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Capitalist Agriculture : Accumulation and the
Labour Supply - The Case of South Africa

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CAPITALIST AGRICULTURE : ACCUMULATION AND THE
LABOUR SUPPLY - THE CASE OF SOUTH AFRICA

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"The stoical calm with which the political economist contemplates the most shameless violation of the 'sacred right of property' and the perpetuation of the crudest acts of violence against persons (when these things are essential to establish the foundation of the capitalist method of production) can be studied for instance in the person of Sir F.M. Eden, philanthropist though he be and tory to boot. The whole series of thefts, outrages and tribulations that accompanied the forcible expropriation of the people in the period that lasted from the end of the fifteenth century to the end of the eighteenth lead him only to the comforting conclusion: 'The due proportion between arable land and pasture had to be established' Marx [21] P.806

This quotation stands as a caveat to all who work in the general field of economics and in particular to those who study the role of labour and labour allocation in economic development. Modern economic methods far from becoming more humanistic as a result of Marx's strictures have developed the art of analysing human behaviour without reference to the human beings concerned to a high level of sophistication. The methods used in this paper are no exception but I would ask all who read it to recall that every labourer who is reallocated either voluntarily or arbitrarily by the state or by his landlord incurs some personal sacrifices which may or may not be adequately compensated and that under every capital labour ratio or output per worker lurks a 'human being' who may be enjoying less rather than more job satisfaction.

The Economic Backdrop

Economic development theories, that have been designed as a starting point in the explanation of the emergence of a capital using sector from a

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- (1) My thanks are due to my colleagues Alec Erwin and Nigel Morris, who commented on an earlier draft of this paper. The 'flights of fancy' and the errors and omissions, however, I achieved without their assistance!

sector that was previously almost totally concerned with subsistence economic activities, are usually based on the assumption that the economy is a two sector or dual economy, the two sectors being variously described as: capital and subsistence, Lewis [19]; agrarian and industrialist, Fei and Ranis [10] and capitalist and precapitalist, Legassick [18], Kaplan [16]. However, the latter authors stress the nature of the links at the interface between the sectors rather than the dual nature of the economy. The nature of the starting point of the development process ensures that agriculture, in particular subsistence agriculture, must play a crucial role in economic development. This role is a two-pronged one in that the sector is seen as the major source of supply of both labour, as an input in the production process in the capitalist sector and the major portion of the supply of wage goods in the economy, namely food.

The critical nature of the role of agriculture in promoting sustained economic growth is highlighted by the fact that all the current theories of development, no matter whether they start from a position of unemployment, Lewis [19], or from the assumption of full employment, Jorgensen [15], or whether they predict growth with decreasing economic stratification and unemployment, Lewis [19], Jorgensen [15], or growth with increasing unemployment and widening degrees of economic differentiation, Arrighi [1], Legassick [18], predict that sustained economic development is only possible when labour productivity levels in the agricultural sector rise continuously. If output per worker in agriculture fails to expand adequately, then in order to maintain the supply of food, the supply of labour from the sector starts to dry up. On the other hand if labour continues to flow out of the sector in the absence of increased labour productivity, the supply of food becomes insufficient to meet the increased demand for food and food prices start to rise. Rising food prices will push up the wage rate in the non-agricultural sector expressed in terms of that sector's output; no matter whether the economy is developing with or without surplus labour. Increased wage rates will most likely reduce the level of profit and so the rate of expansion of the non-agricultural sector. Since the overall development of an economy depends in the long run on the successful establishment of a non-

agricultural sector, Kuznets [17], this will retard the growth of the economy as a whole.

A natural corollary of these simple models but one that is seldom spelled out, other than by the Neo-Marxian development school, is that the rate of growth of the modern sector can be increased substantially by the implementation of policies that are designed to dichotomise the source of supply of food and the source of supply of labour. This dichotomisation may be achieved by a number of methods, and the actual means used will be a result of both the outcome of the struggle between the various power blocks in the society and the structural limitations within which this struggle takes place. One possibility lies in the production of goods for export by the non-agricultural sector which are then exchanged for wage good imports. The nature of the international market is such, however, that this is not a good long-term strategy. An alternative strategy is one that is based upon the internal dichotomisation of the agricultural sector establishing one portion of the sector as a capitalist agricultural sector, using modern capital intensive methods of production and enjoying high levels of labour productivity, whose object is to provide a stable and cheap source of wage goods and agricultural inputs for the non-agricultural sector, whilst leaving the remainder of the sector to operate within its pre-capitalist mode of production.

Once a capitalistic agricultural sector has been established then the natural market processes can be strengthened by the actions of policy makers that intensifies the degree of differentiation. Measures can be taken on the one hand that ensure a regular supply of foodstuffs to the modern sector from the capital-using modern farms and on the other that ensure the maintenance of a supply of labour to the modern sector by means of increasing the degree of dependency of the pre-capitalist sector on the modern sector until the former degenerates to the point where it is a simple labour reservoir for the latter.

The path of economic development in South Africa is often advanced

as an example of accelerated growth resulting from the application of this corollary. Legassick [18], Williams [31], Rex [25] and Kaplan [16] all see the African Reserve areas as labour reservoirs and the development of capitalist agriculture as one of the major means by which capitalists increase the rate of surplus value earned in the capitalist sector. Whilst the present paper agrees with the general tenor of these presentations it will argue that this dichotomisation is in fact too clear cut to describe adequately the nature of South Africa's economic development. The distribution of the African population between White farms and African Reserve areas was such that even as early as 1916 it was inevitable that the capitalist farms themselves must play a crucial role as labour suppliers to the remainder of the capitalist sector of the economy.

In the early days of the development of capitalism in South Africa the food requirements of the emerging modern sector were met by the marketed surplus of both Black and White farmers Bundy [5]. However, the rocketing costs of living in Johannesburg bear witness to the fact that this supply of food was totally inadequate.⁽²⁾ In addition, when considering the Black farmers, there was the problem, as far as the modern sector was concerned, that the development of a successful Black commercial farming sector might make substantial inroads into the available supply of Black labour to the rest of the capitalist sector: a sector already perennially short of labour.

At this time there was also a certain amount of evidence beginning to accumulate which suggested that in fact the Black peasant farmers appeared to be adapting more quickly than their White counterparts to the improved and extended market opportunities. Bundy [5] quotes from a letter written to a Cape newspaper by a traveller in the Glen Gray

(2) See for example the comparative living costs quoted in the Report of the Commission of Inquiry into the Conditions of Trade and Industry [32] which reported in 1912.

district in 1880 who said:

"man for man the Kaffirs of these parts are better farmers than the Europeans, more careful of their stock, cultivating a larger area of land and working themselves more assiduously."
P. 377.

These factors in a situation where political power was the preserve of the White led to an inevitable outcome; State action designed to provide a long-term solution to the problems of establishing adequate supplies of both foodstuffs and labour to the modern economy whilst at the same time preserving the power structure represented by the dominant class alliances in the community that maintained the State itself in that particular manifestation. The long run solution that was sought to these problems was, therefore, sought within the overall framework of the maintenance of White domination in the field of agricultural and non-agricultural capital and of the elite portion of the labour supply. It was aimed at establishing the successful dichotomisation of the food and labour supplying sector into one sector providing food and one providing labour: White agriculture and the African Reserves. To this end South African economic development has taken place to the accompaniment of a barrage of state activity both at the legislative and administrative levels designed to limit African's access to land and to foster the development of a viable capital-using agricultural sector predominantly owned by Whites.

Although the State in South Africa has had a long history of taking an active part in attempts to establish an adequate labour supply, particularly in the period after the establishment of the gold mining industry, ⁽⁴⁾ it is interesting to note that until very recently, very little official pressure had been placed on White farmers to reduce their labour supply. This is despite the fact that when one looks at the early distribution of the African rural population it becomes immediately apparent that only a relatively small proportion of the African population was in fact resident in the reserve areas. The

(3) Government efforts to generate labour supplies in the pre-Union States are well documented by S.T. van der Horst [27]

(4) Jeeves [13].

