by market forces. The initial impact of deregulation and trade liberalisation in the 1990s was a decline in producer prices for cereals, and as a result food price inflation kept pace with overall inflation levels in the economy until 2001. However, the depreciation of the Rand in 2002 and the concomitant sharp rise in major commodity and food prices led Cabinet to announce the establishment of a food price monitoring committee in response to this crisis.

Following the recommendations of the committee, the National Agricultural Marketing Council now regularly publishes a food cost review. Furthermore, over the past three years, the Competition Commission has been investigating and remedying anti-competitive behaviour in a number of food industries, such as the dairy, grain storage and bread industries.

Land and resource management

Land reform

The Department of Land Affairs completed the process of land reform policy design with its White Paper in 1997, while implementation of the programme had already started in 1994. Land reform policy in South Africa consists of land restitution, tenure reform and redistribution programmes. Briefly, *restitution* deals with historical land rights and rightfully returning them, *tenure reform* examines forms of land holding, while *redistribution* focuses on the transformation of existing, racially biased land ownership patterns.

Despite all efforts to speed up land reform, the net effect has been limited. After almost 15 years of state sponsored land reform processes, slightly more than 4 million hectares of the available agricultural land in South Africa have been transferred through the formal programme. Furthermore government recently admitted that the failure rate of new land reform projects could be as high as 50%.

The effects of land reform

Despite the well-formulated land reform policy and well-funded land reform programme, progress has been slow, to the extent that less than 5% of white commercial farm land has been transferred – as against a 30% target whose completion date has been extended to 2014. Production conditions in the communal farming areas have remained largely unchanged or may even have worsened, and tenure forms have hardly changed in these areas despite attempts to provide greater tenure security. There is also no evidence that the supposed beneficiaries of land reform are better off as a result of their participation in the programme. Empirical evidence shows that private transfers, some funded by mortgages from the Land Bank or the commercial banks, have occurred at a higher rate than state transfers. Nevertheless, there are some examples of land reform that have had positive local impacts, and that could possibly serve as examples for future land reform:

- The best-known example of small farmer success in South Africa is the emergence of 20 000 small cane growers in the sugar industry (discussed earlier). While the support programme to small-scale cane growers in KwaZulu-Natal predates the land reform programme by a few decades, it has recently been expanded considerably in Mpumalanga province, where new sugar cane plantations have been established.

- In the early 1990s, a project was launched to encourage the development of a land rental market on cropland in the communal areas by encouraging traditional authorities to adopt measures that would lower the transaction costs of land rental. As expected, this experiment has had interesting efficiency and equity results.
- A number of farm worker share equity schemes have been set up, mostly in the fruit export industries in the Western Cape, whereby farm workers use the land reform grant to buy shares in an operating farm business, mostly on the farm where they work. While the financial performance of these schemes still needs to be independently assessed, these schemes have attracted significant private sector investment.
- Concerns about the vulnerability of small producers of wool led the National Wool Growers Association (NWGA) and the government to set up a new wool marketing channel by building and equipping shearing sheds in villages throughout the Transkei and Ciskei region. In the first phase the focus was on the provision of material support (shearing shed, equipment and for some villages, a dipping tank). In the second phase, institutional support was provided to increase access to information on breeding and training for proper shearing and grading, access and knowledge on the use of inputs, and a market outlet. The NWGA also organises interaction with brokers to market the wool. The NWGA prescribes that candidate villages should have a minimum number of sheep, but more importantly an active farmers association, whereby the wool farmers form a local wool growers' association.
- There are a range of empowerment schemes in aquaculture and mariculture (mussels, oysters, seaweed, abalone) situated along the west and south coasts of the country that have the potential benefit of undermining widespread poaching activity in these areas, in addition to providing new opportunities to small-scale producers.
- Similarly, there are a range of agricultural projects aimed at the production of specialty products such as rooibos tea, honeybush tea, indigenous flowers, medicinal plants, essential oils, hydroponics and organic products whose purpose is to build new markets and to empower new producers.

Resource management policy

As indicated earlier, South Africa's underlying agricultural resource base is poor. The country has a total surface area of 122 million hectares, of which only 14% (17 million hectares) is arable land. Of the arable land, only 1.3 million hectares are under irrigation. Rainfall is generally low, erratic, unevenly distributed and unreliable. Approximately 91% of the country can be classified as arid, semi-arid and dry sub-humid and South African soils are generally considered to have low fertility.

