WEP 10-6/WP101

WORLD EMPLOYMENT PROGRAMME RESEARCH

Working Paper

Rural Employment Policy Research Programme

STRUCTURAL ADJUSTMENT AND RURAL LABOUR MARKETS IN SIERRA LEONE

by

Prof. John Weeks
Middlebury College
Vermont 05752, USA

November 1990

ISBN 92-2-107673-3

First published 1991

Printed by the International Labour Office, Geneva, Switzerland

Preface

Much has by now been written about the "African crisis" and studies have also appeared focusing on the nature of structural adjustment programmes in Africa. EMP/RU's own project on Food Security in Africa, findings of which were reported in a special issue of the International Labour Review (Vol. 127, no. 6, December 1988) addressed aspects of such programmes in selected African countries from the point of view of food entitlement. However systematic analyses of the rationale and impact of adjustment programmes on labour allocation are still rare. The study reported here as part of EMP/RU's project on Structural Adjustment Programmes and Rural Labour Markets in Africa attempts to fill this gap. The project comprises case studies of five African countries - Zambia, Tanzania, Sierra Leone, Ghana and Côte d'Ivoire - and builds upon findings about the African economies emerging from recent work carried out at EMP/RU, particularly the Food Security in Africa project and the forthcoming volume on Rural-Urban Income Distribution in Africa.

The present study has been done by Prof. John Weeks of Middlebury College, Vermont and concerns the case of Sierra Leone. The author shows that the Sierra Leonean economy fell into crisis not because of lagging agricultural exports but mineral exports. The country has undergone adjustment programmes under the aegis of the IMF since a long time, with at the best mixed results. The author questions the basic premise of adjustment programmes - that prices of agricultural products were distorted and that idle resources are available to elicit a significant supply response from the farmers. He shows that contrary to assertions by proponents of adjustment programmes, no idle land exists in Sierra Leone which could be brought under cultivation in response to higher prices. The Sierra Leonean case provides the author another contrast with the general African case in that the basic staple in Sierra Leone is rice which is very much a tradeable commodity, unlike other African staples which generally do not enter world markets. Structural adjustment programmes in Sierra Leone therefore attempted to raise the price of both export crops as well as rice, thus minimising intra-agriculture shifts in labour allocation. As in other African countries the major switch in relative prices occurred between rural and urban areas but as in other African countries no shifts in rural-urban labour allocation transpired.

Samir Radwan
Chief
Rural Employment Policies Branch
Employment and Development Department

Contents

I. Introduction

This paper addresses the question of the impact of structural adjustment programmes on the agricultural economy of Sierra Leone and by extension its ramifications for rural, urban and rural-urban labour markets. Macroeconomic policies which are included within adjustment programmes are part of the armoury of policies of all countries; what is new about the current adjustment programmes is the strict conditionality which accompanies them, particularly with respect to changes in relative prices. It is these changes that have the potential to affect labour markets and that will therefore provide the focus of this paper.

As is well-documented, the sub-Saharan African countries in the 1970s and 1980s suffered from extremely poor growth performance, usually associated with severe balance of payments pressures. The World Bank and the IMF for the most part focused on the trade balance as the fundamental problem of African countries, with the solution being an expansion of exports. This expansion would be achieved through real devaluations,[1] the proposed causality being as follows: nominal devaluation combined with monetary restraint results in real devaluation; real devaluation shifts relative prices toward tradeable commodities, stimulating greater output, and on the demand side, lowers the foreign currency price of a country's exports as compared to those same tradeable commodities produced elsewhere; and if the world demand for these products is price elastic, then all countries producing a given commodity can effect a real devaluation and gain (i.e., real devaluation need not be a "beggar-thy-neighbour" policy). Simultaneously the real devaluation should reduce imports, further improving the trade balance. In summary, this approach has two aspects: (1) it relates growth of gross domestic product to export growth; and (2) treats balance-of-payments pressures as the major constraint on growth. Both of these aspects are viewed as exchange rate determined.

The role of the agricultural sector is seen as central in the adjustment measures because of the implicit belief that a decline in agricultural exports caused the African crisis. Further, in a number of African countries food production lagged behind apparent consumption in the 1970s and 1980s, requiring commercial and concessionary food imports. Thus, in addition to raising exports, the purpose of adjustment would be to raise food production. This dual emphasis, exports and food, reflects the dual role of the agricultural sector in the growth process.

Whether or not this sequence of causality can be said to be correct in abstract theory,[2] it was of limited relevance to the problems of Sierra Leone in the 1960s and 1970s because of her reliance on exports of diamonds and iron ore, rather than agricultural goods. Devaluation would have only limited impact upon these exports either on the supply or the demand side.[3] In any case the issue was of no particular policy importance since the reserves of both iron ore and diamonds were declining.

However, the issue of devaluation remains crucial because of its preponderant position in the adjustment programmes. Particularly important in this respect are impacts on: (1) economic incentives for export crops versus food crops; and (2) rural versus urban income gains and losses. These primary issues will in the course of the analysis raise

other matters that will require investigation: price responsiveness of agricultural producers and the implied reallocation of resources; the role of marketing boards and other market interventions; and macroeconomic issues such as inflation.

II. Crisis, perceptions and adjustment

Crisis

Unlike other SSA countries, problems in agriculture did not cause the decline of the Sierra Leone economy. In 1970 agriculture and industry (mostly mining) each accounted for about one-quarter of GDP. By the mid-1980s, agriculture's share had risen to over 40 per cent and industry's fallen to below 10 per cent, during a period when real GDP expanded by 23 per cent. It remains the case, however, that agriculture has to play the leading role both for the future expansion of exports and overall growth of GDP. In terms of labour markets, the shift in the composition of output and exports implied a reallocation of labour from non-agricultural to agricultural activities. This broad summary of "what happened" in Sierra Leone is elaborated below, with the role of the agricultural sector placed in its proper context. Analysis begins with table 1, a composite table containing GDP, GDP per capita and agricultural indicators (food as well as export).

Per capita income in 1985-86 (the last year for which national accounts are available) was measured at the same level as in 1966-67 and 16 per cent below the peak reached in 1981-82. Instability and decline have characterised the economy since independence: over the 22 years since 1963, per capita income fell in nine years[4] and instability in growth rates increased in each successive decade.[5] The instability coincided with - and was likely caused by - an even greater instability in the external economic environment. The price terms of trade for the three decades declined on average by two per cent each year and in only nine years out of 23 did the terms improve. Such a decline would have produced serious problems of economic management even had the economy faced no domestic production constraints. The fact is Sierra Leone's two major export products (diamonds and iron ore) collapsed. From 1963 to 1975, diamonds accounted for 60 per cent of the value of exports and iron ore for 13 per cent.[6] By the early 1980s around US$75 million had been lost in export earnings from the decline of mineral production, or about half the average value of exports for the 1970s. The only immediate candidates for replacing this loss were three tree crops, coffee, cocoa, and palm kernels. The export value of these three perennials increased in the 1970s, from an average of US$20 million a year for the first half of the decade to over US$50 million during the second half but a part of this increase represented buoyant world prices, which would not continue into the next decade. Therefore, the likelihood of a major expansion in revenue from the three products was unlikely unless substantial investments were undertaken to increase output. The crisis of the 1980s put paid to that hope. Given the long gestation period involved in increasing the tree crop output, it is doubtful that any policy ingenuity could have accomplished the task of making the agricultural sector the engine of growth of the monetary economy, certainly not a laissez-faire regime in which the Government gave no lead into an uncertain future.

Table 1. GDP, agricultural GDP, export production and food production per capita, 1963-64/1986-87 (1972-73 prices)

Years	GDP (Leone millions)	Rate of growth	GDP per capita (Leone)	Rate of growth	AgVA per cap (Leone)	Index of Exp. crop per cap.	Food prod per cap.
1963-64	244	-	107	-	44	n.a.	n.a.
1964-65	259	6.0	111	3.7	43	134	n.a.
1965-66	278	7.1	117	5.3	42	48	n.a.
1966-67	294	5.6	122	4.2	43	86	n.a.
1967-68	289	- 1.7	118	-3.3	42	33	n.a.
1968-69	285	- 1.4	115	-2.6	43	74	104
1969-70	319	11.3	126	9.1	42	58	110
1970-71	349	9.0	136	7.6	42	75	104
1971-72	355	1.7	136	0.0	41	80	101
1972-73	353	- 0.6	133	-2.2	42	100	100
1973-74	364	3.1	135	1.5	42	57	96
1974-75	376	3.2	137	1.5	41	66	98
1975-76	369	- 1.9	132	-3.7	42	53	102
1976-77	378	2.4	132	0.0	43	62	100
1977-78	379	0.3	129	-2.3	43	72	101
1978-79	394	3.9	131	1.5	45	62	99
1979-80	409	3.7	133	1.5	45	101	90
1980-81	434	5.9	138	3.7	44	79	91
1981-82	455	4.7	142	2.9	44	84	92
1982-83	462	1.5	141	-0.7	43	76	99
1983-84	458	- 0.9	136	-3.6	43	61	100
1984-85	447	- 2.4	130	-4.5	45	56	88
1985-86	429	- 4.1	122	-6.3	43	80	84
1986-87	n.a.	n.a.	n.a.	n.a.	n.a.	54	92
1987-88	n.a	n.a.	n.a.	n.a.	55	91	

Notes: Per cent changes are measured as the first relative difference to reduce base year bias. Percentage changes calculated from original data to one decimal place. Therefore, these percentages may not coincide with result calculated from the numbers in the table which are rounded off to the nearest integer. Similarly, the per capita figures are derived from data to one or more decimal places; so, for example, the exact value in column three would not be obtained by dividing column one by the population.

GDP: millions of 1972-73 leones.

Population: Census year figures with other years extrapolations.

AgVA per cap: Agricultural GDP or agriculture value added, per capita in 1972-73 leones. Included is crop agriculture and animal husbandry; thus, excluding fishing and forestry The deflation uses the index for agriculture, fishing and forestry. Since the latter two are rather small compared to the total, any bias would be minor.