Beaumont Land Commission [33] estimated that in 1916 only 55 per cent of the African population were resident in the African reserve areas, by 1936 this percentage had declined slightly to 52 per cent including the temporary migrants.

This population distribution meant that the cornerstone upon which the attempted dichotomisation was built; the legislation which restricted African access to land, such as the anti-squatting legislation that was passed in the early states and the Union government's Land Act of 1913, whilst it was certainly successful in establishing potential labour reservoirs, was not as apparently successful in filling them with resettled labour. Indeed, in a situation where farmers are politically powerful; where the need to establish a supply of food is critical to the development of the rest of the capitalist sector; and farmers traditionally use labour intensive techniques of production, then as long as the expansion of the rest of the economy is not being hindered by an overall shortage of labour, it would seem that a sensible strategy would be one that allowed surplus labour to remain on the farms and concentrated upon implementing policies aimed at improving agricultural output levels.

As far as the rest of the infant capitalistic sector of the South African economy was concerned, it appears that in the early stages of the Union's development the flow of labour from the established reserve areas when coupled with temporary migration from the White farms, which was a feature of the labour tenancy system in many areas, when taken together with a substantial inflow of foreign migrants was indeed sufficient to meet the labour requirements of the growing capitalist sector, both in terms of the number of labourers available and in terms of the price placed on their labour. As long as this remained so, there would be little reason for the state to pressurise capitalist farmers to release a portion of their large potential labour supply. However, once the supply from these other sources was no longer adequate in terms of numbers or too costly in

terms of wage goods, then it follows that continued expansion of the capitalist non-agricultural sector would become contingent upon the successful rationalisation of agriculture; which in turn would result in capitalist agriculture expelling the now redundant labour from the sector. Consequently, one would expect that the overall thrust of the State's activities would accordingly alter should the non-agricultural modern sector show signs of becoming short of labour either in terms of the number of men available or in terms of a rapid increase in the cost of labour to the sector. (5)

Capitalist agriculture in South Africa has been a net absorber of labour in the capitalist sector until relatively recent times. However, there is at present an increasing flow of people out of the modern agricultural sector both as a result of the push forces exerted by the increased levels of capitalisation in the sector and the pull forces of the rising wage levels in the remainder of the capitalist sector, which are themselves an indication that the sector is beginning to approach a situation of labour shortage. (6) Consequent upon this there appears to be signs of a change in the government's attitude towards the existing capitalist farm labour supply if one accepts the recommendation of the Commission of Inquiry into Agriculture [37] as being representative of the official outlook. 1972

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- (5) Labour can be extracted from agriculture in a variety of ways: by market forces either on the food supply side leading to capitalisation in agriculture and a consequent reduction in the demand for labour; or on the labour supply side as rising non-agricultural wages draw men off the land forcing the farmers to mechanise; or by direct State action designed to force some degree of labour re-allocation.
- (6) The average African money wage in the manufacturing sector has risen at an average annual compound rate of 8,5 per cent over the fifteen year period 1960-1975 [55]. In addition when one remembers that the district studies of the levels of temporary outmigration of men from the rural areas of the African homelands show an average rate of outmigration of over 70 per cent, one must seriously question the ability of such areas to supply increasing quantities of labour to the modern sector of the South African economy.

In any event, in the long run in an economic development situation one expects the proportion of the labour force employed in agriculture to decline firstly in relative terms and finally in absolute terms, Kuznets [17] Dovring [8]. It is therefore obvious that eventually the capitalist farming sector itself must play a substantial role as a labour supplier and that consequently it is an oversimplification to see the capitalist farming sector simply as a major absorber of labour.

The Development of Capitalist Agriculture in South Africa

State assistance to agriculture is certainly not simply a modern South African phenomenon, but as Wilson [28] points out:

"The establishment of the Land Bank in 1912 had marked the beginning of a new stage in the farmer's approach to the State henceforth the farmers were to look increasingly to the State to solve their problems."
P. 136.

Further evidence of the growth of the feeling that it was the role of the State to stabilise the supply of foodstuffs comes from the Report of the Commission on Trade and Industries [32] which emphasised in 1912 that:

"The success of a country depends primarily on its agricultural development and until this is brought about industrial expansion will be retarded. P. 95-96."

Frankel [11] estimated that over the period 1910-1936 State assistance to White agriculture was in excess of R113 million which as Kaplan [16] points out is almost the exact equivalent of the total government receipts from mining taxation - and is some indication of the overall degree of importance attached by all sectors of the expanding South African economy to the need to establish a viable modern agricultural sector. Horwitz [12] also comments

"the stream of legislative and administrative effort to place men upon the land, to conserve water and finance water conservation, to conquer environmental and entomological adversity, to provide co-operative marketing, was in principle supported by most White men. They voted for it as the apparently logical pursuit of securing the future of the White man in South Africa. P. 130.

Despite continual state assistance and the acceptance of the development of White South African agriculture as a common goal amongst the electorate, the rationalisation of White agriculture has proved an extremely difficult and time consuming task. Table 1 contains data which show the progress that has been made over the period.

Table 1 Selected Performance Indicators in Capitalist Agriculture 1921-1973

Year	Output per Man Current Prices Rands (1)	Index of Physical Volume of Output 1958-60=100 (2)	Employment Indices (Including Casual Labour) 1960 = 100				Index of Capital Stock (Constant 1963 Prices) 1960 = 100 (4)	Capital per Man (Constant 1963 Prices) Rands (5)	Capital Output Ratio (Current Prices) Rands (6)	
			Total Employment (3)	Whites (3)	Coloured (3)	Asians (3)				Africans (3)
1921	108	30	42	143	59	168	29			
1936	112	46	63	153	73	158	52			
1946	252	53	71	142	77	117	62	52	653	1.6
1951	619	73	82	123	76	109	77	75	812	1.3
1960	794	99	100	100	100	100	100	100	895	1.6
1971	1 298	144	109	83	98	59	110	128	1 054	1.8
1973	1 629	138	98	76	98	54	98	144	1 317	1.9
Δ 21/73	5.4% p.a.	2.9	21/71	-1.2		-2.2	21/71			
Δ 46/73	7.2% p.a.	3.6	3.82 46/71 1.7	-2.3		-2.8	2.7 46/71 2.3	3.8	2.6	

- (1) Output from South African Statistics 1974 [53]. Employment from Union Statistics for 50 years for 1921-1951. [51] South African Statistics 1974 [53] for 1960 and 1971, and for 1973 Agricultural Census 1972-73 [44].
- (2) From South African Statistics 1974 [53] P. 94.
- (3) Estimated from data obtained from the following sources. 1921-1951 Union Statistics for 50 years [51]; 1960 and 1971 South African Statistics 1974 [53] and 1973 Agricultural Census No. 46 [39].
- (4) Estimated from data obtained from the following sources, 1921-1946; Reynders Commission of Enquiry into Cost and Profit Margins on Agricultural Implements [35]; 1946-1972, de Jager [6]; 1973 has been obtained by adding new investment in Improvements, Vehicles and Implements 1972/73 to de Jager's estimate for 1973, from Agricultural Census No. 46. [39]
- (5) Capital as per note 4. Employment as per note 3.
- (6) Capital as per note 4. Output from South African Statistics, 1974 [53].

Some interesting conclusions can be drawn from the data in Table 1. Firstly, so far as the growth of real output in capitalist agriculture is concerned the performance has been steady but not scintillating. Population growth levels in South Africa over the period 1921-1970, averaged 2,33 per cent per annum ⁽⁷⁾ and the rate of growth of the number of economically active persons not employed in agriculture grew at an annual average rate of growth of 3,2 per cent over the same period. ⁽⁸⁾ Given this data it is apparent that the growth of agricultural output was more than adequate to sustain the level of consumption of domestic food per head that existed in 1921 in the face of an expanding population. If however average consumption levels in either or both of the agricultural sectors of the economy increased as labour was transferred to the modern sector then it is quite possible that the supply of marketed surplus would no longer be adequate.

