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REQUIREMENTS FOR CONTRIBUTIONS

Articles in the field of agricultural economics, suitable for publication in the journal, will be welcomed.

Articles should have a maximum length of 10 folio pages (including tables, graphs, etc.) typed in double spacing. Contributions, in the language preferred by the writer, should be submitted in triplicate to the Editor, c/o Department of Agricultural Economics and Marketing, Private Bag X250, Pretoria, 0001, and should reach him at least one month prior to date of publication.

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A COMPARATIVE STUDY OF THE COMPETITIVE POSITION OF SOUTH AFRICAN AGRICULTURE

by

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I. INTRODUCTION

Since the Second World War, the South African agricultural industry has shown a phenomenal development.[1] In spite of erratic climatic conditions, limited agricultural resources and rapid population growth, this sector, with few exceptions, not only provided in the local needs of agricultural products at relative reasonable prices, but also produced large surpluses which were exported to the benefit of the country as a whole.

The increase in agricultural exports as well as the importance of the agricultural sector as earner of foreign exchange, is shown in Tables 1 and 2.

The tables above show that exports of processed agricultural products increased at a considerable faster rate than those of unprocessed products. In 1973 agricultural imports amounted to only 2,5 per cent of the country's total imports, while agricultural exports amounted to 32,5 per cent of the Republic's total exports (gold excluded). In spite of marked fluctuations, the volume of agricultural exports grew at a rate of 5,6 per cent per annum over the period 1947/48 to 1972/73.

A closer examination of the nature and composition [2] of South African agricultural exports allows the following broad classification to be made[3]:

(a) Agricultural products produced mainly for exports include fresh deciduous, citrus and

TABLE 1 - Indexes of the volume of agricultural products exported for a few years from 1947/48 - 1972/73

(1958 - 1960 = 100)

Year	Field crops	Horticultural products	Animal products	Total	Unprocessed products	Processed products
1947/48	29	38	79	53	59	47
1952/53	28	58	81	59	58	59
1957/58	113	90	91	98	108	85
1962/63	245	133	118	162	169	152
1967/68	319	181	120	198	193	205
1972/73	312	196	142	208	171	255
Annual rate of change (%)	**10,0**	**6,8**	**2,3**	**5,6**	**4,3**	**7,0**

Source: Abstract of Agricultural Statistics

TABLE 2 - Value of exports and imports: Total for the Republic and for agriculture for some years from 1957 - 1973

Year	Agricultural exports					Imports		
	Total	Processed products	Unprocessed products	Total	Agriculture as % of total exports	Total	Agriculture	Agriculture as % of total imports
	R mil.				%	R mil.		%
1957	802,6	133,2	224,4	357,6	44,6	1 099,7	37,4	3,4
1960	799,0	125,0	168,1	293,1	36,7	1 107,1	49,5	4,5
1964	955,0	164,7	258,0	422,7	44,3	1 529,9	44,5	2,9
1967	1 244,7	186,8	266,5	453,3	36,4	1 913.9	68,9	3,6
1970	1 423,2	201,6	229,9	431,5	30,3	2 540.2	60,5	2,4
1973	2 421,3	405,3	382,8	788,1	32,5	3 275.4	80,1	2,5

Source: Abstract of Agricultural Statistics

canned fruit, wool, mohair, karakul pelts and hides and skins.

(b) Agricultural products which are being exported, when available, include sugar, maize and maize products, grain sorghum, oilseeds, oil-cake, meat, dairy products and many others of a field husbandry as well as animal origin.

The value of exports of some of the above-mentioned products (for a few recent years) is shown in Table 3.

TABLE 3 - Exports of certain important agricultural products for some years from 1966 - 1973

Year	1966	1968	1970	1972	1973
	R million				
Wool	120,4	107,6	74,3	115,5	166,5
Mohair	7,4	7,5	5,4	8,3	12,3
Karakul pelts	14,8	15,1	16,0	18,3	23,1
Hides and skins	24,1	18,0	21,8	37,2	42,3
Deciduous fruit	35,5	39,7	34,1	50,5	41,0
Citrus fruit	28,0	28,5	29,6	45,6	43,9
Canned fruit	44,5	47,0	47,6	64,7	80,0
Sugar	32,7	38,2	48,4	124,5	105,7
Maize and maize products	5,4	109,2	55,5	140,6	77,3
Groundnuts and oil	3,8	10,6	13,6	8,2	13,1
Butter and cheese	0,7	1,0	0,7	10,0	1,3

Source: Abstract of Agricultural Statistics.

The relative importance and variability of the contribution of most of the agricultural products to export earnings as a result of price, climatic and other geographical conditions, can be clearly seen in Table 3. Wool, fruit, maize and sugar represent the most important export products.

Viewed broadly, the size and development of the local market for agricultural products[4] does not only determine the nature and scope of local marketing possibilities, but also the nature and magnitude of the exportable quantities of the various products. In future the increasing volume of agricultural production required for local needs will also be determined primarily by population growth, increase in the per capita income and the income elasticity of demand for the different products, whether processed or unprocessed.

From 1960 to the middle of 1974, the South African population (all races) has increased from 16 million to almost 25 million, which represents a growth rate of 2,8 per cent per annum.[5] As shown by Du Plessis[6] the average rate of growth of the South African population over the decade 1960-70, exceeded that of the total world population by no less than 35 per cent.

In spite of this high growth rate of especially the Non-White population groups, the disposable income of these groups showed an equally rapid increase. It has been calculated that from 1969 to 1974 the disposable personal income of Whites increased by 79 per cent as against the 94 per cent, 91 per cent and 120 per cent increase in disposable personal income of Asians, Coloureds and Bantu, respectively.[7]

The total income of the Bantu in South Africa for 1974, was estimated at R3,6 milliard[8] which represents almost double the purchasing power projected fifteen years ago for the year 1976.[9] According to Anonymous[10] it was calculated .... "that food consumption by the Blacks has risen in the same period (1969 to 1974)[11] by 114 per cent to R1,7 milliard - or nearly the same as the total value of food consumed by the nation as recently as 1970". The same author claims that "black discretionary spending, after adjustments for both inflation and population growth, rose by R437 million in the five year period".

The relatively low purchasing power of especially the Bantu, which undoubtedly had a restrictive influence on the capacity of the local market, seems to be something of the past[12]. As, among others, the real income per capita increases, further changes concerning consumption patterns will take place as already noticed[13], depending on the income elasticity of demand for the individual agricultural products. The magnitude of these coefficients for certain items, however, indicates that products such as vegetables and fruit, meat, fats and oils, margarine and dairy products are in effect still semi-luxury products for a large portion of especially the urban Bantu[14].

Judging by present consumption tendencies it can safely be accepted that with an improvement of the standard of living of Non-Whites, the domestic demand of particularly protein rich foodstuffs, whether of vegetable or animal origin, will in future also increase rapidly[15].

In spite of the relatively favourable agricultural potential, farming practices in the homelands are still traditional and so primitive that the contribution of these areas to the food requirements of the country has hitherto been very small and relatively stagnant. A global picture of the low level of productivity of agricultural production in the homelands in comparison with that of the White areas, is shown in Figure 1.