ExCrop per cap: Export crop production per capita is measured by adding annual marketing board purchases of coffee, cocoa and palm kernels using the average export price for 1972 and 1973. This aggregate is then divided by the estimated population and converted to an index, 1972-73=100.

Food Prd. per cap: This is the FAO food per capita food production index. The base year has been shifted.

Source: CSO 1980 and 1987a.

The situation of the economy thus gave little cause for optimism at the beginning of the 1980s, and that expectation was unfortunately fulfilled. Mineral exports declined further, as did agricultural export prices, the fiscal base contracted, and foreign debt became increasingly unserviceable to the point of accumulating arrears. The agricultural sector became burdened with two difficult tasks: simultaneously to replace the export earnings and to feed the population. It met only partial success. By 1984-85 diamonds and iron ore still constituted over 60 per cent of exports; cocoa provided 18 per cent, coffee 13 per cent, and palm kernels 3 per cent (UNCTAD, 1988, table 4.3). Given that total export volume was falling (by more than one-half between 1973 and 1987, ibid., food production was generally stagnant according to FAO estimates (see table 1, last column). Cereal imports increased, but not by as much as one would expect from food production declines. Agricultural and food production per capita did not fall catastrophically. Compared to other African countries, one does not get a sense of large falls in rural incomes (an issue pursued in the next section). Thus, the agricultural sector as a whole performed better than the economy, especially in the 1980s. This is indicated by the relative constancy of agricultural value added per capita compared to GDP per capita, which declined (table 1). Agricultural prices also increased faster than non-agricultural prices and agriculture's share of the GDP increased from 25 per cent in 1970 and 30 per cent in 1980 to 42 per cent in 1986 (ibid., table 6.4). In the meantime, the share of industrial GDP declined from 24 per cent in 1970 to 6 per cent in 1986, reflecting the contraction in the mining sector. Thus, the economy became more agriculturally oriented internally, though externally still dependent upon mineral exports.

To complete the story of the economic crisis table 2 shows data on trade balance and inflation. Until the late 1970s the trade imbalance was quite modest, but thereafter it worsened rapidly as imports rose from an average of US$200 million for 1974-77 to over US$300 million for 1978-82. Starting in 1980 imports were cut back sharply with the average for the five years 1983-87 dropping to below US$150 million. Between 1980 and 1987 imports fell by 14 per cent <u>per annum</u>, and with imports at 30-40 per cent of their previous level, only the bare necessities were entering the country. One can therefore conclude that by the mid-1980s the role of the exchange rate in restricting imports was minimal.

Sierra Leone's crisis thus was of a different nature from that of most SSA countries. However, could it be the case that the producer price was so low that farmers were absolutely discouraged such that the market signals had little effect? While this is what the Bank and the Fund allege, it is an extremely difficult question to answer without data on cost of production, which are not available. The best one can do is to work with indirect evidence, presented in table 1, which gives marketing board purchases and sales along with relevant relative prices.[34]

However, the solution suggested by the multilaterals was similar, with great emphasis upon devaluation. Given that imports had been compressed to a minimum and that export crops required investments to expand, the exchange rate could have little effect on the trade balance. Since the exchange rate could not equilibrate the trade balance (or balance of payments more generally), the decision to "float" it (at the insistence of the multilaterals) resulted in continuous nominal devaluation (a "sink", one might say) after 1982, particularly after

Table 2. Cost of living, terms of trade and trade balance, 1963-64/1986-87

Years	Cost of living		Terms of trade		Commodity trade		
	COL	Change in COL	TofT	Change in TofT	Exports	Imports	X-M
1963-64	35	-	134	-	72	74	- 2
1964-65	37	5.6	127	- 5.7	88	89	- 1
1965-66	38	2.7	122	- 4.0	83	94	- 11
1966-67	40	5.1	131	7.8	78	87	- 9
1967-68	41	2.5	120	- 8.8	68	79	- 11
1968-69	42	2.4	122	1.0	93	81	12
1969-70	45	6.9	107	-12.9	105	99	7
1970-71	44	- 2.2	97	- 9.6	101	103	- 2
1971-72	48	8.7	91	- 6.3	104	109	- 5
1972-73	52	8.0	92	0.9	114	105	8
1973-74	60	4.3	91	- 0.9	131	140	- 9
1974-75	72	18.2	87	- 4.7	145	200	- 54
1975-76	84	5.4	88	- 1.1	147	186	- 40
1976-77	91	8.0	103	15.7	115	148	- 33
1977-78	100	9.9	100	- 3.0	148	168	- 20
1978-79	115	14.0	93	- 7.3	193	263	- 71
1979-80	130	12.2	83	11.4	197	336	-139
1980-81	161	21.3	75	10.1	214	386	-172
1981-82	204	23.6	75	0.0	152	282	-130
1982-83	343	50.8	78	3.9	110	260	-150
1983-84	573	50.2	82	- 5.0	107	133	- 26
1984-85	1 011	55.3	81	- 1.2	133	150	- 17
1985-86	1 829	57.6	89	- 9.4	132	141	- 9
1986-87	5 097	94.4	80	-10.7	126	111	15
1987-88	n.a.	n.a.	n.a.	n.a.	143	113	30

Note: See note to table 1 on calculations. Further, the trade balance may not precisely equal exports minus imports as given in the table due to rounding to integers.

Cost of Living: Freetown cost-of-living index.

Terms of trade: Ratio of index of export prices to index of import prices.

Trade balance: Merchandise exports minus merchandise imports for calendar year.

Sources: FAO (1979), p. 79 and FAO (1987), p. 93; CSO, 1980 and 1987a; World Bank, 1969, 1974, and 1981; UNCTAD, 1988; BSL, items a, b, c; UN, 1971, pp. 112-113; 1976, pp. 114-115; 1980, pp. 112-113; 1986, p. 116; and 1988, p. 117; IMF, 1989.

1986.[7] The effect showed up in the price level, with inflation proceeding at an annual rate in excess of 50 per cent beginning in 1982-83.

Perceptions

Perceptions of the malaise of the Sierra Leonean economy have changed drastically, especially on the part of the multi-lateral agencies and these have obviously impacted on the remedies suggested. At the start of the 1980s there was general agreement that the extreme dependence on depleting mineral exports was the cause of the Sierra Leonean crisis and that agriculture would have to be the new growth sector. It was recognised that the necessary restructuring would not be costless[8] and would require government intervention to ensure that it happened within an equitable framework. This dual emphasis, equity and sustainable growth, in fact formed the main theme of the 1978 ILO/JASPA report. The report cautioned that neither of these goals could be achieved without careful planning (JASPA, 1981, esp. ix-xix) and the same view was expressed in a World Bank report of 1981, whose title was quite similar to that of the JASPA report (Prospects for Growth and Equity in the former case and Ensuring Equitable Growth in the latter).[9] Its priorities like that of the JASPA report were stated to be "growth and poverty alleviation." To address these issues the public sector "may need to assume a leadership role ...", in part because that sector could "mobilise external savings more readily than the private sector ..." (World Bank, 1981, p. ii) and since it was judged that unregulated markets functioned inefficiently in Sierra Leone, particularly in agriculture.[10] The report called for taxation of the rich[11] and endorsed the Government's policies of subsidising mass consumption items. The rice policy was pronounced to be "consistent with the self-sufficiency objective". Subsidisation of kerosene was "... socially justified because [it] is used exclusively by the lower income groups" (World Bank, 31 July 1981, pp. vi and ix).[12] Overall, the subsidy policies were judged to have played a positive role in alleviating poverty: "elsewhere in the economy ... preferential consumer subsidies also assist in mitigating inequalities" (World Bank, 1981, p. vii). No indication was available that the Bank felt that market interventions in agriculture seriously distorted rural or urban labour markets, the primary concern of the present study.

Within three years the Bank had reversed its position. On rice policy it wrote,

> ... Government's policies with respect to the incentive framework have had a serious effect on agricultural production. The overvalued leone imposed low producer prices for the export crops as well for rice, since imports at the low rate of exchange depressed the domestic urban market price (World Bank, 7 March 1984, p. vii).

Rice subsidies should be eliminated with two goals explicitly stated: to increase production and decrease domestic consumption (World Bank, 1984, p. 27). An argument was made that the recommended rice policy would improve income distribution:

> Higher prices to producers who are mostly smallholders, will directly contribute to the goals of greater production, assist

> in addressing the rural-urban income imbalance, and weaken the incentive to migrate. The resulting redistribution of income will go in the right direction, since urban income levels are currently distorted upward by the excess of public sector employment and, until recently, undervaluation of rice prices (World Bank, 7 March 1984, p. 31).

This conclusion is relevant to the subsequent analysis of labour markets, because of its underlying assumptions: (1) poverty in Sierra Leone is for all practical purposes a rural phenomenon; (2) the rural poor are net sellers of agricultural products, not net buyers; (3) there is a significant rural-urban income gap with reference to potential migration groups; and (4) public sector employment is relatively well-remunerated. Each of these points is considered in subsequent discussion. The 1981 report, as shown before, had taken quite a different view. Particularly worth noting is its comment on urban employment, where it said that there was a "relative lack of high-wage islands in the public and private sectors" (p. vii).

Following upon the 1984 agricultural sector report the Bank's 1985 review of public expenditures referred to price subsidies as "ad hoc" and "counterproductive". Overall, the economy was assessed as being seriously mismanaged, growth of recurrent expenditure being singled out for special mention (World Bank, 1985, p. ii). A major cut in government expenditure and the complete elimination of all subsidies had become conditionality for a Bank adjustment loan.[13] These macroeconomic measures were seen as necessary to complement a shift towards less market intervention:

> Markets ... are not always perfect, and it is necessary for the Government to step in and take action when failures occur. In Sierra Leone, Government intervention has tended to focus on areas where the markets work best, thereby preventing prices from changing to bring about the desired reallocation of resources (World Bank, 1985, p. 100).

The turnaround demonstrates that even to the skilled professionals of the World Bank the precise nature of the economy's problems and their solution was not unequivocal. What seemed to be sound aspects of economic management at the beginning of the 1980s appeared a few years later to be manifestations of mismanagement. This should make it more understandable that the Government itself, which would bear the political cost of policies, had difficulty developing a coherent and successful policy package.

