

PRICE AND WAGE POLICY IN THE ZIMBABWE MAIZE AND

TOBACCO INDUSTRIES: 1980

K.A. Muir, M.J. Blackie, M.L.A. de Swart, B.H. Kinsey\*

Working Paper 1/80

Department of Land Management,  
University of Zimbabwe,  
P.O. Box M.P.167,  
Mount Pleasant,  
Salisbury.  
Zimbabwe

---

FOR COMMENT

---

\* Kay Muir is graduate student, Malcolm Blackie is Professor and Louis de Swart is lecturer, all in the Department of Land Management. Bill Kinsey is Director of the Overseas Development Group at the University of East Anglia, Norwich, U.K.

Zimbabwe, despite a fairly sophisticated modern sector, displays the normal characteristics of less developed countries having a dual economy with a large surplus labour force. Reynolds has observed that poor, labour-surplus countries are still living in a classical world and should perhaps follow the classical route towards fuller employment (Reynolds, 1965, p.39). However, the reality is that social and political factors tend to dominate classical economics particularly in democratic developing countries such as Zimbabwe, where wage earners are highly influential.

The government elected in Zimbabwe in 1980 has taken control of a nation with a strong commercial agricultural sector,<sup>1</sup> (predominantly white owner-operator farmers), and a poorly developed peasant agricultural sector. The peasant, or subsistence, sector has suffered from a combination of inappropriate government policies, guerrilla warfare and rapid population growth. Zimbabwe is characterised by a high degree of food self-sufficiency, a wide gap between the upper and lower income-earners in the economy, and the need to maintain confidence amongst the many divergent groups which make up the nation. The improvement in income and living conditions for the poor of Zimbabwe is a priority task of the new government. At the same time, the need to sustain and develop existing commercial agriculture is recognised. The agricultural industries will play a major part in the development of both the country and the region in terms of food production and foreign exchange earnings. The development of the peasant sector will require massive inputs of resources in the immediate future while the commercial sector will be expected to maintain or increase production under less than optimum economic conditions. The problem of finding the correct balance between improving the lot of both wage earners and peasants whilst maintaining confidence in the commercial, industrial and agricultural sectors of the economy is the dilemma currently facing the country's rulers.

#### ZIMBABWE'S COMMERCIAL AGRICULTURAL SECTOR

The commercial agricultural sector produces some 80% of Zimbabwe's agricultural output and over 95% of the marketed output. As a result of several drought years, poor pricing policy, and the dislocations caused by the war, for the first time in fifteen years, Zimbabwe does not have a maize surplus in 1980 and has been forced to import this staple from South Africa. Tobacco, one of Zimbabwe's major exports, is also facing a crisis brought on by a decline in world prices for 'filler' quality tobacco.

Zimbabwe's agricultural producers are subject to a high degree of regulation with respect to both the prices of many inputs and outputs. With the exception of tobacco, most of Zimbabwe's major crops are marketed through statutory bodies. The government normally announces a pre-planting minimum price based on policy requirements and cost estimates by the Ministry of Agriculture and farmers' organisations. Tobacco is sold on open auction although marketing practices are strictly controlled and no sales may be made outside the official auction floors. Until recently, the price of one of the major inputs, employed farm labour, was effectively uncontrolled. However, in July 1980, new minimum wage legislation has significantly altered this picture. Commercial agriculture accounts for over 33% (C.S.O. April 1980) of national wage employment and this paper contains the results of a preliminary study into the combined effects of current wages and commodity prices on both employment and average family earnings of employed farm labour.

1/

The commercial sector is defined as including those farms which have either 5 or more permanent employees, 25 or more hectares under crops or 350 or more livestock.

