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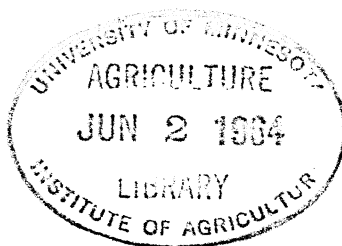
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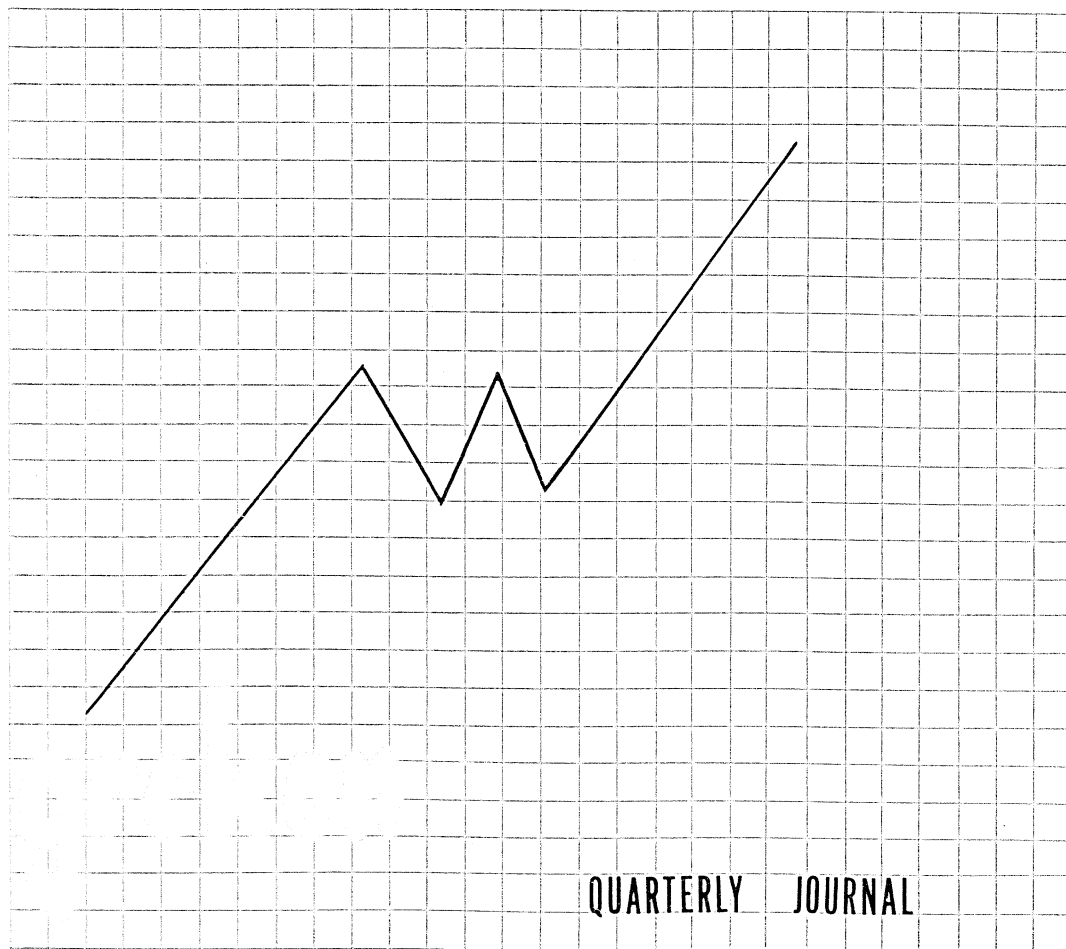
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Deserving articles in the field of agricultural economics, for publication in this journal, will be welcomed.

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# The Role of Agriculture in the South African Economy\*

by

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## INTRODUCTION

The net national income of the Republic of South Africa increased from a level of R1,386 million per annum in 1947/48 - 49/50 to R4,601 million in 1961/62. Over the same period real per capita income (at 1961/62 prices) increased from R206 to R284.

Towards this remarkable expansion in economic activity in the post-war period agriculture contributed its full share. Agriculture's share of the net national income at present amounts to about 10 per cent while the volume of agricultural production has increased by over 70 per cent since 1948/49/50.