Tomlinson[16] arrived at the conclusion that if the productivity of Bantu agriculture in the next 25 years reaches the same level of productivity as White agriculture at present, it should be able to produce enough food to feed 10 million people, and further writes....."Out of Prof. Sadie's estimated total population of 50 million at the end of the century, White agriculture will have to prepare itself to feed at least 40 million, leaving any exports out of account".

In order to feed this rapidly growing population and to maintain and increase its share in the world trade in agricultural products on a competitive basis, South African agriculture moves into an exciting and particularly challenging era in the years to come.

II. THEORETICAL ASPECTS

No discussion concerning the competitive position of an industry, or group of industries, can

be conducted rationally without considering the relevant economic phenomena which have an influence on such an industry's ability to trade and compete in the national as well as international sphere.

The theory of international trade has mainly grown out of David Richardo's theory of comparative advantage, which was largely based on the labour theory of value. In the course of time, this theory has been refined but modern theory of international trade does, however, bear a distinct resemblance with its Ricardian prototype [17].

This theoretical outline will firstly be done under the conventional assumptions of trade theory which may be summarised as perfect competition which in its turn, implies perfect flexibility of prices and wages [18].

The static relationship between production and consumption of any two commodities in a specified country in the absence and presence of international trade, can be conveniently portrayed by an aggregate production possibility curve and aggregate community indifference curves for the country, as is done in Figure 2 [19].

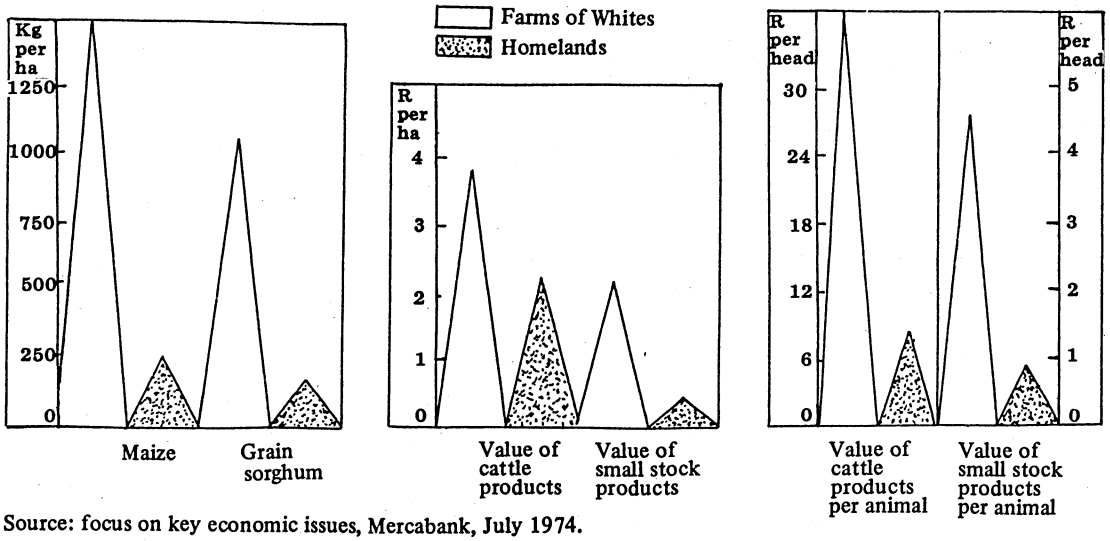
In Figure 2 the production possibilities curve ABCD represents the different quantities of two products, Y_1 and Y_2, which can be produced in a country with its available resources and the state of its technology. Each of the indifference curves ECF and GHI portrays a set of quantities of these two products which will yield to consumers the same amount of utility, GHI representing a higher level of satisfaction than ECF.

If both production and consumption are efficient in the absence of international trade, the country will produce and consume OR of Y_1 and OQ of Y_2. This will bring about the following price ratio: $PY_2/PY_1 = OR/OQ$

However, if possibilities for interational trade do exist with a price ratio of $PY_2/PY_1 = OP/ON$, then the welfare of the country will increase if it produces a surplus of Y^2s, sells it abroad and uses the export realisation to import a certain amount of Y_1 instead of producing it locally. In Figure 2, welfare will be maximised if the country will produce ON of Y_2; of this production OS is consumed locally, and the remainder (SN) is for export. This will enable the inhabitants of the country to consume OT OF Y_1; OP will be produced locally, and PT will be imported, using export earnings earned by Y_2 to finance these imports. The higher indifference curve GHI attained illustrates the improved welfare of the population[20].

Several factors can disturb the above portrayed equilibrium position: Restrictions on the export of product Y_2 can emanate from government action in either the exporting or the importing country. Limited export facilities, export quotas or export taxes (as levied in Argentina) may reduce the possibilities or profitability of exports. The importing country may also decide to limit its imports of Y_1. This can be done by prohibition of imports, import quotas, import tariffs and administrative action. This will cause the country under review to produce and consume somewhere between the two possibilities shown in Figure 2, causing a lower level of satisfaction prevailing than that portrayed by curve GHI. If the country under consideration decides to restrict imports of Y_1 this will have similar effects. Thus, it is clear that policy action both of the country under review and its trading partners can have profound effects on its trade, its production and its consumption patterns.

The equilibium can also be changed by changes in consumers' preferences, which, if they occur in the country under review, will change the slopes of the indifference curves, and if occurring in countries trading with the country under review, will change international price ratios. The latter may improve or weaken the terms of trade of the country's export product, thereby once again changing its welfare position. Figure 3 will elucidate this statement.



Source: focus on key economic issues, Mercabank, July 1974.

FIG.1 - Average yields on farms of Whites and in the homelands, 1969 - 1971.