In addition, in a growth situation average per capita incomes should be increasing and when such incomes increase from low absolute levels the income elasticity for food products is likely to be high. Taking this into account, then, suppose for the sake of illustration that the size of the market in terms of people is growing at an average annual rate of 3 per cent and incomes at an average annual rate of 2 per cent, and if the average income elasticity of food is 0,6, food supplies must grow at an average annual rate of 4,2 per cent simply in order to prevent an increase in food prices resulting from the normal working of the market mechanisms. It seems, therefore, from these considerations that despite the long and sustained efforts of the State to develop the capitalist agricultural sector, it is quite possible that an adequate and stable supply of agricultural goods has still not been established, although undoubtedly the situation is considerably improved in terms of the circumstances prevailing in the early 1920's.

(7) South African Statistics 1974 [54].

(8) Growth rate estimated from data in Union Statistics for Fifty Years [51], and Monthly Bulletin of Statistics, December 1975 [55]

Looking at the data in Table 1 it becomes apparent that the rate of economic transformation in agriculture has been very slow. Although the capital stock in the agricultural sector, measured in constant prices grew over the period 1946-1971 at an average rate of 3,7 per cent per annum, capital per man grew very much more slowly at 1,9 per cent. This implies that either the sector was very slow to release labour no longer required by the new techniques, or, and probably more likely, that a good deal of the new capital was applied to capital widening rather than to the adoption of new techniques. This latter view is supported by the fact that the capital output ratio remained remarkably constant over this time. Capital accumulation in agriculture up to 1971 was, therefore, apparently used on a substantial scale to augment the labour supply of the sector rather than to replace it.⁽⁹⁾ There are signs, however that the situation is beginning to change. In the two years 1971 to 1973, the capital stock grew rapidly, and employment in the sector fell, resulting in a substantial increase in the average capital labour ratio. Output in physical terms however, fell over this period, so it is possible that these changes may not be permanent.

When one considers the employment variables more closely one can see that members of both the White and the Asian race groups have been seeking work in increasing numbers outside agriculture, and that up to 1971 their absence was more than replaced by the employment of increasing numbers of African and Coloured labourers. However, even though employment levels in agriculture have risen on average over the period, particularly that of Africans, this does not necessarily mean that South African economic development has taken place without the wholesale evictions and transfers of population that have been a feature of the capitalisation of agriculture in other countries. In this respect one should note that agricultural employment over the period 1946 to 1973 grew considerably more slowly than did the

(9) The high degree of aggregation in this data may well, however, conceal some of the nature of the transformation.

African rural population. Consequently when one recalls the relative size of the farm population in 1936, this implies either that there is heavy rural unemployment or a significant level of out-migration from agriculture. In addition, as the markets for agricultural products develop so the farmers have every incentive to evict squatter or family labour groups and to replace them by a less land intensive wage labour system. This transformation also implies substantial outmigration from agriculture. These possibilities will be discussed in more detail in the following sections of the paper.

Population Movements in the Capitalist Agricultural Sector 1921-1973

Economic development in capitalist agriculture in South Africa has led to the development of two distinct streams of outmigrants from the sector: those migrating with their families and leaving the sector permanently to settle either in the growing urban areas or in the African reserve areas; and those, historically labour tenants, who are temporary migrants seeking work outside the sector for a period of time, but who leave their families resident on the farms during their absence. Permanent outmigrants are found from all four race groups whilst the temporary migrants come exclusively from the African groups in the society.

Permanent Labour Migration from Capitalist Agriculture

Using the population growth rates it is possible to estimate the extent of the net outflow of economically active people from agriculture. If one compounds the number of people employed at one period forward to the next period at the population growth rate and then deducts the actual level of employment in the second period, the difference will be an estimate of the impact of migration on the sector's labour supply ⁽¹⁰⁾ Table 2 contains estimates made on this basis from all four of South Africa's major race groups for the period 1921-1973.

(10) This method will not yield an estimate of the actual count since natural increases are included in the calculation - hence the use of the word 'impact' rather than absolute level.

Table 2

Labour Movements on White Farms 1911-1973 (1) (2) (3)

Year	Movements of Labour in Agriculture									
	White Migration		Coloured Migration		Asiatic Migration		African Migration			
	In	Out	In	Out	In	Out	At 2.4% Mean Population Rate		At Actual Population Growth Rates	
							In	Out	In	Out
1911										
1921							57 900		81 300	
1936		40 400		17 700		10 800	135 800		143 500	
1946		50 200		28 100		10 500		51 000	5 000	
1951		38 000		10 300		2 600	87 000		97 100	
1960		52 500	3 900			4 500	61 300		29 200	
1971		43 800		42 000		8 200		252 200		437 600
1973		14 900		25 700		1 700		219 400		248 100
Total		239 800	3 900	123 800		383 000	342 000	522 600	355 100	685 700

- (1) These estimates have been obtained by means of compounding the number of individuals employed on White farms on the census dates, to the following census date at the average population growth rate for the race group over the period 1936-1970. The actual number of people employed on the census date was then subtracted from this estimate and the difference recorded as an inflow or outflow. e.g.

Migration of African to White farm 1936 = Employment 1921 $(1+.024)^{15}$ - Actual Employment 1936

135 800 inflow = $368 122 (1+.024)^{15}$ - 661 234. An example of these estimations for the African population is given in Table A 1 in the Appendix. The growth rates used were White 1.85%, Coloured 2.7%, Asian 2.7%, African 2.4%. These rates were obtained from South African Statistics 1974 Department of Statistics, Pretoria, 1975. [53]

- (2) Two estimates were made for the African population one using the mean population growth rate of 2.4 per cent per annum and a second using the actual annual compound growth rates between the different census years namely 1921-36 2.3%; 36/46 1.7%; 1946/51 1.8%; 1951/60 2.7%; 1960/71 3.4%; 1971/73 3.4%. Rates from South African Statistics 1974, Department of Statistics, Pretoria 1975. [53]
- (3) Data on which these estimates have been based have been obtained from the following sources; 1911, 1921, 1936, 1946 and 1951 from the population census data contained in Union Statistics for 50 years, Bureau of Census and Statistics, Pretoria. [51] 1960, 1971 and 1973 from Agricultural Census Numbers 34, 44 and 46, Department of Statistics, Pretoria, December 1962, October 1974 and July 1975. [42] [43] [44].

The White Race Groups

As far as members of the White race groups are concerned it appears that the number of Whites employed in agriculture increased between 1921 and 1936, and then declined continuously. The overall decrease has taken place at an annual average compound rate of 1,5 per cent. This means that if one takes into account the natural rate of increase of the White population of 1,8 per cent over the period 1921-1970 ⁽¹¹⁾ economically active Whites have been flowing out of

(11) South African Statistics 1974 [53].

capitalist agriculture at an annual rate of 3,3 per cent. This rate of outflow implies that by 1973 24 per cent of the White economically active population outside agriculture had originated in White agriculture, or were first generation descendants of people who themselves originated in agriculture in the period 1921-1973.

Considering the movements of the population as a whole, rather than simply the economically active members of the population, the total number of Whites who left the agriculture during this fifty year period was of the order of 978 000. In other words for every economically active person who left, two dependants migrated as well.

