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AGRICULTURAL RESTRUCTURING IN SOUTHERN AFRICA

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THE AGRICULTURAL ECONOMY OF SOUTH AFRICA

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Broadly speaking, this paper consists of three main parts. Firstly, a historical perspective; secondly, an analysis of the present situation and thirdly, a consideration of the future.

HISTORICAL PERSPECTIVE

The historical development will be dealt with in three parts: The pre-colonial situation (briefly), a description of the main events starting with colonial occupation and lastly, the period since formation of the Union of South Africa in 1910.

Pre-colonial agriculture

Prior to the colonization of Southern Africa by Europeans¹ in the mid seventeenth century, the inhabitants pursued three distinct intermingled activities: hunting/collecting, herding and cultivating/cattle-keeping (Wilson & Thompson, 1969(a)). Their existence was largely of a subsistence nature although some barter took place between local groups and with seafarers. All the groups were at least partly nomadic. Considering the population density during this era, their agricultural activities were sustainable. The most important threats to sustainability of agriculture lay in droughts, disease and human warfare. In this sense, Southern Africa's experience did not differ much from the rest of the world.

The period 1652 to 1910

This period stretches between the establishment of a permanent settlement at the Cape by the Dutch East India Company (DIC), and the establishment of the Union of South Africa. Initially, the Dutch colony concentrated mainly on vegetable and fruit production to cater for passing ships, whereas wheat production, for example, was geared to local consumption. In 1654 a few settlers obtained land on which to farm. They were typically family farmers with no hired labour. This heralded the beginning of private commercial agriculture in South Africa. The indigenes were involved in trade with the Company and with local settlers, but they became increasingly disturbed by the rate at which they were losing their land. Thus, in 1659, the Capemen tried unsuccessfully to expel the Dutch who in turn confirmed that they (the Capemen) had lost their land "by the sword and the laws of war" (Wilson & Thompson, 1969(a)).

This process was due to the repeated. South African colonists were no exception to the general rule prevailing over the world from premedieval times until earlier in the twentieth century, namely that victors in a military confrontation often annexed land. Like in the Americas and Oceania, the whites with their more advanced technology and superior

¹ The authors would have preferred not to refer to race. However, the historical development in this region renders such references unavoidable. Europeans, whites and settlers are freely used as synonyms and so are blacks, Africans, natives, indigenes and non-Europeans.

weaponry were usually militarily victorious. Early in the eighteenth century, the Western Cape could no longer sustain its settler population and the trek northwards and eastwards gained momentum. The early 1700s were marked by general overproduction of agricultural products and dissatisfaction among settler farmers in the Western Cape with the DIC's agricultural policies. Towards the end of the eighteenth century, the problem of inflation and the so-called "price cost squeeze" were important issues which concerned the white farmers at the Cape.

This stimulated more extensive farming in areas further removed from the Cape market. Some farmers remaining in the Cape had the ambition to expand operations. The introduction of slavery made it possible and large sums were invested in slaves. Others started to employ indigenous workers as wage labourers. The northward and eastward expansions caused Aficans to retreat and concentrate in areas later known as native reserves or locations. During the 19th century, this process expanded into the northern provinces now known as Transvaal, Natal and the Orange Free State. Land was allocated to Europeans as if the indigenes did not exist. However, in 1828 Ordinance 50 acknowledged the right of "Non-Europeans" to own land in the Cape and some grants were made to Khoikhoi and Xhosa. In 1884 the Natal Native Trust was established and title was given to all mission and location land in trust.

By 1866 most of the land which eventually constituted the Union, presently the Republic of South Africa, was controlled by whites. Natal land was sold on the London Stock Exchange and by 1860 fifteen speculators owned over 275 000 hectares. The Africans were confined to designated areas or were employed on white farms. Two factors in particular induced blacks to work for white farmers: warfare among black groups and between white and black had left many impoverished and defenseless; the loss of land to whites had led to overpopulation of humans and grazing animals in the reserves, inducing bigger poverty and increasing the attraction of selling their labour to white farmers (Grosskopf, 1933a).

Southern Africa was self-sufficient in food production, although most of the farmers led a subsistence mode of life. By the mid-1800s the whites had obtained dominium over just about all the land and thereby also imperium over the indigenous population (Van der Merwe, 1989).

The discovery of diamonds in 1866 and gold in 1886 resulted in the large-scale immigration of whites. This, coupled with improved transport, opened up potential markets for agricultural products locally and overseas and simultaneously made imports more competitive. Legislation was introduced in 1883 to protect wheat farmers from cheaper imports. Prices of agricultural products soared. By the end of the nineteenth century food production was insufficient, and considerable quantities were imported.