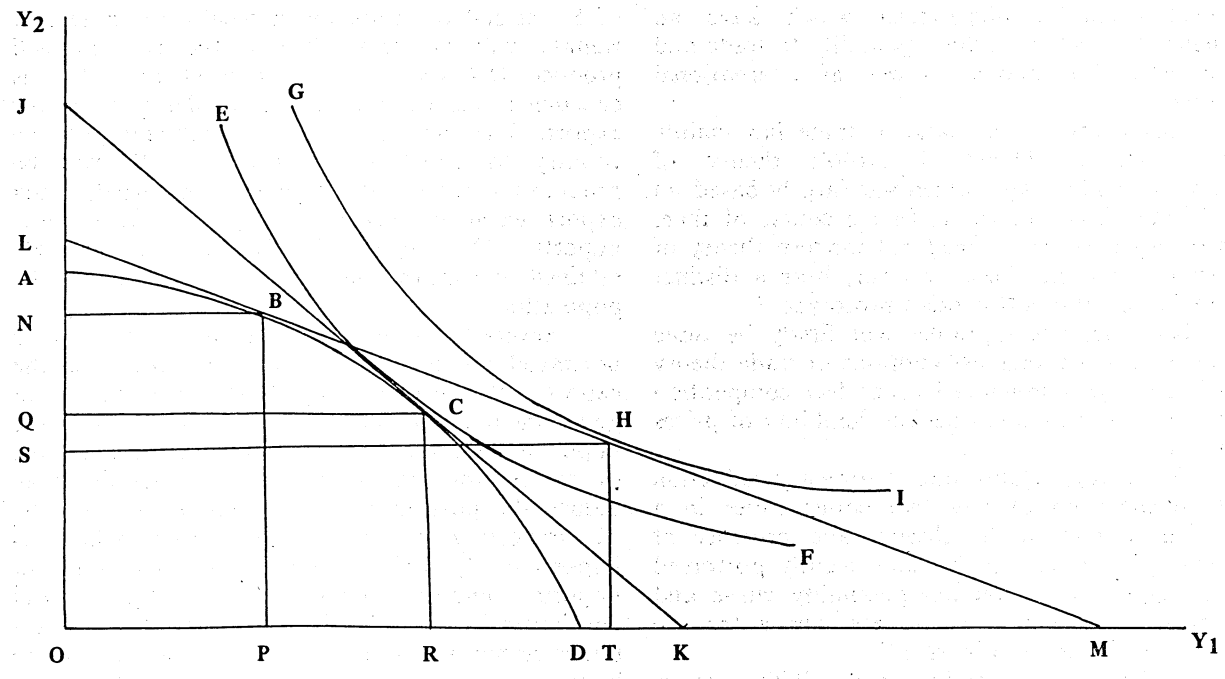


FIG.2 - Relationship between production and consumption of two commodities.

In Figure 3, curve ABCD portrays the country's production possibility curve for products Y_1 and Y_2. The country exports Y_2 and imports Y_1. International price movements may bring about two different price ratios for the two commodities. Py_2/Py_1 may be either OE/OF or OG/OH. The price ratio OE/OF is obviously more favorable for the country's export product Y_2. If this price ratio

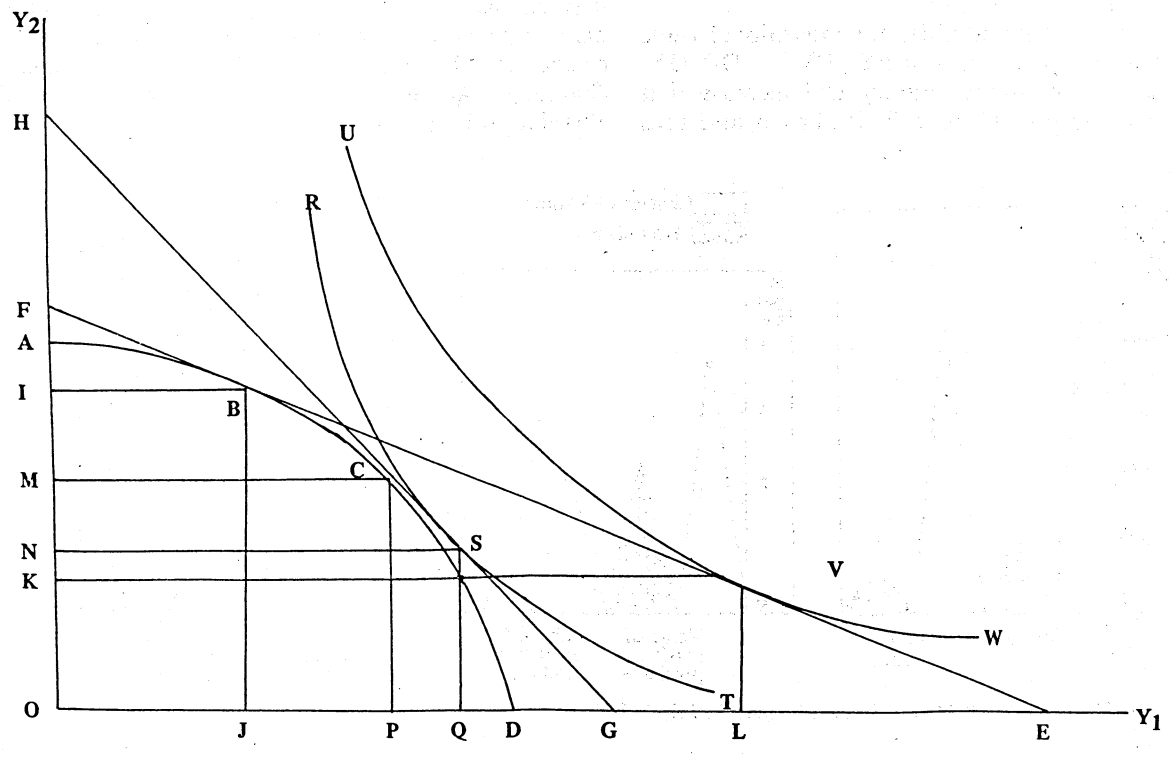


FIGURE 3 - Effect of terms of trade on welfare

prevails, the country will produce OI of Y_2, and OJ of Y_1. It will consume OK of Y_2, and export KI. Production of Y_1 will amount to OJ, and JL will be imported to consume OL.

The price ratio less favourable to the export product Y_2 (OG/ON) will be associated with the following situation:

Y_2: Production equal to OM, consumption equal to ON and exports amounting to NM.

Y_1: Production equal to OP, consumption amounting to OQ, of which PQ is imported.

It is clear that the less favourable terms of trade for the export products leads to smaller production and smaller exports thereof, increased production and smaller imports of imported products and a lower level of satisfaction as portrayed by the indifference curve RST as contrasted to curve UVW.

The above reasoning assumes full mobility of resources, which does not normally occur.

The situation may also be changed by changes in technology and in availability of resources. Technological change in an industry has the effect of shifting is supply curves to the right. Technological change favouring export products thus normally worsens terms of trade, while import-based innovations lead to improvements in terms of trade[21]. This will be the case even if the country's exports are small in relation to total world consumption and trade, as it can be accepted that innovations originating in one country will tend to be diffused internationally. The effect of changes in technology and/or resource availability on the country's production possibilities are shown in Figure 4.

In both cases, the production possibilities curve will shift from ABC to DEF. Figure 4(a) shows the effect if changes in technology or resource availability favour product Y_2, and Figure 4(b) shows what happens if these changes favour product Y_1.

The net results of these changes will be determined by a combination of various factors:

1. The shift in the production functions of the product.
2. Price elasticities as well as income elasticities of demand for the product.
3. Elasticity of supply of inputs required by the industries concerned.
4. Control measures of governments.
5. Transport rates and changes therein.

A relatively elastic demand for the product and a relatively elastic supply of inputs will tend to enhance the competitive position of an industry with rapidly developing technology. In the case of an export-based industry, efficient and cheap transport rates will enhance its competitive position. The opposite is true for an import-substituting industry. If transport rates are high, an efficient ancillary industry which reduces bulkiness or perishability will also enhance its competitive position.