Adjustment

Based on these kinds of perceptions the Sierra Leone Government entered into five agreements with the IMF, beginning with the three-year arrangement of 1967-69.[14] These are summarised in table 3. After the rather small borrowing agreement in 1977, three programmes were put in place (1981, 1983 and 1986), all of which were cancelled by the Fund after the first tranche. Thus, strictly speaking, the Sierra Leone Government was only briefly involved in policy-based lending programmes of the IMF and World Bank during the 1980s. However in practice economic policies throughout the decade reflected the influence of these programmes, operational, suspended or anticipated. From about 1985, the Government

Table 3. Summary of multilateral policy interventions in Sierra Leone, 1967-87

	Policy intervention	Outcome
1967-69	IMF stabilisation programme	Conditionality met, all tranches disbursed
1977	IMF loan of Le 7 million from trust fund	Fully disbursed
1981	IMF 3-year programme begins	Cancelled after first tranche
1983	IMF programme agreed	Cancelled after first tranche
1984 (early)	Ongoing discussions with World Bank about SAL	Inconclusive
1985	World Bank agriculture mission: WB public expenditure report recommends large budget cuts, review of public enterprises, privatisation	No lending involved
1986 Nov.	One-year stand-by arrangement agreed with the IMF	Disbursement begins of first tranche
1987 Jan.	IMF suspends stand-by arrangement	End of IMF programme
Mar.	"Shadow" programme of IMF and WB begins	Conditionality but no funding

Source: GSL, September 1985; and GSL, June 1987; and interviews with officials at the World Bank, International Monetary Fund and Bank of Sierra Leone.

informally accepted conditionality as a prerequisite for subsequent agreement on a formal programme. In other words, the Government operated under the constraint of multilateral conditionality without the benefit of multilateral funding, though anticipating such funding should its policies be deemed to comply with IMF and World Bank judgement of economic performance.[15] Thus one may treat the entire decade of the 1980s as one in which economic policy sought to conform to structural adjustment conditionality.

III. Adjustment programmes and labour markets

A profile of the agricultural sector[16]

Sierra Leonean agriculture in the 1980s was characterised by relatively low technology and a high degree of subsistence. As the 1981 JASPA mission noted:

> [B]y and large, small acreages, low yields, low incomes provide us the dominant picture of Sierra Leonean agriculture, a picture that has remained more or less unchanged over many decades. There has been no change in the use of either labour-saving or yield-increasing technology ... (JASPA, 1981, p. 111).

A farm survey in 1970-71 estimated that only for cocoa and coffee did a majority of the growers sell a surplus on the market, while for rice the proportion was 31 per cent. Total crop value added was estimated as Le 72 million (including imputed value of subsistence), with the marketed output of non-export crops being put at less than Le 8 million (CSO, 1972, p. 73). Coffee, cocoa, and palm kernels brought in an additional Le 10 million, yielding a figure for cash agriculture of Le 18 million. If one deducts the intermediate component of sales, the degree of monetisation of crop agriculture could have been of the order of 20 per cent. In 1984 the World Bank offered an open-ended guess, that "less than 40 per cent of total production [entered] the monetised economy" (World Bank, 1984, p. iv). By these estimates only one-third of crop value was monetised. What is important is that as far as food crops are concerned most farmers remain subsistence-oriented. As Johnny observed, "This overriding traditional emphasis on security helps to explain the lack of specialised production .. why all producers [in Sierra Leone] tend to grow the same staple crops regardless of agronomic conditions ... " (Johnny, 1981, p. 16).

Rice is by far the most important food crop in Sierra Leone, and would seem to be the first priority of all farmers (JASPA, 1981, p. 115). Soil fertility is maintained through shifting cultivation, rice grown under this system being called "upland rice" in Sierra Leone. A second system to manage the fertility problem is the swampland system. Swamp cultivation, just as shifting cultivation, represents a system of tapping the natural fertility of the soil. However, swamps can be cultivated continuously (although in Sierra Leone they, too, are left fallow periodically), and can support a bigger population per acre than shifting cultivation. Higher yields also contribute to this (JASPA, 1981, p. 117). Most of the rice in Sierra Leone is grown under the first system, but the trend as revealed by two agricultural censuses - 1963-66 and 1970-71 - was towards swampland rice (JASPA, 1981, p. 116). In fact in the 1970s great hopes were pinned on the expansion of swampland rice. This failed to materialise reflecting a number of obstacles facing the small farmer, important among them being "... [the] heavy initial labour inputs, the preferred taste of upland varieties, the coldness of the water and associated diseases, and the wide range of other crops which could be produced on an upland farm" (Binns, 1987, p. 85; see also Johnny, 1981, p. 11). Four other reasons are given in the JASPA report. First, the initial establishment of a swamp is very labour-consuming, second, swamp rice does not lend itself to cultivation with other food crops unlike upland rice, which is almost always grown in mixtures. Third upland

cultivation is "the way of life". Social life revolves around this system, and to a tradition-oriented farmer it is the "known thing" that is important. (JASPA, 1981, p. 118). Finally, swampland rice is constrained by seasonal labour shortages. Managing labour shortages at peak periods and phasing cultivation for full utilisation of agriculture's two most important resources is a problem not fully appreciated by those who suggest an abundance of land in Sierra Leone.[17]

There at least two reasons to doubt the existence of surplus land. First, available evidence indicates that given the techniques of production, what land can be used is under cultivation. Closer to the truth is probably the judgement of the JASPA report which concluded that under existing techniques Sierra Leonean agriculture in the late 1970s was on the verge of a crisis in which the limits of the system to feed the country's increasingly urban population had been reached. More land might well come under cultivation in the short run in response to increased prices, but it would reflect an unsustainable land pressure leading to environmental degradation.

The second factor that casts doubt on the idle-land hypothesis is based on the rationality of the peasant farmers. Given that malnutrition exists in rural Sierra Leone,[18] "idle land" would imply that farm families are induced by low prices to choose hunger rather than being adequately fed.

Rural inequality

While most agricultural producers in Sierra Leone are "smallholders", inequality in the distribution of land was substantial in the 1980s.[19] This is shown in table 4, based on two farm surveys. From the early 1970s to the mid-1980s the number of farms declined by 22 per cent, while the number of rural households, farm and non-farm, fell by 11 per cent.[20] At the same time the proportion of farms less than five acres increased from 62 to 74 per cent. Since the actual number of farms in this category fell slightly, from 177,000 to 166,000, the increased proportion cannot be explained by population growth. Rather, it appears that Sierra Leone had entered the stage of agricultural transition in which the farm population declines and concentration of ownership increases. This pattern, characteristic of much of Latin America for decades, eventually generates landlessness, though this problem is as yet minor in Sierra Leone.

Table 4. Percentage distribution of farm households by size of holding, 1970-71 and 1984-85

Farm size	1970-71	1984-85
Under 1 acre	15-3	19.7
1 to 5 acres	49.5	54.5
5 to 10 acres	25.2	18.3
10 to 15 acres	6.9	4.5
15 and over	3.1	3.0
Total farms ('000s):	286.1	223.3

Source: CSO, 1972; MAF, 1986.

Among a wealth of other information the 1984-85 survey provides data on the crops grown, area planted, and yields per hectare. This information is used to estimate total farm income by farm size. Generalisations about the impact of economic policies on farmers in Africa tend to lump all producers together as if the average were not only typical but the rule. The information in the farm survey helps to correct that tendency. By multiplying area planted by yields one obtains output and by multiplying by the 1984-85 farmgate price the value of this output.[21] This gross income from crops was then rendered into net income using the information from a 1974-75 farm survey of 552 smallholder production units (Spencer and Byerlee, 1977). The resulting estimate of monetary farm income makes no distinction between actual sales and imputed value of subsistence production. For some purposes this would be a major failing, for farm households eat rice (for example), not the price of rice. However, here the distinction between sales and on-farm consumption is not important. The intent is to derive comparable income figures across farm sizes, which necessarily requires aggregation of crops with monetary weights.

The results are shown in table 5.[22] Substantial rural inequality is indicated, though not of the degree found in Latin America. Assuming that the distribution of households is skewed within farm size ranges similarly to the way it is among ranges, then around 70 per cent of families had incomes below the mean in 1984-85. As another measure of inequality, average crop income for the wealthiest three per cent of families (those with holdings over six hectares) was 18 times greater than the average for the poorest 22 per cent (those with holdings under one-half hectare). Structural adjustment programmes risk exacerbating this inequality since according to the 1984-85 farm survey large farmers sell a greater proportion of their rice and other crops than small farmers.[23]

Table 5. Imputed and cash income from crops by size of holding, 1984-85

Size (hectares)	House-holds (%)	Total cash & imputed income (Le mns)	House-holds ('000s)	Av. farm income (Le)	Index (average = 100)
Under .5	21.7	53.9	48.3	1 115	27
.5 to 1	26.3	141.8	58.6	2 420	57
1 to 2	26.2	233.9	58.7	3 985	95
2 to 4	18.3	271.8	40.8	6 662	158
4 to 6	4.4	105.1	10.0	10 512	250
over 6	3.1	133.7	6.8	19 669	479
Total	100.0	940.3	223.3	4 213	100

Source: MAF, 1986; and MAF, August 1988.

Further, a substantial number of rural households apparently were not self-sufficient in rice in 1984-85; i.e. they were net rice buyers. One can then conclude that ceteris paribus an increase in rice price would: (a) raise overall agricutural cash income (a rice surplus over subsistence implies this); (b) increase the real incomes of more farm households than it reduces (net food sellers outweigh net food buyers); but (c) worsen the distribution of farm income (because larger farms sell proportionately more than small farms).

The point about net food buyers can be broadened to include the urban sector and the rural non-farm households. In general, an increase in food prices redistributes income away from net food buyers and toward net food sellers (both producers and middlemen). Net food buyers fall into three categories: urban dwellers, food-deficit farm households, and rural non-farm families. An estimation of their distribution appears in table 6. While food-deficit farm families contribute to the total of net food buying households, the other two groups are the more important. In 1963-64, only 19 per cent of rural families were non-farm; by 1985-86 their share was 30 per cent, perhaps reflecting increasing pressure on land. Along with this shift went rapid urbanisation, with the number of urban families increasing at a compound rate of 5.8 per cent from 1963-64 to 1985-86. If we extrapolate for non-census years, the numbers in the table imply that around 1973 a majority of families in Sierra Leone became net food buyers. Thus while agriculture is extremely important in Sierra Leone, since the mid-1970s the country has been an economy of net food buyers. The implications for structural adjustment should be clear: policies which raise relative food prices impoverish most people in the country.