Although no formal statistics are available, the agreed perception shared by all stakeholders in the agricultural sector is that South Africa's natural resources are under a severe threat of degradation. For the commercial sector, factors that have contributed to this include monoculture cereal production, intensive tillage and limited crop rotation (conditions that are changing, as noted earlier).

For the country's communal areas, excessive firewood collection, inappropriate land use, population density and overgrazing are the main factors causing soil degradation. In aggregate, soil degradation is responsible for approximately 50% of land degradation, while water-logging and salinity are further contributing factors.

Labour policy

Before 1993, South African farm workers were not covered by any labour protection or collective bargaining legislation. In 1993, farm workers were included under the provisions of the Unemployment Insurance Act (63 of 2001) and basic employment rights were extended to them under the Agricultural Labour Act (1993). In 1993, the provisions of the Basic Conditions of Employment Act (substantially revised in 1997) were also extended to agricultural workers. This Act stipulates minimum labour standards and prescribes, among others, terms governing the maximum length of the working week, vacation and sick leave allowances, and payment for overtime.

The Extension of Security of Tenure Act (1997) ensures that occupiers of rural land earning less than R5000 per month have security of tenure. As a result of this Act, landowners who wish to evict those living on farms can only terminate these rights under relatively strict conditions. Finally, minimum wages in most sectors are set by industry bargaining councils. However, given that the agricultural sector was not significantly unionised and could therefore not establish a bargaining council, the Department of Labour set about establishing a minimum wage which it implemented in 2003. This sectoral determination not only set a floor on wage levels for agricultural workers but also specified what and how much could be deducted as in-kind payment.

The progressive regulation of the agricultural labour market described here has impacted on the flexibility and unit cost of farm employment and has led to a number of structural changes in the labour market and in employment patterns. The results of a number of micro-level surveys provide insight into these changes:

- *Substitution of permanent labour with temporary/part-time/seasonal labour:* Reasons cited by farmers as factors inducing this shift include the constraints imposed by the Extension of Security of Tenure Act, and rising labour costs due to compliance with the Basic Conditions of Employment Act and minimum wages.
- *Increased use of labour contracting:* Du Toit and Ally²⁰ found that more than 53% of the farmers they interviewed indicated that they make use of an agricultural labour contractor/broker. In this arrangement, the employment relationship is no longer directly between the farmer and worker. Rather, a farmer concludes an arrangement with a broker who then supplies the farmer with a team

²⁰ Du Toit, A. and Ally, F., 2002. The Externalisation and Casualization of Farm Labour in Western Cape Horticulture: A survey of patterns in the agricultural labour market in key Western Cape districts and their implications for employment justice. Unpublished research report for the Centre of Rural Legal Studies Stellenbosch and the Programme for Land and Agrarian Studies, UWC.

of workers. While this externalisation of labour offers agricultural producers certain advantages such as the ability to control costs and risks, for farm workers this holds serious implications in terms of livelihoods and income. Rather than being 'part of the farm', the relationship between workers and farmers is increasingly an indirect one that is limited to cash payment for particular tasks completed.

- *Relative increase in the number of women farm workers employed:* Sunde and Kleinbooi²¹ found a significant increase in the number of women farm workers being employed on farms in the Western Cape. The main reasons cited for this are employers' attempts to maximise the utilisation of the existing on-farm labour pool (and thereby control housing costs). The shift towards mixed farming systems has helped flatten the sharp seasonal labour demand peak and enabled farmers to employ women throughout the year.
- *Job shedding as a result of minimum wages:* Six months after minimum wages had been implemented in agriculture, Conradie²² found the net employment effect to be less than 1%. She further notes that the most important consequence of the implementation of minimum wages was not wholesale labour shedding, but rather a slowdown in job creation for permanent workers at a time when output was expanding.

While labour regulation appears to have negatively impacted on employment levels, there is evidence to suggest it has had a positive impact on the development status of those farm workers who continue to be employed. Using data from the 1996 and 2001 censuses, Tregurtha²³ compiled a composite human development indicator and then used this to compare the extent to which the development status of Western Cape agricultural workers had improved over time, and improved relative to other workers in that provincial economy. These findings are reported in table 8, show that, while the overall development status of farm workers lags behind other workers in the Western Cape economy, between 1996 and 2001 farm workers managed to improve their relative position. It is expected that this trend has continued in the balance of the first decade of the millennium.

Table 8: Development status of Western Cape farm workers, 1996-2001²⁴

	Score		
	1996	2001 (base 96)	% change
Agricultural workers	0.433	0.491	13.42
Workers in other sectors	0.685	0.701	2.38

21 Sunde, J. and Kleinbooi K., 1999. Promoting equitable and sustainable development for women farmworkers in the Western Cape. Report on a research project undertaken by the Centre for Rural Legal Studies Stellenbosch.