Coloured Outmigration

As far as the Coloured community is concerned the absolute level of Coloured employment in the capitalist agricultural sector rose continuously from 1921 to 1960 when it started to fall. Despite the overall increased levels of employment there was a considerable outflow of economically active Coloured people during the period, which amounted to 33 per cent of the economically active Coloured employed outside agriculture if one adjusts for continued population increase. The rate of outmigration of Coloureds increased substantially over the period 60/70 to an average of 4 200 persons per year, and then rose dramatically again, actually doubling to 8 650 persons per year for the period 1971 to 1973. These movements probably mirror the demand for Coloured labour outside agriculture. As the shortage of White labour became increasingly critical, so the opportunities outside agriculture for both the Coloured and the Asian race groups increased substantially, attracting workers from the farms. Data to support this contention is given in Table 6 in this paper.

Asian Outmigration

When one remembers the origin of the Asian race in South Africa as indentured labour on the Natal sugar farms it is ironical to observe that during the period studied here the Asians migrated out of agriculture on a far larger scale in relative terms than the other

three race groups. This occurred to the extent, in fact, that by 1973 there were only 6 281 people of Asian descent who were employed in agriculture and of those one third were in fact farmers in their own right.

The average annual rate of outmigration from capitalist agriculture by Asians over the period 1921-1973 was 5 per cent; 2,7 per cent being natural increase and 2,3 per cent the rate of absolute diminution. Once again if one breaks the time period up into shorter periods one can see that there has been a rapid increase in the rate of outmigration in recent years. Over the thirty-nine year period 1921-1960 the average rate of outmigration was in fact less than 5 per cent but it accelerated to 7 per cent over the following thirteen years 1969-1973 and reached 8 per cent between 1971 and 1973. Once again most likely reflecting the growth of job opportunities for Asians outside agriculture.

African Outmigration

Estimates of permanent labour movements amongst the Africans employed in modern agriculture are complicated by the fact that there are large numbers of African temporary migrants moving in and out of the sector. To the extent that there is net in or out temporary migration the estimates of the change in the labour supply given in Table 2 will over or understate the degree of permanent labour migration. It was only possible to estimate the extent of the overall temporary flows for 1970 and the effect of these will be discussed below.

The African population group is the only group which provided an increased supply of labour to the agricultural sector over the period. From 1921 to 1960 there was a net inflow of African labour when the estimations are made with the actual intercensal population growth rates. (12) (13) The absolute numbers of permanent African

(12) South African Statistics, 1974. [53]

(13) Estimates based on the mean growth rate for the period however showed a net outmigration of labour from agriculture for the period 1936-1946.

farm labourers started to decline in 1951 but this decline was more than offset by the increased employment of casual labourers. This does not however mean that the actual labour input in agriculture did not decline after 1951 as it is impossible to estimate what the trade off in terms of labour input units is when one replaces a permanent worker with casual labour. Table 3 shows the magnitude of the substitution of casual labour for full-time employees in terms of numbers of men for the years in which it was possible to obtain such a breakdown.

Table 3 Movements of Casual and Permanent African
Farm Labour 1950-1973

Year	Number of Permanent Employees on Farms (1)	Estimated Number at the Mean Population Growth Rate (2)	Outflow of Permanent African Workers from Farms (3)	Flows of Casual African Labour on Farms (4)
1950	801 211			
1960	767 664	1 015 656	248 000	+ 309 000
1971	741 704	996 485	255 000	+ 3 000
1973	715 635	777 733	62 000	- 157 000

- (1) Data from South African Statistics 1974 [53] and South African Statistical Year Book 1964 [52].
- (2) Compounded at annual average rate of 2.4 per cent from sources in (1).
- (3) 2 - 1 = 3
- (4) Table 2 columns 8 and 9 - column 3 above i.e. net movements of all African labour - net movements of permanent African employees = net movements of casual labour. All estimates have been made using the average population growth rate 1921-1973 rather than the inter censal growth rates.

It seems from the data that between the years 1950 and 1960 that capitalist farmers did indeed substitute casual labour for full-time labour on a substantial scale as the number of permanent African farm workers fell over the period shown in Table 3, although the overall

level of African farm employment rose up to 1971. What is not clear however, is whether this substitution was done from choice or forced upon the farmer by an overall shortage of permanent employers - this distinction could well be crucial as in the first instance the use of casual labour may well represent an improvement in overall allocation of labour resources, whereas in the second case it is quite likely that the use of an increased proportion of casual labour represents an overall decrease in labour efficiency.

It is apparent from the data in the Table that farmers either found it increasingly difficult or increasingly unprofitable to continue to substitute casual labour for permanent workers in the years subsequent to 1960. The period 1960 to 1971 showed effectively no substitution and in the two year period 1971 to 1973, a substantially greater reduction took place in the casual labour force than occurred in the permanent African work force. This change in the patterns of the employment behaviour of the capitalist farmers could be indicative of an emerging trend towards the rationalisation and capitalisation of the sector particularly when one recalls that the period 1960 to 1970 saw an increase in the capital labour ratio in the sector and a very substantial further increase in the ratio took place in the two year period 1971-1973. More sophisticated techniques of production offer a greater potential benefit from the process of 'learning by doing'. This in turn implies that the labour force must be stabilised since a high labour turnover mitigates against the learning process.

It has also been argued that in recent years the capitalist farming sector has relied increasingly upon migrant labourers rather than upon a settled work force as their main supply of permanent workers quite apart from the use made of casual labour in particular seasons: Wilson [29]. Even outmigration on the scale that it has taken place is not sufficient to support Wilson's contention unequivocally. In 1936, 33 per cent of the African population was permanently resident on farms owned by Whites, whilst 16 per cent of the

economically active Africans were employed in capitalist agriculture. (14)

Sheila van der Horst [27] states that:

"In the year 1936-7 nearly 588 000 or over 89 per cent of the 658 000 regular farm workers were resident on the farms on which they were employed." P. 287.

Taken together, these two sets of data suggest that in 1936 there was a substantial 'surplus population' on the White farms. (15)

By 1960, the latest year for which such data were available, the percentage of Africans permanently resident upon White farms had decreased to 20 per cent, whilst the size of the permanent agricultural labour force had grown. This evidence may be indicative of a switch to migrant labour on the White farms or on the other hand may simply reflect the eviction of the surplus farm families.

The problem is further complicated by the flow of temporary migrants in and out of capitalist agriculture. This flow will be discussed later in more detail but pertinent to this argument is the fact that migration patterns are geographically differentiated. Historically there are agricultural regions such as the fruit growing areas of the Cape and the sugar plantations of Natal that have employed migrant workers for a long period of time. Similarly there are areas, notably the North Eastern Cape and Northern and North Western Natal, that have been sources of the supply of outmigrants for the whole of the twentieth century. It will be shown later that once these trends are taken into account Wilson's assertions are substantiated.

African Permanent Population Movements 1936-1970

In an attempt to place the African farm labour supply within the total picture of the African labour supply some overall estimates of

(14) 1936 Census Report. [45]

(15) Surplus by virtue of the fact that the White farms provided residential rights to Africans who were not providing labour on the farm.

permanent population movements were made. The detailed estimates are contained in Table A4 in the Appendix and the overall results are summarised below in Table 4.

Table 4 African Population Movements between 1936 and 1951 and between 1951 and 1970 (1)

Areas	1936 - 1951		1951 - 1970	
	Net Inflow	Net Outflow	Net Inflow	Net Outflow
White Farms and Rural Areas (2)		280 000		51/60 1 000 000 60/70 680 000
African Rural Areas		510 000	600 000	
Urban Areas	790 000		1 080 000	
	790 000	790 000	1 680 000	1 680 000

- (1) Source data is listed in Table A2 in the Appendix and in the notes on the Table.
- (2) Outmigration from White farms for the period 1960-1970 has been obtained as a balancing figure only as no data on the size of the African farm populations could be obtained for 1970. Independent estimations were made for the period 1936-1951 for all three areas however.