Table 6. Net food buying households, census years ('000)

Category	1963-64	1974-75	1985-86
Total households	354	459	545
Net food-buyers:	156	234	374
farm	33	44	43
rural non-farm	54	69	92
urban	69	121	239
Food-buyers (per cent)	44.0	51.0	68.8

Source: CSO, 1967, 1972; MAF, 1986.

Moving from food to export crops, the 1984-85 survey shows clearly that the production of these is overwhelmingly concentrated on the larger farms. Table 7 shows statistics on land in the three major export crops (coffee, cocoa and palm trees) by size of farm. The second column repeats the distribution of farms for convenience, followed by the total land in each size range. Then columns 4-6 give the distribution of the area for the three crops across ranges, while the last column shows the proportion of land for each range that was planted in the three crops. Comparing column 3 with columns 4 through 6, one sees that the distribution of land

in export crops was more skewed than the distribution of all land. For example, farms under one hectare (representing 48 per cent of households) held 16 per cent of all land, but planted only 5 per cent of all land in coffee, 5 per cent of cocoa, and 11 per cent of palm trees (the last being the least important export crop). At the other end of the distribution, farms over four hectares (8 per cent of households) held one per cent of the land but accounted for 48 per cent of coffee area, 55 per cent of cocoa, and 50 per cent of palm trees. The last column of the table gives the proportion of land in each size range devoted to the three export crops. As implied by columns 4-6, the amount of land in these crops rises with the farm size, from 7 per cent for the smallest size category to over half the cultivated area for farms over six hectares. The message is clear: large farmers grow most of the cash crops and an increase in their price would worsen the distribution of farm income.

Table 7. Percentage distribution of farms and cash crop area by size, 1984-85

Farm size (hectares)	By no.: Farms	By area: Land	Coffee	Cocoa	Palm*	Area in the three crops
1	2	3	4	5	6	7
Under .5	21.7	3.9	0.9	0.7	5.0	7.4
.5 to 1	26.3	11.9	4.2	4.5	6.0	11.4
1 to 2	26.2	22.6	13.6	10.3	1.1	16.4
2 to 4	18.3	30.9	33.8	29.2	37.7	32.2
4 to 6	4.4	13.3	18.8	19.3	8.1	43.3
Over 6	3.1	17.4	28.7	36.0	42.1	56.2
Total	100.0	100.0	100.0	100.0	100.0	30.8

Note: Last column gives the proportion of land in each size range devoted to the three export crops.

* Commercially planted; i.e., area under wild trees excluded.

Source: MAF, 1986, table 16.

Rural-urban inequality

The increase in rural incomes relatively to urban incomes is also justified on the grounds of a vast income gap in favour of town dwellers. Much of the discussion of rural-urban differences is rather vague, making no distinction between the different income classes within each sector. The approach here is to focus on urban wage incomes and rural farm incomes, rather than broad averages for the urban and rural sectors. These measurements are directly relevant to the structural adjustment

debate, since one purpose of these programmes is to raise farm incomes in order to promote exports, discourage migration and foster greater equality of income.

Table 8 shows the comparison of farm incomes and urban wages. The figures incorporate an assumption that households do not have secondary sources of income. Thus, it is more precise to identify the calculations that follow as farm income per household and wage income for a household with only one wage earner and no non-wage income, the qualification does not nullify the conclusions that follow. Urban wage incomes in the table are the annual equivalent of average weekly non-agricultural earnings.[24] Some over-estimate may be involved here, for it has been assumed that the average worker was employed a full 52 weeks. Notwithstanding the data problems, the results are surprising if one is a believer in the myth of the privileged African working class. Immediately after independence, wage incomes rose relatively to farm incomes, beginning 20 per cent lower in 1963-64 and rising to 60 per cent higher in 1970-71. Subsequently there followed a continuous and precipitous decline, such that in 1985-86 wage income was only 28 per cent of farm income (37 per cent on a per capita basis, column 4 of table 7).[25]

Jamal had calculated a poverty line for urban areas for the JASPA mission at Le 620 for 1977-78. This poverty line was conservative, both because it was lower than alternative measures and because it referred to a family of four, while the average urban family over these years was six.[26] The poverty line can be extended back to 1957 and forward to 1988 by adjusting for inflation. For the pre-independence years, 1957-63, the wage was well below poverty level for a family of four by about 25-30 per cent. From 1966 to 1973, the average wage came close to covering this measure of basic needs, but subsequently a family seeking to subsist on the average wage alone would have sunk deeper and deeper into poverty. By 1981, the average wage would barely have covered food expenditure alone, and in 1988 the hypothetical average family would have exhausted its monthly wage income on food alone <u>within a week</u>. Urban families have managed to stay above food poverty through survival - or straddling - strategies involving family members in all sectors of the economy - formal as well as informal, rural as well as urban.[27]

The fall in wages does not signify an improved distribution of income. Columns 4, 7 and 8 provide the information for this. In 1974-75 the income per family member for both families and wage earners was roughly the same. Wage incomes fell relatively to farm incomes as well as GDP per capita thereafter and hence income distribution clearly worsened. This finding contradicts the 1984 World Bank report, which argued that an increase in farm incomes relatively to wage incomes would ensure that "the resulting redistribution of income will go in the right direction" (World Bank, 1984, p. 31). By the second half of the 1970s any redistribution from wage incomes to farm incomes on average went in the "wrong" direction. Moreover, evidence shows that concurrent redistributions also produced greater inequality. Table 9 shows what happened to producer real wage in the manufacturing sector.[28]

Table 8. A comparison of farm incomes and wages and related magnitudes, 1963-85

			Ratio: Wage to farm income		Real incomes (1973 = 100)		Divided by GDP per capita per capita		
	Farm family income	Average non-agric. wage	Per family	Per cap.	Farm	Wage	Farm incomes per cap.	Wage incomes per cap.	Cost of living (Freetown)
	1	2	3	4	5	6	7	8	9
1963-64	257	188	0.73	.97	103	73	0.34	0.33	58
1964-65	264	220	0.83	1.10	95	75	0.31	0.35	62
1965-66	269	237	0.88	1.17	92	95	0.30	0.35	63
1966-67	267	367	1.38	1.82	88	113	0.30	0.54	67
1967-68	263	379	1.44	1.91	83	107	0.30	0.57	68
1968-69	271	353	1.30	1.72	83	110	0.27	0.47	70
1969-70	267	415	1.55	2.06	80	116	0.24	0.50	75
1970-71	274	435	1.59	2.10	77	117	0.26	0.54	73
1971-72	286	441	1.54	2.04	82	114	0.27	0.54	80
1972-73	345	441	1.28	1.69	90	106	0.29	0.50	87
1973-74	413	456	1.10	1.46	100	100	0.29	0.43	100
1974-75	636	486	0.76	1.01	133	92	0.38	0.39	120
1975-76	738	537	0.73	0.96	129	86	0.43	0.41	140
1976-77	931	590	0.63	0.84	140	81	0.45	0.38	152
1977-78	995	601	0.60	0.80	138	76	0.43	0.35	167
1978-79	1 146	627	0.55	0.72	144	73	0.44	0.32	192
1979-80	1 185	702	0.59	0.78	130	78	0.40	0.31	217
1980-81	1 308	926	0.71	0.94	127	77	0.40	0.38	268
1981-82	1 842	940	0.51	0.68	144	67	0.47	0.32	340
1982-83	2 222	1 108	0.50	0.66	137	52	0.49	0.32	572
1983-84	2 889	1 142	0.40	0.52	106	35	0.44	0.23	955
1984-85	5 247	1 430	0.27	0.36	115	26	0.53	0.19	1 685
1985-86	6 833	1 891	0.28	0.37	85	32	0.48	0.18	3 048

Notes: Columns 1 and 2 (not counting the column of dates), farm family incomes and the average non-agricultural wage, are measures in current Leone.

Column 3 is the ratio of column to column 1.

In column 4, farm family incomes and average non-agricultural wage have been divided by the average family size for farm and urban families, then expressed as a ratio.

Column 5 and 6 are columns 1 and 2 divided by the Freetown cost-of-living index (given in column 9), with all indices in the table set 1973=100 for consistency.

Columns 7 and 8 are columns 1 and 2, first divided by family size (to give incomes per person in current Leone, rather than 1973 Leone, as in columns 5 and 6), then divided by aggregate per capita income.

Column 9 the same as the cost-of-living index in table 1 with the base year shifted. See discussion in text for details of calculations.

Sources: Central Statistics Office, Mar. 1983, Feb. 1987; ILO, 1970, 1975, 1980, 1987; Sierra Leone Labour Congress, 1987.

Table 9. Manufacturing average earnings and manufacturing GDP deflator 1966-85 (selected years)

Item	1966	1972	1975	1985
Average earnings (Le per week)	7.26	8.15	11.31	45.74
GDP deflator	95	100	119	833
Producer real wage	94	100	117	67

Source: ILO, 1978 and TUC, 1987.

Four selected years over two decades illustrate the main trend. Between 1966 and 1975 producer real wage rose,[29] but after that it fell quite sharply, by 43 per cent. Clearly the gainers from the drastic change in the rural-urban gap were the entrepreneurs.

How much of the above changes was caused by structural adjustment is difficult to assess precisely, part of the difficulty arising from the problem of defining when structural adjustment began. A falling wage-farm income ratio was already an established trend when Sierra Leone entered into major policy-based lending in 1981. What is clear is that in the 1980s this trend was accelerated by rapid inflation which can at least partially be blamed on devaluation. It would be more prudent to conclude that whatever the effect of adjustment, to the extent that it was predicated upon the existence of a rural-urban gap in favour of wager earners[30] its diagnosis was incorrect.

