

Saldru Copy

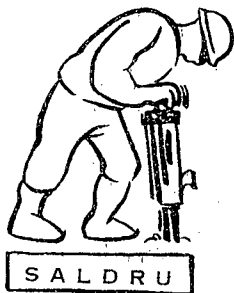
SALDRU FARM LABOUR CONFERENCE

SEPTEMBER 1976

Paper No. 43

Factors affecting Wages and Employment in the S.A.
Sugar Industry

Tony Ardington



Preliminary Draft : No portion of this paper
may be quoted without permission of Saldru,
School of Economics, University of Cape Town.

FACTORS AFFECTING WAGES AND EMPLOYMENT IN THE SUGAR CANE INDUSTRY.

INTRODUCTION:

This paper attempts to analyse the main factors affecting wages and employment in the sugar industry and relate the level of wages paid to the environment in which it operates. Further it suggests that efforts to improve overall conditions of employment in the industry will only prove fruitful if society is prepared to change its attitude towards agriculture and if mechanised alternatives remain unattractive.

BACKGROUND:

The sugar industry stretches from southern Natal along the coast to central Zululand and then inland to the Transvaal at Pongola, adjacent to the Natal and Swaziland borders, and at Malelane, north of Swaziland and south of the Kruger National Park. It employs 115 000 people in agriculture and currently is spending R54 million on wages. The majority of male employees on the farms are migratory labourers, but significant numbers are permanently settled on the farms and others live on the farms with their families for 11/12ths of the year, but maintain a foothold in the Reserve areas. The type of work offered on sugar farms varies from clerks, supervisors, maintenance mechanics and drivers to the less sophisticated and more numerous categories of cane cutters, field workers and weeders. These latter categories make up 85% of the total number employed and when shortages occur it is mainly in them. The field workers and weeders are the most lowly paid and the cane cutters have the most arduous physical work to perform. The work in these categories also requires less skill and less training. Although shortages in other categories do occur the industry has been fortunate in that it has been involved in training to a limited extent for some time and more recently the agricultural training facilities and effort have been expanded very considerably.

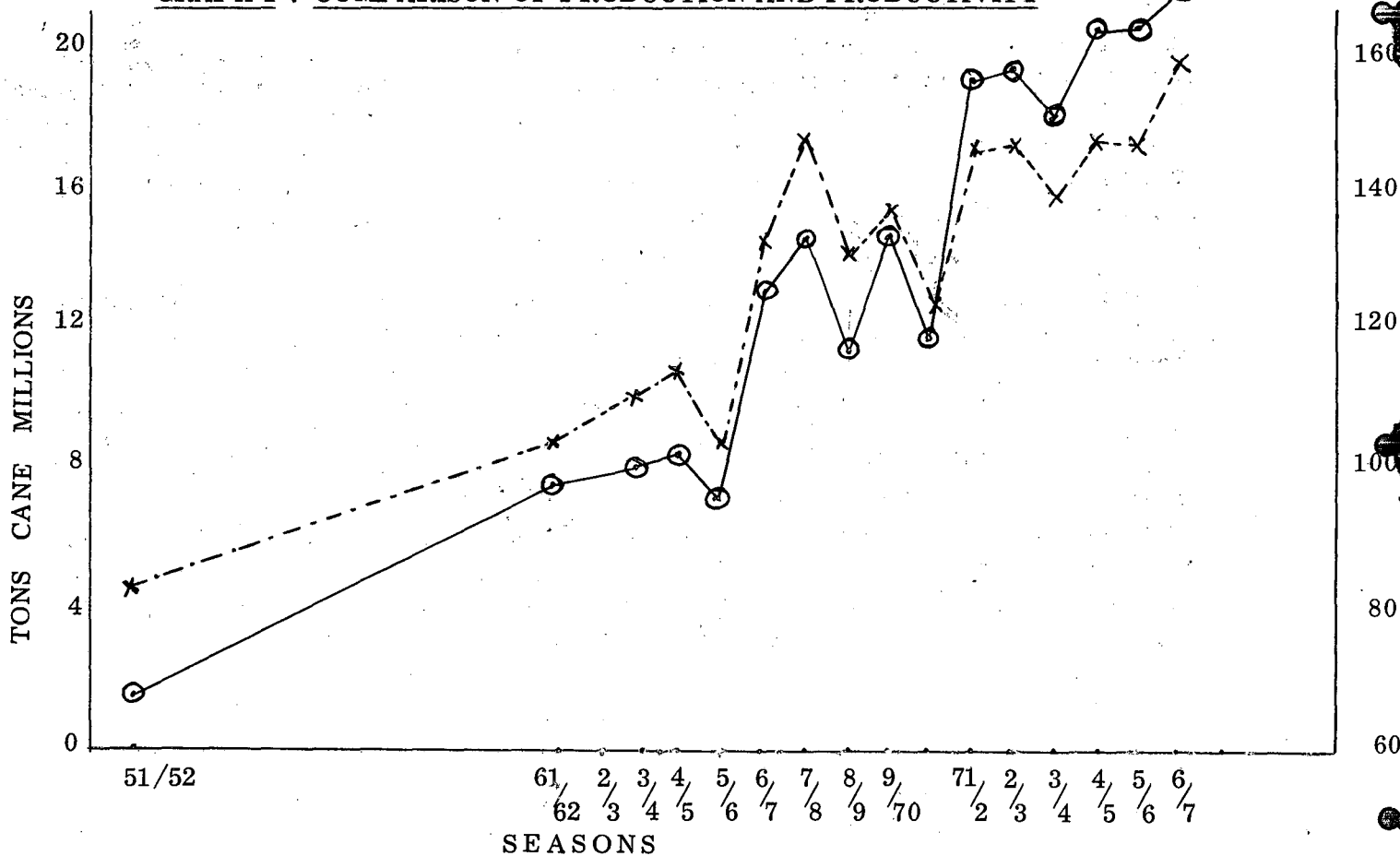
The employers in the agricultural side of the industry are approximately 2 000 white growers (whose average production is slightly more than 6 000 tons cane per annum) who produce 72% of the cane, miller/planter estates (large estates owned and run by the milling companies) who produce 20% of the total and 1 800 Indian and 6 000 Zulu growers who produce the balance. The industry initially developed along existing transport links and, in spite of subsequent expansion made possible by systems of transport other than tramline and railway, the industry has remained remarkably well integrated with a high degree of exchange of information and statistics in relation to limiting factors be they economic or physical. The close knit organisation of the agricultural and milling sections of the industry has also enabled leaders in the agricultural sections to influence decisions throughout the industry simultaneously.