It was not possible to allocate migrant workers between White farms and rural homelands for any year other than 1970 on anything other than an entirely arbitrary basis. The estimations in Table 4 are therefore based on the assumption that all temporary migrants came from the African rural areas in the years 1936, 1951 and 1960. If, in fact there was substantial net temporary outmigration from the capitalist agricultural sectors in those years this assumption will lead to an over-estimation of the extent of the permanent outmigration from modern agriculture and an under-estimation of the level of outmigration from the African rural areas for those years. 1970 will however, not be affected.

Subject to the above caveat it seems that the thirty-four year period was a period which saw a substantial resettlement of the African population. In the early period, the end of which corresponds roughly with the imposition of influx control by the Nationalist government, the African population was moving slowly to the towns. In the 15 year period 1936 to 1951 the urban African population grew by almost 800 000 people as a result of outmigration from both White farms and the African rural areas, but it is interesting to note that the outflow from the African areas was slightly faster than that from White farms over this period.

In the period 1951-1970 however, the general picture altered drastically. During these 19 years more than 1,5 million Africans left the capitalist farming sector. One million Africans became permanent residents in the urban areas of South Africa and nearly 700 000 were resettled in the rural areas of the African homelands. A population movement of such magnitude is likely to involve substantial levels of human suffering; since in terms of the evidence presented to the Tomlinson Commission [34] the African rural areas were unable to support their existing populations by the early 1950's. Consequently, it is highly unlikely that these new immigrants were able to make a viable living for themselves in the Reserve areas. In addition one should question whether the rate of job creation in the modern sector outside agriculture was sufficient to provide jobs for both its own expanding work force, and this substantial immigration resulting from the exodus from capitalist agriculture.

African Temporary Migration in the Capitalist Agricultural Sector

The picture of the labour and population movements amongst Africans in the modern agricultural sector that has been drawn in the preceding sections of this paper is complicated by the movements of temporary migrants. It was only possible to estimate the number of temporary migrants from the areas predominantly devoted to capitalist agriculture for the census date in 1970. These estimates

are presented in Table 5 and certainly highlight the magnitude of the migration flows which are hidden by the use of net-migration estimates. (16)

Table 5 Estimates of Gross Flows of African Male Temporary Migrants from White Rural Areas and Capitalist Agriculture; Census Date 1970

Age Group	Net Migration from White Rural Areas	In-Migration to White Rural Areas		Gross Out-Migration from White Rural Areas	In-Migration Capitalist Agriculture			Net Migration from Capitalist Agriculture
		Foreign Migrants	Homeland Migrants		Foreign Migrants	Homeland Migrants	Total Inflow Gross	
	(1)	(2)	(3)	(4)	(5)	(3)	(6)	(7)
Under 20	- 11 000	4 000	64 000	79 000	1 700	64 000	66 000	- 13 000
20 - 24	- 19 000	10 000	39 000	68 000	1 400	39 000	40 000	- 28 000
25 - 34	- 37 000	18 000	61 000	116 000	3 800	61 000	65 000	- 51 000
35 - 44	+ 16 000	18 000	53 000	55 000	8 400	53 000	61 000	+ 6 000
45 - 54	+ 25 000	17 000	39 000	31 000	10 500	39 000	50 000	+ 19 000
55 - 64	+ 14 000	8 000	22 000	16 000	5 600	22 000	28 000	+ 12 000
Total	- 12 000	75 000	278 000	365 000	31 400	278 000	310 000	- 55 000

- (1) From Table A3 column 4 and its supporting Tables A4, A5 and A6.
- (2) From Report 02-02-02 1970 Census [50]. All foreign Africans have been treated as migrants, this will lead to a slight upward bias in these estimations.
- (3) Obtained by applying the job distribution of migrants from the four major African language groups to the estimate of migrants from homeland areas see Table A7 and Table A3 i.e. 27% of 1 030 000 = 278 000. These migrants were then allocated between age groups as the basis of the age group percentages of the four main language groups employed in agriculture namely 23%, 14%, 22%, 19% 14% and 8%. Source data Report 02-02-02 1970 Census [50] Tables A13, B13, D13 and E13, in Natrass [24].
- (4) 1 + 2 + 3 = 4
- (5) Foreign migrants in capitalist agriculture were taken as "Foreign migrants in White Rural Areas" and allocated between the age groups as the basis of the age distribution of all foreign Africans employed in agriculture. Source data Report 02-02-02 1970 Census [50] Table 1 and Table K10, in Natrass [24].
- (6) 3 + 5 = 6
- (7) 4 - 6 = 7

On the census date in 1970 the net estimated migration of men from the White rural areas was only 12 000 people. However, when one looks at the gross flows involved one sees that in fact as many as 365 000 men could well have been absent from their homes on the capitalist farms. In addition the sector had absorbed a further inflow of 310 000 migrant men, 278 000 of whom came from the African homeland rural areas and 32 000 who were foreign immigrants. To this massive flow of men one can add an outflow of 113 000 women from

(16) Such as those given for "other rural areas of South Africa" in Natrass [23].

the White rural areas making a total migration flow in the two directions of close to 800 000 people.

If one works on the basis that these immigrants were all full-time contract farm labourers and not employed purely as casual labour one comes to the somewhat incredible conclusion that as much as 42 percent of the African labour force in the capitalist agricultural sector could have been composed of migrant labourers on the census date in 1970. This is to be compared with Sheila van der Horst's [27] data of 70 000 immigrants who comprised 11 per cent of the labour force excluding casual labourers in 1936. It is obvious from this data that the capitalist agricultural sector is indeed making increased use of the migrant labour system in obtaining labourers for the sector. At the same time the sector supplied outmigrants to the non-agricultural modern sector that were the equivalent of nearly half, 49 per cent, of the sector's permanent labour force.

The extent of these cross-flows is due in a large part to the fact that historical patterns of labour supply have been established in South African agriculture. The sugar plantations in Natal, the fruit-growing districts in the Cape and the maize areas of the Transvaal have relied on migrant labour for the greater part of their existence and still do; although so far as the sugar regions of Natal are concerned there is evidence that the level of employment of Africans on the plantations has decreased in recent years. Similarly the poorer agricultural districts such as those in Northern and North Western Natal and the North Eastern Cape have an equally long history as areas supplying outmigrants. These historical trends are reinforced by well-established behaviour patterns as far as job preferences are concerned on the part of the worker, for preferences for African labour from a particular region as far as the employers are concerned, and by interregional wage differentials.

When one takes all the African population movements out of capitalist agriculture into account then, if one assumes that all the

economically active members of the outmigrant groups were employed in the modern sector of the South African economy, as much as 20 per cent of the Africans who are economically active but not employed in agriculture either themselves originated in the capitalist agricultural sector or are first generation descendents of men who left the sector within the nineteen year period 1951-1970.

Capitalist Agriculture and the Labour Supply of the Capitalist Sector

There is no doubt that capitalist agriculture has been a very significant source of supply of labour as far as the rest of the capitalist sector is concerned despite the fact that there is little evidence of any substantial economic transformation taking place within the sector itself to date. Between the years 1936 and 1971 the sector has provided 24 per cent of the White labour force, 33 per cent of the Coloured labour force, 41 per cent of the Asian labour force and 20 per cent of the African labour force employed in the non-agricultural capitalist sector in 1970.

There has therefore been a substantial movement of people out of the capitalist agricultural sector despite the fact that the sector itself has not until very recently undergone any substantial degree of capitalisation. What has happened, appears to be a combination of the operation of pull forces that have strongly affected the White, Coloured and Asian populations as labour scarcities in jobs normally filled by these race groups began to emerge on an increasing scale in the manufacturing, mining and tertiary sectors of the economy and push forces, directed mainly at the African labour force, arising as farmers evicted squatters and labour tenants in increasing numbers and substituted wage labourers resident nearby or migrant workers.