What does the information in this section tell one about labour markets in Sierra Leone during the adjustment process? Quite clearly, urban labour markets had considerable surplus in the 1980s because of the decline of non-agricultural sectors. This was partly a longer-term trend reflecting the decline of mining, but also the result of adjustment, which through devaluation, the contraction of imports, and the cuts in government expenditure reduced consumer demand. It is much more difficult to determine what happened in the rural labour markets. The general decline of the monetary economy probably reduced rural non-farm employment. It may also have reduced the demand by net food buyers (rural and urban) for basic staples, thus impacting upon the cash incomes of net sellers of rice, corn, etc. Whatever happened to relative agricultural prices (see next section), the demand for export crops would have been unaffected by the decline of the money economy (at least with regard to partial equilibrium effects). Therefore, the incomes of export crop producers might well have improved relatively to incomes of food producers, even with no relative price shift. No doubt the changes that occurred manifested themselves in changes in migration, remittances and labour reallocation in general.

IV. Adjustment programmes and price incentives

As we have seen the balance of payments crisis of the 1980s resulted from the secular decline of mining. If the lost foreign exchange earnings were to be recovered in the medium term, it had to be from the three tree crops, coffee, cocoa and palm kernels. Looming large in the discussion of agricultural policy during the 1980s was the judgement by the multilaterals that export crop prices were too low, discouraging production.[31] This hypothesis is now examined. It was demonstrated in Section IV that increases in the prices of export crops, ceteris paribus, would increase rural-urban as well as intra-rural inequality. But would the output effect of higher prices outweigh the social and economic cost of greater inequality?

In unregulated markets, farmers would face the international price of their crop (with a discount for intermediaries, transport, etc.). As shown in the case of rice, unregulated markets do not always provide positive incentives since prices can rise as well as fall. This would certainly have been the case for Sierra Leone's three major crops, coffee, cocoa and palm kernels, for their international prices have been quite volatile over the last 20 years[32] and have fallen in real terms in the last 15. Ceteris paribus, producers should have switched resources away from these crops. Thus a fluctuating or stagnant product performance in Sierra Leone is not by itself evidence of inappropriate government intervention at work; the world market could have generated the same outcome.

The disincentive effect of the SLPMB on export crops can be of two types. First, the marketing board price could discourage production by holding the price in any year below the world market price. If farm supply curves are upward-sloping, then output would be reduced below the unregulated equilibrium level. If the producer price is sufficiently low, production could be depressed below the point where variable costs are covered, and production would cease for the representative farm. This first disincentive might be called the "static output effect". Second, the marketing board might pay a substantial share of the world price over a number of years, but not adjust its price to changes in the world price. In this case, price policy fails to pass on the allocative signals from the world market: when the world market price rises, output should rise; when the world price falls, output should fall. This second disincentive could be called the "dynamic allocative effect".

The SLPMB has since independence passed on world market price increases to the export farmers (see table 10). For each crop the producer price is estimated as a function of the FOB export price.[33] In all three cases the elasticity exceeds 0.9, and for palm kernels it is not significantly different from unity. These coefficients imply that virtually all the annual increases in the export price were passed on to the producer (ignoring the role of private intermediaries). In no case is the constant term significant, so that all of the explanatory power is in the coefficient on the export price.

Table 10. Regression analysis of the SLPMB producer price and the FOB export price, 1964-86 (natural log functions)

Crop	Constant	World price	Adjusted R2
Palm kernels	.096	.992	.868
t-statistics	(-.86)	(11.8)	(1964-85)
Coffee	.104	.900	.961
t-statistics	(.36)	23.4	(1964-86)
Cocoa	.183	.907	.954
t-statistics	(.58)	(21.6)	(1964-86)

Source: Levi, 1976; World Bank, 1981; BSL items b, c, d.

However, could it be the case that the producer price was so low that farmers were absolutely discouraged such that the market signals had little effect? While this is what the Bank and the Fund allege, it is an extremely difficult question to answer without data on cost of production, which are not available. The best one can do is to work with indirect evidence, presented in table 11, which gives marketing board purchases and sales along with relevant relative prices.[34]

Three relative prices are given: the ratio of the producer price to the urban cost of living, frequently and erroneously called "agriculture's terms of trade",[35] the ratio of the producer price to the FOB export price; and the ratio of the producer price to the FOB export price less transport charges and buying agents' commission. On the presumption that without a marketing board farmers would still have to pay handling charges and commission, the latter ratio is the more accurate measure of the difference between the producer price and the export price.

The table shows that generalisations about the relationship between relative prices and production performance are not straightforward. Table 10 showed that there was no significant dynamic allocative effect, so the only disincentive at issue is the level of the producer price (static output effect). Producer prices most closely approximated export prices for palm kernels, with the ratio exceeding 100 per cent during the 1980s. If raising the producer price relatively to the export price could stimulate production, then palm kernel production should have expanded. In the event, it was an unmitigated disaster, falling by almost 90 per cent in the mid-1980s compared to 1964-74.

The explanation for the decline lies in part with the world price of palm kernels, which was falling even as farmers received a larger share of it. This decline in the world price explains why the producer price rose relatively to the export price, but fell relatively to the urban price index. Maintaining price incentives for palm kernel producers would have involved rejecting market signals and extending massive subsidies to farmers. Thus the World Bank experts had not done their sums when in 1984 they wrote, "Production [of palm products] has been depressed by adverse

Table 11. SLPMB purchases, exports and relative producer prices, 1964-87

Period	Volume bought ('000 tons, annual average)	Export sales	Relative prices PdrPr*/ COL	PdrPr/ XpPr	PdrPr/ NcXpPr
Coffee					
1964-69	6.1	5.9	74	64	72
1970-74	7.5	8.4	75	53	57
1975-79	7.4	7.4	138	42	44
1980-84	7.0	6.9	103	61	65
1985-87	7.1	7.2	130	42	44
Cocoa					
1964-69	3.8	4.3	72	70	80
1970-74	6.4	5.7	74	57	63
1975-79	7.1	6.7	154	53	56
1980-84	9.3	8.9	105	76	82
1985-87	8.7	8.9	110	46	44
Palm kernels					
1964-69	48.6	n.a.	119	65	98
1970-74	50.6	n.a.	116	60	92
1975-79	34.3	n.a.	110	62	86
1980-84	15.1	n.a.	83	77	121
1985-87	5.6	n.a.	48	93	156

Notes: PdrPr/COL = index of producer price divided by the Freetown cost of living index;

PdrPr/XpPr = producer price divided by fob export price, expressed as percentage;

PdrPr/NcXpPr = producer price divided by fob export price less transport charges and buying agents' commission, expressed as percentage;

n.a. - not applicable, palm kernels are partially processed, so export weight would not equal weight purchased from farmers.

* Index numbers based on average of 1964-87 = 100

Source: 1964-69: Levi, 1976, pp. 199-201; 1970-75: World Bank, 1981, table D2.5; 1976-86, BSL.b; 1987: BSL, items c and d.

WP101P1/cw

pricing policies" (World Bank, 1984, p. 25); from 1980 to 1984 producer prices had been above the world price.

The results for coffee and cocoa are quite mixed. After the 1960s coffee production stagnated, with little clear relation to relative prices. The ratio of the producer price of coffee to the urban cost of living was lower in the 1970s than in the 1980s, but output was higher in the earlier decade; the ratio of the producer price to the export price was roughly the same in the two decades, but again, output was higher during the earlier period. In the case of cocoa, a falling producer price relatively to the export price was associated with a near-doubling of output over the 1960s and 1970s. Further, for all three crops regressions explaining output in terms of relative prices proved insignificant.[36]

The overall conclusion is that while coffee and cocoa producers were taxed (perhaps highly taxed by some comparisons), this seems to have had no clear link to production of the two export crops. Palm kernels were hardly taxed at all on average over the entire period, yet did badly. This does not imply that price made no difference, but rather that production is not dependent up price alone, particularly in the case of tree crops. If in the future the Government of Sierra Leone wishes to stimulate the production of coffee, cocoa and palm kernels, certainly it must pursue a price policy that provides a reasonable return to farmers. But it also must do much more than this: provide agricultural extension work, facilitate access to modern inputs, allow for credit on affordable terms, etc. Thus, the allegations that government price policy seriously discouraged export performance are misleading. Certainly the Government held producer prices below export prices, imposing a heavy tax burden upon producers. At the same time it consistently passed on changes in export prices to producers. The empirical evidence offers little support for the view that a low level of producer prices discouraged production.

This section would not be complete were we to miss the theme of export taxation. Clearly in the early period export crops were heavily taxed as shown in the JASPA report (JASPA, 1981) and in Jamal's paper on taxation of export producers (Jamal, 1986). It should be noted from table 10 that overt taxation did not decline for coffee and cocoa. The coffee producers were taxed more in the 1980s than in the 1970s, and the cocoa producers about the same. The decline was for palm kernel producers only. Some might argue that this decline was spurious, since implicit taxation through the exchange rate came to the fore between 1980 and 1983. Implied by this argument is that in such a context ratios of domestic price to export price can be misleading; they may well rise and even exceed unity, but that does not signify reduced taxation. The figures in table 11 should thus be carefully interpreted.

Of course, this view of taxation derives from the concept of "the over-valued exchange rate", one of center-pieces in the neoclassical vision of "market distortions". There is a certain circularity in the concept, since its theoretical existence derives from the simultaneous existence of a balance of payments disequilibrium. The circularity arises because this approach presumes that the disequilibrium would be eliminated by adjustment of the exchange rate itself (that is precisely the theoretical sense in which it is "over-valued"). If one does not think that the exchange rate adjustment will equilibrate the balance of payments, then the concept of "over-valuation" becomes very problematical

indeed (particularly insightful from this theoretical point of view is Taylor, 1983). If one approaches the question of empirically, it appears that the leone was not substantially over-valued in the 1980s in terms of the usual measures of the IMF.[37]

The point of this discussion of export crops has been to relate it to rural labour markets. The most important labour market issue is whether relative price changes occurred, and if so whether a reallocation of labour occurred. To treat this issue, food crops, and rice specifically, must first be considered.