TABLE 1

## COMMERCIAL SECTOR CROP PRODUCTION IN ZIMBABWE - YEAR ENDED 30/9/79

CROP	HECTARES PLANTED	TONNES	VALUE Z.\$ m*
Maize	190 736	705 466	43,9
Cotton	76 985	130 218	47,0
Flue-cured tobacco	58 501	105 022	92,0
Wheat	34 288	152 950	17,5
Other grain <sup>1</sup> crops	12 565	42 102	4,3
Other industrial <sup>2</sup> crops	59 529	125 469	42,7
Sugar	24 677	2 555 000 cane	38,4
Vegetables and <sup>3</sup> fruit	9 896	-	10,9
Fodder crops <sup>4</sup>	12 382	-	5,6
Pastures	538 105	-	-

<sup>1</sup> sorghum, barley and rice

<sup>2</sup> seed maize, burley and other tobacco, soya beans, coffee, tea, groundnuts and sunflowers

<sup>3</sup> edible dry beans and potatoes are included

<sup>4</sup> hay, green feed and silage (includes 173 539 mt. maize)

\* Value given in a personal communication. These are provisional figures as some payments are still to be made.

DATE SOURCE: Central Statistical Office (May 1980). "Crop Production of Large Scale Agricultural Units Operating Outside Tribal Trust Lands, 1979". Zimbabwe Government Printer.

## EMPLOYED FARM LABOUR AND THE 1980 MINIMUM WAGE LEGISLATION

The 1980 Minimum Wage Bill provides a minimum wage of \$70 per month for industrial and commercial workers, \$42 plus prescribed benefits for miners and \$30 per month plus customary benefits (mainly food and housing) for agricultural and domestic workers (Statutory Notice 367/1980)<sup>2</sup>. The minimum cash wage for agricultural workers represents a 50% increase over the previous recommended minimum of \$20 per month. — At the end of 1979 it was estimated that Zimbabwe had a population of 7,260 000 of which 993 000 are estimated to be engaged in wage and salaried employment. Of the wage earners, the commercial agricultural sector employs 205 000 men and 25 000 women as full-time labourers, and 15 000 men and 41 000 women on a casual basis (C.S.O. April 1980). The Whitsun Foundation estimated that there were 1 776 000 black people living on white owned farms in 1977 (Hume, 1978).

The national total wage bill in 1979 was 1 485 million dollars, commercial agriculture accounting for 126 million dollars. (C.S.O. April 1980). The Whitsun Foundation estimated that in 1977, per capita income in the peasant sector was \$28 compared with \$45 for labourers and their families on white-owned farms. The latter figure is understated since it is calculated by dividing the cash earnings of farm labourers on commercial farms by the total employee population. It does not take account of food production from the plots to which most families have access on the farms on which they work, nor does it appear to include other benefits such as food rations, schooling and protective clothing which most farmers offer their employees (Hume, 1978). However, the comparison of per capita incomes as stated, closely approximates the 30% differential Lewis estimated was required to draw traditional cultivators into wage employment. (Lewis, W.A. in Agarwala and Singh, 1958, p.410). War and poor growing seasons in 1979 and 1980 will have increased the differential between per capita income of peasant farmers and farm labourers in the period 1977-1980. The new Minimum Wage Bill further widens this gap.

## INTERNATIONAL EXPERIENCE WITH MINIMUM WAGE LEGISLATION

The implicit objectives of most national development programmes has been to obtain an increase in real per capita income. It is becoming increasingly common to include increased employment and equitable income distribution along with increasing GNP as major development goals. A labour-surplus economy faces the problem of raising real wages whilst simultaneously increasing employment. — Real wage increases yield immediate returns to workers but raising the wages above their equilibrium price retards expansion of employment, both directly and as a result of the improved attractiveness of labour-saving innovations. In a labour-surplus economy, employment must take its place alongside GNP as a central object of concern. Employment is determined on ordinary maximising principles. Since the short-term labour supply curve is estimated as infinitely elastic at the constant real wage unless the labour demand curve moves to the right faster than the labour supply rises, surplus labour will increase over time. In a perfectly competitive economy with no outside forces at work the industrial wage will only be forced up when disguised unemployment in the subsistence sector has been

2

With effect from 1st January 1980 minimum wages will increase in the mining and commercial/industrial sectors to \$58 and \$85 per month respectively. Agricultural and Domestic workers' minima will be reviewed but not necessarily revised.

eliminated. (Reynolds 1965, p.19-39). In many countries, however, the industrial wage is prematurely raised by government intervention, often in the form of minimum wage legislation. Teriba and Philips (p. 79) show that income distribution in the advanced countries was grossly inequitable while they were developing and state that:

"In the light of this observation an economy can conceivably 'wait' for the normal process of development to reduce income disparities. However, with the mood of impatience characteristic of developing countries, and the dangers of social and political instability arising from not speeding up the redistributive process, government is often compelled to reinforce the redistributive effects of normal development process".