Agricultural exports, which had come practically to a stand-still during the war years, have since shown a marked recovery. Although growing numbers of its population have moved to other sectors of the economy (a phenomenon witnessed all over the world in developed countries) agriculture still sustains about 45 per cent of the total population.

A feature of economic development in the Republic, particularly in post-war years, has been the ever-increasing integration of the different sectors in the country's economy, which has led to growing interdependence. Consequently, agricultural interests have become closely interwoven with those of the rest of the economy - a fact that is now fully recognised when formulating agricultural policy.

In this article is described the development of agriculture in the post-war era and its national economy.

## Contribution towards the net domestic product

Table 1 shows the gross and net value of agricultural production at farm values and the contribution of agriculture towards the net domestic product.

Agriculture's relative contribution towards the net domestic product declined from 13.5 per cent in 1956/57 to 11.1 per cent the following year, and to 10.7 per cent in 1961/62.

In terms of actual value, however, the contribution over the period has shown a steady and sustained increase from an average of R259 million for 1947/48 - 49/50 to R535 million in 1961/62, with an estimated further increase to R547 million in 1962/63.

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\* This review article in connection with the role of agriculture in the national economy will be followed-up with economic reviews in respect of the various agricultural regions in the Republic. The first article in this series appears elsewhere in this issue and deals with the Natal Region - Editor.

TABLE 1 - Contribution of agriculture towards the net domestic product

	Gross value	Net value	Percentage contribution of agriculture towards net domestic product
	R million		%
1947/48-49/50	395	259	14.0
1956/57	774	535	13.5
1957/58	719	447	11.1
1960/61*	828	510	10.6
1961/62*	861	535	10.7

\* Preliminary

Agricultural production

The marked increase in the gross value of agricultural production had been realised partly as a result of a rise in producers' prices (some 33 per cent), but had mainly been due to a substantial increase of 72 per cent in the physical volume of production. Table 2 shows the percentage increase in production since 1947/48 - 1949/50.

TABLE 2 - Percentage increase in agricultural production

	Field crops	Horticultural products	Livestock products	Total
1947/48-49/50	100	100	100	100
1956/57	154	152	131	143
1957/58	141	161	129	138
1960/61*	176	187	141	161
1961/62*	186	200	148	170
1962/63*	192	207	147	172

\* Preliminary

Agriculture as consumer of materials and services

This marked expansion in agricultural output has been achieved and maintained largely through appreciably higher inputs than was previously the case. Expenditure on farming requisites and services and capital expenditure have been consistently rising; the burden of these additional inputs on the financial position of the individual farmer is not in all cases quite matched by higher yields per unit and a larger total turnover per farm.

The rising cost structure, however, resulted in agriculture becoming an increasingly important consumer of materials and services. The annual expenditure by agriculture on farming requisites, machinery, implements, motor vehicles, tractors and purchased feeds rose from R129 million for 1949/50 to an estimated R263 million in 1961/62. This latter figure includes R61 million for machinery, implements, motor vehicles and tractors; R11 million for spare parts and repair services; with R45 million fuel, R35 million fertilizers, R19 million packing materials, R11 million dips and sprays and R15 million balanced feeds.

Table 3 shows the annual gross and net capital formation in agriculture over the period 1948/50 to 1962.

TABLE 3 - Annual gross and net capital formation in agriculture

	Machinery, implements, motor vehicles <sup>1)</sup> and tractors		Fixed <sup>2)</sup> improvements		Changes in live-stock inventory	Total	
	gross	net	gross	net		gross	net
	R million						
1948/50	41.7	21.0	30.7	20.2	- 2.9	69.5	38.4
1957	57.2	13.1	39.2	20.4	6.6	103.0	40.1
1958	53.8	9.0	39.3	20.1	1.9	95.0	31.0
1960 <sup>4)</sup>	60.4	13.7	45.3	25.2	3) -	105.7	38.9
1961 <sup>4)</sup>	56.7	8.6	47.9	27.3	3) -	104.6	35.9
1962 <sup>4)</sup>	61.1	12.1	48.0	26.9	3) -	109.1	39.0

- 1) Including one-half of expenditure on new motorcars.
- 2) Expenditure on new dwellings included.
- 3) Not yet available.
- 4) Preliminary estimates.