Agricultural products are generally faced by relatively low price elasticities and income elasticities of demand[22]. Agricultural products also tend to be bulky and perishable, thereby leading to high transport rates. The supply of many agricultural inputs is also relatively inelastic. This has led some economists to conclude that the competitive position of agricultural products will become weaker over time. This is reflected in arguments about worsening terms of trade of agriculture, as advanced by, among others, Myint[23] and Prebisch[24]. It was, however, pointed out by Morgan[25] that such a view represents too severe a generalisation; whilst the terms of trade for some farm products has worsened, the opposite was true

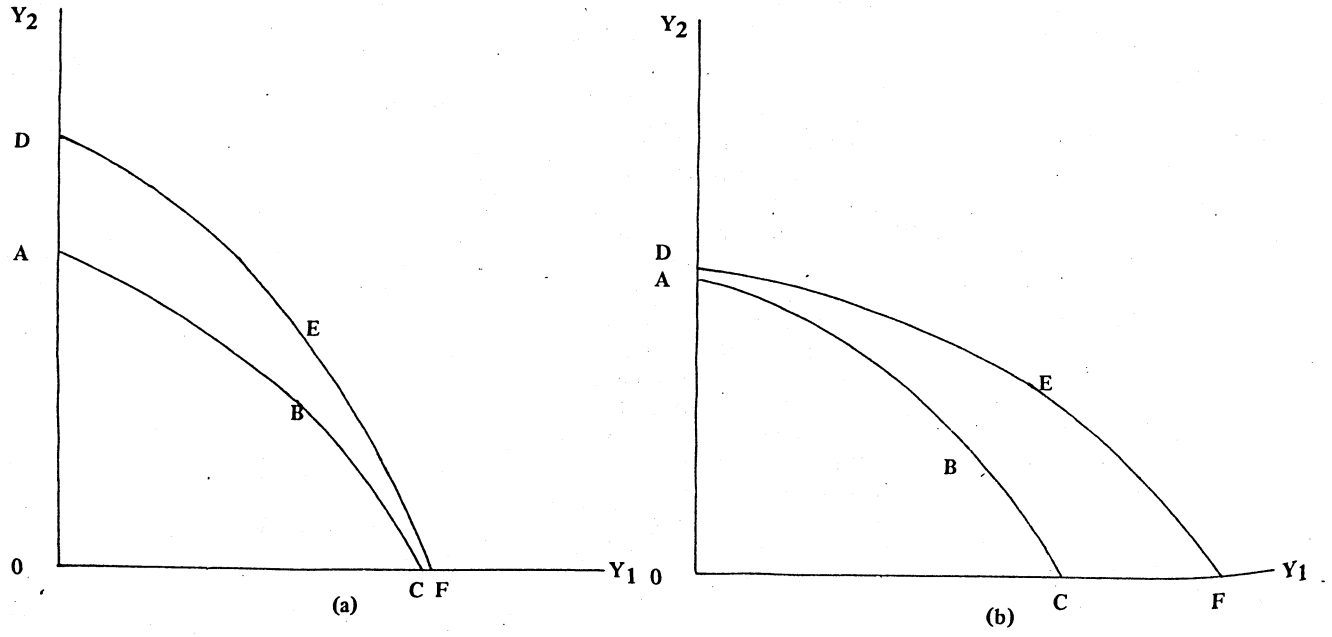


FIG.4 - Effects of technological changes or changes in resource availability on production possibilities

with respect to some other products. In an analysis covering the period from 1925 to 1964, Brand[26] concluded that the terms of trade of South African agricultural export products had fluctuated rather widely without any indication of either a continuous improvement or a consistent worsening thereof. A study of literature brought Haberler[27] to a similar conclusion regarding the United States.

The competitive position of any export-oriented industry is influenced by economic conditions in importing countries. If importing countries are faced with balance of payment problems, policy measures by the authorities will probably have adverse effects on the competitive position of industries exporting to such countries. These policy measures may be of quite a variety of forms: import quotas, import duties or even prohibition of non-essential imports. Recession conditions may also lead to decreases in consumption [28].

In conclusion, a few more factors influencing the competitive position of an industry should be mentioned. One of these is the exchange rate of the country's currency. A depreciation thereof (including devaluation) improves the competitive position of exporting sectors, while a revaluation, on the other hand, as well as inflation, particularly of a cost-push nature, weaken the competitive position of export industries.

This theoretical exposition therefore points at the following factors influencing the competitive position of industries:

Terms of trade, which can be influenced by exchange rates, demand shifts and changes in supply from competing countries.
Technology and resource availability.
Governmental interference in trade patterns.
Transport costs
The general state of the economy.

Within this broader framework, the price and income elasticities of demand for the products, the shape of the production function and the elasticity of supply of inputs play a crucial role.

III. DEVELOPMENTS IN PRODUCTION AND TRADE OF AGRICULTURAL PRODUCTS

The farming community in any country is faced by a set of prices which theoretically will deviate from the international world price levels to the extent that transport costs and governmental interference bring about such differences. Imperfect knowledge can obviously also play a role in this respect.

The question immediately arises as to what constitutes the world market and international prices. In his analysis, Gulbrandsen[29] divided the world into three main groups of countries: Developed market economies, less developed countries and socialist countries. The developed market economies were subdivided into low-cost agricultural producers (USA, Canada, Australia, New Zealand, South Africa, Denmark and Ireland), the United Kingdom and high-cost producers. Developing countries were divided geographically, and socialist countries between the USSR and the others. Data on the trade in food and feed products of these groups of countries are shown in Table 4.

From the table it appears that the United Kingdom, the high-cost producers among the developed market economies, West Asia and the USSR, constitute the group of net importers, whilst the rest of the world constitutes net exporters of food and feed products. It is also noticable that in all the net importing groups (United Kingdom, high-cost producers in the developed market economies, West Asia and the USSR) exports rose faster than imports over the period 1955-1969. Exports also rose faster than imports in the case of low-cost producers in developed market economies, and in Latin America the rates of change in exports and imports were equal. All other groups of countries exhibited larger increases in imports than in exports.

Thus, to the extent that South African agricultural exports have been penetrating the markets involved, its main competition in the foreseeable future will come from Latin American countries, the other low-cost producing market economies, and from within the net importing countries.

Since 1930 agricultural production in the United Kingdom rose rapidly to an index of 13 in 1936-1938, 172 in 1947-1949 and 256 in 1962-1964. During the period 1900-1902 to 1962-1964, consumers' expenditure on food at constant prices increased from an index of 100 to 208[30]. Thus, British agricultural output rose faster than consumption. In 1936-1938 British agriculture produced about 45 per cent of total food supplies, and in 1962-1964 about 60 per cent. Of the increase in supply between 1936-1938 and 1962-64, over 90 per cent was accounted for by increased local production[31]. The British government has recently decided to try and stimulate agricultural production to such an extent that by 1980 the country's food bill will be cut by $530 million compared to 1972[32]. In 1938 France was a net importer of 7 per cent of her consumption of farm products, but by 1963 she has become a net exporter equivalent to 15 per cent of her consumption[33]. Up to 1963, however, the other OECD countries in Europe increased the import ingredients of their food consumption[34].