At the end of the 1800s a long list of legislative measures existed, which appear to have been aimed at the ensurance of a continued supply of labour mainly to the mines and commercial agriculture. For instance, the Glen Grey Act of 1894 ruled that in the reserves the one-man-one-plot (of 10 acres) principle should apply. There were nevertheless some highly successful black farmers in the Eastern Cape (Wilson & Thompson, 1969b; Louw & Kendall, 1986). In the Orange Free State land ownership by Africans was forbidden. Similar legislation existed in Transvaal. The already existing overpopulation in the reserves caused many blacks to squat on "white" farms. This led to Squatter Laws in the Transvaal and Orange Free State Republics to limit the number of labour families to five per white

farm.

The scorched earth policy by the British during the Anglo-Boer War (1899-1902) caused many white farmers to leave agriculture and seek a livelihood elsewhere. Many Africans moved onto these abandoned lands which they considered to be rightfully theirs. Syndicates were formed by blacks to buy white-owned land. In Natal, a delimitation commission alienated 40 per cent of the land in Zululand and excluded Zulus from the right to purchase (1902-1904).

Since 1910

When the Union of South Africa was formed in 1910, most of the agricultural land was in the hands of whites, although there were still quite a few successful black farmers. Africans lived on white farms as labourers or tenants. Tenancy arrangements were cash or portions of the crop or in lieu of labour. Between 1910 and 1935 no less than 87 bills were enacted by Parliament relating to land and these were mainly aimed at a division of agricultural land along racial lines.

A series of legislative measures and commissions of enquiry had a marked effect on the eventual structure of South African agriculture. The most important were probably the following:

- The Land and Agricultural Bank Act of 1912 which amalgamated the previous colonial land banks. Loan facilities at preferential rates were made available to white farmers and co-operatives, control boards, statutory institutions in the white agricultural sector. The Land Bank has very recently been instructed to expand its activities to the "black" agricultural sector.
- The Land Act of 1913 prohibited a "Native" from owning or renting land outside the scheduled native areas or reserves without approval of the Governor-General (later the State President).
- The Native Trust and Land Act of 1936 made the Governor-General the trustee of all land tenure arrangements in black areas. The Bantu Authorities Act of 1951 made the chiefs paid servants of the Government; this obviously had implications for land policy in the Bantustans.
- The Marketing Act of 1937 regulated in one form or another the production and/or marketing of more than 90 percent *ad valorem* of all agricultural products produced. This act was designed specifically for commercial agriculture, and subsistence farmers could not expect any benefits therefrom. Quotas, restrictive registration and facets of one channel schemes would indeed render it difficult for subsistence producers to modernize their farming.
- The Co-operative Societies Act of 1922, with its many amendments has resulted in an extensive agricultural cooperative structure serving almost exclusively the commercial agricultural sector. Soft credit from the Land Bank and monopoly agencies for control boards under the Marketing Act bestowed considerable competitive advantages on the commercial agricultural sector. An important consequence was considerably lower transaction costs in white than in African agriculture.
- The Soil Conservation Act of 1946 with the objective of conserving soil and veld, was applicable only to the white areas, but has never been effectively implemented.
- The Group Areas Act of 1956 divided the country into race areas and in essence forbade ownership of property across "colour" lines.

- The Tomlinson Commission Report in 1955 made numerous recommendations regarding economic and agricultural development in the areas occupied by blacks. These recommendations included *inter alia* freehold tenure, rejection of the principle of one man-one plot and recommendations aimed at improved institutional structure (including capital and credit) with the aim of developing rural living, including agriculture (Union of South Africa, 1955). These recommendations were not accepted by the government of the day (Union of South Africa, 1957) and an opportunity to modernize agriculture in those areas was lost.
- Numerous other measures widened the gap between subsistence and commercial farming, such as subsidies and other aid schemes for conservation, agricultural supports, interest rate subsidies, tax concessions on machinery purchases, government spending on agricultural education and research and (the latter three have been quantified by Kassier & Vink, 1990).
- Some well-intended legal measures passed by governments of black states have been frustrated by the prevailing communal and one-man-one-plot tenure system. These governments have not tried to change the land tenure system. Restricted access to institutions serving white commercial farmers also frustrated development efforts. Agricultural extension services have largely been understaffed and personnel sometimes undertrained. Until the creation of the Development Bank of Southern Africa, little research had been done on the transition from traditional to commercial agriculture.

At the present juncture, South African agriculture is decidedly dualistic. The two agricultural sectors differ considerably.

The area denoted as "South Africa" in the various tables is mostly farmed by some 60 000 white commercial farmers and by Asiatics and Coloureds, who in 1980 amounted to 72 000 ha and occupied 1,7 million ha (Cooper, 1990).