22 Conradie, B, 2004. Labour, wages and minimum wage compliance in the Breërivier valley six months after the introduction of minimum wages. Paper delivered at the Agricultural Economics Association of South Africa Conference, Somerset West. September 2004.

23 Tregurtha, N. 2005. An approach to human development in rural Western Cape with specific reference to farm workers. MComm, University of Stellenbosch.

24 Tregurtha, 2005.

The introduction of minimum wages in agriculture in 2002 accelerated the real growth of farm wages. Hlekiso and Mahlo²⁵ demonstrated how real agricultural wages rates increased by 65% between 2001 and 2005, with the biggest annual increase at the time of the implementation of the minimum wage.

Farmer support and extension services

Developing the skills base of farmers is the primary objective of extension services. In terms of the Constitution, agriculture is a provincial competency, to be carried out within the framework of national policies set by the national Department of Agriculture. One of the main functions of the provincial departments of agriculture is the provision of farmer support services. Typically, these field services are offered to farmers through decentralised district offices, and are intended to bridge the gap between available technology and farmers' practices by providing technical advice, information and training.

The current government extension services are the result of the merging of two services: one that provided services to white farmers and one that served farmers in the previous homeland areas of the country. The former was made up of a relatively small numbers of well-qualified staff, often university graduates. The latter consisted of large numbers of less qualified staff. The public extension service provided to white farmers was considered highly successful until the mid-1970s, when commercial farmers found that the more specialised advice they needed could be better provided by the private sector. Furthermore, in the 1980s, the public extension service appears to have increasingly focused on administrative tasks such as assisting farmers with subsidies for fencing, soil conservation, irrigation, drought relief, as well as credit through the Agricultural Credit Board.

Much of the earlier success of this service was related to the relative homogeneity of the approximately 60 000 commercial clients – extension agents knew who they were trying to serve and what they were trying to achieve. This service was focused, well-resourced and staffed by well-trained officials. In contrast, extension workers in the former homelands were generally not well trained, and were required to serve a large diverse client-base including subsistence, emerging and commercial farmers. As will be shown in the analysis below, this legacy continues to undermine the quality of extension service provision.

In 1998, direct government expenditure on extension was estimated at R515 million per year or roughly 2.4% of agricultural GDP.²⁶ Düvel²⁷ found that by 2002, this had more than doubled in absolute terms to R1205 million (2,7% of agricultural GDP). This level of expenditure is relatively high by international standards. (The world-wide average is estimated to be 0.9% of agricultural GDP, 1,04% for the average African country, 1,2% for Latin America, and less than 0,5% for Europe and North America.²⁸

²⁵ Hlekiso, T and Mahlo, N., 2006. Wage Trends and Inequity in South Africa: A comparative analysis. Labour Market Frontiers, October 2006.

²⁶ National Department of Agriculture 1998. Agricultural policy in South Africa: A discussion document. Accessed at: <http://www.nda.agric.za/docs/policy98.htm>

²⁷ Düvel, D.H., 2002. Towards and Appropriate Extension Approach for South Africa. Unpublished Research Report. South African Institute for Agricultural Extension, University of Pretoria.

²⁸ Roseboom, J. 2004. Agricultural Research and Extension Finding Levels Required to Meet the Anti-Hunger Programme objectives. Report prepared for the Food and Agriculture Organization, Rome. <ftp://ftp.fao.org/sd/SDR/SDRR/fundinglevel.pdf>

In South Africa, the scope of work for extension officers has expanded significantly since 1994. Instead of servicing a relatively small number of large-scale commercial farmers, there has been a significant shift in client focus, which requires officers to play new roles, including institutional development for small farmers, assisting them to get access finance and other production requirements, to market their produce, and to access second-economy government support projects, such as cooperatives, land reform, food security and land care. Extension officers are also expected to assist with the administration, implementation and monitoring and evaluation of such initiatives.

Farmers are generally very critical of the extension capacity of provincial agriculture departments. In cases where Comprehensive Agricultural Support Programme (CASP) projects²⁹ are dealing with capital intensive and technically difficult production units, farmers are of the opinion that in many instances they have higher skill levels than the extension officers.