Empirical evidence from other LDC's would seem to indicate a marked increase in labour productivity and an accompanying decrease in employment as a result of minimum wage legislation. Minimum wages also appear to be a major factor in the increasing gap between traditional cultivators and wage earners.

### WAGE AND PRICE POLICY IN ZIMBABWE

To study the combined effect of current wage and price policy in Zimbabwe the tobacco and maize industries have been selected. Tobacco farmers are major employers of labour and it is relatively easy for them, under appropriate pricing conditions, to switch to the production of maize which is significantly less labour intensive than tobacco. Tobacco plays a vital role in Zimbabwe's economy representing 12% of the nation's exports with an efficient currency conversion ratio of approximately \$1:9. Tobacco growing is labour intensive and the elasticity of factor substitution is relatively low. Tobacco growers employ 34% of the agricultural labour force and produce approximately 35% of the national maize crop, 30% of the groundnuts, 17% of winter wheat and 21% of the national beef herd. (Business Herald 3.7.80 p.4). In 1979 there were some 1 360 farms growing tobacco with the majority located in Mashonaland, particularly Mashonaland North. The re-emergence of Zimbabwe tobacco onto the world market has not brought forward the hoped for increase in prices and many tobacco farmers are facing the possibility of substantial losses in 1980. The Zimbabwe Tobacco Association, in an attempt to improve prices for the season, has introduced a quota which will result in a 30% cut in production in 1981. Concurrently, the Zimbabwe government has introduced a pre-planting price for maize of \$120/tonne which is a 50% increase over the 1980 season. This is an incentive price aimed at ensuring self-sufficiency in maize for 1981.

Ceteris paribus, an increase in wages, will cause a fall in the demand for labour by encouraging the substitution of capital for labour, tightening up of work organisation to eliminate marginal workers, changing of production to less labour intensive crops, and the elimination of the least profitable farms. New farming ventures may also be discouraged and the growth of employment in the commercial agricultural sector will be hindered. The extent of the fall depends on the relative elasticity of demand for labour. In tobacco and maize the demand for labour would seem to be relatively elastic but there are factors working in both directions.

3

Zimbabwe's agricultural season runs from October to September and thus, in this paper, when referring to production of a particular year we refer to the crops planted late the previous year but sold in the year referred to, e.g. the 1979 figures refer to crops planted late in 1978.

If, as a result of inelastic demand in the product market, wage increases can be passed on to consumers as price increases, then wage increases are less likely to result in a fall in employment. In Zimbabwe, agricultural product prices are not directly within the farmers' control. This is particularly true in the case of tobacco which is sold on open auction at world market prices. Maize and oilseed prices are set by the government after consultation with producer organisations and other concerned bodies. Hence, in the longer term, it may be possible for producers of maize and oilseeds to recoup some or all cost increases as the result of any rise in wages.

Labour costs represent approximately 30% of the total variable costs of tobacco production as compared with 11% in the case of maize.<sup>4</sup> Investment in equipment and training per worker is low and hence management is not concerned with the problem of retaining a highly skilled work force. Agricultural labour is not organised and will not be in a position to block moves towards retrenchment except through local party committees.

The 1981 season, therefore, will see important changes in the input and output components of Zimbabwe's agricultural industries. Decreased tobacco prices, increased maize prices and increased labour costs have changed gross margins. Tobacco clearly lost its revenue earning advantage and a major shift to the production of maize can be expected in 1981. The Minimum Wage legislation prevents the firing of labour as a direct effect of the increased wages. However, a farmer can shed labour if he moves from one form of production to another. It can be anticipated that the move from tobacco to maize production will be accompanied by a substantial decrease in farm employment. The estimation of the source and level of this decrease in employment forms the subject matter of the remainder of this paper. It is not possible to quantify precisely the likely employment effects since relevant, accurate data are unavailable. However, most developing countries must evolve policy using an inadequate data base. This paper outlines a method whereby reasonable predictions of policy effects may be predicted using thin or inadequate data.