In the early period discussed in this paper it appears that the outflow of labour from modern agriculture was of an order of magnitude that enabled the remainder of the capitalist sector to employ the economically active members of the outmigrant community. However there are indications that the rate of outflow from agriculture has now reached proportions where this may no longer be the case. Table 6

gives some indications of the supply and demand for labour in the capitalist sector outside agriculture in South Africa for the period 1951 to 1970. From this data it is clear that whilst employment opportunities in the non-agricultural modern sector have grown more rapidly than the population for the White, Coloured and Asian race groups and that the resulting shortfall in supply has been met by such things as outmigration from agriculture, increased participation rates and, in the case of the White race group, immigration from other countries,, this is not the case when one considers African labour.

Table 6 Indicators of the Growth of the Supply and Demand for Labour in the Non Agricultural Capitalist Sector of the South African Economy 1951-1970

Details	Growth Rates of			
	Whites	Coloured	Asian	Africans
Economically Active but not in Agriculture (Excluding unspecified and unemployed)				
1951/1970 (1)	2.8	3.7	4.6	2.9
1960/1970 (1)	3.3	4.3	5.7	3.4
Growth rate of Population				
1951/1970 (2)	1.8	3.2	2.8	3.0
1960/1970 (2)	2.0	3.1	2.7	3.4

(1) Estimated from data in Monthly Bulletin of Statistics, December, 1975 [55].

(2) From South African Statistics 1974 [53].

The demand for African labour in the modern sector appears to have barely kept pace with the natural increase in population over this 19 year period. Jobs for Africans in the modern sector outside

agriculture increased by approximately 1 400 000. (17) Job opportunities for South African Africans rose by slightly more to approximately 1 500 000 as the number of foreign African immigrants decreased by nearly 100 000 over this period. On the supply side these 1 500 000 jobs have been filled in the following way: 315 000 by the natural increase in the labour force that was settled in the urban areas in 1951, assuming a rate of increase of 2.4 per cent; 600 000 by an increase in the number of temporary migrants from the rural areas (18) and 440 000 being the economically active proportion of the African population that moved out of capitalist agriculture and resettled in the urban areas during this period. When one recalls that nearly 700 000 of the outmigrants from capitalist agriculture resettled in the African rural areas and so have contributed to the 600 000 increase in temporary migrants from those areas, it becomes apparent the exodus of economically active Africans from capitalist agriculture was large enough to account for almost 50 per cent of the increase in the African labour force employed outside agriculture in the period 1951 to 1970. An increase in the supply of labour to the non-agricultural capitalist sector of this magnitude must have operated to keep down the rate of growth of African wages in the sector.

Looking at it from another viewpoint, the exodus of people from agriculture was large enough to shift the location of the surplus population from the White farms to the urban and African rural areas and since influx control stems the flood of the unemployed to the towns to some extent, the burden of this surplus population has been shifted to the African rural areas: the unfilled labour reservoirs have been partially filled by this process. This increase in population in the

(17) The difference between the number of Africans economically active outside agriculture excluding those listed as unspecified and unemployed increased by 1 227 118 between 1951 and 1970. Monthly Bulletin of Statistics, Dec. 1975 [55] This figure was increased to 1 400 000 to take some account of the fact that some people classified as unspecified will in fact be holding down full scale modern sector jobs.

(18) From Table A2 and South African Statistics 1974. [54]

African rural areas amounted to nearly 10 per cent of the population which when coupled with the natural increase of the population prior to this resettlement must be a contributing factor in the increasing immiserisation that is evident in these rural areas. (19)

It is on these grounds that it is argued that the treatment of White agriculture by certain authors in the Neo-Marxist tradition such as Legassick [18], Kaplan [16] and other is too simplistic. By treating capitalist agriculture as a labour absorber they overlook the contribution that the sector has made to the growth of the economy as a whole through the effect that it has exerted on the African labour supply to the rest of the capitalist sector both in terms of the number of workers that have been supplied by the sector and in terms of the effects that the resettlement of these people evicted from capitalist agriculture in the African rural areas has had upon the general underdevelopment of these areas. This significant outflow of permanent African farm residents to settle either in urban areas or in already overloaded rural areas is likely to undermine the capacity of this labour force to maintain itself by means of non wage activities and by so doing further weaken the relative economic position of the African labour force.

Capitalist Agriculture as a Supplier of Wage Goods

When one views capitalist agriculture in its place in the overall picture of South Africa's economic development, it becomes obvious that apart from the contribution it has made to the general conditions of the labour supply in the economy, the sector has not performed well. Output levels have not grown sufficiently to prevent relative increases in food prices and this failure in the supply of the critical component of wage goods is still a major constraint upon South Africa's development despite concentrated State efforts to improve the supply extending over a period of more than fifty years.

(19) Whilst income per head in the African homelands has risen in the past 15 years, subsistence output per worker has apparently declined and it is on the basis of this reduction that the claim of increasing immiserisation of the rural areas is made. Data from South Africa 1974. [54]

There seems no doubt, if one takes the recommendations of the Marais/du Plessis Commission of Enquiry into Agriculture [36,37] as reflecting the prevailing State attitude, that the official approach to the problem is changing and that the State now believes that the sector must be capitalised fairly rapidly as South Africa's continued economic development still depends ultimately upon the establishment of a viable agricultural sector. The Commission recommended in its second report that:

"The productivity of both White and non-White must be considerably increased. The necessity for this becomes all the greater the more intensive farming becomes." [36] p.175.

and in its final report

"As regards non-White labourers on farms it has already been pointed out that if, in the national interest, the productivity of labour is to be raised far above the present level, the number of non-White labourers engaged in agriculture will have to be reduced sharply." [37] p. 9.

It seems from these extracts that the Commission has totally rejected the possibility that output can be increased adequately by continued capital widening in agriculture and instead has put its faith in increasing output by the adoption of more capital intensive techniques of production. If the Commission's views are implemented it seems that further population outflows from agriculture are inevitable and that the people pushed out of agriculture will be Africans. A fair estimate of the size of the African population resident on capitalist farms in South Africa in 1970 is about 2 million persons, of whom approximately half are actually employed on the farms. (21) The percentage of the African population resident

(20) The actual African population on farms in 1960 was 2 144 085 [42]. The 1970 population was estimated as follows:
1970 population = 2 144 085 (1+,024)¹⁰-680 000 (the estimated outflow 1960/70) = 2 037 950 persons.

(21) In view of the fact that a 10 cent per African employee per month 'contribution' was levied on farmers in April 1974, and this levy was increased to 40 cents in April 1975, it seems that the views of the Commissioner are being implemented by government policy.

on the capitalist farms has dropped drastically from 33 per cent in 1936 to 14 per cent in 1970 but it seems that the government still views this as excessive.

Conclusion

In summary it appears from the evidence presented here that the role of capitalist agriculture in South Africa's economic development has differed from that typically ascribed to the sector. Despite continued State support, the supply of wage goods from the sector has not grown as fast as the demand, implying that unless technical progress in the remainder of the capitalist sector has been sufficient to offset the effects of an increase in the relative prices of agricultural goods, the rate of profit in real terms earned by South African non-agricultural capitalists is not likely to have increased and may well have fallen over the period.

On the other hand, however, the sector has played a major role in generating and maintaining a supply of free labour for the capitalist sector as a whole and in recent years as much as 50 per cent of the increase in the African workforce employed in the non-agricultural capitalist sector may well have been drawn from capitalist agriculture and it within this framework that one should assess the operation of the State control over the African labour supply.

The labour supply to capitalist agriculture has been heavily influenced by State activity throughout the history of the sector in South Africa. There seems to be little doubt, however, that the increase in the degree of sophistication in the labour controls that occurred in the 1950's and that was the outcome of the implementation of the Nationalist government's policy of 'apartheid' substantially altered both the structure and the economic position of the African labour force on the capitalist farms. In the period subsequent to 1950, capitalist farmers substituted first casual labour for full-time African employees and then contract migrant workers for their settled workforce, thereby altering the nature of the social relations in the sector by undermining the economic position of the African labour

force. What had been a settled 'much in evidence' labour supply, became a migrant labour force whose families could be conveniently ignored and whose rights to the job could be terminated at the wish of the employer; whose economic position in its turn was now considerably strengthened by a battery of beaucroatic requirements. As a result one comes to almost a contradictory conclusion that despite the fact that the sector was a significant source of supply of labour to the non-agricultural capitalist sector, the relative economic position of capital vis-a-vis labour within the sector actually improved.