Agricultural finance

The nature of agricultural production makes it difficult and costly to finance farmers. First, agriculture is concentrated in rural areas with poor infrastructure and low population densities, which increases monitoring and client search costs. Second, farmers not only have to contend with market risks but also with environmental factors such as weather. This places agriculture at a disadvantage when competing with other sectors for scarce funds. Furthermore, land absorbs a large percentage of farmers' capital requirements and, because it takes so long to generate the returns needed to pay for land, commercial banks are often hesitant to lend to this market. Finally, agriculture is usually practised by relatively small-scale, family-owned businesses.

For this reason, governments worldwide have adopted a range of measures to support farmers' access to financial services, usually starting with mortgage finance. In South Africa, the Land Bank was established in 1912 for just this purpose. However, when the Marketing Act of 1937 was implemented, the Land Bank became a source of funds to make the system work. The next innovation at the Land Bank involved providing shorter-term funds to the cooperatives so that they could provide production credit to their members. Finally, the Land Bank entered the retail market in short and medium-term loans to farmers to enable them to purchase moving capital as well as short-term production credit.

The government was also involved in agricultural financing through the Agricultural Credit Board, an agency within the Department of Agriculture whose purpose was to provide credit to (white) farmers who did not qualify for borrowing from the Land Bank. In effect, the Agricultural Credit Board carried the bad loan book of the Land Bank.

²⁹ This initiative by the Department of Agriculture was intended to support PDA's through creating a favourable environment for emerging farmers and expanding provision of support services for agricultural development. Support covered: information and knowledge management, technical and advisory assistance and regulatory services, training and capacity building, marketing and business development, infrastructure and production inputs and financial assistance.

By the time the government appointed the Strauss Commission (1996)³⁰, the Land Bank had just begun to accept a development mandate. At this time, the institution was in relatively good financial health, and was able to operate without new subsidies from the state. The Strauss Commission made two recommendations that have a direct bearing on the situation in which the Land Bank now finds itself. First, the commission recommended the closure of the Agricultural Credit Board. Government accepted and implemented this recommendation. The board's assets were bundled in a new programme, the Micro-agricultural Finance Initiative of South Africa (MAFISA), whose purpose was to increase the finances available for small farmer development. MAFISA is now administered by the Land Bank. Second, the commission recommended that the Land Bank should receive grants from National Treasury to enable it to expand its developmental mandate. This recommendation was never implemented.

The Land Bank is able to attract funds from South Africa's capital markets. The contribution of the private sector to agricultural financing is, however, not limited to this role, as the commercial banks have long also been involved in agricultural financing. In 1970, for example, the commercial banks held 21% of all farming debt, just shy of the 22% then held by the Land Bank, and more than double the 10% held by the Department of Agriculture (through the Agricultural Credit Board) and the 8% held by the cooperatives. In 2005, by contrast, the Land Bank held 17% of the total debt, compared to 55% held by commercial banks and 12.5% held by cooperatives.

The conclusion, therefore, is that the changes in financing policy have had little effect: commercial farmers have had to shift to the commercial banks, which do not provide capital, especially mortgage financing, at the terms and conditions that the Land Bank was able to provide in the past, and emerging farmers have not gained any appreciable sustainable access to agricultural financing.

Agricultural research and technology development

The estimated international return on investment in agricultural research and development (R&D) is high – averaging 43%, due to the significant productivity gains R&D is able to unlock. Yet, agriculture R&D is underfunded around the world. According to the World Bank (2008)³¹ there are three main reasons for this: the first relates to the political economy of public expenditure decisions that emphasise short-run returns that are politically visible. Agricultural R&D investments tend to be long term and high risk; second, agricultural trade distortions and national agricultural policy interventions tend to artificially reduce farm gate prices and are a disincentive to both public and private R&D investment; and third, the benefits of R&D tend to spill over to other countries and regions creating free-rider problems. More than half the benefits of R&D are generated from such spillovers.

Estimates of public R&D investment as a percentage of agricultural GDP average at 0.53% for developing countries and 2.36% for developed countries. In South Africa's case, the latest available

³⁰ Formally the Commission of Inquiry into the Provision of Rural Financial Services.

³¹ Reserve Bank, 2007. Quarterly Bulletin, number 246: December 2007. Pretoria: Reserve Bank.

data is for 2000, and these show that from 1993 to 2000, agricultural R&D investment as a percentage of agriculture GDP increased from 2.63% to 3.04% – a level well above international norms. Anecdotal evidence suggests that this level of support has declined in recent years and funding for agricultural R&D in South Africa is limited. Nevertheless, the complexity of the South African national agricultural research system suggests that the available R&D resources are not necessarily being used efficiently. The South African national agricultural research system consists of agricultural research institutes operating under the Agricultural Research Council (ARC), research entities in provincial departments of agriculture, university faculties of agriculture and veterinary sciences, institutes operating under the Department of Environmental Affairs, the Council for Scientific and Industrial Research and some semi-public research agencies supported by the industry.