The anomaly exists that notwithstanding the relative shortage of land and high population pressure in the homelands, a large proportion (some 20 percent) of arable land lies idle in any year (Van Wyk, 1967; Lyne, 1990; Knight & Lenta, 1980; Low, 1986). This problem will be referred to later.

EXISTING LAND-USE PATTERNS

The Southern African agricultural area involves some 98 million hectares; almost 84 percent in white areas devoted to commercial agriculture. The proportion of arable to non-arable (natural grazing) land is fairly similar. The black homelands contain some 43 percent of the area under wood and forest. (Van Zyl & Van Rooyen, 1990).

Table 1 shows that land area per capita of rural population is much more favourable in white South Africa than elsewhere. If it is borne in mind that the homelands have few areas which may be designated metropolitan, then it indicates severe over-all population pressure on land.

Both white (largely commercial) and black (largely subsistence) agriculture have been characterized by grazing practices (largely overgrazing) and cultivation practices which have depleted environmental resources. Soil erosion is serious. Annual soil losses are estimated at an average of three tonnes per hectare - more than 30 times the rate of soil formation (Huntley, et al., 1989). Dongas occupy 3 million hectares which could have had an asset value of R1 500 million (Huntley et al., 1989). Dams are gradually being silted up; desertification is moving from west to east at an alarming rate.

Table 1
Farm land per capita of rural population

Region	Farm land ¹⁾ (1 000 ha)	Rural population (1 000)	Farm land per capita (ha)
South Africa ²⁾	82 246	4 537	18,13
Transkei	4 185	2 638	1,59
Bophuthatswana	3 979	1 464	2,72
Venda	639	446	0,70
Ciskei	756	477	1,58
KwaZulu	3 277	2 645	1,24
Lebowa	2 057	1 718	1,20
Gazankulu	544	477	1,14
KaNgwane	354	338	1,05
KwaNdebele	214	282	0,76
QwaQwa	60	160	0,38
Total	98 311	15 182	6,48

¹⁾ Crop land, natural grazing, wood and forests

²⁾ Non-"homeland" areas

Source: 1990 *Abstract of Agricultural Statistics*; Van Zyl & Van Rooyen (1990).

THE HUMAN RESOURCE BASE

Table 2 presents data concerning the economically active population in agriculture. It shows a huge disparity between GDP per capita in white South Africa and the homelands. It is also evident that in white South Africa, Transkei, Bophuthatswana and Venda, the percentage economically active population in agriculture is a multiple of the sector's contribution to GDP, thus implying much lower earnings in agriculture than in other economic sectors. One difference, of course, is that in white South Africa, the major portion of those economically active people are farm employees, whereas practically all those in the homelands are small-scale subsistence farmers. Many families in homelands do not even produce enough food for subsistence, being net buyers of foods such as maize, beans and potatoes (Van Zyl & Van Rooyen, 1990).

The land hunger and the large gap in agricultural/urban earnings, have obviously been important incentives for many able-bodied and able-minded men, particularly in the homelands, to seek employment in urban occupations. Until the repeal of influx control regulations, their wives and children were almost invariably left behind in the homelands, subsisting from own production and remittances. This is still the overriding pattern. This male absenteeism has had an eroding effect on family discipline and managerial aptitude. Together with the tribal communal land tenure system, this has acted to push homeland agriculture deeper into an abyss of low productivity, poverty and resource degradation.

PRODUCTION, CONSUMPTION AND MARKET CONTRIBUTIONS

The economic importance, contribution and value of agriculture are normally defined in terms of food production and prices, job creation and linkages with the rest of the economy. To this is usually added agriculture's positive or negative trade contributions,

depending on whether agriculture produces a surplus or not.

Table 2
Data pertaining to economically active population in agriculture, 1979/80

Region	Gross domestic product (GDP) per capita	Percentage of GDP contributed by agriculture	Percentage of economically active population in agriculture
	R	%	%
South Africa	3 881	7,0	30
Transkei	238	23,2	76
Bophuthatswana	368	3,9	47
Venda	122	18,8	85
Ciskei	165	8,3	8
KwaZulu	97	27,5	10
Lebowa	150	5,7	3
Gazankulu	101	29,4	20
KaNgwane	103	25,0	21
KwaNdebele	92	17,0	24
QwaQwa	*	*	8

* Not available

Source: Van Zyl & Van Rooyen (1990)

The performance of South African agriculture appears to be rather favourable when seen in pure aggregate terms as provided in Table 3.

Table 3
Production and consumption of food and feed products in South Africa, 1980-1989.