Basically, if divided into commodity groups, the following conditions have arisen:[35]

Temperate zone foodstuffs. The increased output coinciding with governmental protection policies have had the effect of raising supplies to levels above the absorptive capacities of the traditional high-income markets where the income elasticities of demand for staple commodities are generally low or even negative (e.g. cereals for human consumption). Beef, however, enjoys a high income elasticity of demand, but particularly highly protected dairy markets place a limitation on export possibilities for dairy products. Earnings from exports of temperate zone foodstuffs mainly flow to developed countries, although some others,

TABLE 4 – Trade in food and feed products between major groups of countries, 1955 – 1969

	Exports			Imports			Net trade[2]		Growth rates					
	1955	1962	1969	1955	1962	1969	1955	1969	1955–62	1962–69	1955–69	1955–62	1962–69	1955–69
	Billion U.S. dollars								Exports			Imports		
									Percentage per year					
Developed market economics	10,0	14,8	23,2	14,8	19,0	29,0	–4,8	–5,8	5,9	6,6	6,3	3,6	6,2	4,9
Low-cost producers	5,7	8,6	11,1	4,4	5,2	7,4	+1,3	+3,7	6,1	3,8	4,9	2,3	5,2	3,8
United Kingdom	0,5	0,6	1,0	3,6	4,0	4,3	–3,1	–3,3	3,5	7,0	5,2	1,5	1,0	1,2
High-cost producers	3,8	5,6	11,1	6,8	9,8	17,3	–3,0	–6,2	5,9	10,2	8,0	5,3	8,5	6,9
Developing countries	8,6	9,6	13,1	3,8	5,1	7,5	+4,8	+5,6	1,5	4,6	3,0	4,4	5,6	5,0
Africa	2,2	2,5	3,3	0,9	1,3	1,5	+1,3	+1,8	2,2	3,9	3,1	6,2	1,8	4,0
West Asia	0,2	0,3	0,5	0,4	0,6	1,0	–0,2	–0,4	6,0	7,6	6,8	4,8	7,2	6,0
India, Indonesia, Pakistan	0,6	0,7	0,7	0,3	0,6	0,7	+0,3	+0,0	2,9	–0,5	1,2	11,2	1,8	6,4
Other Asia	1,5	1,7	2,3	1,1	1,3	2,5	+0,4	–0,0	1,4	4,5	2,9	3,3	8,9	6,1
Latin America	3,9	4,0	5,8	1,0	1,0	1,4	+2,9	+4,4	0,5	5,5	2,9	0,3	5,4	2,9
Socialist countries	1,8	2,6	4,3	1,7	2,8	3,7	+0,1	+0,6	5,4	7,4	6,4	7,6	4,1	5,9
USSR	0,5	1,0	1,2	0,7	0,8	1,3	–0,2	–0,0	11,5	3,1	7,2	2,2	7,0	4,6
Others	1,3	1,6	3,1	1,0	2,0	2,4	+0,3	+0,6	2,8	9,5	6,1	10,4	2,8	6,6
World total	20,4	27,0	40,6	20,3	26,9	40,2	+0,1[3]	+0,4[3]	4,1	6,0	5,1	4,1	5,9	5,0

1) United States of America, Canada, Australia, New Zealand, South Africa, Denmark and Ireland

2) Net exports = +, net imports = –

3) Balance errors due to discrepancies in the statistical sources

Source: Gulbrandsen, Odd. (1974). The main streams of the world economy. *Proc. Fifteenth Internat. Conf. Agric. Econ.*, pp. 24–25

like Argentina and Mexico, are also important beneficiaries.

Tropical products - of which South Africa produces very little if any in export quantities - still have an income growth potential in export markets, although some of these commodities are also in surplus.

Temperate/tropical products are produced both in temperate zone high income areas and in less developed countries. They are faced with increased competition from within importing countries.

Agricultural raw materials face increasing competition from synthetics and other substitutes.

Over the past two decades some important changes did occur in the geographical distribution of agricultural exports and imports. Of particular interest to South Africa is the rise in Brazilian agricultural exports. The physical index of Brazilian agricultural exports has shown a sharp upward trend from 100 in 1953 to 514 in 1971 - thus a fivefold increase[36]. In view of the rapid general economic development of Brazil and the large underutilised agricultural resources, this trend may well continue or even gain further momentum. Products in this export drive of particular interest to South African farming include sugar, peanuts, tobacco, oranges and maize. Argentina's agricultural exports have shown a rise from US $860 million in 1955 to $1 400 million in 1965 with fruits and vegetables, oilseeds, meat and wool ranking prominently among these exports[37]. Peru has also shown considerable expansions in exports[3]-. In 1971/72, Argentina's maize exports accounted for 18 per cent of total world maize exports. Production of maize and grain sorghum outstrips an even drastic increase in local demand; in the six years ending 1971/72 maize production virtually doubled, and grain sorghum production increased fourfold. The bulk of these grain shipments traditionally went to Europe, but Agrentina's sales to Japan are increasing[39].

In spite of these developments, the United States is still the dominant country in the world trade of many products, particularly grains. In 1973 it still supplied nine-tenths of world soybean exports, four-fifths of the maize, two-fifths of the wheat and one-fourth of the rice[40].

On the import side, Japan's rapid rise is probably the most salient feature on the world scene. Japanese industrial expansion has resulted in an increasing dependence on imported raw materials. Japan has to import 95 per cent of its soybeans and feed grains, all its cotton and approximately 10 per cent of its animal products. Japanese imports currently constitute approximately 10 per cent of all agricultural products in the world trade[41].

Japan endeavours actively to diversify its food imports[42]. There are large increases in the Japanese livestock industry, particularly in the production of pork, mutton and lamb, poultry and dairy products. Imported feeds are needed for this expansion[43 44].

Income elasticities of demand for food in Japan are generally higher than in the United States[45]. The demand for fruit in Japan is strong and expanding[46]. In an appraisal of the Japanese market for farm products, Spurlock states: "The opportunities to expand sales are present for those who can exploit them ..... the market will be highly competitive for the various exporting countries"[47].

In conclusion, it thus appears that, with the exception of a few Western Asian and Latin American countries, the major increases in agricultural production occur in the developed market economies. Since these economies handle the major part of the world's agricultural imports, pressure on prices, as well as sharper competition from these countries can be expected.

The South African agricultural exporters may be viewed as competitors in markets which show many of the characteristics of oligopoly or monopolistic competition. This is the case with some products in respect of which the United States or other countries are in dominant positions, and also in the case of some other - e.g. wool. In 1973-74, for example, six countries - Australia, USSR, New Zealand, Argentina, South Africa and the USA - together produced 1 804 million kg of wool, which constituted 72,3 per cent of the total world production of 2 498 million kg[49].

In all these markets, and given a quasi-oligopolistic form of the market, the different countries strive, or ought to strive, for differential advantage which may take many forms, e.g. contractual agreements, quality differences, etc.

It does, however, appear that government interference in trade in agricultural products distorts the picture, and in the following section this will be studied further.

IV. POLICY AND GOVERNMENT ACTION REGARDING THE TRADE IN AGRICULTURAL PRODUCTS

The free trade system in international trade achieved great success during the middle of the last century. Since then, this system has been progressively eroded by the reappearance of protectionism in the typical form of customs duties. The aims are twofold: strategic, and to protect local producers against competition from abroad. The lack of mobility of resources, distribution of the population among different regions of a country, problems of income disparities within countries and political constraints are all factors inducing governments to offer protection to local producers[49].

These types of policies largely changed the pattern of international specialisation and trade from what it would otherwise have been. Many countries prefer to produce even those products which could be better obtained abroad at considerable lower costs[50]. Examples of such government action can be found in the case of sugar. The cost of producing sugar-cane is much lower than that of sugar-beet. Yet, the prosperous countries of the Northern Hemisphere, where expensive sugar-beet is produced, show very little enthusiasm to lower their rates of protection[51].

Basically, the types of policies obtaining at present can be classified into two categories: export

promotion measures and import control measures, although these can often not be clearly separated.