The research system's capacity to deliver research output has been affected by the large exodus of key research staff since 1993. The exodus of researchers mainly occurred in the public research services with ARC institutes experiencing the largest decline in full-time research staff.

AgriBEE

AgriBEE is part of a wider process that is being undertaken in terms of government strategy, as covered in the Broad-based Black Economic Empowerment Act (2003), whose purpose is to achieve broad-based economic empowerment of black persons, 'a generic term, which means indigenous Africans, Coloureds and Indians'. While the programme encompasses the whole South African economy, the focus is on the priority sectors that the government has identified in its micro-economic reform programme. These priority sectors include agriculture and agro-processing.

The Act makes provision for codes of good practice, which spell out the 'rules of the game' for the development of generic and industry scorecards, the establishment of charter councils, and the monitoring of progress with BEE in an industry. The scorecards identify seven elements according to which the contribution to BEE of an enterprise will be measured. These are ownership, management control, employment equity, skills development and organisational transformation, preferential procurement, and the 'residual', referring to corporate social investment. In this manner, the measured contribution to BEE is broadened to encompass much more than the transfer of shares in a few large enterprises to a favoured few. A simplified scorecard has been proposed for 'qualifying small enterprises (QSEs)' while the smallest enterprises are 'exempted micro enterprises (EMEs)'. For QSEs, the seven elements each get an equal weight of 25% and the enterprise being evaluated for BEE compliance can select any four.

The Act also allows sectors to propose their own BEE charters, and to design industry-specific scorecards. If these are in line with section 9 of the Act, they can become the formal method of scoring participation in BEE by measured enterprises in that industry. To this end, the agricultural sector has drafted its own charter, which has recently achieved Section 9 status after four years of negotiation.

Agriculture and food security

The linkages between agriculture and the rest of the economy

The analysis in this document shows that the direct contribution of the agricultural sector to GDP has declined steadily over the past few decades. However, this underestimates the sector's real contribution to GDP. Agriculture is traditionally understood to contribute to the economy through:

- Direct agricultural production activities (i.e. its contribution of about 3% to GDP) plus the processing of farm-produced raw materials into food, beverage and textile products. The food and beverages sector of the economy represents about 18% of total manufacturing production in South Africa, whereas the manufacturing sector contributes some 19% of GDP. Hence, this represents a further (maximum) contribution of 3.4% of GDP³². While agricultural raw materials are also used in the production of clothing and textile products (wool, cotton, leather,) and other industrial products, these are more tenuously related to the agricultural sector. In addition, agriculture contributes to GDP directly through the purchase of inputs (both goods and services). The combined GDP contribution of the sector along with its forward and backward linkages is, therefore, larger than the recorded 3%, and is probably closer to 8%.
- Agriculture generates employment for a large proportion of the economically active labour force (between 8 and 9%, which is three times its GDP contribution).
- The purchasing power of farmers' incomes and farm workers' wages, which are the main source of the strong linkages between agriculture and the rest of the economy. Furthermore, these linkages are stronger in the rural areas, where this purchasing power represents a larger share of gross national expenditure than may be acknowledged.
- Earning of foreign exchange. This analysis has shown that the agricultural sector has shifted in status from being a net exporter to a neutral position over the past decade, so it can no longer be counted on as a net earner of foreign currency. However, the sector does cover the exchange cost of importing basic foods into the economy, and in this way ensures that, at the national level, South Africa is not food insecure.
- The role that agriculture plays in the rural areas of South Africa, where its contribution to GDP is larger than in the whole economy. This also includes the important link to the tourism industry, a large and growing provider of employment in rural areas.
- The livelihoods that it provides for people in the informal economy through 'subsistence' production as well as through a wide variety of activities in the processing, distribution and retailing of food products in poor rural and urban communities. This aspect is discussed further below.
- The role of the sector in the stewardship of the environment. It is important to recall that agriculture, by its very nature, is an imposition on the environment, and that many farming activities cause

³² On the assumption that the food and beverages sector's share of manufacturing sector output is equal to its share of GDP.

environmental damage. However, agriculture also provides the basis for agrotourism, in that it provides valued environmental amenities. Furthermore, changing production practices, specifically the introduction of minimum intervention practices in the production of grains, has resulted in less environmental damage and has allowed the release of more than 2 million hectares of land once ploughed to revert to natural grazing for livestock and game farming.