The capital investment in agriculture shown above has been calculated at current prices. Net investments represent total annual capital expenditure after allowance for depreciation. These figures indicate that the relatively heavy rate of capital formation has been consistently maintained in the case of gross as well as net outlay. An important point to bear in mind, however, is that although net capital investment may decline in future, the persistent high level of investment over the post-war period will cause replacement demands to remain on a high level.

Although the largest proportion of the requisites required by agriculture still has to be imported, the increased demands thereof have undoubtedly boosted the local manufacturing and trade in these. It is estimated that in 1958/59 about 28 per cent of the sales of farm implements, excluding tractors, was of local origin as against barely 20 per cent in 1948/49. The local manufacture of fertilizers has also expanded appreciably in recent years. At present the Republic is approaching self-sufficiency as regards the manufacture of nitrogenous fertilizers, while about 60 to 70 per cent of the demand for phosphate fertilizers is of local origin.

As regards the employment of services by agriculture, attention need only be drawn to the increased quantities of agricultural produce and requisites that have to be hauled annually by the railways. The total tonnage of agricultural produce, fertilizers and manure increased from about 29,000 tons in 1948 to almost 52,000 tons in 1962. The largely expanded export programme of maize in recent years has placed a particularly heavy responsibility on our railways.

## Supplier of raw materials to secondary industries

The almost simultaneous advance of secondary industries and agriculture, in the post-war period, can to a large measure be ascribed to the degree of healthy interaction which developed between these two sectors. The number of processing plants steadily grew, resulting in increasing quantities of agricultural produce being processed in some form or other.

In Table 4 is shown the average annual value of agricultural produce processed (valued at farm prices) as against the total value (also at farm prices) of all agricultural produce marketed for the respective periods 1947/48 - 49/50 and 1959/60 - 61/62.

TABLE 4 - Value of agricultural produce annually marketed and processed (at farm prices)

	Average 1947/48-1949/50			Average 1959/60-1961/62		
	Total marketed	Total proces- sed	Percen- tage pro- cessed	Total marketed	Total proces- sed	Percen- tage pro- cessed
	R million		%	R million		%
Wheat and maize	67.1	52.1	77.6	87.9	63.2	71.9
Sugar-cane	12.9	12.9	100.0	39.3	39.3	100.0
Tobacco	8.8	7.1	80.7	14.8	11.1	75.0
Oilseeds	6.8	4.9	72.0	20.4	11.4	55.9
Fresh fruit	30.6	5.4	17.6	60.3	15.3	25.4
Wine	8.6	8.6	100.0	15.6	15.6	100.0
Dairy produce	13.6	13.6	100.0	39.6	39.6	100.0
Other produce	201.5	22.0	10.9	473.2	119.0	25.2
Total	349.9	126.5	36.2	751.1	314.5	41.9

The proportion of agricultural produce processed in some form or other has increased significantly from 36 per cent annually during 1947/48-49/50 to about 42 per cent for 1959/60 - 61/62. The proportion processed, however, in some cases shows a definite decline, notably in respect of oilseeds, due to the increased quantities exported unprocessed. The total farm value of agricultural produce processed nevertheless more than doubled from R126 million to about R315 million per annum.

The physical quantities processed in many cases show an appreciable increase over the period: maize and wheat milled from about 2 million short tons to over 3 million per annum; sugar-cane milled almost doubled from some 4.9 million tons to over 9 million per annum; groundnuts and sunflowerseed expressed from 59,000 short tons to 172,000; tobacco manufactured from 38 million lbs. to about 50 million lbs.; fresh fruit and vegetable intakes by canneries from 115,500 short tons to 319,000. In respect of dairy products, butter manufactures doubled from 25,000 tons to 50,000 tons per annum; cheese from 9,500 tons to 17,500 tons; and condensed milk from 18,000 tons to 40,000 tons.