Subsector	Production		Consumption		Self-sufficiency index	Gross value in 1989 (R million)
	1 000 tons	Annual growth rate (%)	1 000 tons	Annual growth rate (%)		
Field crops	39 083	6,36	29 086	3,33	134,4	6 724
Horticulture	6 130	3,80	4 039	6,70	151,8	3 243
Animal products	2 873	0,89	2 877	2,52	99,9	8 116
Total	48 086	3,35	36 002	3,80	133,56	18 083

Source: Van Zyl & Van Rooyen (1990)

In the 1980s, South Africa was self-sufficient in terms of all the important field crop

products, except rice and horticultural products such as coffee, tea, cocoa and spices, thus achieving self-sufficiency indices of 134 for field crops and 152 for horticultural products. This implies that approximately 25 percent of field crops and 34 percent of horticultural crops were available for exports.

In the case of animal food products, the self-sufficiency index was just under 100 with only eggs showing a large surplus. Moderate quantities of red meats, butter and powdered or condensed milk were imported. The major part of the wool and mohair clips as well as karakul pelts have always been destined for export markets.

The growth rates in consumption of field crops and horticultural products have exceeded the 3,1 percent growth rate of the population as calculated from the 1990 Abstract of agricultural statistics. The 2,5 percent growth rate in animal products was slower. In total, the data indicate increased per capita food consumption. Field crop production has continued to outstrip consumption. These developments are not new: between the 1955/56 - 1959/60 and 1980/81-1984/85 five-year periods, food production rose by 131 percent, compared to a 101 percent increase in total population (Groenewald, 1987).

Agriculture has been a major field of employment, as is evident from Table 3. Time series data concerning people economically active in homelands are not available. It is, however, safe to assume that in total, the percentage of economically active people in agriculture has declined. Data pertaining to employment of workers in the commercial agricultural sector reveal an interesting phenomenon.

Between 1971 and 1983, total employment in commercial agriculture declined from 1,64 million to 1,13 million to be followed by 3 years of increasing employment; in 1987, some 1,37 million were employed in commercial agriculture (Abstract of Agricultural Statistics, 1990). The declines were due to substitution of capital for labour, especially in commercial summer grain producing areas (Van Zyl et al., 1987). Subsidized agricultural credit and generous tax concessions on machinery purchases undoubtedly stimulated this development, which was accompanied by declining substitutability between capital and labour (Van Zyl, 1987). The interest rate subsidies have since been disappearing, and the tax concessions are being phased out. One gets the impression that, rather than replacing machines with larger ones or ones just as large, farmers in parts of South Africa have decided to substitute labour for large machines.

Agriculture has been an important supplier of raw materials to South African industry. Between 1974 to 1988, the producers' share of the consumer value of the food basket declined from 55 to 46 percent (Abstract of Agricultural Statistics, 1990), indicating that by 1988 some 54 percent of consumption expenditure on food was spent on services and processing intervening between farmer and consumer. The total forward linkages of agriculture indicate that the total intermediate turnover of agricultural products amounts to some R9 000 million (Van Zyl et al., 1987). In 1978, the South African Agricultural Union claimed that between 25 and 30 percent of both industrial employment and output occurred in industries based on agricultural raw materials.

Over R4 000 million is annually spent by agriculture on intermediate inputs; total inputs exceed R10 000 million. Agriculture, particularly commercial agriculture, has however regressed in this respect since 1980. This retrogression may be ascribed to drought, inflation and managerial deficiencies, including overmechanization and too high an expenditure on some short-term inputs such as fertilizer (Van Zyl et al., 1987; Janse van Rensburg & Groenewald, 1987; Groenewald, 1985).

The general impression from these aggregate macro data is that of an efficient, modern agriculture which simultaneously served the population with adequate and increased per capita food supplies, contributed positively to foreign exchange earnings, industrial raw materials and employment, and which formed a substantial market for industrial output.

Surely this is a remarkable situation - an agricultural sector yielding more and better goods, contributing through its linkages to more and better employment (directly and indirectly) and ultimately to abundance for the whole population. But this is not uniformly the case. There are deficiencies, inequities, poverty amongst riches, hunger next to the granary.

FOOD CONSUMPTION: INEQUALITY, DUALISM AND INEQUITY

In 1857, the German economist Engel observed that, as incomes rise, consumption expenditure on food continues to rise in absolute terms, but declines as a percentage of total expenditure. The latter may be regarded as an indicator of living standards. Some data appear in Table 4.