Rice

Central to the issues of inequality and the performance of Sierra Leonean agriculture is one's assessment of rice production and availability. Table 12 gives estimates of total rice production and actual imports, with the periods chosen to focus on the adjustment process - 1976-81 being "pre-adjustment" and 1982-87 years of at least attempted adjustment (see discussion in section II and particularly table 1). From a low level through the mid-1970s rice imports began to rise rapidly. Imports were consistently above 50,000 tons after 1978, with domestic production providing a fluctuating but generally declining proportion of total available rice (the "self-sufficiency" ratio in the table). In the World Bank reports after 1981 this was interpreted as a reflection of the failure of government policy. Also worrisome is the apparent inadequacy of rice in the national diet as shown in the "requirement" column.

Rice policy since before independence was the responsibility of the Sierra Leone Rice Corporation, which performed a purchasing function, setting a producer price for rice, as well as importing and maintaining buffer stocks. IMF and World Bank conditionality in the mid-1980s required that "the price of rice ... be market determined" (World Bank, 1986, p. 6), and a government stabilisation programme document (written in close collaboration with the Bank and the Fund) pledged that "as of 1 January 1987 the price of rice will be market determined ..." (GSL, January 1987, p. 25; and in a similar vein, GSL, September 1985, p. 16). In addition, conditionality required that rice imports be privatised and the operations of the Board be drastically curtailed.

It is somewhat perplexing why the Rice Board was singled out for such criticism, for whatever may have been the causes of the growth of imports, government price and purchasing policy were not among them. In the heyday of its purchases from farmers (1960s), the Board bought on average only 2 per cent of production, and at that time the World Bank had concluded that the Government "has largely failed in its effort to take over [the rice] trade", and "the Board ... has no effective control over the prices actually paid to the farmers for their produce" (World Bank, 1969, p. 6).[38] Fifteen years later the Bank's judgement remained the same. Why within two years the Bank demanded that the price of rice be "market determined" when its agricultural specialists reported such to be the case remains a mystery.

Table 12. Rice quantities, 1976-87 (metric tons)

Year	Population ('000s)	Imports (Milled)	Domestic production		"Requirement" (115 kg/pc)	"Available"	Self-sufficiency ratio	Consumption (kg/pc)
			Paddy	Milled				
1976-77	2 890	15.0	620.0	325.4	332.4	340.4	95.6	118
1977-78	2 989	6.7	641.0	336.4	341.6	343.1	98.0	115
1978-79	3 053	22.5	641.0	336.4	351.1	358.9	93.7	118
1979-80	3 138	76.5	598.9*	314.4	360.9	390.9	80.4	125
1980-81	3 225	54.1	556.0	291.8	370.9	345.9	84.4	107
1981-82	3 315	53.1	523.5	274.8	381.2	327.9	83.8	99
1982-83	3 407	91.7	523.5	274.8	391.8	366.5	75.0	108
1983-84	3 502	23.7	460.2	241.6	402.7	265.3	91.1	76
1984-85	3 600	73.6	504.5	264.8	414.0	338.4	78.3	94
1985-86	3 700	118.3	430.0	225.7	425.5	344.0**	65.6	93
1986-87	3 803	67.7	525.0	275.6	437.3	343.3**	80.3	90
1987-88	3 909	75.6	547.8*	287.6	449.5	363.2	79.2	93

* In the source the 1979 entry is 556.0 and the 1987 entry is 465.7. Both of these are inconsistent with the milled/unmilled conversion factor of .525 that is used for all other years in the table and also considered technically correct by the MAF statisticians. Compliers of the table recommended use of the milled figure as the accurate one. Therefore, the numbers have been replaced with what is implied by the .525 conversion factor.

** In the source these two entries, intended to be the sum of imports and domestic milled, were incorrectly summed.

\# In the source this figure was obtained by taking imports for July-Dec. 1987 and doubling them.

Note: This is the same table that appears on p. 8 of MAF. 1988. In that table unmilled rice converted to milled by a factor of .525. The only change is that here the self-sufficiency ratio is calculated as domestic milled production divided by "available" rice (domestic milled plus imports). "Required" rice is the quantity of milled obtained by multiplying the population by the official minimum rice requirement per head of 115 kilograms per year.

Source: MAF, 1988, p. 8.

Import policy as also been accused of undermining domestic rice production and stimulating excessive consumption by holding down market prices. One finds repeated references to the "rice subsidy" and in the mid-1980s its elimination became an item of multilateral conditionality. Here, again, the evidence suggests a misperception, as table 13 shows. The first column is the government purchase price, included in the table for comparative purposes. This is followed by that price converted from units of unmilled to units of milled rice. It is perhaps the implied official price of milled that caused the misperception that the Government was creating disincentives. However, this price was irrelevant, as we saw. Column three is the unregulated retail price in Freetown,[39] and column four the import price of rice.

Table 13. Rice prices, 1976-87 (Leone per metric ton)

	Government buying		Domestic market (milled)	Implicit import (milled)	Domestic divided by import
	Actual (Unmilled)	Actual (Milled)			
	1	2	3	4	5
1976-77	250	131	494	288	172
1977-78	278	146	494	249	198
1978-79	294	154	494	393	126
1979-80	294	154	706	356	198
1980-81	294	154	600	432	139
1981-82	440	231	776	515	151
1982-83	514	270	953	624	153
1983-84	734	385	1 023	830	123
1984-85	1 101	578	1 940	1 109	175
1985-86	1 468	770	6 139	1 926	319
1986-87	2 202	1 156	10 796	6 548	164
1987-88	5 505	2 889	18 451	5 993	310

Note: This table is reproduced from MAF, 1988, pp. 35 and 42. All numbers are the same except for the units for the domestic market price, from a retail unit of 10 ounces to metric tons. The Ministry source converted quantities of unmilled into milled by a factor of .525.

When the unregulated market price is divided by the import price, in all years the ratio is greater than unity; thus, consumers in Freetown (and probably elsewhere) paid more than the import price. Since the

import price was below the domestic market price, rice import policy should not have discouraged production to any great extent.[40] Of course, there would always be the "overvalued exchange rate" argument to fall back on, but as discussed before empirical evidence gives little support for this view. In any case, it would have taken an extremely "overvalued" exchange rate indeed to negate the difference between the domestic and import prices.

The increase in rice imports is not explained by government price policy, either at the farmgate or retail level.[41] A more promising explanation is demographic changes. Looking back at table 12, we see that total population increased by 35.3 per cent over the 11 years. Further, as was shown in table 6, the proportion of the total population producing food was declining during these years. Indeed, evidence seems to indicate that agricultural productivity was rising at a modest rate, but this was overwhelmed by population growth and the relative decline in the number of food producing and selling households.

This is a paper about labour markets, not rice prices, but the two are closely related in Sierra Leone. As discussed in section I, the purpose of structural adjustment in Sierra Leone need not necessarily have been to shift the terms of trade against rice even within the orthodox adjustment framework. In Sierra Leone, an increase in the relative price of rice would have the same effect as an increase in the relative price of cash crops if it increased production: it would save foreign exchange. This is an obvious point that frequently goes unnoted: the purpose of devaluation is to raise the return to all tradeables - import substitutes as well as exports. On this point theory is quite clear, and certainly there would be no dispute from the World Bank or the IMF (thus, the emphasis upon "efficient" import substitution associated with devaluation).

As the previous discussion showed, the price of rice in Sierra Leone was market determined in the 1970s and 1980s. One can then ask, what were the incentive effects of the market determined prices? Table 14 indicates the answer to this question. The first column gives the domestic market price of rice, followed by the Freetown cost of living index. The purpose of these series is to compute the price of rice relatively to the domestic price level (this is found in column five). In columns three and four time series are provided to calculate the same ratio for the world market approximated by the ratio of the international price to the United States GNP deflator. Were there free trade in rice, then in theory domestic prices should approximate "border" prices. Some would take this as a sign of reduced "distortions".

Theory would predict that the two relative price series would move together if both are market determined (this is implied by the famous "law of one price"). In fact, they did not and just as well, for had they done so, Sierra Leonean farmers would have been victims of severe price disincentives indeed, for the world price of rice fell much more relatively to the measure of the world price level than was the case for the relative price of rice within Sierra Leone. In other words, if the multilateral adjustment programmes had significantly deregulated markets and prompted domestic relative prices to move toward international relative prices (their professed intent), then the effect would have been

to generate severe price disincentives for the production of rice and incentives for its consumption. This is the precise opposite of the result that the World Bank sought to bring about:

> It seems clear that regardless of the progress made in promoting the production of rice, demand would then have to be curtailed to a considerable extent, either through rationing or measures which increase price (World Bank, March 1984).

Table 14. Relative rice prices, 1976-87

Year	Market price (leone/ ton)	Freetown COL (index)	International price (US$/ton)	USA GNP def. (index)	Index (1977-78 = 100)	
					Domestic price: COL	Inter-national price: US def.
1976-77	494	91	254	94	110	88
1977-78	494	100	311	100	100	100
1978-79	494	115	351	108	87	104
1979-80	706	130	384	118	110	105
1980-81	600	161	459	129	76	114
1981-82	776	204	390	139	77	90
1982-83	953	343	286	146	56	63
1983-84	1 023	573	266	151	36	57
1984-85	1 940	1 011	238	157	39	49
1985-86	6 139	1 829	221	162	68	44
1986-87	10 796	5 097	229	166	43	44
1987-88	18 451	6 240	230	171	60	43

Note: Indices may not precisely reflect division by figures in columns because of rounding to integers. The "USA GNP def." is the overall price deflator for United States gross national product, as reported in the annual Economic Report of the President, referring to the June to May period in each case. The base has been moved from 1982 = 100. "Total consumption" is "available" rice from table 11. Per capita consumption is total consumption divided by the population.

Sources: International rice price: UN, 1985, p. 208; FAO, 1979, p. 293 and FAO, 1987, p. 335. US deflator: US Council of Economic Advisors, 1988, p. 252. Freetown cost of living for 1986-87 and 1987-88: BSL, items c and d. Other sources, see table 13.