#### EMPLOYMENT CHANGES IN THE TOBACCO INDUSTRY

The main labour demand in tobacco growing is during the nine month period of October through June but most labourers on tobacco farms are employed on a permanent twelve month basis. Labour during the slack period is employed on other farm enterprises, farm maintenance and development. The labour requirements for farm enterprises in Zimbabwe are calculated using the labour day concept. The labour day is analagous to the man day used in the United Kingdom and elsewhere (Barnard & Nix 1979) and is defined as the output from one labourer working an eight hour day. Zimbabwe Tobacco Association figures (personal communication) indicate that the annual labour requirement per hectare for tobacco growing ranges from 340-380 labour days per hectare whereas the Department of Conservation and Extension (Conex guide No. 6) use 220 labour days to estimate labour costs in their budget forecasts. The 1975 Agricultural Characteristics Census (C.S.O. 1975) indicated that there were 120 000 full-time workers on tobacco growing farms and 63 299 hectares of tobacco were grown in that year. Some of these workers would be employed on other farm enterprises but, as no accurate data are available for the purpose of this study, it will be assumed that 115 000 persons were employed for tobacco growing only. (Appendix 1.1).

---

<sup>4</sup> Labour costs can be further reduced in the case of maize production through the introduction of capital-intensive technology such as combine harvesters.

Ca  
ary

As the result of low prices received for tobacco in the 1980 season, the Zimbabwe Tobacco Association has imposed a quota system for the 1981 crop. This quota is on weight produced rather than on area planted and allows for a maximum crop of 70 million kgs (as opposed to approximately 120 million kgs in 1980). This will result in a decrease in area planted of about 30%, a figure which has been confirmed by a recent nationwide planting intention survey. This reduction in tobacco area planted could logically lead to a simultaneous decrease in employment of 30% or some 32 000 labourers. (Appendix 1.2).

The higher price of labour, as the consequence of the minimum wage legislation, will encourage farmers to use their remaining labour more productively and it is likely that the immediate effect will be to require each labourer to work a full eight-hour day. The potential for increased labour productivity has been documented by work study research which shows that the existing labour requirement can be reduced to 220 labour days per hectare quite easily. (Conex-Guide 6). Assuming the 1981 area planted to tobacco is 42 000 hectares and that labour productivity is increased to 220 labour days per hectare, total employment in the tobacco growing industry could fall to 42 000 or 40% of the 1979 total. (Appendix 1.3).

This anticipated increase in productivity as a result of better management has been borne out in other developing countries, where, as a result of institutionally increased wages, substantial productivity increases have been recorded resulting in a negative correlation between rises in real wages and the growth of employment.

Diejomaoh and Crimalade, (1971, p.147) using estimated figures, showed that the Nigerian experience corroborated this hypothesis. Reynolds and Gregory (1965, Chap.3) in their study of Puerto Rico showed that despite a 5,3% growth in GNP in the fifties, employment actually fell and they attributed this to better labour management as a direct response to the sharply rising minimum wage levels. Although there was some capital substitution the changes in the capital/output ratio and capital/labour ratio were not nearly as marked as the improved labour/output ratio. It is the contention of the authors of this paper that a similar situation will be encountered in the tobacco growing industry in Zimbabwe. The Conex labour day figure is based on a system which will require some capital/labour substitution in the case of those farmers who do not use herbicides and suckericides but does not require large capital investment. Shifts which require large capital investment will be restricted to very few farms and major capital substitution effects have therefore been ignored. However, as most of the necessary materials for buildings and equipment could be locally manufactured, future studies should not ignore this possibility.