Export policy measures are often formulated in conjunction with other policy measures with a view to ensure that a fixed minimum price will be realised locally. These prices tend to increase supply, although certain types of measures - such as area quotas or marketing quotas - specifically try to limit supply. Surplus stocks are available for exports, and governments support such exports for a variety of reasons. Periodic deficits in the US balance of payments have for example given rise to growing pressure in Congress to use surplus agricultural commodities to earn foreign exchange, even if on a long-term credit basis[52].

Some surplus disposal measures - as for instance those under the United States Public Law 480 - are specifically tied to international aid programs[53]. South Africa was, however, not directly affected by this law.

Commercial exports, on the other hand, are often supported by subsidisation of some or other nature. As Ménzie *et.al.* states it: "The price at which the United States is prepared to export is the domestic price less an export payment where one is authorized. The export price may drop because of lower free market prices, reduced levels of price supports, or an increase in the amount of the export payment. The last two depend on US government decisions which may be made either on the congressional or administrative level ..... The export subsidies ..... are intended to make US farm products competitive on the world market. This means regaining or maintaining an appropriate share of the world market"[54]. The specific aim in this is (1) to maintain the US share in markets that are shrinking or static and (2) to maintain or expand the US share in the markets that are growing[55]. The United States is, however, not the only country to adopt such tactics. South Africa also does this by subsidising exports of maize. In the absence of maize export subsidies, South African maize farmers would have to compete with the efficiency of American maize producers *plus* the actions of the US government.

The EEC comprises, particularly since its enlargement, the major part of the European market as far as South African agricultural exports are concerned. The EEC price policy functions around a target price and an intervention price which is lower than the target price. Should the market price fall to this level, an intervention price agency steps in to purchase the product. The general level of prices within the community is protected from world market competition by the imposition of a minimum import price, and differences between this price and world prices is made up by import duties. In order to be competitive on world markets, exports are subsidised by restitution payments which fill the gap between the ruling Community price and the price in the country of destination[56].

Britain's entry into the EEC also involves a gradual acceptance of the EEC common agricultural policy. Thus, the preferential advantages South Africa enjoyed on the British market will disappear and South Africa will be subjected to the general import duties levied by the EEC against third countries. Whereas South Africa has enjoyed an advantage over European countries on its traditional United Kingdom market, the opposite will now be in vogue. This will have profound effects on the deciduous fruit industry [57] and, to a somewhat lesser extent, the citrus industry. Some types of canned fruit - eg. canned peaches and apricots - will be affected, and some others - e.g. pineapples - not[58].

In an analysis of the EEC agricultural policy and referring particularly to grains, Mouton raised the following question: "Is it really the intention to favour maize-producing countries outside the communities?"[59]

Japan, the major developing market, can also buy many agricultural products cheaper than it can produce it. Price support is also applied extensively in Japan.

Japan attempts to increase agricultural production by more irrigation, research and extention and land consolidation. It has reached per area yields which rate among the highest in the world[60].

Because Japan is largely dependent on trade for her progress, this country is one of the main propagandists for free international trade. This approach has also had its effect on Japanese agricultral policy: Japan does not impose heavy import duties on food and industrial raw materials. Tariffs are, however, used where necessary to protect domestic producers of some farm products[61].

Japan also offers foreign aid to a number of countries. A part of the motive is to develop food and raw material industries in those countries, thereby improving trade. Examples are maize in Thailand and soya beans, beef and maize in Brazil[62].

The Japanese are particularly interested in guaranteed contracts between governments. The other governments will be required to give priorities to these contracts in times of shortages[63]. Due to the uncertainty of the weather, a country desiring to compete efficiently in the Japanese market will thus have to carry large reserve stocks of the products involved.

No reference to agricultural policy on the international scene is complete without at least a view at international commodity agreements. Such agreements have usually contained clauses concerning production control, marketing quotas, prices, etc.

Governments of many countries also subsidise agriculture internally by means of subsidies on certain inputs, subsidies on consumption, distribution or processing of products and by preferential or special credit terms and facilities. To the extent that such subsidies are in force, it strengthens the competitive position of agriculture, although it also renders agriculture more sensitive to the whims and preferences of politicians. In South Africa, the following amounts were spent in

lieu of direct subsidies during 1974:[64] Bread: R26,8 million, maize (mainly distribution margin): R32,1 million, dairy products: R12,6 million, fertilizers: R14,5 million, rebates on transport: R2,2 million. Farmers also receive subsidies for soil censervation works, fences, etc. under the Soil Conservation Act, and large sums have been paid out by the State on the stock reduction scheme.

South Africa also has some special credit facilities for agriculture. The Land Bank, which is supported by the State, specialises in agricultural credit. The major part of its credit is in the form of long-term credit based on mortgages, and short-term credit to co-operatives. The Department of Agriculture Credit and Land Tenure - as its predecessor, the Department of Lands - is also heavily involved in the finance of agriculture. It may be safely stated that these institutions have, by supplying credit to the agricultural sector under special terms, improved the competitive position of this sector.

There are, however, also serious shortcomings. It has already been pointed out that the non-selective granting of credit by the Department of Agriculture Credit and Land Tenure, as well as its predecessor, the Department of Lands, have tended to encourage risky crop production in marginal and sub-marginal areas[65 66]. To the extent that this has given rise to physical and thus also financial instability, it has had a harmful effect on the competitive position of agriculture.

The indications are further that while sufficient credit is available for long and short-term needs, too little has been available for medium term needs. As a result, the credit behaviour of farmers for this type of purchases has deviated rather drastically from an optimum pattern[67].

Another field in which government action can considerably improve the competitive position of agriculture, is through its policy on land use. Up to five years ago, South Africa went through a stage of uncontrolled subdivision of agricultural land; this process undoubtedly had harmful effects on production efficiency, and thus the competitive position of agriculture. This has now been halted by the acceptance and the application of the Law on Subdivision of Agricultural Land. Even with respect to high quality land, the agricultural sector has always been in a weak bargaining position *vis-a-vis* urban development. It is to be hoped that the Law on Physical Planning, as administered by the Department of Planning and Environment, will improve this situation.

It may thus be stated in conclusion that action by foreign governments have made it imperative for South Africa to pass legislation and to institute action to maintain or improve the competitive position of South African agriculture on the world markets. Some measures by the authorities in South Africa already had important effects on the competitive position of our agriculture.

V. ENTERPRISE GROUPS

In order to evaluate more specifically the competitive position of South African agriculture, some important enterprises will subsequently be dealt with in more detail. Where possible attention will be paid to the following: general development and/or limiting factors in the individual enterprises; the relative importance of the different products in the world trade; and what action should be taken by individual enterprises to further stabilize and improve their competitive position.

1. Wool

With the exception of gold this raw material has for many years been the largest earner of foreign exchange for South Africa. The exports of wool to the most important consumer countries (based on value) are given in Table 5. From these data it appears that during 1973/74 the largest shipments (in value) went to Japan, the United Kingdom, France, Germany and Italy. During 1971/72 the same countries imported about 42,6 per cent of the wool (according to value) from South Africa.