Achieving this goal in the 1980s would have required market intervention, not market liberalisation. From a perspective that views markets as generating the most efficient outcomes, it is unclear how such an intervention would be justified. Further, the effect of curtailing rice consumption, particularly through arbitrarily higher prices, would be to place the burden of adjustment on the poorer households, urban and rural. The numbers in table 14 show that a falling price of rice relatively to other prices was the judgement of international markets.

The analysis now comes to the issue of relative prices in the agricultural adjustment process, food versus export crops, which in Sierra Leone means rice versus export crops. The basic information is found in table 15. Here the prices of coffee, cocoa and palm kernels have been divided by the rice price. At the bottom of the table the ratios are demarcated into two periods, pre-adjustment (1976-81) and adjustment (1982-87). The export crop prices in question are, of course, the producer prices, since the purpose of the comparison is to draw implications about the impact of adjustment on the relative returns to different crops. The conclusion of the story is that apparently nothing of note happened to these relative prices. For all three export crops their average price relatively to rice was lower in the second period, but the standard deviations are so large that the difference in means is not significant. Thus, devaluation seems to have had no impact on the relative prices of export crops and rice.

Table 15. Relative agricultural prices, 1976-87

Year	Producer prices (Leone per ton)			Rice price divided into:		
	Coffee	Cocoa	Palm kernel	Coffee (1977-78 = 100)	Cocoa	Palm kernel
1976-77	1 030	1 210	117	64	77	87
1977-78	1 613	1 568	134	100	100	100
1978-79	1 613	2 128	163	100	136	122
1979-80	1 747	2 128	204	76	95	107
1980-81	2 016	2 016	134	103	106	82
1981-82	1 612	1 790	190	64	73	90
1982-83	1 344	1 569	224	43	52	87
1983-84	3 472	3 024	448	104	93	161
1984-85	5 376	5 600	896	85	91	170
1985-86	8 960	6 720	896	45	34	54
1986-87	35 840	30 240	1 344	102	88	46
1987-88	53 760	31 420	2 688	89	54	54
Average: * 1976-81				84	98	98
				(19)	(23)	(14)
1982-87				78	69	95
				(27)	(25)	(57)

* Standard deviations are given in parenthesis

Source: BSL items b, c, d.

At considerable risk of labouring the obvious, we can ask: why did not devaluation change the relative price of rice to exports to a significant degree? As pointed out before, rice is a tradeable, so one would expect its price to rise relatively to non-tradeables, and its relationship to other tradeables would be a priori indeterminate. As an extension of this neoclassical argument, with liberalisation of markets what happens to relative prices among tradeables depends upon what is happening to relative prices in the world market. This is the point of the World Bank's insistence that domestic prices in Sierra Leone more closely conform to "border prices". Indeed, in the abstract it is possible that devaluation would demonstrate that Sierra Leone's "comparative advantage" lay in rice, not coffee, cocoa, or palm products, and in consequence would result in a "switching" of crops between the external and internal markets. Theory indicates that there should be no surprise that these relative prices showed no change. It would be a contradiction of the structural adjustment remedy if the prices of the four tradeables we are discussing had not risen relatively to non-tradeables. Unfortunately, the national income deflators are not sufficiently disaggregated to test this issue.

Finally, it should be noted that there is a very practical reason why the price of export crops might not have risen relatively to rice: the former was marketing-board determined, while the latter was not. In a period of rapid inflation as during 1982-87, it is probably inevitable that administered prices would rise slower than the general price level. Inflation is the result of excess demand (monetary or real, depending upon one's theoretical approach) and manifests itself first in those prices that are the most flexible. The attempt of the authorities to raise producer prices could be self-undermining: an increase in the coffee price (say) increases the incomes of coffee producers, who spend this income in domestic commodity markets, thereby further feeding the inflation that prompted the increase in the coffee price in the first place. This and the above considerations should clarify why there was no trend in the relative agricultural prices and none need be expected.

What devaluation does seem to have generated is considerable relative price instability, for the coefficients of variations are much higher for the adjusting period than before for all three crops To the extent that fluctuations create a perception of insecurity, and insecurity discourages expanding production, devaluation may have provided across-the-board disincentives for market agriculture in Sierra Leone.

The demand-constrained rice story and the absence of an adjustment-induced change in relative crop prices provide revealing insights into labour markets during the adjusting years. During these years rice production was on a generally downward path. Since rice is the crop which created the greatest absolute demand for hired labour, rural labour markets would have gone into excess supply in the absence of a shift of labour to export crops. Apparently the price shifts that would have prompted such a shift of labour did not occur. Recall that at the same time urban labour markets were also in excess supply. There may or may not have been a reallocation of labour from urban to rural activities; there is simply no direct evidence on this. But if it did occur, it was not the result of price signals, but rather because the contraction of urban income opportunities was greater than for rural. In other words, involved were quantity adjustments, not price adjustments. To the extent that relative prices changed between town and countryside, it was the consequence, not the cause, of shifts in labour allocation.[42]

V. Conclusions: Adjustment and labour markets

This paper has focused upon the impact of structural adjustment programmes on rural incomes and labour markets, and on rural-urban interactions. Despite the lack of direct data, characteristic of most SSA countries, a few conclusions seem warranted. Since independence the pressure on land probably resulted in subdivision, increasing rural inequality. Adjustment itself generated at least two tendencies to accentuate this long-term trend. Inequality may have increased because large farms market a greater proportion of their output than small farms, and rural money incomes are more affected by economic decline than subsistence incomes. With no information available on the allocation of labour and land among farm families, no definitive statement is possible. However, it is reasonable to assume that the following labour market processes occurred:

(1) Non-farm rural households suffered compared to farm households.

(2) The demand for agricultural labour declined during adjustment. Limited by effective demand, the marketed output of rice declined. Taken together, the output of export crops did not increase substantially during adjustment compared to pre-adjustment (coffee output rose, cocoa fell, and palm kernels collapsed). If the demand for labour increased at all in the production of these crops, it would have been insufficient to compensate for the decline in the rice sector.

(3) If a reallocation of labour occurred between food crops and export crops, this was not the result of price signals, since under the demand-constrained conditions prevailing, prices were derivative from market clearing, not the vehicle of equilibration.

(4) The demand for labour in urban areas declined.

The effect of liberalisation on labour markets as distinct from devaluation is easier to judge. The allegation that government price policy had seriously discouraged export performance and liberalisation would improve matters is misleading. While the Government held producer prices below export prices, at the same time it consistently passed on changes in export prices to producers. In other words, it was giving the right signals. Empirical evidence offers little support for the view that a low level of producer prices discouraged production, though one must not forget the high level of peasant taxation. The export crop for which output performed worst is that whose producer price exceeded the export price throughout the 1980s (palm kernels). In this case the decline in production and the extent to which it is price-related, resulted from market-transmitted disincentives (a declining world price).

For rice, policy instruments acting on relative prices would not affect production except in so far as they raised the domestic price above what the international market determined; i.e., intervention, not liberalisation, would be necessary (though administratively this would probably be impractical, as in the past). The problem of rising rice imports was the result of demographic change and falling world market prices (with the latter perhaps derivative from the implicit and explicit subsidies by rice-exporting countries).

Based upon misconceptions and misdiagnosis, the multilateral adjustment programmes for Sierra Leone might well have made the situation worse. The major misconceptions were: (1) that there existed a substantial rural-urban gap; (2) that the economy was distorted by ill-conceived market interventions by the Government; and (3) that market signals could not but help set things on the right course. Put technically, the economy was misdiagnosed as being constrained by inappropriate relative prices. This approach, so typical of the multilateral approach to the African development crisis, bore even less relation to the problems of Sierra Leone, whose economy was constrained by a secularly declining export sector, demographic change, and resource limitations in agriculture. The major effect of the adjustment programme may have been to add to these constraints two more: (1) a decline in effective demand as a result of government expenditure reductions and other demand-depressing measures; and (2) a general climate of economic uncertainty resulting from the rapid inflation provoked by large nominal devaluations. To the extent that the liberalisation measures had any effect, they pushed policy in the wrong direction, increasing the vulnerability of the economy to external shocks and discouraging long-run planning interventions which would be central to restructuring the agricultural sector to feed the people and garner foreign exchange.

Notes

[1] This familiar approach is stated in many documents of the World Bank and IMF. A general statement of the strategy for African countries is found in World Bank, 1984; and more recently, World Bank and UNDP, 1989. An attempt to empirically establish the relationship between real exchange rates and export performance in Africa is found in Balassa, 1988.

[2] There are a number of approaches to the analysis of the impact of devaluation, at least one of which (the "monetarist" approach) suggests that adjusting the nominal exchange rate cannot alter relative prices within a country due to "the law of one price". For a discussion of the various contending positions see Ghani, 1984.

[3] Some have alleged that there was diamond smuggling during the 1960s and 1970s, which would have been reduced had the exchange rate not been "overvalued". It is impossible to confirm or reject this hypothesis, since there are no data on illicit exports of diamonds.

[4] For those preferring UNCTAD figures, they show that in the 1960s per capita income increased at 5.7 per cent per annum, then in the 1970s it stagnated while in the 1980s it declined by 2 per cent per annum. Altogether, the spurt in the 1960s assured Sierra Leone a positive growth (1.6 per cent per annum) between 1960 and 1987. UNCTAD, 1988, table 6-2, which gives figures more recent (up to 1987) than the national sources.

[5] In the 1960s, the standard deviation of the growth rate was almost equal to the mean growth rate itself (this ratio being the coefficient of variation=; during the 1970s, it was 20 per cent larger, and in the 1980s seven times larger.

[6] In 1976 iron ore production ceased (except for a brief attempt to revive it in 1982-84), and the alluvial diamond deposits began to yield less output. Still, for the five years 1976 to 1980, officially measured diamond exports averaged US$95 million annually, then fell to half that for the next five years (US$43 million during 1981-85). Export performance is treated in more detail in a subsequent section. With regard to diamond exports, some of the decline represents an increase in illegal exports, primarily through Liberia. However, there is general agreement that th total volume of exports declined due to growing exhaustion of the alluvial deposits.

[7] On 27 July 1986 when the Government "freed" the exchange rate it stood at 5.7 leone to the US dollar. On 26 September when the policy was suspended it had reached 30, subsequently touching 38 by January 1987. The exchange rate story is summarised in GSL, 1987, pp. 31 ff.