EMPLOYMENT CHANGES IN THE MAIZE INDUSTRY

Commercially grown maize in Zimbabwe is very much less labour intensive than tobacco although the degree of labour intensity does vary considerably. It is difficult to estimate the actual number of labourers employed in maize growing as most of the national marketed crop is grown on farms producing other more labour intensive crops. However, on a five tonne per hectare yield, the average maize grower uses 40 to 50 labour days per hectare and it is estimated that one labourer is used to produce three hectares of maize. As a result of the large maize price rise for 1981, government are hoping for 265 000 hectares of maize to be planted in the 1981 season. This appears to be confirmed by the planting intention survey which predicts a 31% increase. Approximately 25 000 (Appendix 1.4) additional labourers will be required for maize production, assuming that there is no change in productivity and no further capitalisation. At existing factor prices the costs of labour and capital-intensive methods are very similar but the shortage of large

capital equipment (e.g. combine harvesters) available for hire will preclude any significant change in production methods unless government make foreign currency available for the purchase of such machinery. It is also likely that growers moving from tobacco to maize production will prefer to maintain their labour force for a possible return to tobacco production in future. Conex workstudy research indicates that labour productivity could be increased by about 25% without requiring large capital investment. Conex budgets are forecast using 30 labour days per hectare.

#### PREDICTED EMPLOYMENT CHANGES IN COMMERCIAL CROPPING

The predicted increase in oilseed production will take up a small proportion of the slack created by the reduction in tobacco but as the planting intention survey reflects a 16% reduction in cotton hectareage this will cancel out most of the increased employment opportunities created by the increased production of groundnuts, sorghum and soya beans. Employment changes in all crops except tobacco and maize are ignored in this paper. The direct effect on employment of the diversification from tobacco to maize will result in approximately 7 000 people out of work (Appendix 1.5). A significant proportion of the cut back will be permanent employees (usually adult males between 18 and 50 years), and will thus involve the relocation of these persons and their families. This redundancy is based on the assumption that 265 000 hectares of maize will be grown. The situation will obviously be worse if this target is not met. However, it is possible that the area planted to maize may reach as high as 305 000 hectares which was the peak reached in 1972. This, at current productivity levels, would result in an additional 13 000 jobs being created to grow the extra 40 000 hectares and would more than compensate for the reduction in tobacco.

If, as a result of the minimum wage legislation, the increased productivity were to reach the levels recommended by Conex, this could result (using the predicted 1981 maize and tobacco hectareages) in the retrenchment of 22 000 workers in the maize industry (Appendix 1.6) and 34 000 in the tobacco industry (Appendix 1.7). It is most unlikely, however, that such dramatic labour productivity increases will be achieved in one year. Farmers will take time to adjust current methods and practices and furthermore in terms of the minimum wages regulations, retrenchment as a result of the minimum wage is illegal. For these reasons those most likely to be affected initially by labour productivity increases will be the dependents of permanent farm labourers. Statistics are not available on the breakdown of family earnings but traditionally the majority of the women and children living on farms have been employed during peak production periods and most families have received additional income from dependents for six to seven months of the year. If the productivity increases result in no employment and no income for the dependents, average earnings will be affected and it is possible that some families may receive a lower annual income than they received prior to the introduction of the minimum wage (Appendix 2). At the same time, however, the dependents will have more leisure time available for cultivation on the plots made available by their employers. It is unlikely that skill differentials will be maintained at previous levels which will adversely affect average earnings. Despite the increased productivity and differential compression, the commercial agricultural wage bill is expected to rise substantially. This calls forth the question who will benefit from the increase, who will be adversely affected and whether these results are in line with government policy intentions.

#### AFRICAN EXPERIENCE WITH MINIMUM WAGE LEGISLATION

Equity considerations are given considerable lip-service in most African countries. In reality, however, most policies are directed towards

redressing the imbalance between skilled salary workers and entrepreneurs and unskilled wage earners, and little consideration is given to the low-income self-employed sector, particularly in rural areas. This is partially because wage earners exert greater political influence since they are more easily mobilised and are closer to the government centres; and partially because minimum wage legislation is more easily introduced and legislated than measures to counteract the increasing rural-urban differentials. This can be seen in Zambia where the copper mining industry acts as the wage leader and peasant incomes neither explicitly nor implicitly affect wages. (Fry, 1979, Chap.7).