Table 4
Food as percentage of total expenditure by racial groups in South Africa, 1975 and 1985

Racial group	1975	1985
Whites	14,7	13,2
Asiatics	29,2	23,0
Coloureds	30,3	26,3
Blacks	32,9	30,3

Source: Bureau of Market Research (quoted by Laubscher, 1990).

These data clearly illustrate differences in living standards among racial groups. The composition of food consumption is just as important.

The poorer countries of the world have, for example, an average per capita grain supply of approximately 180 kg per year compared to something close to 900 kg per year in the USA and Canada - approximately one fifth. This does not, however, mean that the inhabitants of the USA and Canada eat on average five times as much as the inhabitants of Malaysia, India or China. Of the nearly 900 kg of grain available to the North American per year, he consumes approximately 70 kg directly in the form of grain products; the remaining 830 kg is fed to farm animals for the purpose of producing meat, milk, eggs and other animal products he values highly in his diet (Power & Holenstein, 1976).

Table 5 provides some data on food expenditure by income class in urban areas. Two points are clear: The declining share of food expenditure as incomes rise, and the high rate of unemployment and economic inactiveness in the lower income groups. The high percentage of people in the poorer classes is reason for grave concern. Hunger is a serious threat to the poorer groups. The rural black population is, moreover, considerably poorer in terms of income than the urban black population (Wilson & Ramphela, 1989).

Differences in incomes lead to nutritional differences. Sen (1981) states: "Starvation is the characteristic of some people not having enough food to eat. It is not the characteristic of there not being enough food to eat. While the latter can be a cause of the

former, it is but one of many possible causes". A person must be entitled a commodity such as food, if he is to use it.

Table 5
Expenditure patterns according to direct income group, South African urban families, 1985

Income group (Rand)	Mean income			Food as percent- age of direct income	% unem- ployed or economy- cally inactive	% of sample
	Direct* (Rand)	Indirect** (Rand)	Total (Rand)			
< 6000	3 746	4 494	8 240	48,1	88,4	6,1
6000-11999	9 240	3 716	12 956	28,4	40,8	10,0
12000-17999	14 928	5 896	20 824	21,4	18,3	14,7
18000-23999	20 084	7 309	28 293	18,6	8,1	18,9
24000-29999	26 722	8 694	35 416	16,6	5,1	17,0
30000-44999	36 054	10 004	46 058	13,0	4,6	23,4
45000-54999	48 968	13 331	62 299	10,7	5,4	5,2
> 55000	74 279	19 612	93 891	8,0	2,9	4,7

* More or less regular income which is depended on for current expenditures, e.g. salaries, wages, pensions, interest, profit from own business.

** Other income, e.g. sales or trade-ins of possessions, fringe benefits, lump sums (e.g. retirement annuities), gifts, insurance policies paid out.

Source: Central Statistical Service (1985).

In a private ownership economy, entitlement will mainly stem from one or more of the following (Sen, 1981):

- trade-based entitlement, obtained by trading something one owns
- production-based entitlement by producing goods by using own or hired inputs
- own-labour entitlement leading to trade-based or product-based entitlement
- inheritance and transfer entitlement.

In an exchange economy, exchange entitlement for a person will depend on the following (Sen, 1981):

- whether he can find employment and if so, for how long and for what remuneration
- what he can earn by selling his non-labour assets, and how much he has to pay for his purchases
- what his own labour resources and purchased resources can produce
- the cost of purchased resources and the value of products available for sale
- his entitlement to social security benefits and his tax obligations.

According to Wilson and Ramphele (1989), the average earnings of at least 2 million urban workers are below supplementary living levels (i.e. approximately 30 percent higher than minimum living levels). If a large number of these workers (many with families in the homelands) are the sole earners of family income, then large problems with food entitlement - and hence also nutrition - must be expected. Commercial farm workers and domestic

employees are normally partially remunerated in the form of food, and food shortages should be less severe. Nutritional imbalances may, however, be a serious problem. The situation is very unfavourable in the homelands. Even after the income levels of most families had improved considerably for 20 years, eighty-one percent of households were receiving less than urban minimum living level incomes by 1980 (Simkins, 1984).

Data on undernourishment are scattered and scarce. A review of a variety of studies does, however, point to severe problems (Wilson & Ramphela, 1989), with the position in the homelands being the worst. Nutritional problems also lead to lower resistance against disease. Infant mortality and a host of pathological conditions such as gastroenteritis, cholera, typhoid, dysentery, measles, tuberculosis, kwashiorkor, scurvy and marasmus are associated with undernourishment and poverty (Wilson & Ramphela, 1989; Mayer, 1976). Such conditions will also lead to social problems, social unrest and low productivity, both now and in the future. Brain damage often results from infant undernourishment.