## Agriculture and the mining industry

The post-war expansion in mining activities has been to the mutual benefit of the agriculture and mining sectors. The value of South African produced food commodities purchased annually by all mines increased continuously from slightly over R8 million in 1948 to close to R20 million in 1962. These supplies are mainly for feeding the non-white employees housed in compounds. This, together with the quantities consumed by the other mining employees, constitutes a significant stabilising factor in the local market for agricultural foodstuffs.

### Agricultural exports

The phenomenal increase in agricultural production, since the end of World War II, resulted in the Republic regaining and even surpassing its pre-war position as exporting country; not only in respect of its traditional export agricultural commodities such as wool, mohair, hides and skins, fresh fruit and wattlebark, but also in the case of commodities such as maize, groundnuts and groundnut oil and canned fruits.

Table 6 shows the average annual exports, valued at farm prices, for the respective periods 1947/48 - 49/50 and 1959/60 - 61/62.

TABLE 6 - Value of average agricultural exports (at farm prices)

	Average 1947/48-1949/50			Average 1959/60-1961/62		
	Total marketed	Exports	Percentage exported	Total marketed	Exports	Percentage exported
	R million		%	R million		%
Maize	48.4	4.8	9.9	131.8	33.8	25.6
Fresh fruit	30.6	8.2	31.4	60.4	31.0	65.6
Canned fruit		1.4			8.6	
Oilseeds and oil	6.8	1.0	14.7	20.4	11.0	53.9
Wattlebark	5.6	5.4	96.4	7.0	6.5	92.9
Sugar	12.9	.7	5.4	39.3	12.9	32.8
Other excl. <sup>1)</sup>						
pastoral	170.4	12.3	7.2	375.9	26.5	7.1
Total excl. pastoral	274.7	33.9	12.3	634.8	130.3	20.5
Pastoral products <sup>1)</sup>	75.2	64.4	85.6	116.3	99.6	85.6
Grand total	349.9	98.3	28.1	751.1	229.9	30.6

1) Pastoral products - wool, mohair, hides and skins, karakul pelts and ostrich feathers.

Table 5 reflects the increase in the free-on-board value of agricultural produce, processed and unprocessed, as compared with total exports, excluding gold bullion for the periods 1947/48-49/50 to 1959/60-61/62.

Although the percentage of agriculture in the total exports, excluding gold bullion declined from about 50 to 40% over the period, the actual agricultural exports in terms of f.o.b. values more than doubled. Agriculture therefore continues to be one of the most important individual contributors towards the country's total earnings of foreign currency. At present about 30 per cent of all agricultural produce marketed is being exported.



TABLE 5 - Agricultural exports compared with total exports

Annual average	Total exports (excl. gold bullion)	Agriculture ex- ports (processed and unprocessed)	Percentage agric. exports
	R million		%
1947/48-1949/50	315	159	50.5
1959/60-1961/62	837	336	40.1

The proportion of agricultural exports kept more or less pace with the increase in total marketings over the periods in question; some commodities, notably maize, fresh and canned fruit, oilseeds and oil and sugar, showing a marked increase in the percentage of the annual output exported.

#### Agricultural population

For the past three or four decades there has been a (more or less) continuous drift of the rural population to the urban areas. In spite of this, however, agriculture still sustains about 13.3 per cent of the white population and 55.8 per cent of the non-white population. The latter includes an estimated 4.6 million residing permanently in Bantu areas, where farming still constitutes the main occupation.

In the case of farms owned by white farmers, the total farm population (according to agricultural census as since 1950) had been as shown in Table 7.

TABLE 7 - Farm population on farms owned by white farmers

Year	Whites				Non-whites		Grand total
	Male	Female	Total	Male	Female	Total	
			In 1,000				
1950	248	225	473	1,180	1,034	2,414	2,687
1955	214	197	411	1,328	1,164	2,492	2,903
1960	212	197	409	1,318	1,228	2,546	2,955

It appears that the white farm population has been showing an absolute decline since 1950, albeit at a much slower rate since 1955.

There is no evidence of any notable reduction in the number of farming units; the decline in white population on farms can therefore chiefly be ascribed to a drop in the numbers of paid labourers and their families, and particularly unpaid family labour and other dependents.