Ghai (1968, p.22) points out that "in an open, predominantly agricultural economy such as that of Kenya, wage rate increases in excess of productivity increases may be expected to have an adverse effect on employment .... Employment in the export sector and more particularly in the agricultural export sector, is likely to be very sensitive to changes in wage rates". He maintains that excessive wage rate increases have led to a fall in employment in the short run and have lowered the rate of expansion of employment in the long run, making it impossible for Kenya to meet the target rate of employment increase. In Tanzania, on the other hand, the government accepted that any immediate rise in wages would lead to redundancy but felt that this was "in accordance with its policy that there should be a smaller number of workers in paid employment earning a comparatively higher wage, rather than a greater number employed at a lower wage". (Chesworth 1967A, p.43). Tanzania's policy also recognised the need to create a settled African labour force and reduce dependence on migratory labour. Amongst those excluded from the minimum wage controls were non-plantation agriculture and the tea industry. Chesworth studied the effects in the year immediately following the introduction of minimum wage legislation. In sisal, the biggest, single user of wage labour, there was a slight rise in output, a drop in numbers employed and an increase in labour productivity. Despite an overall decrease in employment of 14.3 there was an increase in the wage bill of 9% so that there was a considerable increase in both average and median earnings of workers covered by the labour enumeration. Although the minimum laid down for agricultural workers was lower than that set for the urban sector the fall in employment was most marked in Plantation agriculture (19%). A further study by Chesworth (1967B, p. 279) in the Mauritian sugar industry told a similar story although this was also strongly influenced by a fall in the world sugar price. This last study illustrates the difficulties facing developing countries of fixing wages in commodity industries whose earnings are liable to considerable fluctuations.

Teriba and Phillips (1971, p. 104-106) showed that minimum wages constitute vital determinants of the degree of wage differential between skilled and unskilled workers. But they pointed out that a major determinant of the effectiveness of minimum wages policy as a tool of income distribution is the proportion of wage and salary earners in the total labour force. Their recommendation is that to reduce the urban-rural differential and thus migration and unemployment, the urban money wage should be cut. Recognising the political impossibility of such a measure they suggest that urban unskilled wage increases should be tied to the growth rate of peasant income and that tax and public expenditure measures applied rigourously in favour of low-income groups, should be introduced.

Doris Jansen Dodge (1977; p.126) in her comprehensive study of Zambian agricultural policy and performance states that enforcing a minimum agricultural wage for unskilled farm labour above the opportunity cost of this labour resulted in a sizeable loss in economic efficiency. Mrs. Dodge stresses the attractiveness of pricing policy to raise and/or equalize incomes since this can potentially affect every farmer in Zambia, has the fewest administrative requirements,

and if appropriately used "can quite possibly enable the government to attain all its objectives with respect to equity, export diversification and self-sufficiency, without sacrificing economic efficiency". (Dodge 1977, p.271).

The Zimbabwe government has set up a commission to study wages and prices and the terms of reference would appear to concentrate on the position of wage earners in this country. It is possible that the commission and/or the government may decide that a small, well-paid wage earning sector is to be preferred but it is to be hoped that the experiences of other African countries will ensure that the low-income self-employed sector will not be ignored. Essential consumer commodities, particularly maize-meal, are heavily subsidised. These subsidies can be financed by the exchequer or indirectly through low producer prices, by the farmers. A policy of low producer prices would not only result in decreases in output and employment in the commercial agricultural sector but, perhaps, more importantly, undesirable consequences for the peasant sector, increasing hardships and disincentives. If the preplanting prices announced by the present government are indicative of future policy, government would appear to be well aware of the importance of the price effect and pricing policy as a means of achieving some of its objectives.

Government are also concerned with narrowing the gap between rural and urban wage earners and improving per capita income at the lower income levels and, where possible, to ensure that there is no exploitation of workers. Unlike most of commerce and industry, farmers cannot pass increased wages on to consumers as they do not control prices. These wage increases must therefore be met from profits, reduced output, increased labour, productivity or capital substitution. Where the increases are met from profits the workers are gaining at the expense of the farmer, recipients of government revenue (since tax payments will fall) and of those who would gain employment as a result of increased growth from reinvested profits. If the wage increases result in reduced output, then growth, export earnings and food self-sufficiency would drop. Increased productivity and capital substitution would mean that retrenched workers and possible future employees would be denied income in favour of those workers who gain from the wage increase. All these factors must be considered by any government proposing to determine artificial wage rates and possible alternatives must also be considered. It may be possible to considerably raise commercial farm labourers living standards, whilst at the same time increasing national agricultural output, by increasing the size of the plots available to labourers and their families and encouraging their use.