TABLE 1 : COMPARISON OF NUMBERS EMPLOYED, CANE PRODUCTION AND LABOUR PRODUCTIVITY.

<u>Season</u>	<u>No. of People Employed</u>	<u>Cane Production</u>	<u>No. Employed per 1 000 tons Produced</u>	<u>No. of Tons Produced per Person Employed</u>
1951/52	65 200	4 366 763	14,93	66,98
1961/62	87 000	8 518 961	10,21	97,94
1963/64		9 952 144	10,04	99,6
1964/65	106 250	10 679 407	9,95	100,5
1965/66	88 290	8 417 126	10,49	95,3
1966/67	113 061	14 115 603	8,01	124,8
1967/68	129 452	16 943 964	7,64	130,9
1968/69	119 383	13 738 111	8,69	115,1
1969/70	112 495	14 802 438	7,60	131,6
1970/71	104 150	12 153 822	8,57	116,7
1971/72	109 180	16 771 446	6,51	153,6
1972/73	108 680	16 824 772	6,46	154,8
1973/74	104 440	15 472 554	6,75	148,1
1974/75	105 493	16 906 314	6,24	160,3
1975/76	104 327*	16 827 414	6,2 *	161,3*
1976/77	115 320*	19 220 895*	6,0 *	166,7*

* Estimates.

GRAPH 1 : COMPARISON OF PRODUCTION AND PRODUCTIVITY



x --- Tons cane produced
 O — Tons produced per man employed

HISTORICAL INFORMATION:

A. Productivity

Table 1 on the opposite page gives the number of people employed in the industry, the cane production and the number of people employed per 1 000 tons produced. By plotting the inverse of the productivity factor, i.e. number of tons produced, per person employed, on the same graph as that depicting the increase in production it is possible to see the close correlation between production and productivity. This is due to a combination of factors. Firstly a significant proportion of the employees on cane farms are required, regardless of production levels, i.e. their employment represents part of the overheads of running the business and therefore in the short term an increase in productivity as production rises is inevitable. Secondly fluctuations in production are not matched by changes in the labour supply which is inelastic in the short term and the individual grower improves productivity during years when the crop increases by being unable to do the marginal tasks on the farm. Thirdly, long term increases in productivity, for example the 147% reflected over the last 23 years, are a function of improved techniques, new technology and mechanisation. In the early fifties one half of cane was transported by the S.A.R. This involved the manual trans-shipment of cane from trailers into S.A.R. trucks. The 'Zulu crane' - a simple, relatively cheap home-built crane - became the universal means of trans-shipping cane during the next decade. In the field the cane was loaded by hand onto trailers or direct onto tramline. The advent of the 'self loading' trailer during that same decade also substantially increased labour productivity. With the use of Zulu cranes for trans-shipment came the possibility of weighing the output of individual cutters and the establishment of individual productivity incentives; this too resulted in increases in productivity. The emergence of herbicides during the late sixties as an effective and competitive system of weed control has resulted in further increases in labour productivity. It has also enabled parts of the industry which 'trashed' the cane crop on harvesting, using the trash mulch left behind as a weed control, to start 'burning' the cane crop on harvesting as the use of a trash mulch for weed control was no longer necessary. See Table 2. Burning increases the productivity of cutter/stackers and cutters by up to 50% and 100% respectively.

Further, during the late sixties, various infield mechanical loaders became available to the industry and at present some 40% of the cane crop is mechanically loaded infield. In the last few years a variety of mechanical harvesters have been introduced. Although the quantity of cane harvested mechanically is at present insignificant, it is a start to a programme which would represent a very substantial substitution of capital for labour and could materially change employment patterns within the industry.

Other less easily identifiable factors that have contributed towards the large increases in labour productivity are those relating to management. There has been a growing awareness of the industry's dependence on labour and a corresponding increase in effort and investment to make a cane cutter's life more pleasant and rewarding, to train all categories of labour and to motivate everyone involved in cane production. There has also been a substantial improvement in yields per hectare per month over the past 30 years. See Table 3 overleaf. This means that the sugar cane in the fields is better cane, i.e. it has agronomic characteristics which make it easier to handle and harvest.

TABLE 2 : PERCENTAGE CANE BURNT AND TRASHED 1974/75

<u>AREA</u>	<u>CANE BURNT</u>	<u>CANE TRASHED</u>
Transvaal - Pongola & Malelane	100%	0%
Umfolozzi	90%	10%
Midlands	93%	7%
Rest of Zululand	40%	60%
North Coast	20%	80%
South Coast	40%	60%
TOTAL	60%	40%
1973/74 TOTAL	55%	45%

The most significant increase in percentage of burnt cane between the 1973/74 and 1974/75 seasons was on the South Coast. It increased from 25% to 40%.