On the other hand, the non-white population on white-owned farms has been steadily increasing in numbers, although also at a reduced rate since 1955. It appears that, despite large-scale mechanisation since the war, labour requirements in agriculture have shown no decline but has rather tended to increase. This can be ascribed to ever-increasing farming activities calling for more labour. This is borne out by the fact that the more than 70 per cent increase in agriculture during the post-war era had been obtained from more or less the same total area of agricultural land, while the area under cultivation increased from 9,093,000 morgen in 1949/50 to 11,165,000 in 1959/60.

With the increasing efficiency in the use of labour and also machinery on farms, something which is becoming more and more a dire necessity in the face of continually rising costs and higher wages, it seems more than likely that the point will very soon be reached where agricultural labour will tend to remain static and even decline.

It is, on the other hand, an established fact that in no country can agriculture fully absorb its own natural surplus population - without in that way affecting an appreciable decline in the average per capita income of the farming population as a whole. A thriving and expanding national economy is therefore at all times essential in order to take care of the excess farm population. In fact, it is actually during periods of economic prosperity that the largest numbers are being drawn away from agriculture to other sectors.

#### Agriculture as a large-scale employer of labour

It has been pointed out above that, in spite of the introduction of large-scale mechanisation, there has as yet been no decline in the non-white agricultural labour force. Furthermore, labour costs in the form of cash wages and other amenities have also been rising consistently, particularly around the bigger urban centres where increased competition is being met from the other economic sectors.

Agriculture in the white farming sector at present employs about 620,000 regular non-white male labourers.

According to the 1959/60 agricultural census, well over R90 million was paid in cash wages alone to white and non-white labourers on white farms. Apart from this labourers of course also received free rations and housing, grazing rights and other amenities.

#### Feeding the nation

The total population of the country increased from 11.4 million in 1946 to over 17 million in 1963 - a gain of about 5.6 million or an annual increase of a little over 2 per cent.

Per capita food intakes nevertheless increased substantially, as is evident from Table 8.

TABLE 8 - Per capita food consumption - daily intakes

	1947		1960/61	
	Calories	Proteins (grams)	Calories	Proteins (grams)
Vegetable origin	1,954	42	2,315	50
Animal origin	502	26	564	32
Total	2,456	68	2,879	82

The bulk of these food requirements had been produced locally. The only food imports of significance had been in the case of wheat and rice, of which 72,000 short tons and 48,000 short tons respectively were imported during 1962.

Consumer expenditure on food, alcoholic drinks and tobacco, calculated at retail prices, has accordingly also been showing a continued rise since 1951 - the first year for which estimates in this respect had been made (See Table 9).

TABLE 9 - Consumer expenditure on food, alcoholic drinks and tobacco

	Food	Alcoholic drinks	Tobacco	Total
		R million		
1951	592.4	89.6	79.0	761.0
1960	1,072.4	176.6	116.9	1,365.9
1961	1,106.2	184.5	125.8	1,416.5
1962	1,118.1	193.8	129.9	1,441.8

The importance of these items on the national economy is borne out by the fact that they constitute almost 40 per cent of the total annual private consumption expenditure in the national accounts.

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### FUTURE CAPITAL GAINS

A discussion of capital gains should at least indicate the potential importance of real capital gains in the future. Capital gains arise from the interaction of several forces including changes in expectations about the income stream of assets, the level of the discount factor which mediates between the future income flow of the asset and its present value, the net credit position of farmers, and changes in the prices of goods and services which serve as a standard of purchasing power. There is almost no knowledge about movements in the discount rate; hence, it must be neglected in this discussion. The long-run trend in rents may be down but returns and expectations of future returns to land appear to be very closely related to farm programs. Should farm programs change substantially, capital gains or losses would almost certainly occur. As long as farmers are substantial debtors or creditors, there is a change for capital gains and losses to occur through general price level movements. As long as the real estate mortgage is widely used, some farmers will be net debtors. In addition to these forces, the price of items used as a standard of purchasing power may respond importantly to persistent long-run economic forces. This discussion should indicate that real capital gains cannot be reasonably assigned to the past and dismissed from the future. Change in absolute and relative prices is a basic feature of an enterprise economy; thus, over time, change necessarily results in some capital gains and losses for asset owners.

- Dale M. Hoover, North Carolina State College.