On these grounds it would seem that it is too simplistic to interpret the imposition and application of the State controls over the African labour supply that have occurred subsequently to 1948 as being either an attempt to stabilise the labour supply to agricultural capital or as a means of improving the labour supply to a sector already labour short whilst allowing the non-agricultural capitalist sector to draw its labour from other sources. In terms of the change that the system has wrought upon the economic conditions of the competing groups within capitalist agriculture itself it seems that a better explanation may be that the overall system of labour controls permits the State to intervene in the process of production in such a way that it is able to allocate the total supply of African labour, subject to the institutional limits on the system set by illegal migration and evasion by employers, in a manner which allows them to rationalise the competing inter-sectoral and inter-regional demands for labour.

However, the system not only permits the State to allocate the total labour supply but also allows it to do so in such a way as to ensure that the labour needs of the competing fractions of capital are met in a manner as favourable to the overall economic position of the dominant 'power blocks' within these fractions as possible; subject however, to the overriding consideration that the long term economic development of South Africa must imply an overall reduction in the quantity of labour employed in agriculture.

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Table A1 Estimation of Movements of Economically Active
African Workers from White Agriculture in
South Africa 1911-1973

Year	Permanent Farmworkers & Domestic Servants on White Farms (1)	Estimated Employment (2)	Outmigration over the Period (3)	Annual Migration
1911	244 700			
1921	368 122	310 194	+ 57 927	5 793
1936	661 234	525 401	+ 135 832	9 055
1946	787 144	838 214	- 51 070	5 107
1951	866 604	886 245	- 19 641	3 928
1954	840 340	930 508	- 90 168	30 056
1960	767 977	968 846	- 200 869	33 468
1971	741 793	996 891	255 098	23 190
1973	715 635	777 826	62 191	31 095
Net Outflow 1936/73			679 037	18 352 (28 062) -

- (1) Data for 1911, 1921, 1936, 1946 and 1951 from the population census data presented in Union Statistics for 50 years, Bureau of Census and Statistics, Pretoria. Data for 1954, 1960, 1971 and 1973 from Agricultural Census Numbers 28, 34, 44, and 46, Department of Statistics, Pretoria, April 1956, December 1962, October 1974 and July 1975. [40], [42], [43], [44]. Casual farm workers are not included in these estimates
- (2) The data in this column have been obtained by compounding the data in the previous column at 2.4 per cent which is the overall growth rate of the African population over the period 1921-1970 given in South African Statistics 1974, Department of Statistics, Pretoria, November, 1974. [83]
- (3) $2 - 1 = 3$ i.e. The difference between estimated population in (2) and the actual population enumerated in the census has been assumed to be either net in or out migration from the area over the period.

Table A2

Estimate of the Flows of Permanent African Migrants
in South Africa for the Period 1936-1970

Details of Calculations	Urban Areas	White Farms	African Homeland Rural Areas
1. Estimated Settled Population in Area in 1936; White Farms and African Areas from 1936 Population Census; Urban population estimated on the basis of the ratio of children 0-14/adults for the African population as a whole i.e. <u>Children 0-14 yrs in Town = African permanent urban population</u> .39 White Farms actual count; African areas actual count + migrants (1)	560 393	2 154 857	(Migrants 476 000) 3 438 395
2. Estimated population in 1951 on the basis of natural increase only. Natural rate of increase taken as 1.8% therefore $Population_{1951} = Population_{1936} (1 + .018)^{15}$ (2)	710 382	2 816 016	4 493 372
3. Actual Population in the area that is the settled population; urban area taken as <u>actual children</u> , White Farms actual census .39 African rural areas census count + migrants absent, (3)	1 497 002	2 540 569	(Migrants 679 000) 3 986 234
4. <u>Permanent Migration together with the natural increase of the migrants</u> i.e. persons who would have been resident in the area in 1951 if no migration had taken place over the period 1936-1951. (rounded to 10 000)	+ 790 000	- 280 000	- 510 000
5. Estimated Population in the area in 1970 on the basis of natural increase only, rate of natural increase over the period taken as 3 per cent p.a. <u>Note</u> calculation for White farms are for the period 1951-1960 as 1960 is the last date on which it was possible to obtain actual census counts of the population resident on White farms. (4)	2 625 000	<u>1960</u> 3 145 072	6 985 966
6. Actual count adjusted for temporary migrants. Ratio of children to adults .42 for urban population. Migrants from homelands 1 177 000. (5)	3 702 000	<u>1960</u> 2 144 085	(Migrants 1 177 000) 7 586 780
7. Permanent Migration together with the outmigrants natural increase (see 4 above) (estimates rounded to nearest 10 000)	1 080 000	1 000 000	+ 600 000

- (1) Population census data has been taken from Union of South Africa 6th Census, 5th May 1936. Vol. 1 'Sex and Geographical Distribution of the Population', UG 21 of 1938 and the Supplement to vol. IX 'Ages and Marital Conditions of the Bantu Population', UG 50 of 1938, Government Printer, Pretoria. The number of temporary migrants has been taken from Jill Nattrass, The Migrant Labour System and South Africa's Economic Development 1936-1970. Unpublished Doctoral Thesis, University of Natal Library.
- (2) Population data from 'Sex and Geographical Distribution of the Population' Vol. V, Population Census 1936, UG 21/1938. The Rate of increase of 1.8 per cent has been taken from the average rates of increase 1936-1951 for the African Population in South African Statistics 1974, Department of Statistics, Pretoria, 1975.
- (3) Actual population data from 'Union Statistics for Fifty Years' Bureau of Statistics, Pretoria and Population Census 1951, Vol. V, Ages All Races Bureau of Statistics, Pretoria, UG 42/1958. The estimates of the number of migrants from data in Jill Nattrass, The Migrant Labour System and South Africa's Economic Development 1936-1971, see Note 1.
- (4) The rate of increase of 3 per cent from the average rate of increase 1951-1970 for African Population in South African Statistics 1974, Department of Statistics, Pretoria, 1975.
- (5) Actual counts of urban population from Monthly Bulletin of Statistics, December 1975, Department of Statistics, Pretoria, 1976. The estimated number of migrants from Jill Nattrass: The Migrant Labour System and South Africa's Economic Development 1936-1971. See Note 1. The ratio of children under 15 to all African adults, .42 estimated from Report 02-02-02, Population Census 1970 Bantu Age, Occupation, Industry, School Standard, Birthplace, Department of Statistics, Pretoria, 1973.

TABLE A3 AN ESTIMATE OF THE TOTAL NUMBER OF MIGRANTS IN THE MODERN SECTOR OF THE SOUTH AFRICAN ECONOMY AT THE CENSUS DATE IN 1970. (1)

Age Group	Homeland Rural Areas		Other Rural Areas		Foreign Migrants	Total Migrants	
	Males	Females	Males	Females	Males	Males	Females
	A	A	A	A	B		
15-19	117 000	36 000	11 000	11 000	22 000	150 000	47 000
20-24	192 000	36 000	19 000	19 000	98 000	309 000	55 000
25-29	192 000	36 000	20 000	35 000	78 000	290 000	71 000
30-34	168 000	35 000	17 000	28 000	59 000	244 000	63 000
35-39	112 000	4 000		15 000	45 000	157 000	19 000
40-44	87 000			5 000	33 000	120 000	5 000
45-49	62 000				26 000	88 000	
50-54	50 000				18 000	68 000	
55-64	50 000				14 000	64 000	
	1030 000	147 000	67 000	113 000	393 000	1490 000	260 000

A : Detailed calculations for these estimates are presented in Appendix A Table A9 and its supporting tables.