TABLE 3 : CANE YIELDS

Season	Tons per	
	Hectare Cut	Hectare per annum
1945/46	57,6	27,5
1955/56	73,1	31,9
1960/61	76,4	30,4
1965/66	70,8	25,7
1967/68	84,5	50,2
1968/69	75,3	41,5
1969/70	80,1	44,8
1970/71	73,4	36,8
1971/72	91,4	52,4
1972/73	93,2	53,1
1973/74	85,5	47,9
1974/75	89,7	49,7
1975/76	90,1	49,3

30 year yield increase of 27,5 tons/ha/year from 1945/46 to 49,3 tons in 1975/76

= 2% rate of annual increase

27,5 @ 2% for 30 years

= 49,8

57,6 tons/ha cut 1945/46 to 90,1 tons in 1975/76

= 1,5% rate of increase

57,6 @ 1,5% for 30 years

= 90,03

B.1. Total Proceeds and Wages

The economic fortunes of the agricultural section of the sugar industry over the past 35 years are given in Table 4 (overleaf), which indicates the price of cane and the total proceeds of the industry as well as the average earnings of the people employed in the industry. Set against these figures are the productivity figures indicating the number of tons cane produced for every person employed, the value of this production, the average annual earnings of employees and the relation between these expressed as a percentage. In the eight and ninth columns a comparison is made between the changes in the consumer price indices from 1966 to 1976 and the indices for the average wage paid over the same period. In the final two columns of Table 4 the basic wages of cane cutters are compared with average wages on the mines. Throughout the period for which statistics are available the cane cutter has earned as a basic wage between 25% and 35% more than the average. The average is that much lower because of the lower wages paid to weeders who make up 22% of the total labour force and juveniles who make up a further 20%. Meaningful comparisons are not possible unless one excludes these two categories as there are no real competitors in these particular labour markets. The annual earnings of Blacks working on the mines are listed as the mines are in direct competition with the sugar industry; and although one is comparing basic wages in the sugar industry with average wages in the mining industry, the correlation between the basic wage in the sugar industry and the previous year's average wage on the mines is very close as can be seen from the graph below.

GRAPH 2 : COMPARISON OF BASIC CUTTERS WAGES WITH AVERAGE BLACK WORKERS WAGES ON MINES.