Changes in rural-urban terms of trade and increases in peasant living standards will result in increased wages by changing the labour supply curve. Tax and public expenditure measures designed to increase rapidly peasant living would eventually result in the desired wage increases without increasing urban-rural differentials and unemployment and would mean substantial increases in agricultural output. The majority of Zimbabwe's peoples are farmers or potential farmers. A sound pricing policy for the agricultural industries together with a moderate wage policy will do much to encourage the needed food production and stem the drift of people to urban areas. Food deficits and urban unemployment plague much of Africa; Zimbabwe has initiated the appropriate policies to avoid these problems. The need now is to build on this sound foundation.

## REFERENCES

- Barnard, C.S. and Nix, J.S. "Farm Planning & Control", London: Cambridge University Press, 1979.
- Central Statistical Office. "Monthly Digest of Statistics", Salisbury: C.S.O. April 1980.
- "Agricultural Production in European Areas 1975". Salisbury C.S.O. undated.
- Chesworth, D.P. "Statutory Minimum Wage Fixing in Tanganyika" International Labour Review. 96.1 (1967a): 43-66.
- "Statutory Minimum Wage Fixing in the Sugar Industry of Mauritius" International Labour Review 96.1 (1967b): 252-279.
- Commercial Farmers Union "Planting Intentions Survey - 1980/81". Internal mimeograph ECON/80/527 Salisbury August 1980.
- Department of Conservation and Extension (Conex) "The Conex Budget Guide No. 6. Summer Crops 1979/80" Salisbury: Min. of Agriculture. October 1979.
- "Work Study Aspects of Flue Cured Tobacco Production" Salisbury: Min. of Agric. Vol. 1. 1977, Vol. 11, 1979, Vol. 111 1976 Vol. IV 1978.
- Diejomaoh, V.P. and Orimalade, W.A.T. "Unemployment in Nigeria: An Economic Analysis of Scope, Trends and Policy Issues" The Nigerian Journal of Economic and Social Studies 13,2 (1971): 127-161.
- Dodge, D.J. "Agricultural Policy and Performance in Zambia" Berkeley: Institute of International Studies 1977.
- Fry, J. "Employment and Income Distribution in the African Economy" London: Croom Helm 1979.
- Ghai, D.P. "Incomes Policy in Kenya: Need Criteria and Machinery" The East African Economic Review 4.1 (1968): 19-35.
- Hume, I.M. "A Preliminary Essay on Land Reform in Rhodesia/Zimbabwe" Whitsun Foundation, unpublished mimeo, 1978.
- Lewis, W.A. "Economic Development with Unlimited Supplies of Labour in Agarawala, A and Singh, S. The Economics of Underdevelopment, Bombay: Oxford University Press 1958.
- Reynolds, L.G. "Wages and Employment in a Labour-Surplus Economy" American Economic Review 55.1 (1965): 19-39.
- Reynolds, L.G. and Gregory. "Wages, Productivity and Industrialisation in Puerto Rico" Homewood Ill. Richard D. Irwin Inc. 1965.
- Teriba, O. and Philips, O.A. "Income Distribution and National Integration" The Nigerian Journal of Economic and Social Studies 13.1 (1971): 77-122.