Laws, rules and regulations which hamper occupational/geographic mobility and/or people's abilities to improve their living conditions are certainly both inequitable and conducive to problems related to incomes, nourishment and associated phenomena. These include some stipulations which have, until quite recently, been on statute books - e.g. work reservation and influx control. Similar legislation still remaining must also be eliminated.

The skew distribution between wealthy and destitute implies dualism with respect to food needs. There is the challenge of providing to the groups less endowed with material well-being, foodstuffs with sufficient energy, protein and other nutrient qualities at low prices. This is a serious challenge. This will entail, among many other requirements, low-cost substantial reductions in the perishability of many foods without adding to one major problem of many modern foods - food adulteration. Turning to the better-off section of the population, the challenge largely becomes one of providing foods with the taste, appearance, etc. desired at prices acceptable to those people.

Thus, the food processing and food marketing industries have to become increasingly geared at accepting raw materials of different qualities and eventually deliver products with rather different attributes to different income groups. In no country can the spread be wider than in South Africa.

The need for such divergence becomes even more apparent in the light of the complementarity between food products and some amenities or medium-term goods. Poorer households - predominantly black - can, for example, not afford amenities such as deep-freezers or, sometimes, even electricity. Purchase of red meat in large quantities, frozen vegetables, frozen chickens, etc. is impractical for such households. Even in an urban environment, the purchase of live chickens for slaughter immediately before consumption is preferable to purchase of frozen broilers if such amenities are absent.

This then, leads to three observations:

- A diversity of end-products has to be catered for, and because of this and the realities of dualistic production, a diversity of raw material inputs is needed.
- Deregulation becomes an important need in many food industries. Regulations often involve efforts to equate, but invariably end up discriminating against either the affluent (who can usually marshal other sources for need-satisfaction) or, probably more frequently, against the poor (who cannot). Thus, efforts to equate are inequitable in a society as diverse as the South African. This pertains particularly to bureaucratic obsessions with so-called "First World" standards, which all too often induce

cost-increasing and price-increasing trifles, thereby discriminating against poorer consumers - for example certain legal prescriptions involving dairy parlours and abattoirs. There is no sense in boasting, as in 1986, that South African meat hygiene ranked among the strictest in the world and that even stricter regulations were under consideration.

- All in all, needs seem to point toward less, not more, regulation and more small, rather than fewer large businesses. Market segmentation is sorely needed.

DUALISM AND STRUCTURAL DIVERSITY IN AGRICULTURAL PRODUCTION

It has already become quite platitudinous to refer to a dual South African agriculture consisting of a modern commercial agriculture, mainly practiced by white farmers, and a subsistence agriculture, which is mainly the province of black farm families in the homelands.

The commercial farming sector is reminiscent of the farming sectors of the developed world, producing surpluses and using considerable amounts of purchased inputs. It also shares many of the problems of first world agriculture. The subsistence sector again, has many of the characteristics of subsistence farming as encountered in many parts of Sub-Saharan Africa, and shares many of its problems.

The differences can be gauged from some comparative data. The commercial sector and the subsistence sector have roughly involved the same number of people, but the commercial sector has operated on roughly six times as much land, and output per worker in commercial agriculture is more than twenty times that obtained in subsistence agriculture (Cobbett, 1978). These differences have largely resulted from differences in technology and capital employed. The commercial sector has, moreover, for long benefitted from specialised service institutions - private and public - involved with marketing, credit, research, etc. and government support similar to that in many western countries (Van Zyl & Van Rooyen, 1990; Van Rooyen, 1989). Smallholder subsistence agriculture has not had these advantages, and has not had the political clout in terms of a lobby as powerful as the South African Agricultural Union. Legal/institutional impediments to small farmer development have been mentioned. Therefore, the subsistence sector has barely survived as a subsistence sector, and has never become a surplus-providing entity.

Everything is not well with commercial agriculture either. South Africa has since the early 1970s experienced double-digit inflation, and prices of inputs have consistently risen relative to product prices. The parity position of agriculture declined steadily and rapidly (Groenewald, 1982). These developments led to the financial ruin of many commercial farmers, particularly when drought also occurred (Groenewald, 1980; Louw, 1981; Van Zyl et al., 1987). The process was aggravated by grave managerial deficiencies on the part of many farmers - such as overinvestment in machinery, overindulgence in the use of fertilizer, and injudicious use of credit (Janse van Rensburg & Groenewald, 1987). Incomes in commercial agriculture were skewly distributed: 74 percent of all agricultural revenue was contributed by 2,8 percent of commercial producers. Therefore, 72 percent of commercial farmers shared in only 26 percent of gross income; 30 percent with lowest incomes shared only 3,5 percent of total gross revenue (Hattingh, 1986). Now, who benefitted from the various price support schemes? The small and poor, or the rich and mighty?