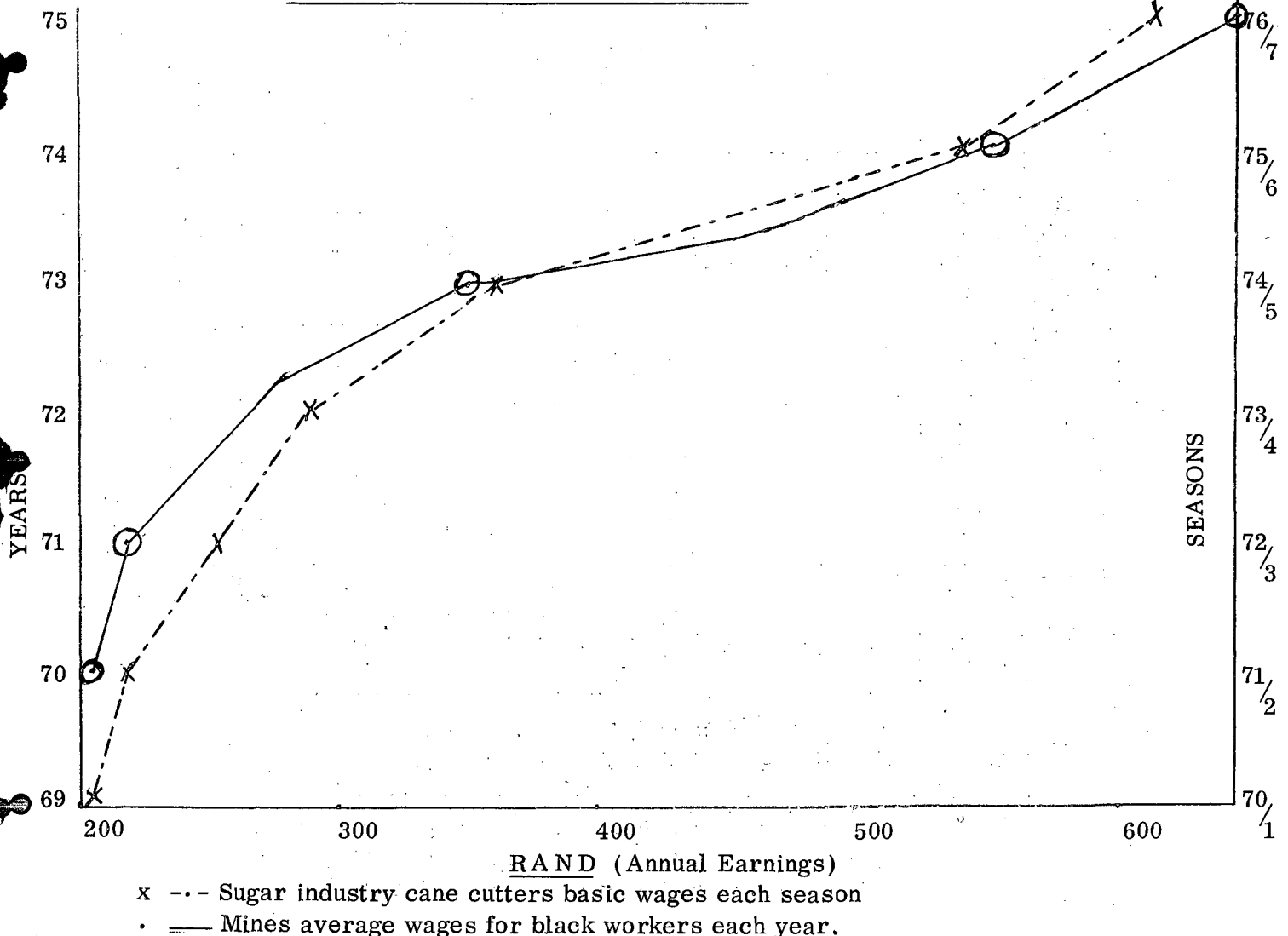


TABLE 4 : 1												
Season	Price of Cane	Total Proceeds x1,000,000	P. S. F. Contribution (with-drawal)	TONS Produced per man employed	Annual value of production per man employed	Annual Average Earnings	Earnings as a % of value 6 as % of 5	Cost of Living Index	Earnings Index	Cane Cutters Basic Wage	Mines Average Black Wage	Mines Minimum Wage
1940/41	1,75									1	3	5
1945/46	2,29											
1951/52	3,77			67	212,39	75	35,4					90
1961/62	4,55			98	455,90	102,84	22,5					90
1962/63	4,40											
1963/64	5,49	54,6		99	543,51	108,48	19,96					90
1964/65	5,00	53,4		100,5	502,50	113,52	22,6		73,7			90
1965/66	4,29	36,1		95,3	408,83	121,08	29,6		78,6			102
1966/67	4,79	67,6	(10,0)	124,8	597,79	128,64	21,5	88,1	83,5			102
1967/68	4,44	75,2	(6,0)	130,9	581,20	132,24	22,75	90,7	85,0			102
1968/69	4,83	66,3		115,1	555,93	135,84	24,43	92,3	88,2			102
1969/70	5,40	79,9	3,0	131,6	710,64	139,44	19,62	95,3	90,6	180	192	120
1970/71	6,08	73,9	5,0	116,7	709,54	153,96	21,7	*100,3	100	204	204	120
1971/72	5,48	91,9	27,6	153,6	841,73	158,16	18,8	106,4	102,7	216	216	126
1972/73	5,88	98,9	23,7	154,8	910,22	186,72	20,5	113,3	121,3	252		180
1973/74	7,24	112,0	11,3	148,1	1 072,24	233,52	21,8	124,1	151,7	288	348	215 ⁶
1974/75	8,81	148,9	39,8	160,3	1 412,24	285,36	20,2	138,5	185,3	360 ²	552	360 ⁶
1975/76	12,32	207,3	(28,8)	161,3	1 987,22	419,76	21,1	157,2	272,6	540	660 ⁴	660
1976/77	11,60	227,9	(65,6)	166,7	1 933,72	482,72	24,6	170,7	313,5	627	750 ⁴	750

- Notes to Table 4 :
1. Cane Cutters basic wages paid in central area of sugar industry
 2. This was increased by 25% in December.
 3. Figures taken from SAIRR Annual Surveys
 4. Minimum basic wages on mines for these years. Average not available.
 5. Supplied by F. Wilson.
 6. In December 1973 wages were increased from 65c per shift to 72c.
 7. In December 1974 wages were increased from R1,20 per shift to R1,60.

A comparison between wages and the cost of living also indicates that real wages have risen rapidly during the last few years but prior to that were probably only keeping pace with the cost of living. If the comparison between the wages paid on the mines and the sugar industry are valid for the last ten years it may be reasonable to assume, that there was a close relation between the mines and sugar industry wages over the last 50 years. Wilson has shown that there was no increase in real wages between 1911 and 1969 on the mines.

However increases in wage rates must be related to possibilities and it is pertinent to make comparisons between total proceeds generated per person employed and average earnings. Column 6 gives the percentage that annual average earnings bear to the value of cane produced per man employed and it shows that over the last 15 years wages have been between 20% and 25% of total proceeds. (1965/66 being the one exception when a very severe drought caused a very low crop and a drop in proceeds to 67% of the previous year). This figure implies that the industry is a very labour intensive one. It is also worth noting that in spite of a 70% increase in labour productivity over the period wages still represent 20 - 25% of gross proceeds and that therefore the benefits of the increased productivity have accrued entirely to labour. This is surprising when one considers that the increases in productivity were achieved in large measure by substitution of labour by capital or by other inputs (e.g. the introduction of the Zulu crane or the use of herbicides), which presumably increased the proportion of other costs. This means that some other cost or return has been eroded relatively.

While I do not wish to defend the wages paid by the sugar industry a cursory glance at column 4 of Table 4 indicates the possibilities of substantially increasing living standards of workers. This column shows the total revenue available per person employed and out of this amount a labourer and his family should be housed, fed, clothed and schooled and there should still be sufficient to (a) buy the fertiliser, fuel, spares, transport, building materials, seed and management and (b) finance all other overheads including depreciation, administration, interest and redemption. Since for most of the years the total revenue per man employed was below poverty datum lines and minimum effective levels the possibilities of materially improving wages and living standards was and is very limited. If we consider the latest year 1976/77 it can be seen that the total income generated per person employed was R1 933,72. Assuming Rural PDI's to be R100,00 per month in gross wages. This leaves R733 for other inputs to grow 166,7 tons of cane. In fact the following costs will be incurred in order to grow this.

Fixed costs R6,88 x 166,7	= R1 147,13
Variable costs R3,02 x 166,7	= R 503,32
Transport R0,55 x 166,7	= R 91,91
	= <u>R1 742,36</u>

B.2. The Bonus System for Cane Cutters

In the section on productivity the introduction of a system whereby an individual cutter/stacker's work is weighed, is described. The introduction of this immediately opened up the feasibility of a bonus system. Unfortunately there is no standardised system in the industry. Thus on one large estate there are no less than fourteen harvesting categories utilised, viz.

cut and stack trashed cane
cut and stack burnt cane
cut only trashed erect cane
cut only burnt erect cane
cut only trashed lodged cane
cut only burnt lodged cane
stack only

and then distinctions are made according to whether the terrain is steep or not. Later, reference is made to the fact that a new recruit does not know what to expect - little wonder. This problem is further compounded by the fact that the points at which bonus rates start and the rates themselves, vary throughout the industry. If we consider one harvesting category still widely utilised namely 'cut and stack trashed cane' it may be possible to cast a little light. A recent survey showed that basic tasks varied between 1,4 and 2,5 tons cut and stacked per day. One would expect that, given a certain basic wage of R2 per day, a worker on a farm or estate which starts its bonus at 1,4 tons is in a better position than a worker on one starting at 2,5 tons. However this is not necessarily the case and it depends on the bonus rates and the productivity of the worker. For example, on one estate the wage cost per ton of cutting and stacking trashed cane is R1,07 in spite of the fact that the wage cost of the basic task is R1,42 per ton. The reason for this is that the bonus rates per ton are below the basic wage cost per ton and in fact the rates actually decrease the more the cutter/stacker achieves. e.g.