The contribution of agriculture to the broader economy forms the basis for examining the links between agriculture and household food security in South Africa. We concentrate on household food security because commercial agriculture has long been responsible for national food security. A relatively large proportion of households, and individuals within households, are food insecure, and at this level both commercial and 'communal' or small-scale farmers contribute most to food security.

The linkages between agricultural production and household food security can be analysed through two lenses. The first is agricultural production across the spectrum of farming types in the country, including the supply chains that bring inputs to the farm gate and the food processing, distribution and retail activities that are related to moving products off the farm to their point of final consumption (in the desired time, place and form). The second is the prices that farmers receive for their produce and that consumers pay for food. These two aspects are discussed in turn below, with a focus on policies to enhance household food security.

Farmer typologies

The South African agricultural sector is characterised by inequalities. Inequality exists between commercial (mostly white) farmers and farmers in the communal areas, among farmers in the commercial agricultural sector, and among farmers in the communal areas.

The differences between farmers in the commercial and communal areas are the most obvious: there are millions of farmers in the communal areas, which make up less than 15% of the available farm land in the country, and fewer than 40 000 commercial farmers. Within the commercial areas as few as 673 farmers produced 33.5% of gross farm income at the time of the last Agricultural Census in 2002, while fewer than 2500 farmers produced more than half the gross income³³ (table 9). At the other end of the spectrum, just over 51% of the farmers produced a gross income of less than R300 000 per annum.

In the case of small-scale farmers, the basis of land access is typically through informal tenure arrangements (table 10).

³³ Statistics South Africa, 2005. Census of commercial agriculture, 2002. It is not yet possible to analyse the data from the 2007 Census in the same manner.

Table 9: Farming statistics by income group between 2002 and 2005³⁴

Income (R per year)	Number of farms	Cumulative (%)	Wage per employee (R per year)	Gross farm income (R000 per year)	Cumulative (%)
> 10 000 000	673	1.5	10 503	17 850 383	33.5
4 000 000 – 9 999 999	1 657	5.1	7 758	10 330 424	52.8
2 000 000 – 3 999 999	3 041	11.7	4 872	5 056 986	62.3
1 000 000 – 1 999 999	5 214	23.1	6 43	7 351 291	76.1
300 000 – 999 999	11 805	48.9	4 729	5 335 646	86.1
< 300 000	23 428	100	4 266	7 404 322	100
Total	45 818		6 298	53 329 052	

Table 10: Households residing in non-metro areas – Basis of land access, 2006³⁵

	Small-scale 0-20ha		Large-scale 20+ha		Total	
	No. of households weighted	%	No. of households weighted	%	No. of households weighted	%
Owns the land	582 948	46.43	28 221	81.69	611 168	47.37
Rents the land	13 061	1.04	2 305	6.67	15 366	1.19
Sharecropping	22 751	1.81	–	–	22 751	1.76
Tribal authority	626 709	49.91	1 484	4.30	628 192	48.69
Other	9 383	0.75	2 537	7.34	11 920	0.92
Unknown	755.8	0.06	–	–	756	0.06
Total	1 255 608	100	34 546	100	1 290 154	100

The differences between commercial and small-scale farmers and the differences within these two subsets of farmers form the basis of a typology of farmers. The principal characteristics of this typology are shown in table 11³⁶.

At the one end of the spectrum are the large-scale commercial farmers. These enterprises are generally found in parts of the country which have high potential for agricultural activity, are large-scale field crop producers or export-oriented and irrigated horticulture producers, or are intensive livestock operations. Most of the largest among these enterprises will farm on more than one non-contiguous farm, and some additional land may be rented. They will hire both labour and management. These farmers are constrained largely by the size of the domestic and export market and by the difficulties that they face in accessing equity capital. One could argue that they require no more than the

³⁴ Statistics South Africa, 2005. Census of commercial agriculture, 2002. Pretoria, StatsSA.

³⁵ General Household Survey, 2006 (Micro Data Set). Available from <http://interactive.statssa.gov.za>

³⁶ This information should be treated with caution, especially the data on farmer numbers, given the fact that commercial farmers were surveyed in 2001, and farmers in the communal areas a few years later.

government support afforded to business enterprises generally in South Africa, including assistance in gaining export market access and an environment that is conducive to investment.