B : Foreign migrants have been estimated on the basis of adult males - adult females = oscillating migrants for age groups 15-64 years; from Report 02-02-02 above note 4.

(1) Based on data contained in Report 02-02-02. Population Census 1970 Bantu Age, Occupation, Industry, School Standard, Birthplace. Department of Statistics. Pretoria 1973.

TABLE A 4 ESTIMATION OF THE NUMBER OF AFRICAN MIGRANTS FROM THE HOMELAND RURAL AREAS OF SOUTH AFRICA IN 1970.

Age Group	Ratio Women/Children in South Africa	Population Female		Female Migrants	Masculinity Ratio	Population Male		Male Migrants
		Estimated	Actual			Estimated	Actual	
	A	B(1)	C(1)	D	E	F	G	H
15-19	,13	413 000	377 000	36 000	10	413 000	296 000	117 000
20-24	,10	318 000	282 000	36 000	,99	315 000	123 000	192 000
25-29	,09	286 000	250 000	36 000	,98	280 000	88 000	192 000
30-34	,08	254 000	219 000	35 000	,98	249 000	81 000	168 000
35-39	,06	191 000	187 000	4 000	,98	187 000	75 000	112 000
40-44	,05	161 000	161 000		1,0	161 000	74 000	87 000
45-49	,04	139 000	139 000		,98	136 000	74 000	62 000
50-54	,04	124 000	124 000		,95	118 000	68 000	50 000
55-65	,05	184 000	184 000		,89	164 000	114 000	50 000
Totals		2 070 000	1 923 000	147 000		2 023 000	993 000	1 030 000

A = All African Women in S.A. in age cohort

$$\frac{\text{All African Women in age cohort}}{\text{All African Children in S.A. aged 0-14 years.}} \text{ e.g. } \frac{\text{All African Women 20-24 yrs}}{\text{All Children 0-14 years}} = \frac{644\ 720}{6\ 408\ 320} = .10$$

B = Number of children in rural areas 0-14 yrs. x ratio A for particular age cohort

C = From 1970 census rounded to the nearest 1000.

D = B - C.

E = From J. L. Sadie, [174]

F = B x masculinity rate for that particular age cohort.

G = From 1970 census rounded to the nearest 1000.

H = E - F.

(1) Where actual figures for women are greater than the estimated, the actual figures have been used to estimate the male population in column F. However, in the case 50-54 years, the actual population is 3000 less than the estimated, but has still been used as the basis for calculating male migrants as it was felt that the difference reflected incorrect age admissions rather than true out-migration.

TABLE A5. ESTIMATE OF AFRICAN MALE MIGRANTS FROM THE RURAL AREAS OF SOUTH AFRICA IN 1970.

Age Cohort	Female Child Ratio	Male Female Ratio	Male Population		Male Migrants	Age Specific Migration rate	Age Distribution	
			Estimated	Actual			Actual	Cumulative
					A	%	%	%
15-19	,13	1,0	628 000	500 000	128 000	20	12	12
20-24	,10	,99	478 000	267 000	211 000	44	20	32
25-29	,09	,98	426 000	214 000	212 000	50	21	53
30-34	,08	,98	379 000	194 000	185 000	49	18	71
35-39	,06	,98	284 000	177 000	107 000	38	10	81
40-44	,05	1,0	242 000	166 000	76 000	31	7	88
45-49	,04	,98	192 000	151 000	41 000	21	4	92
50-54	,04	,95	183 000	134 000	49 000	27	5	97
55-65	,05	,89	217 000	191 000	26 000	12	3	100
Total			3 029 000		1 035 000	34	100	

A : Estimated on the basis outlined in this Appendix. The standard population used here was the population "All Africans in South Africa" and the estimates were made from data contained in Table 1 of Report 02-02-02. Population Census 6 May 1970, Sample Tabulation Bantu-Age, Occupation, Industry, School Standard, Birthplace. Department of Statistics, Pretoria, 1973. [50]

TABLE A6 ESTIMATE OF THE NUMBERS AND AGE CHARACTERISTICS OF AFRICAN
FEMALE MIGRANTS FROM THE RURAL AREAS OF SOUTH AFRICA IN 1970.

Age Cohort	Female Child Ratio	Female Population		Female Migrants	Age Specific Migration Rate	Age Distribution	
		Estimated	Actual			Actual	Cumulative
				A	%	%	%
15-19	,13	628 000	581 000	47 000	8	18	18
20-24	,10	483 000	428 000	55 000	11	21	39
25-29	,09	435 000	364 000	71 000	16	27	66
30-34	,08	387 000	324 000	63 000	16	24	90
35-39	,06	290 000	271 000	19 000	7	8	98
40-44	,05	242 000	234 000	5 000	2	2	100
45-49	,04	196 000	196 000				
50-54	,04	193 000	174 000	unreliable taken as zero			
55-65	,05	244 000	244 000				
Total		3 098 000		260 000	8	100	-

A : As in note A on Table A5.1. Note the migrants from the three oldest cohorts have been omitted as the distribution appears to show evidence of inaccurate age reporting by the women, and whereas the number of men migrants in all three cohorts is sufficiently large to be relatively insensitive to such inaccuracies, the number of female migrants is small enough to be highly sensitive.

TABLE A7 ESTIMATED DISTRIBUTION OF MIGRANTS BY INDUSTRY OUTSIDE
HOMELAND AREAS IN SOUTH AFRICA IN 1970. (1)

Industry	Percentage of Group Employed in the Industry						
	Xhosa		Zulu	Tswana	Pedi	Foreign Africans	All Repub- lican Africans
	Trans- kei	Cis- kei					
	A	B	C	D	E	F	G
Agriculture	26	29	27	4	27	8	13
Mining	44	13	1	11	1	80	9
Manufacturing	11	25	15	11	15	3	20
Construction	8	15	17	21	17	2	10
Trade & Finance)		3	2	8	2	1	8
Transport)	4	1	1	2	1	-	1
Services)		7	24	35	24	3	26
Public Sector	8	7	13	8	13	3	13
	100	100	100	100	100	100	100
Low wage sector H	70	49	52	50	52	91	48
High wage sector I	30	51	48	50	48	9	52

A : Estimated from data in the Transkei Government Department of Interior. Statistical Labour Report, 1971. Umtata 1972.

B : Estimated from data in the Annual Report of the Department of Bantu Administration and Development 1971. Xhosa from the Ciskei placed in employment outside the homeland by the district labour bureaux in 1971. P.68. RP.41/73.

(Notes on Table A7 contd. overleaf...

(1) Migrants here include male and female migrants but since the percentage of females who migrate is approximately 10 per cent of the males their inclusion is not likely to distort the patterns significantly.

- C : The occupational distribution of the Pedi migrants has been used as a surrogate for that of the Zulu. The Pedi distribution was chosen as there was not a significant difference between the occupational distribution of all Pedi males and that of all Zulu males. (χ^2 6,81 8 degrees of freedom which is not significant at the 50 per cent level.) This similarity in work patterns was assumed to hold also for the migrants from each group, as no other data for the Zulu migrants could be located.
- D : Estimated from data in the Annual Report of the Department of Bantu Administration, RP.41/1973, p. 31.
- E : Estimated from Report RP.41/1973, p. 42.
- F : Taken from a reply by the Minister of Bantu Affairs to a question in the House of Assembly on 5th March, 1971. Hansard col. 5 384-386 quoted in Survey of Race Relations in South Africa 1971. Vol. 25. S.A.I.R.R. January 1972.
- G : As A above.
- H : Agriculture, Mining and Service Sectors.
- I : Manufacturing, Commerce and the Public Sector.