Bonus rates paid:-

10c per 100kg from 1 400 - 2 000 kgs
8c per 100kg from 2 000 - 3 000 kgs
7c per 100kg from 3 000 - 4 000 kgs
6c per 100kg from 4 000 kgs upwards.

The average productivity is 3 500 kg cut and stacked per man day so the average earnings per day are :-

R2,00 basic for the first 1 400 kgs
 ,60 for 600kg between 1 400 and 2 000
 ,80 for 1 000kg between 2 000 and 3 000
 ,35 for 500kg between 3 000 and 3 500

R3,75 total earnings per day

The grower paying bonus above 2,5 tons cut and stacked incurs a wage cost of only 80c per ton for the basic task. His bonus rate is R1 per ton and the average productivity is 3,8 tons cut and stacked per man day. Therefore average earnings per day are:-

R2, 00 basic for the first 2 500 kgs

R1, 30 for next 1 300 kgs

R3, 30 total earnings per day

Total wage and bonus cost per ton - R0, 92

Thus average earnings are lower as is the wage cost per ton. However, on this farm, the high performance cutters are not subsidising the earnings of the less productive.

The reasons for the extraordinary system in the first example are of interest. The point at which bonus started i.e., 1,4 tons was set when productivity levels were much lower than at present and as wages were raised very rapidly over the last few years this estate was faced with two possibilities - (a) increasing its basic task and its bonus rates or (b) keeping its basic task but not raising its bonus rates to correspond with the new wage levels. Clearly it was reluctant to change its basic task for fear that it would be accused by the cane cutters of not increasing wages along with the rest of the industry. Yet if it increased its bonus rates to relate to the new basic wage cost per ton, its costs would have increased enormously beyond those of the rest of the industry.

While the system described above is an extreme case, the principle of bonus rates being less than the basic wage cost per ton is widespread throughout the industry. It applied to six out of ten large estates and to 45% of the growers. If one included the cost of food, housing, medical, clothing and other overheads relating to cane cutters in the basic wage then the basic wage cost per ton would invariably be higher than the bonus rates. Growers often complain of the poor quality of labour, but in fact a system which discriminates against the good and productive worker is almost universally applied.

C. Conditions of Employment in the Sugar Industry

Where wages are as low as they are in the sugar industry it is very relevant to determine other benefits, direct or indirect. On most farms all labour other than those living in adjacent reserves are fed, housed, given rudimentary working clothes, free medical and a transport allowance to return home. On some farms, the family living on the farm are given free medical attention, on some farms the adult male workers are given three weeks paid leave after working for a season and on most farms the senior personnel (clerks, supervisors, drivers) are given paid leave. On most farms there are no formal pension schemes, but on almost every farm there are old men living with their families being paid small amounts for doing nominal jobs. In other words the grower feels a moral responsibility to look after people who have been working for them for many years. It is a highly paternalistic society but within the above description there are large variations; from those growers who supply excellent facilities and genuinely care for the workers on their farms to those whose facilities are appalling and who only consider the workers as units of labour to get the job done.

Thus in the same industry, even on adjacent farms there is one cane cutter who earns his basic wage of R52,50 per month, a bonus of between R25,00 and R50,00 per month, lives in a decent small house, with electricity and running water, has a wife who works as a weeder and earns R24,00 per month and has children that go to the local farm school, and there is another cane cutter whose basic wage is R52,50 per month with a bonus of between R25,00 and R50,00 per month who lives in conditions of terrible squalor (one small room with a leaking roof and no electricity or water and the nearest tap hundreds of yards away), has no bed, gets poor food, no working clothes, etc., and who does not trust his employer who appears to dislike him. However it does not follow that the grower whose facilities are poor and whose treatment is hard will be short of labour. (I referred earlier to the fact that there was no tap for hundreds of yards. In Pondoland or KwaZulu there is no tap at all). The ability of a grower to establish a trustworthy relationship appears to be of over-riding significance.

FACTORS AFFECTING WAGES AND EMPLOYMENT:

The most significant factor which isolates the sugar industry from most other agricultural sectors is the fact that a large proportion of the total labour force is migratory. While many workers may have some of their family with them while on the farms the majority of these workers do not consider their houses on the farms as permanent homes. They maintain a foothold in the subsistence sector (the reserves or homelands) and continue to identify with their claims in this sector. While the peripheral areas of the industry may employ local people the majority of employees working in the traditional areas of the sugar industry are migratory and for these workers the sugar industry has to compete with other industries, principally the mines. Any historical comparison will show that the sugar industry's wages for adult male workers bears a close correlation to the wages paid on the mines (see graph above) although the bonus systems at present operating in the sugar industry and the lower wages paid in the peripheral areas may cloud this correlation. In the traditional areas there are large miller cum planter estates which recruit through the Sugar Industry Labour Organisation (SILO) and this recruiting organisation competes directly with the mines in Pondoland. Moreover the wages paid by SILO members inevitably determine the wages paid by other employers in the central areas. It is therefore pertinent to note what has been happening to wages on the mines reflected in the last two columns of Table 4.

In the past, the demand for labour on the mines had been met not by competing in the labour market with other employers but by recruiting labour from further and further afield. Thus by 1960 large numbers of foreign migrants from Mozambique, Malawi, Rhodesia, Botswana, Swaziland and Lesotho represented approximately 65% of the total black labour force. Concern over the declining number of black South Africans willing to work on the mines and concern over political uncertainties which affected supplies of labour from external sources caused the mining industry to decide to compete in the South African black labour market. Simultaneously the rise in the gold price from R25,8 per ounce in 1970 to over R100 by 1974 made it possible for the marginal mines to bear substantially higher wage bills. The higher wages offered and the intensified recruiting efforts had an immediate impact in Pondoland, a traditional recruiting area for both the mines and the sugar industry. Although competition in this area had been recognised the pool of work seekers had been sufficient to satisfy both industries. Now a new situation had developed where demand had increased to take up much of the surplus. Moreover two other unrelated facts stimulated sugar industry action concerning wages. The first was the rapidly escalating world market price of sugar which resulted in a surplus of money accruing to the industry over and above the costs incurred and the returns allowed by Government to millers and growers. This surplus was invested in a Price Stabilisation Fund.