Just over a third of commercial farmers (some 17,000 farmers) had a turnover of between R300 000³⁷ and R2 million in 2001. These enterprises are largely family farms, but many are incorporated as private companies or closed corporations. These are generally either large extensive livestock enterprises in the drier parts of the country, and medium scale field crop producers or smaller irrigation farms where conditions allow. They are characterised by some renting in of land, and are mostly managed by family members, while farm workers are hired in, and they usually live on the farms. Their binding constraints are invariably access to mortgage finance for land purchase, more smoothly functioning land rental markets and management capacity. Government support could probably be limited to access to mortgage financing via the Land Bank, while they are dependent on the private sector for other services.

About half of all commercial farmers in South Africa had a turnover of less than R300 000 in 2001. These include a wide variety of overlapping categories of farms, many in peri-urban areas. Some are part-time and many can be classified as 'lifestyle' farming (game ranches, weekend farms and part-time farmers). The binding constraint in this instance is most probably management time, but as this is in most cases by choice, it is not clear that any targeted development efforts by the state are required.

The final three rows in table 11 are derived from table 10, and describe farmers in the communal areas of South Africa. Commercial farming operations in these areas include enterprises across the whole spectrum of turnover size greater than R300 000. Confusingly, there are farms in the 'communal' areas under private ownership (i.e. these farms predate the 1913 Land Act, or were part of the 'homeland consolidation' that took place during the 1970s and 1980s). This category also includes development projects, mostly managed and financed by provincial departments of agriculture or their development agencies. There are also an unknown (but generally considered small) number of large scale farms on communal land.

Row 5 includes farmers in the communal areas who farm for a profit, albeit on a very small scale. Some of these farms will be on privately owned land, while some will be farmers on agricultural development projects such as irrigation schemes. These farmers do not face a single binding constraint; rather, they farm under circumstances that do not guarantee success. For example, land holdings are too small, property rights are insecure, and they cannot get access to financial or any other support services. Given the population distribution in these areas, with most of the able-bodied either employed or seeking employment in the modern economy, these farmers usually face labour constraints. They are often far away from even the most rudimentary infrastructure, making them inaccessible even to those public servants who are supposed to help them, such as extension officers and

³⁷ This threshold was used in the Census because it is the level at which VAT registration becomes compulsory.

veterinarians. Furthermore, they lack political voice, and hence the ability to organise to lobby for benefits from the state. These farmers require the full slate of farmer support services but are almost by definition reliant on the state rather than the private sector unless they can gain access to land in the commercial farming areas under the land reform programme. This group of farmers, along with farm workers, could well become the prime beneficiaries of land reform and AgriBEE projects.

The smallest farms in the communal areas (row 6) are usually homestead gardens farmed by women and the elderly.

The food security implications of the typology of farmers can be summarised as follows:

- *Large and medium-scale commercial farmers.* These farmers play a pivotal role in providing national food security and are themselves, by definition, food secure at the household level. In addition, they pay a disproportionate share of total farm worker remuneration. While many farm worker households (especially seasonal, temporary and part-time workers) are thought to be food insecure, they are better off than unemployed rural households in general, especially since the adoption of the minimum wage. In addition, these farmers are linked to commercial supply chains that take their produce to domestic and foreign consumers and that bring them their farming requisites from domestic or international suppliers. Hence, expansion of the large and medium-scale commercial farm sector in the longer term is an important element in the process of ensuring household food security for a larger number of relatively poor South Africans. However, these farmers should not be afforded a high priority in targeting food insecure households in the shorter term, as needs are greater elsewhere. They should, however, be given every encouragement to participate in AgriBEE programmes.
- *Small-scale commercial farmers* make up the largest segment of commercial farmers, but include many different types of farmers with different needs. These farmers pay well below the industry average remuneration per worker, and the prevalence of household food insecurity among these farms is higher. It is also expected that a larger share of their produce enters the market through the informal sector, hence employment creation and employment conditions are expected to be less satisfactory than among larger scale commercial farmers. Farming is expected to play an important part in the creation of livelihoods for many of these farmers, especially part-time farmers. Land reform targeted at these farms has the merit of lessening the potential impact on food production in South Africa, as they make a relatively small contribution to total output.
- *Commercial farmers in the communal areas* are less likely to be linked to commercial input and food markets because they often farm in geographically isolated places, and receive relatively few farmer support services from the state. They are also far away from most food processing facilities in the country. It is unclear why these farmers have not been targeted as the prime source of land reform beneficiaries over the past 15 years, as they have proven themselves capable of producing surpluses under the most difficult circumstances, and in many cases would be able to expand

their farming operations in commercial farming areas close by. Many of these farmers face labour constraints, yet it is expected that levels of household food insecurity will be higher among farm workers on these farms, which employ relatively fewer permanent workers, and depend more on family labour. Their greatest need is comprehensive farmer support programmes, which will largely have to be provided by the state.