Between 1960-1964 and 1985/87, physical production in agriculture increased by 92 percent (Abstract of Agricultural Statistics, 1990), thus an increase of 2,9 percent per annum. This does not simultaneously imply improved productivity. A large portion of this increase

resulted from increased use of intermediate inputs (an increase of 3,9 percent per annum). The total index of productivity has been calculated to increase by only 0,3 percent per annum (Liebenberg & Groenewald, 1990).

Past legal, policy and institutional developments have surely been inequitable, disadvantaging the already disadvantaged. Then also, until South Africa succeeds in curtailing inflation, development of a more equitable agricultural community will be difficult to attain. Neither the commercial nor the subsistence agricultural sector is probably sustainable in present socio-economic circumstances. The present subsistence sector may, however learn some lessons from the commercial sector. They do not have to repeat all the mistakes.

LESSONS FROM THE PAST: AN AGENDA FOR THE FUTURE

South African agriculture has had a long history of ever-increasing governmental intervention reaching a zenith in approximately 1980, with a horde of laws, ordinances, statutes and regulations affecting all aspects of agriculture, including prices of and/or access to and/or use of natural resources, finance, capital, labour, local markets, foreign markets, foreign exchange, etc. Political and economic power had become highly concentrated. Various authors, including the present two (e.g. Kassier, 1986; Groenewald, 1986) have argued such excessive control to be harmful, both in terms of efficiency and equity. Its results have been the formation of monopolies and monopsonies (statutory and private), distortions of the economy, reduced incentives, weak performance, reduced competitiveness and reduced living standards.

The remedy for the weaknesses of South African agriculture lies not in more of the disease-causing drug of regulations, but rather in reductions of the drug - i.e. deregulation. But as with drug-addicted people, so with a drug-addicted agricultural economy. Governmental withdrawal (deregulation) must be a well-planned, gradual process. Otherwise, the shock could be more than the patient can stand. Neither must the process of deregulation be slow enough for bureaucrats to find new ways to proliferate contraproductive powers.

There is at the same time a need to reduce inequity by affirmative action toward those who have been disadvantaged by the regulations of the past.

Deregulation will simultaneously involve privatization. Two common pitfalls of privatization must be avoided: formation of private monopolies, and staff and management problems. Privatization improves economic performance only if coupled with improved competition (Kay, 1987; Kay & Thompson, 1986; Kolderie, 1986). Staff and management problems originate from the fact that, when a concern is privatized, the people who manage it the day after privatization are literally the same people who had managed the statutory body one day before. Improved performance will not emanate from people, but rather from a more competitive environment. Effective anti-monopoly legislation and effective monopolies control is necessary.

The World Bank (1989) ascribes much of Africa's economic woes to five factors:

- Poor public sector management, which has resulted in loss-making public enterprises, poor investment decisions and costly and unreliable infrastructure.
- Price distortions which have caused inefficiencies in resource allocation.
- High wage costs relative to productivity.
- A scarcity of intermediate technologies.

- A deteriorating quality of government.

In the opinion of the authors, these conditions, with the exception of wage costs, have also been endemic in South African agriculture.

The World Bank (1989) suggests that future strategies must be both sustainable and equitable. This will involve sound environmental management and human resource development. A two-part strategy is advocated: firstly, an enabling environment of incentives and infrastructural services, and secondly, enhanced capacity to cope with change.

There are three needs (World Bank, 1989):

- human resource management
- restructuring of public and private institutions so that skills are used effectively (this involves reduced tasks to central governments)
- governments should concentrate on promoting, rather than controlling, economic development.

If agriculture is to be revitalized, a seven-pronged approach should be followed (World Bank, 1989):

- a bigger role for the private sector
- policies which will allow prices to reflect supply and demand
- development and maintenance of rural infrastructure, involving local communities
- appropriate technology
- sound environmental policies
- programs to assist women as farmers and traders, and
- more secure and efficient land tenure systems.

The second half of the 1980s has seen the collapse and discreditation of central planning. It simply does not work, either in or out of agriculture.

The IMF stresses five points concerning economic reform (Camdessus, 1990 (a)):

- Attempts to find a "third way" between central planning and a market economy have not been successful.
- Piece-meal approaches are not successful; the elements of an economic system are interrelated. Therefore, prices should be freed as far as possible, and this will involve both anti-monopoly action and a freer system of wage determination.
- Strong financial discipline is needed.
- We do not know how long it will take reforms to elicit a supply response.
- Firm macro-economic policies are needed.