The amounts invested each year are reflected in column 3 of Table 4. The very existence of the fund immediately stimulated ideas on how best to use it. The first successful 'applicant' was the consumer by way of the Government, who reduced the domestic price of sugar from R135 per ton to R108 per ton between 1972 and 1974. These measures were strongly resisted by the sugar industry who felt it was dangerous to reduce the domestic price of sugar substantially below the cost of production. Moreover the industry feared that the very existence of a substantial Fund would stimulate further demands upon it. In any case there were demanding uses for moneys before they reached the Price Stabilisation Fund. What better way than to increase wages?

The new financial 'elbow room' gave a certain respectability to those leaders within the industry who were advocating substantial wage increases. At the same time the wave of strikes in 1973, hit many industries in Natal and the subsequent publicity given to wages and the rising cost of living crystallised the decision to substantially increase wages. Thus, although the increased competition from the mines had started stimulating increases in wages, the increase of 25% in wages for the season 1974/75 was stimulated by factors other than supply and demand. It illustrates two significant points. The first is the integrated structure of the sugar industry whereby a decision at the centre can be implemented almost throughout the industry. The second is that it was a decision made in conjunction with Government, for it was the Government which agreed that the proceeds should be made available to the growers so that they in turn could pay the increased wages.

During the 1974/75 season SILO members felt compelled to increase a cutter's basic wage from R1, 00 to R1, 25 per day in December. This was because they began to experience an acute shortage of labour towards the end of that season as the competition from the mines became more intense and it was in response to that competition that the industry raised its wages to R1, 75 per day for the 1975/76 season. In April 1976 it was raised to R2, 00 per day and the motivation for this increase was in order to maintain real wages in the face of the rapid increase in the cost of living.

For most of this period the industry was generating revenue surplus to its costs and returns on capital as laid down by the Government which was invested in the P.S.F. However withdrawals were made from the Price Stabilisation Fund at the end of the 1975/76 season to meet certain adjustments to the cost claims of the industry. During the 1976/77 season the Price Stabilisation Fund may well be exhausted. It is worth noting that a further R6, 2 million was injected into agricultural wages during this period when the industry's requirements exceeded its revenue. The point here is that a capacity to pay still existed because of funds in the Price Stabilisation Fund.

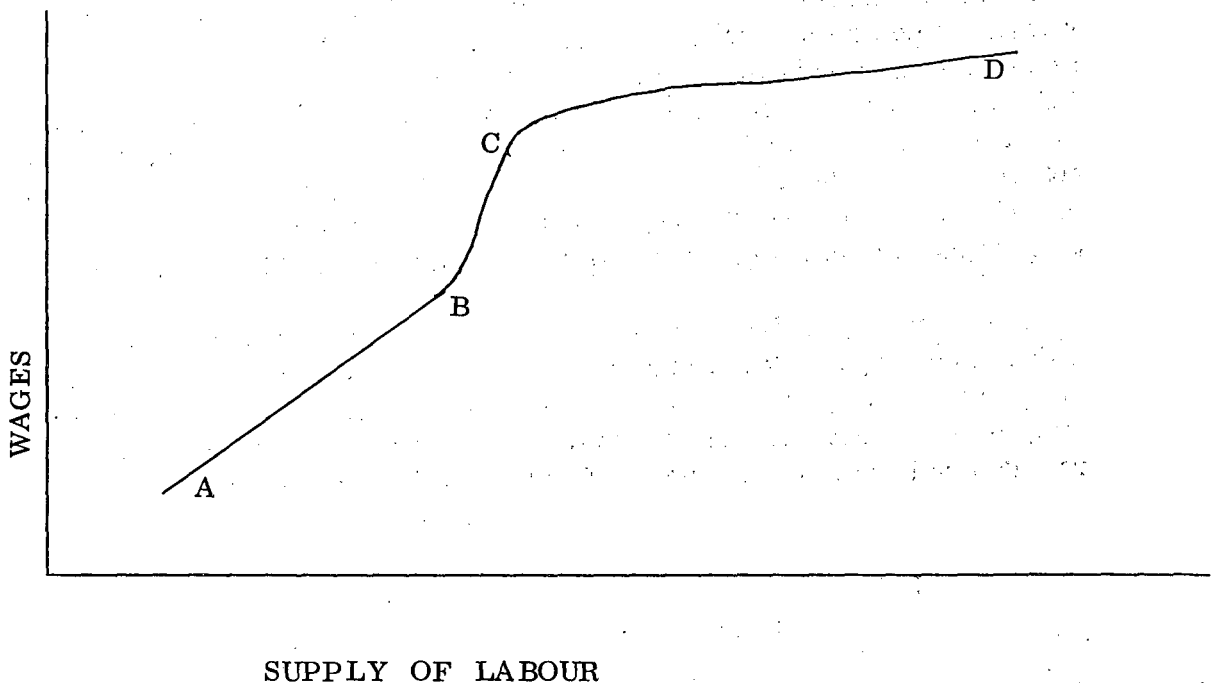
This brief history and comparison with the mining industry indicates certain factors which affect wages. It is tempting to say that it was due to the leadership in a well-integrated industry that certain increases occurred, but all one can say is that certain increases did occur sooner than they might otherwise have occurred, and that the real determinants are the supply of and demand for labour and the capacity to pay.