- *Small scale communal farmers* are hardly linked to commercial supply chains, are mostly poor themselves, and do not create much employment for non-family members. They are obviously the most important target for food security programmes, but it is difficult to address their food insecurity through agriculture as they must confront both cash and family labour constraints on their efforts increase their own production. Furthermore, they are constrained in terms of access to land, as well as to even the most rudimentary farmer support services. What they require is livelihood support strategies (one component of which, namely social grants, is already in place) rather than farmer support strategies.

Table 11: Farmer typologies in South Africa

Production unit	Turnover	Ownership and management	Number	Binding constraint	Support required
Large commercial on private property	>R2 million	Family owned but incorporated multiple farms Rent in land – professional management	± 5 400	Market size Equity capital	Export market access Financial market innovation
Medium commercial on private property	R300 000 to R2m	Family owned, could be incorporated. Some renting in of land – family management	17 000	Land capital management	Mortgage capital for land access Management training
Small commercial on private property	< R300 000	Family owned, generally part time. Some lifestyle farming (game ranches, weekend farms)	24 000	Management time	
Commercial in communal areas	> R300 000	Communal ownership Development projects Private ownership	–	Capital management infrastructure	Grants for land access Property rights Comprehensive farmer support Credit Physical infrastructure
'Emerging' commercial in communal areas	< R300 000	>20 hectares Communal ownership Small farmers in development project Private ownership	35 000	Land (property rights) Capital labour management Employment opportunities	Grants for land access Property rights Comprehensive farmer support Physical infrastructure Institutional infrastructure
Subsistence farmer in communal areas Allotments Market gardens		<20 hectares Communal ownership Private ownership Little formal market participation	1.256m	Employment opportunities	Social welfare transfers

Food prices and wage goods

Globally, it has been established that farm commodity prices track commodity prices in general, and that they have become far more interrelated with energy prices (because of the energy intensity of food production, the energy dependence of supply chains in the food industry, especially the maintenance of the cold chain) and, more recently, because of the diversion of agricultural resources to the production of biofuels. While commodity prices (and food prices) spiked during the first half of 2008, they have not declined to their levels of a few years ago, and are not expected to decline to those levels in the next few years. In South Africa, food prices remain at high levels, and food price inflation continues, somewhat contrary to expectations.

If farm commodity prices remain above their average levels of the past decades, farmers stand to benefit in two ways (given that input prices have largely also declined from their high levels in the second half of 2008). First, farmers can sell their output at higher prices, and second, farmers can plan to produce more in the expectation of higher prices. Obviously, all farmers will benefit from the first of these factors: however, larger farmers face fewer constraints to expansion than smaller farmers, and will therefore benefit more in the longer run. If they are successful, as they have been in the past, it is likely that they will increase supply to levels where surpluses push prices down once again.

Therefore, if small farmers are to benefit in the longer run, they must be supported by the state with comprehensive farmer support programmes that include access to land held under private property as well as access to markets, farming requisites, and so on.

Whether consumers will be worse off as a result of rising farm commodity prices will depend on what happens in the supply chain, as food prices follow commodity prices with a lag period, and are also subject to a host of other influences, such as the cost of transport, the cost of maintaining the cold chain, and competitive forces in the supply chain that allow processors, distributors and retailers, to increase their profits at the expense of either producers or consumers, or both.

High food prices affect everyone, but they have an immediately negative effect on household food security among the poor in general, among most farm producers (where the majority are net food buyers), among farm workers and among workers employed in the informal sector throughout the economy – in short among those who spend a higher proportion of their income on food than those in formal employment.

To this end, agriculture-related policies and programmes to ensure household food security should include:

- Accelerated land reform that affords greater priority to currently successful small farmers as beneficiaries.
- Farmer support services targeted at those who need it most, especially farmers in remote rural areas. This will include assistance in accessing commercial supply chains, which favour large-

scale farmers. Such assistance will include support for collective action, as well as support for access to alternative markets where commercial processors and supermarkets play a less prominent role.

- Targeted efforts to improve the efficiency of the supply chains that bring farm inputs to the farm and that take farm products to the final consumer, whether domestically or internationally.
- Support to existing and new entrants to export markets, including information and market intelligence, attendance at trade fairs, and so on.
- Diligent application of competition policy along the supply chain, as has been accomplished over the past few years.

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