TABLE 5 - Wool exports according to country of destination - total f.o.b. value, 1971/72 and 1973/74

Country of destination	1971/72(a)		1973/74(b)	
	R1 000	%	R1 000	%
Belgium	3 181	2,1	5 465	3,5
Germany	17 915	9,0	21 006	13,7
France	15 922	10,1	22 922	14,9
Italy	7 909	3,5	15 247	9,9
Japan	10 117	9,1	35 484	23,1
Spain	3 880	1,7	5 727	3,7
United Kingdom	13 350	10,9	31 816	20,7
USA	3 000	1,8	2 575	1,7
Other	5 734	4,6	13 313	8,7
Total	**81 008**	**100,0**	**153 555**	**100,0**

Source:
(a) *Annual Report of the South African Wool Commission, 1971/72*
(b) *Annual Report of the South African Wool Board, 1973/74*

The remaining wool exports are destined to a large number of countries throughout the world[68]. Because the purchases and consumption of wool are closely related to the general economic climate in the wool importing countries, they display great fluctuations over time[69].

During 1973/74 South African wool exports represented approximately 6 per cent of the world wool trade in comparison with 49 per cent, 20 per cent and 6 per cent from Australia, New Zealand and Argentina, respectively[70]. This figure is approximately 2 per cent lower than the corresponding average figure for the period 1965-69[71].

The sharp decline in wool production from 147 300 tons in 1969/70 to 104 100 tons in 1973/74, is the result of a series of factors such as drought conditions, low wool prices, the stock reduction scheme, rising mutton prices, rising production costs and the widespread occurrance of enzootic abortion some years ago[72].

During the past decades wool experienced exceptionally heavy competition from synthetic fibres. For example, world requirements for wool decreased from 10 per cent in 1961 to 6 per cent in 1974 while those for synthetic fibres increased from 24 per cent to 44 per cent during the same period[73 74]. Although the oil crisis favoured the competitive position of wool as compared to these fibres, the share of wool as textile material is expected to decrease further to a mere four per cent in 1980[75].

However, it is remarkable to what an extent the well organised local as well as international marketing machinery, for instance through its famous trade mark and other sales efforts, succeeded in furthering the interests and the competitive position of wool[76]. However, efforts to rationalize local as well as international wool sales, in order to counteract the sharp rise in transport and marketing costs, have now become more urgent than ever[77].

The South African fine wool clip has acquired a high reputation due to its high quality. During the past few years certain unfavourable complications have become evident in the wool industry. Unjudicious crossing, especially for the purpose of more mutton production per animal, is still threatening the quality of the South African wool clip.

In comparison with other parts of the world, the lambing percentage of approximately 70 per cent and the average wool yield of between 4 and 5 kg per sheep in South Africa, cannot be considered as satisfactory[78]. The competitive position of the South African wool industry can be maintained - especially in view of the decline in sheep numbers practically throughout the world - and an account of the distinguished quality of locally produced wool. If this quality can be maintained and further improved, the wool industry is heading, despite severe competition, for a difficult yet promising future.

2. Sugar

During the past two decades sugar production more than doubled from 852 000 tons in 1955/56 to 1 915 000 tons in 1972/73[79]. Likewise, export earnings rose from R38,2 million in 1968 to R233,0 million in 1974. This dramatic increase, especially during 1974, was largely the result of the exceptionally high world price of sugar[80].

In 1972 the Republic's share in the world sugar trade was 4,8 per cent in comparison with the approximate 19 per cent, 12 per cent and 11 per cent of Cuba, Brazil and Australia, respectively[81].

An interesting fact, however, is that sugar production in Brazil has increased during the past four years at a rate of 12 per cent per annum[82]. While world consumption of sugar increases steadily at the rate of three per cent per annum, imports by Japan increased during 1974 by 406 000 tons to 2,8 million tons, in comparison with 2,4 million tons in 1973. Next to Cuba (42 per cent), South Africa provided approximately 18 per cent of Japan's import requirements during 1974[83].

The sugar industry succeeded to a large extent in finding new markets after the complications during the sixties which ushered in an era of heavier international competition for South African sugar[84]. Whereas 88 per cent of the sugar exports in 1960 were destined for the United Kingdom, Rhodesia and Canada, 77 per cent in 1968 went to Japan, Canada and the United States of America[85].

The increase in the efficiency of the local production of sugar is reflected in the fact that the yield per unit area rose during the period 1947-67 at a rate of 2,1 per cent per annum[86]. Although further production expansions were discouraged until quite recently[87], a real effort is now being made, in the light of the recent developments, to increase sugar production[88]. A warning must, however, still be sounded against injudicious expansion of sugar production on less suitable soils, as there is considerable scope for further expansion of sugar production in existing plantations. Morris[89] claims that until a few years ago ....."South Africa deservedly had the reputation of being a low cost sugar producer", and continues ....."that because of inflation this state of affairs no longer pertains, although by comparison with what has happened in other countries, we are more than likely still producing some of the cheapest sugar of the world".

In view of the high rate of inflation, increasing labour costs, fertilizer and fuel prices and transport costs, the utmost will have to be done on all levels to keep production, processing and marketing costs as low as possible, as this will be decisive for a profitable local sugar industry and a favourable competitive position on an extremely competitive world market[90].

3. Fruit

Citrus, deciduous and canned fruit represent important earners of foreign exchange for South Africa. The development of the citrus industry[91] thus far can be attributed largely to the profitableness of sales abroad. Likewise the canned fruit industry is dependent on the export market for between 85-90 per cent of its sales[92].

As regards deciduous fruit, South African exports as compared to competitive imports, hold an important position in the United Kingdom. In 1974 South Africa provided, for instance, 66 per cent of all grapes; 56 per cent of all pears and 31 per cent of all apples imported by the United Kingdom[93].

During 1973 nearly 29 per cent of all South African citrus exports went to the United Kingdom, Ireland and Scandinavia.

Import duties and/or their gradual rise as a

result of British accession to the ECC, together with rises in costs which include production, transport, shipment and foreign marketing costs, will undoubtedly have an adverse effect on the net export realization as well as prices of products to a larger extent than at present. Measures to find alternative markets have not as yet met with much success and medium-term prospects in this respect do not seem promising.

The higher degree of protection granted to local producers within the ECC, together with the growing importance of other import countries in the Southern Hemisphere, for example Argentina, imply more severe competition for fruit in this/these market(s)[94]. Improved cold storage facilities there have also recently helped to diminish the seasonal advantage which South African fruit traditionally enjoyed in the Northern Hemisphere.

Effective advertising and sales promotion campaigns still provide fine dividends in these markets, in spite of boycotts and periodical pressure by European producer organisations for greater protection against imports from countries in the Southern Hemisphere[95].

In spite of the ever growing local market, the fruit industry will always be extremely dependent on overseas markets. By way of research as regards further improvement of the quality of products and packing methods and further rationalisation on every level, whether production or marketing, a lot can still be done to find new methods and/or to maintain and possibly expand the market share and competitive position of South African fruit - despite difficult circumstances.

4. Maize

Maize production increased from 1948 to 1968 at an average rate of 5,1 per cent per annum[96]. This increase was partly achieved by the use of hybrid seed and the adoption of improved fertilization and cultivation practices, although the area under cultivation during the period increased with an average of 2,1 per cent per annum[97]. This horizontal expansion, being a result of the favourable domestic maize price, resulted in large submarginal areas being put under maize during the past few years. This unfortunate state of affairs contributed largely towards great fluctuations in yield, as well as year to year unit production costs.