THE SUPPLY OF LABOUR:

Dr. Boeke in his book Economics and Economic Policy in Dual Societies makes a sharp distinction between 'unlimited needs' of western society and the 'limited needs' of the tribal society. He contends that pre-capitalist societies are products of their own long history and they are interested in labour and production only in order to meet present needs. Thus he states that 'When the price of coconut is high the chances are that less of the commodities will be offered for sale; when wages are raised the manager of the estate risks that less work will be done; if three acres are enough to supply the needs of the household a cultivator will not till six'. Boeke's theory of backward sloping supply curves of labour, effort and risk taking are instinctively held by many growers in the sugar industry, yet they have been condemned by most economists. However the experience of the sugar industry does suggest that substantial percentage increases in wages do result in a 'satisfactory level of savings' being reached sooner in the wage economy and that workers tend to stay in the subsistence sector longer. It is also the sugar industry's experience that good seasons resulting in better than average crops in the subsistence sector result in workers remaining in the subsistence sector for longer periods. Moreover this experience is hardly surprising. A director of a large sugar company said 'If my after tax income was increased by 50% I would probably start taking longer periods of leave as well'. Whereas Dr. Boeke could be accused of making racial distinctions, no such distinctions are implied here. What has been said here applies to the traditional sugar industry worker. It does not imply that large increases in wages will have no affect on overall supply. As already stated the mines and sugar industry are in direct competition in the Pondoland labour market and since the mines recruit many more workers than the sugar industry, the supply of new workers to the sugar industry can be expected to become very elastic should conditions of employment there be preferable and more rewarding than on the mines. Until this is the case periodic shortages of labour will occur in the sugar industry.

Perhaps the situation can best be illustrated by reference to a hypothetical graph depicting supply of labour against wages:

GRAPH 3 : HYPOTHETICAL GRAPH OF SUPPLY OF LABOUR IN SUGAR INDUSTRY



Due to rural poverty, the high birth rate, urban unemployment and ignorance of employment opportunities, a certain number would be persuaded to seek employment in the sugar industry regardless of conditions and wage levels (A - B). The number seeking employment would increase as wages rose until few new recruits were entering the industry but those already in were realising sufficiently high wages to generate savings which enabled them to return to the subsistence sector after a shorter period than previously. At this point the supply would tend to be very inelastic (B - C). A further increase would immediately start making the sugar industry attractive to workers from other industries, in this case the mining industry, and the supply of labour would increase in spite of individual workers spending less time in the wage sector and longer in the subsistence sector (C - D). Since the sugar industry has complained of sporadic labour shortages throughout its history, and since its wages have been equivalent to or slightly below those on the mines, it is contended that the supply of labour has always been inelastic at the level of wages paid.

The sugar industry has always had certain advantages over the mining industry for the worker from Pondoland. Firstly on many private farms he can bring his family. However this is not as popular as one would suppose for wives have responsibilities at home, but workers frequently bring with them other women for whom they seem to have no long term responsibility. Secondly the work place is much nearer his home and it is not expensive to return home if required at short notice. Thirdly most of the growers have between 30 and 60 employees on their farms and a personal relationship often exists between a grower and employee, illustrated by the fact that unsecured loans to workers returning home are quite common. Finally, although many labourers from Pondoland are officially recruited and therefore enter into a contract with an employer, a large number travel to the sugar industry to seek 'back-door' employment and there is no employment contract.

The disadvantages the sugar industry suffers, apart from the fact that they have never managed to raise wages above the levels paid by the mines, are that there are such a large number of employers, and conditions of feeding, housing and general treatment that vary considerably. This means that a worker coming to the industry does not really know what to expect. Moreover the reputation of the industry is coloured by the worst employers and accordingly many workers refuse to be recruited for private farmers on a contract basis. To quote a worker 'To be a contract worker is to be like a paid prisoner.' Although variations in conditions surely occur between the different mines these variations are not as extreme as those within the sugar industry.

THE DEMAND FOR LABOUR :

From Table 5 (overleaf) it can be seen that 45% of white growers in the sugar industry experienced some sort of labour shortage during the 1974/75 season. It is suggested that the demand for labour has seldom been completely met throughout the industry. Presumably, these growers who were short of labour in any one season had the option of recruiting more intensively or alternatively paying higher wages in order to try and attract labour from neighbouring farms. Clearly intensifying the recruiting programme did not always succeed and the alternative of trying to 'steal' one's neighbour's labour by upsetting the established conditions of employment, has always been socially hazardous in a close knit community. Thus while there is a permanent competitive situation between neighbouring farmers it only manifests itself in very subtle ways. Moreover those who are short of labour probably believe along with Dr. Boeke that by raising wages they 'risk that less work will be done'. The competition between growers is thus tentative and instinctive.

TABLE 5 : LABOUR SHORTAGE 1973 - 1975.

% White Growers with some Labour shortage during past two seasons		Additional workers required per 1000 tons produced		Shortages as a % of total employed	
1973/74	1974/75	1973/74	1974/75	1973/74	1974/75
54	45	0,86	0,78	12,75	12,5

TABLE 6 : TOTAL NUMBER OF PEOPLE EMPLOYED BY WHITE GROWERS (1973/74 & 1974/75)

Season	Clerks & Supervisors	Drivers	Cane Cutters	Field Workers	Other Workers	Weeders	TOTALS
1973/74	3 467	5 385	26 134	39 242	7 136	22 376	101 237
1974/75	3 321	5 052	23 652	39 456	9 447	19 567	100 535
Shortages 1974/75	*	*	3 057	*	*	5 806	
As a % of Total			12,5%			25%	