APPENDIX 1

METHODS AND SOURCE OF CALCULATIONS

1. Based on data from the Central Statistical Office and Zimbabwe Tobacco Association survey results, which indicate that on tobacco growing farms 61% of turnover is from tobacco production, the assumption is that most workers on tobacco farms would be employed even if no other crops were produced. The figure of 115 000 is a guesstimate with provision made for the fact that some casual labour will not have been included in the 1975 census.
2. In 1975, 115 000 labourers were employed to grow 63 299 hectares of tobacco which would indicate that 1,82 labourers are used to grow one hectare of tobacco. In 1979, 58 501 hectares were grown and it is therefore assumed that, on the basis of the 1975 data, 106 472 labourers were employed -  $30\% = 31\ 942$ .
3. It is estimated that there are approximately 220 available working days in a tobacco season although this will fluctuate with weather. The number of labourers required to grow a hectare of tobacco can be calculated by dividing the number of labour days by the number of available working days. Thus one labourer per hectare would be used or 42 000 labourers to grow 42 000 hectares. The 1979 total was estimated to be 106 000.
4. The 1980 area planted to maize is not known and the increase has been calculated using the 1979 maize hectareage.  $265\ 000 - 191\ 000 = 74\ 000$ ;  $74\ 000/3 = 24\ 666$  on the basis that there is one labourer used to grow three hectares of maize. There are effectively 120 working days in a maize season and assuming that 40 labour days are used this means that  $,33$  labourers per hectare are used.
5. 32 000 laid off in tobacco ; 25 000 hired in maize
6.  $265\ 000/3 = 88\ 000$  ( $40/120 = ,33$ )  
 $265\ 000/4 = 66\ 000$  ( $30/120 = ,25$ )
7.  $42\ 000 \times 1,882 = 76\ 000$   
 $42\ 000 \times 1 = 42\ 000$

RESULTS OF A SURVEY OF FAMILY EARNINGS ON A TOBACCO  
FARM WHICH IS PRICE UNAFFECTED

In the 1979/80 season the farm grew 42 hectares of virginia tobacco, 8 hectares of burley tobacco and 3 hectares of maize. The farmer employed 42 full-time (field) labourers on the same salary scale; 10 in positions at varied but higher scales; 2 handicapped men and an elderly retainer. The senior foreman who is training to become an assistant manager is not included. Also employed are 4 domestic workers involved with the farmer's house, poultry, some stock and the gardens. Produce from this section is not sold but is consumed by the farmer and the workers. From July 1979 to June 1980 family dependents earned just over 25% of the farm's total wage bill.

Of the 42 labourers, 7 left of their own accord during the year and were replaced by 4 new workers and 8 were laid off in April, May and June in anticipation of changes to government wage policy. There are 31 permanent field labourers permanently employed.

If we assume that the farmer will not employ family dependents in the forthcoming season then only those labourers with no dependents working will gain the full benefit of the \$120 annual increment. These are usually young unmarried men or those who have wives involved with young families. 23% or seven labourers are in this category. 16 of the labourers had families who earned between \$30 and \$120 during the year and will therefore still gain from the minimum wage even if their dependents do not work. 8 will be worse off than they were, 3 marginally and 4 considerably.

There were no changes amongst the higher paid workers and ten will still be employed in the forthcoming season. There has, however, been a change in their differentials which have been compressed. In July 1979 these ranged from 111% to 29% greater than the field labourers and in July 1981 the range was 20% to zero. Although the gain for these workers was much lower all but one worker did receive an increment. Assuming again that dependents are not employed in the forthcoming season, 1 will be better off, 4 marginally better off, 4 marginally worse off and one much worse off as a result of minimum wage legislation. Of the two handicapped workers one would be worse off for the loss of his wife's income and the elderly retainer much worse off. Those most adversely affected on this particular farm are the four domestic workers who all have large families most of whom have found employment on the farm. If dependents are not employed the one family would lose as much as \$500 in a year.

The farmer confirmed that labour productivity had already increased as a result of re-organisation and increased supervision. He expected to increase his wage bill by no more than 16% unless it was a very difficult year. He had already cut back 18% on permanent employees (26% of the actual field labour force) and he intended to use the women and children very much less than he had in the past. He stated however that some would be employed in peak periods, particularly teenage boys, and that although their rates would be higher than in the past, total earnings for dependents would fall. A comparison between July/August 1979 and July/August 1980 was made and it was found that the rates were much higher for the teenage boys who were now on a contract system and in some cases actually earned double, however, dependents earned \$500 in July/August 1979 and only \$300 in July/August 1980.



This work is licensed under a  
Creative Commons  
Attribution – NonCommercial - NoDerivs 3.0 License.

To view a copy of the license please see:  
<http://creativecommons.org/licenses/by-nc-nd/3.0/>

This is a download from the BLDS Digital Library on OpenDocs  
<http://opendocs.ids.ac.uk/opendocs/>