To illustrate the magnitude of such fluctuations, Scholtz[98] states in a forecast based on projections up to 1980 that: "die jaarlikse netto balans kan wissel van 'n tekort van 0,8 miljoen ton tot 'n oorskot van 10,3 miljoen ton." This unpredictable variability in production - and as a result thereof, large fluctuations in exportable surpluses - represents the most important hindrance to further expansion of South Africa's share in the world maize trade on a continuous and competitive basis.

Although South Africa periodically features as an important exporter of maize, its relative importance in world trade of this commodity is still dwarfed by that of the USA. During 1972 South Africa exported approximately 3,2 million tons of maize, constituting almost 9 per cent of the world trade of maize in that year. On the other hand, during the same year the USA exported 22,4 million tons (62,2 per cent), France 3,5 million tons (9,7 per cent) and Argentina 3 million tons (8,3 per cent)[99].

According to Scholtz[100] projections of expected production tendencies for certain individual countries indicate that more intensive competition can be expected mainly from South Africa's present competitors namely the USA, Argentina, France and Thailand. Maize production in Thailand, for example, increased twentyfold over the past two decades[101].

The South African export pattern for maize is further analysed on the basis of Table 6.

TABLE 6 - Export destination and market share (%) of South African maize in certain countries for some years from 1968/69 to 1972/73 (1 000 tons)

Destination	ECC	Japan	UK	Spain	Other	Total
1968/69	112	1 455	651	244	108	26 770
	(1,06)	(27,5)	(18,79)	(11,06)	(2,07)	(9,60)
1970/71	13	76	186	-	427	902
	(0,11)	(5,33)	(6,48)		(6,81)	(3,19)
1972/73	487	761	745	470	1 100	3 563
	(3,69)	(11,06)	(21,54)	(17,01)	(7,85)	(8,83)

Source: Annual Report of the Maize Board for the book year ended 30 April 1974.

From the above it can be seen that the United Kingdom and Japan are the most important importers of South African maize. More recent figures, however, indicate that from 1970 to 1974 Japan imported an average of 490 000 tons per annum, amounting to 33 per cent of South Africa's maize export[102].

According to FAO projections up to 1980, the main increase in import requirements will come from Japan (5,9 million tons or 42,6 per cent) and the United Kingdom (4,1 million tons or 29,6 per cent)[103]. The projected import requirements of ECC countries, however, show an increase of no more than 121 000 tons (0,9 per cent). As a result of the implications of Britain's accession to the ECC for South African agricultural exports in general, especially Japan - as the main importer of South African maize - is of special importance for the local maize industry[104].

As with most other agricultural products the quality of South African maize is of superior quality especially with regard to certain inherent characteristics of export maize, for example the increasing of the protein content, require continuous attention[105].

The grain trade is closely related to the balance of payments positions of the large industrial countries which, in reality, also represent the largest importers of grain products for fodder purposes. Sustained economic growth and increasing prosperity in these countries is a

prerequisite for favourable trading possibilities of grain products. The adverse effects of the oil crisis and its possible implications for the grain trade, among others, should not be underestimated.

The individual maize producers as well as the industry as a whole are heading for hard times in the light of sharply rising input prices together with high railage, higher freight tariffs, etc.

By removing certain infrastructural problems, for instance storage, rail and shipment facilities, together with more efficient production on the part of the maize producer, it should still be possible to find good outlets for high quality South African maize on the world markets.

VI. INSTITUTIONAL ASPECTS

The results of large and unpredictable fluctuations in local production as a result of climatic conditions, together with certain infrastructural bottle-necks, create serious problems for agricultural exports. Firstly it influences the country's ability to enter into medium and long-term export contracts with other countries, as no guarantee for the prompt execution thereof can be given[106]. Secondly, timely and competitive exports are hindered by shortcomings in the country's existing transport, storage and shipment facilities and services which help to further aggravate the country's locational disadvantage with regard to the most important markets[107].

The domestic transport system, (railways) cannot as yet transport more than approximately 4 million tons of maize annually to the export harbours and as a result exports following good crops are seriously restricted[108]. The citrus and deciduous fruit industries periodically suffer great losses on account of the accumulation and delay of ships in export harbours[109].

The completion of the railway line to Richards Bay as well as the establishment of storage and harbour facilities there, should at least partly alleviate this situation - unfortunately only by 1980. It is expected that the reopening of the Suez Canal will result in a slight alleviation of the accumulation of ships in South African harbours[110].

Since a considerable increase in the physical volume to be handled, stored, packed and transported, is expected in future, serious thought will have to be given to aspects such as larger supplies at strategic distribution centres, bulk handling and containerization, faster and more adequate transport facilities for long distances and expansion of port facilities and shipping services[111].

Especially in the case of maize, an expansion of the country's storage facilities for the accumulation of larger maize reserves - especially for export purposes - should be investigated[112]. This has become necessary because import countries, especially Japan, attach great importance to entering into long-term contracts[113].

It has been found that only a few agricultural control boards and organisations are really export conscious or orientated[114]. Efforts by these organisations in respect of reconnaissance and exploitation of foreign markets are still characterized by individual and unco-ordinated trade missions being undertaken periodically while mutual liaison in respect of exports is to a large extent lacking[115].

In order to be assured of a reliable and permanent position in foreign markets, considerably more time and funds will have to be spent - in a more competent way - on the reconnaissance and development of export markets. Although there has for many years been a plea for more collective marketing research by control boards and other related organisations, without any indications of success, it seems that a specific research unit or body will have to be established for this purpose. Such a research unit or body could collect, analyse and distribute comprehensive information concerning markets and marketing affairs throughout the world on a continuous basis. In this way all enterprises can be kept informed of prevailing and expected tendencies, modern marketing techniques, competitors' strategies, etc., which is of paramount importance for the planning, expansion and control of marketing activities on a competitive basis in overseas markets[116 117].

The heavy competition on foreign markets, which is likely to increase still further in future, makes it imperative that all infrastructural bottle-necks and institutional inefficiencies be eliminated as soon as possible.

VII. CONCLUSION

In the light of prevailing and expected circumstances, it seems as if South Africa is heading for difficult times as regards its ability to successfully compete on foreign markets, to find new markets and thereby continually expanding its agricultural exports.

The objective of "free trade" has never yet been achieved and in the modern world it seems to be more unattainable than ever. The increasing tendency towards block formation in the international trade, together with an increasing rate of agricultural protectionism by some of the big industrial countries in Europe and North America, represent serious obstacles in the way of South African exporters.

The exploitation of markets in neighbouring African countries is still curtailed or made impossible by the limited buying power, the poorly developed infrastructure and especially by political factors.

The need for co-ordinated production planning, which must be seen as a prerequisite for planned exports in contrast to the extensive unsystematic production and *ad hoc* export attempts of the past, can hardly be overstressed.

Since South Africa is not in a position to dominate quantitatively the world market of any commodity, it is imperative to look, by means of research, for methods to keep production and marketing costs as low as possible and to further improve the quality of export products.

The competitive position of South African

agriculture will in future be closely related to the rate at which certain structural defects, for instance poorly adjusted farming systems and practices on the one hand and personal shortcomings such as bad managerial ability, on the other hand, can be rectified.

The South African agriculture is thus entering a difficult yet exciting and challenging era in the years to come.

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