* 1 747 total extra required in these from categories

N. B. These figures represent the total number employed in any one season not the number on farms at any one time.

TABLE 7 : USE OF HERBICIDES IN SUGAR INDUSTRY

SEASON	VALUE
1960/61	R4 000
1968/69	R180 000
1970/71	R450 000
1972/73	R970 000
1975/76	R3 500 000
1976/77	R4 400 000

Table 6 (Page 14) illustrate the total number of people employed by white growers in the sugar industry for 1973/74 and 1974/75 listed in their various categories. It also lists the number of extra people growers would have employed had they been available at some point during the 1974/75 season. It is clear that the demand is unsatisfied in two categories only. Other shortages were only 3% of the total employed in the remaining categories. Since this figure represents shortages experienced at any time during the season rather than throughout the season these shortages are insignificant. In 1973/74 the unfulfilled demand for weeders was greater but for cane cutters it was considerably less. The most likely reasons for the increase in the number of cane cutters required is the large cane crop in 1974/75 and the increased competition from the mining industry. The fact that there were fewer weeders employed and the shortage experienced was less in 1974/75 than in 1973/74 reflects the very significant increase in the use of herbicides for weed control. One should also treat the shortages of weeders with a degree of scepticism because although many growers might have reported a desire to employ more weeders during the busiest period of the year, they would have been unable to offer them employment throughout the year.

In the section on Productivity it was seen that the reluctance of labour to load cane resulted in the invention and use of the 'Zulu crane' and the self-loading infield trailer. Likewise it can be seen that the unsatisfied peak demand for weeders is stimulating new techniques and the rapid-growth in the use of herbicides is reflected in Table 7.

The unsatisfied demand for cane cutters is less acute but of greater long term significance. The manner in which the industry attempts to meet this problem will determine whether it remains a labour intensive industry for the foreseeable future or whether it becomes a capital intensive industry with many traditional cane growing areas failing to adapt to the new circumstances.

It is worth looking at the options available to the industry. Firstly at Malelane, Pongola and Umfolozi, which represent approximately 18% of the industry, conditions are comparable with conditions in Australia insofar as the crop is burnt before harvest and the terrain is flat. Three options appear to be available to growers in these areas. The first is to remove the stacking operation from the cane cutters and load the cane with infield grab loaders. The second alternative is to introduce modern Australian chopper-hopper harvesters. These machines are very expensive and the transport system has to be totally integrated with the harvester. Although costs of as low as R1,00 per ton are quoted it appears extremely unlikely that costs as low as these will be realised. Moreover other hidden costs must be considered. Several field experiments in America indicate a 10% loss of sucrose with these chopper-hopper harvesters. Trials in Swaziland appear to confirm this. Accountable losses with manual and chopper-hopper harvester operations were between 2% and 4%. However there were unaccountable losses of a further 9% to 10% with the harvesters. At current prices this represents an enormous hidden cost. The third alternative is to investigate the possibilities of multi-stage mechanical harvesting. This approach is attractive for three reasons. Firstly it would represent the gradual substitution of labour with capital. This seems to make economic sense in an environment of widespread rural poverty and underemployment. Secondly it would give the industry the opportunity of improving field layouts and surfaces which makes any mechanical operation more economical but is absolutely essential if it becomes necessary to introduce modern Australian type harvesters. Thirdly it is a tentative approach which still leaves one with the possibility of looking at alternatives or if necessary returning to labour. Once growers have committed themselves to Australian type harvesters it would be very difficult to revert to any other type of harvesting because of

(a) the scale of the investment and (b) the permanent changes that are made with respect to transport and mill receiving facilities.

As can be seen from Table 2 the vast majority of the Midlands burn the crop before harvesting and although the terrain is not as flat as in the northern areas for most of the area the same options are available.

For the balance of the industry along the Natal coast trashing the cane before harvesting is a common practice. This is done for two reasons. Firstly the trash mulch left behind is an efficient weed control measure. Secondly the trash mulch increases yields in the subsequent crop by an average of 9 tons of cane per hectare per annum. The increase is more in well drained soils, less in poorly drained soils. The other complicating factor in this area is that the terrain is undulating and in places very steep. It is difficult to envisage successful mechanised harvesting operations in portions of this area without a considerable labour content. In the flatter areas the same options are available as in the midlands. However extra costs, be they hidden or not, will be involved. This implies that in these areas the incentives to continue to harvest by hand will be that much stronger.

Several factors force one to the conclusion that a strong demand for cane cutters will continue; namely (1) the lack of surplus proceeds in the industry and the consequent reluctance of growers and miller/planters to invest in harvesting machinery in these circumstances; (2) the current economic downturn in the economy and the consequent increase in unemployment; (3) the deteriorating profitability of the marginal gold mines and their consequent inability to bear increased costs and (4) the rapid increase in population.

In spite of what has been said above it must be appreciated that several growers have already moved into mechanical harvesting and done so for economic reasons. In other words there is a ceiling beyond which cane cutters wages will not be raised for at that point it would be more economical to harvest mechanically in large areas of the industry. Quite where this 'ceiling' is, is a matter of conjecture and it would differ from farm to farm.

THE CAPACITY TO PAY:

Column 2 of Table 4 represents the amounts invested each year in the Price Stabilisation Fund. Withdrawals are represented by brackets around the figures. The increase in the total industrial proceeds to a point where there was a surplus over and above the costs and returns on capital allowed by the Government to the industry enabled the industry to approach the Government to channel funds to the growers for the specific purpose of increasing wages. This was agreed to, but there was the threat that the Government would reduce the price of cane in the following year if the subsequent audit of growers costs did not reflect this increase in wages. Previously the increases in wages had to be reflected in growers costs i.e. they had to be incurred before the cane price was adjusted, and it must be appreciated that in these circumstances wage increases would be very tentative. Thus wage levels are indirectly controlled by Government which is more likely to implement substantial increases during periods of surplus proceeds than during periods when proceeds are insufficient for in these latter periods a decision to increase wages requires either that the domestic price of sugar should be raised or that the Government should subsidise the industry. The only other possibility is that the industry should improve its productivity. Such increases are slow for an industry already as efficient as the sugar industry unless due to substitution, e.g. replacing

weeders with weedicides, cane cutters with harvesters, and this is unlikely to reduce costs and thereby make more money available for those who remain in the industry.