Decentralized decision-making are at the core of success and an outward-looking approach is needed; no nation can afford to look inward (Camdessus, 1990(b)).

Decentralized decision-making and privatization may concern aspects of agricultural extension. There can be real questions concerning continued use of public funds for agricultural extension to the top echelons in commercial agriculture, e.g. the approximately 14 000 wealthy farmers who produce over 70 percent of commercial output. Increased and better extension should, however, be provided by the State to small farmers, particularly to subsistence farmers who want to modernize.

The latter goal needs more than extension. It needs the type of institutional structure that will foster enterprise and entrepreneurship in smallholder agriculture. This means the virtual termination of large-scale agricultural enterprises run by so-called development agencies; Africa has been a graveyard for such ventures and even if they are run profitably, their ripple effects are extremely questionable.

Notwithstanding a lot of criticism aimed at Schultz's "poor but efficient" hypothesis (Schultz, 1964) (critics included Mellor, 1970; Cleave, 1974; Lockheed et al., 1980; Eicher & Baker, 1982), it has been generally accepted that small farmers in traditional societies are poor largely because of limitations in their technical and economic opportunities. They are able to make and carry out rational decisions if constraints are removed. Agricultural development hinges on support for small farmers (Van Rooyen et al., 1987; Lofchie, 1985; Onyemelukwe, 1974).

In the South African situation, forms of "settler aid" for small farmers, similar to those at irrigation schemes earlier this century, warrant serious consideration. Care should be taken to prevent these from becoming schemes to foster enrichment of "fat cats", and to ensure effectiveness.

A potentially highly productive step will be improvements in rural infrastructure of high potential, but isolated agricultural areas, particularly in the form of transport, communications infrastructure and extension. Improved access to capital, other inputs and marketing services is vital. Tenure reform is another necessary but not sufficient condition for progress in the subsistence sector. Traditional African tenure is clearly an impediment to development (Eicher & Baker, 1982). Yet, in South African homelands, this system has been nurtured and legally protected. No land market could develop. Development of a land market, even only in the form of allowing people to rent each other's land use rights, will enhance efficiency and probably also equity. It will allow more efficient farmers to expand their operations, women with absentee husbands to improve their real incomes and those with above average skills for urban employment to devote their attention to such occupations without fear of losing land rights. Under present tenure arrangements, it is optimal for some small farmer families to keep some land idle; this disincentive will disappear with the development of an effective land market (Lyne, 1990). In Lebowa, the majority of small farmers and non traditional leaders favour individualization of land tenure, but this will be resisted by traditional tribal leaders (Fényes & Groenewald, 1985).

Much effort should go into adaptive research in order to adapt technology to local natural, ecological economic and social conditions. This should be the main research consideration in less developed areas (Ruttan, 1982). Onyemelukwe (1974) pointed out that development does not really get going unless the process is indigenised and participated in by the mass of the people. Technology, to be indigenised, must: (a) be based on the factor proportions of an area; (b) encourage social mobilization and psychological involvement by the whole community and (c) cheapen costs of development. Real appropriate technology will make optimum use of local material and skills and be applicable by small farmers. There are economies in de-scale (Onyemelukwe, 1974).

All in all, the agricultural future for South Africa and its neighbours will be assured if everyone is allowed to use his/her skills to best advantage. Government's role should be to give facilitative aid to those who can, by using it, improve their own and the communities' wellbeing. Farmers, traders and the consuming public must be protected against monopolies of economic, social and political power. Local farmers must be protected against actions by foreign governments which will endanger the farmers' livelihood - such as the protectionist and expansionist agricultural policies of Japan, the USA and the EEC.

In today's less developed world (including Southern Africa) it would be self-illusionary to ignore the plight of a large number of people who can neither make ends meet as full-time agriculturalists nor gain other employment sufficiently remunerative to sustain themselves and

their families. For this group, the establishment of a home industries network in rural surroundings can do much to ameliorate both living conditions and pressure on agriculture. A special type of institutional infrastructure is needed for this. Success has been achieved in some parts of the world (De Swardt, 1987).

Changes in structures and institutions, some proposed in this paper, have already been incorporated in various interpretations of the South African situation. Some form points of departure in negotiations between political groups. The "necessary and sufficient" type of thought process assumes that a favourable structural and institutional milieu will of necessity bring about overall improvement. Such a deterministic and simplistic view frequently leads to overly optimistic visions of the future. The debate would be considerably enhanced if and when "the way of thinking" of all parties were to change, at least in part, away from structures, institutions and "appropriate tools" towards a "shared vision" and a commitment to achieve ideals. Examples elsewhere show that such an approach can be successful (Caplan et al., 1989).

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