[8] Referring specifically to the balance of payments, a World Bank Report on Sierra Leone puts it well:

> Adjustments to external shocks differ depending on the nature of the shock and the structure of the economy. The more advanced and integrated the internal productive structure is, the easier it is for the economy to adjust. However, in [no] case can the shift restore the balance of payments without undue hardship. ... The structure of Sierra Leone's economy, like that of other African countries, is not integrated enough to permit internal adjustments without severe deflation (World Bank, 1985, pp. 97-98.)

[9] The correspondence in the title and the theme was more than coincidental. The Bank made ample use of the JASPA document, including, critically, the estimates of the income distribution profile.

[10] For example, one reads, "The lack of competition appears to exacerbate the wide spread between producer prices and final consumer or export prices." (World Bank, 1981, p. vii.)

[11] "So far only slow progress has been made toward either effectively raising the incomes of the poor or adequately taxing the incomes of the rich. Both are necessary." (World Bank, 1981, p. iii.) The same point was made earlier and in more detail in the JASPA report. See also Jamal 1986.

[12] In this context, it is worth noting that country report of 1976 had given an endorsement to government price policy towards agriculture:

> These farm price changes [after 1974] dramatically turned the terms of trade in favour of the rural population, provided the much needed production incentives, and since 1974 there are signs that agricultural production is showing significant gains for the first time in years. (World Bank, 1976, p. 1.)

Thus, the positive judgements of the 1981 report should not be seen as an anomaly.

[13] For example, a 20 per cent cut in government wages and salaries in real terms was set as conditionality (World Bank, 1985, p. vii). The Bank's position is also contained in World Bank, 1986, and the conditionality for an adjustment loan (as yet not granted) is detailed in two government documents Sierra Leone, 1985 and Sierra Leone, 1987.

[14] This IMF programme is analysed in the excellent study by Lisk (1974), in which he argues that it played a central role in bringing about a rejuvenation of the economy. For the current situation I am indebted to Mr. Jim Funna, West African representative to the World Bank, and Mr. Wellington of the Bank of Sierra Leone for their helpful discussions.

[15] The pre-funding conditionality was quite explicit. In a 1984 report one reads, "... [Bank] assistance should be closely linked to further policy reform, such as improvements in the allocation of budget and foreign exchange resources to [agriculture], and to the maintenance of an incentive structure for agricultural production ... (World Bank, 1984, p. viiii.). Some conditionality for the "pre-program" or "shadown

program" was quite specific. For example, a government document of 1987 notes that tractor services must be privatised not the failure to do so would "jeopardise the SAL negotiations" (GSL, 1987, p. 24.)

[16] This section is based on Jamal, 1982 and 1986 and the chapter by Jamal on agriculture in JASPA, 1981.

[17] The 1984 World Bank report on the agriculture sector argued that there existed considerable unused arable land in Sierra Leone (World Bank, 1984, pp. iv and 25). Based on a fallow period of 10-12 years the Bank concluded that around 20 per cent more land could be cultivated. The report however added, "Some experts argue that 18-20 years is optimal from yield and soil conservation aspects" (p. 13). If this fallow cycle is assumed, the alleged surfeit of land becomes an acute shortage. The idea of a land surplus was also based on a claim that "less than 10 per cent of the potentially arable swamplands are cultivated" (p. 13 and iv).

[18] The most extensive study was that done by USAID in 1977, in which it was estimated that 27 per cent of rural children were malnourished and 60 per cent suffered from anaemia. The study states: "As the consumption figures ... indicate, seriously inadequate calorie levels characterise the low-expenditure [rural] households" (ON, USAID, 1978, pp. xiii, xxiv). See also Dahniya and Kangbai, 1986, and FAO, 1988.

[19] The information from the 1965-66 survey is not included, since it is not strictly comparable. In that survey just over 10 per cent of farms were listed as being of unknown size, while in the later two surveys all farms were assigned to a category.

[20] The total rural population rose by 8 per cent, which was accommodated by an increase in size of household from 5.6 to 6.8 (CSO, 1972; and MAF, 1986; see especially MAF, 1988, pp. 1-2; and COS, 1986). Over the same period farm households also increased, from 7 to 7.9. Evidence of this increase is found in a survey conducted in 1974-75, which reported an average farm family to be 7.4 persons (Spencer and Byerlee, 1977). The increase in size of household is consistent with the rapid population growth over the period.

[21] It is assumed that farmers receive 60 per cent of the urban market price, except in the case of regulated export crops (coffee, cocoa and palm kernels, in which case farmgate payment to producers was used). The 60 per cent figure was obtained from interviews with Ministry of Agriculture and Forestry officials.

[22] The average income for all farm households so derived is very close to that obtained by dividing agricultural value added in the national accounts by the number of farm households. The latter figure was Le 5,247 (see table 8), and when non-crop value added is subtracted, the crop value added per household is Le 4,406 (table 4 does not include hunting, forestry and animal husbandry). This is less than 5 per cent above the mean income in table 8. As will be seen below, the two estimates were obtained independently of each other: in table 4 the estimate of intermediate production was taken from Spencer and Byerlee (1977); the crop prices from the Agricultural Statistical Bulletins; and the discount for farmgate prices from Ministry of Agriculture and Forestry estimates. It is possible that the table duplicates the method used to estimate agricultural value added in the national accounts.

[23] This point would seem too obvious to require elaboration except that a US Department of Agriculture report makes the opposite argument (that price increases for rice would improve income distribution): "These [low-income] households depend upon rice production more heavily than the other households; they also produce a larger share of their rice for the market" (USDA, Apr. 1984, p. 14). The 1984-85 farm survey shows the first allegation to be wrong. But even were it not, commonsense refutes the second. Everyone is agreed that rice is the major staple of poor rural households. If it were true that such households "produce a larger share of their rice for the market", then it would be the case that poor households were selling rice on the market, then repurchasing it for consumption. It is difficult to imagine how this could reflect rational behaviour.

[24] These have been collected by the Ministry of Labour since the early 1960s and are also reported in ILO, 1987.

[25] The ratio actually overstates the position of wage incomes, for it makes no allowance for the price differential in commodities between urban and rural areas. Evidence from three household surveys over two decades verifies that urban prices are higher than rural when weighted for consumption patterns. Jamal incorporated this price differential into his calculations and obtained a narrower wage earner/farmer gap for the 1970s than is shown in table 7 (Jamal 1982).

[26] This poverty line calculation is also used in Jamal, 1982, and is lower than that found in Lisk and van der Hoeven, 1979.

[27] This point has been made by Jamal in Jamal 1988a with respect to Uganda and Jamal 1988b, generalised to sub-Saharan Africa as a whole. See also Jamal and Weeks, 1988.

[28] Derived by dividing the manufacturing wage by the implicit manufacturing price deflator from the national accounts.

[29] Note that this did not imply that workers gained relatively to capitalists because the table does not account for productivity increase. If output per worker rose as much or more than the producer real wage, then profit per worker remained the same or increased. The increase in the real producer wage was at an annual rate of 2.5 per cent, and productivity (for which there are no data) was probably at least this.

[30] "A significant impact of the Government's adjustment programme will be a relative improvement in the income of a large part of the rural population as compared to that in urban areas." World Bank, 1986, p. 11.

[31] See particularly World Bank, 1984, p. 25.

[32] From 1964 through 1987, the coefficients of variation of world prices for coffee, cocoa and palm kernels were .59, .64, and .48. In the case of coffee, for example, this means that in any given year there was a two-thirds probability that the world price would be from 59 per cent below to 59 per cent above the average for the period.

[33] A logarithmic form is used, so that the coefficient on the export price measures the elasticity between the two prices.

[34] Sources do not always agree (or even come close) on crop production. To deal with this problem, the table includes both SLPMB purchases from buying agents and recorded export sales, with the latter serving as a check on the former. The two are in close agreement after 1974. Because weather and other stochastic factors can result in great year-to-year variation in crop output, five-year averages have been used (except for 1985-87).

[35] This term is incorrect because a proper calculation of the terms of trade would have to include the cost of farm inputs (which the consumer price index does not); and the consumer price index would need to be reweighted to reflect rural consumption patterns rather than urban ones. The most obvious example of a difference in consumption patterns is that rural Sierra Leoneans do not for the most part pay rent.

[36] The results are so poor that they do not bear reporting. The price variables are all non-significant and the R-squares less than .1 (negative when adjusted for degrees of freedom in the case of coffee).

[37] Investigation of this issue lies beyond the scope of this report. However, available from Weeks are calculations comparing Sierra Leone, Liberia, Nigeria, Ghana, Cote d'Ivoire and Senegal, with these countries chosen because of their similar agricultural export crops. Using the usual measure, the nominal exchange rate multiplied by the domestic price index and dividing by the US price index (the common approximation for the prices of trading partners), one finds that over the year 1980-87, Sierra Leone's purchasing power parity ("real") exchange rate declined slightly, while those for Liberia, Cote d'Ivoire, and Senegal rose. Ghana and Nigeria's "real" exchange rates declined more than Sierra Leone's.

[38] While the Government announces a farmgate price for paddy (unmilled rice), actual prices to producers are determined more by market conditions and vary considerably above and below the official prices ... " (World Bank, 1984, p. 22, emphasis added).

[39] The source is the Ministry of Agriculture and Forestry, Agricultural Statistical Bulletin. These prices are measured per 10 ounce container, the common unit of sale for milled rice. A note to the table in Bulletin III states:

> Obtained as part of the consumer Price Index exercise. Due to budget constraints, figures are no longer obtained from sample purchases, instead the trader is asked to lend a sample purchase to the [Central Statistics Office] for weighing. The quoted price rather than the actual price is used. (MAF, 1986, p. 41.)

Since this note appears first in Bulletin III, it can be assumed that prices through 1984 were collected on the basis of sample purchases. Finally, the price for 1975 is taken from the consumer price index, as reported in CSO, 1982.

[40] Lest one suspect that the prices provided by the Sierra Leone Government and given in table 12 are somehow in error, a comparison can be made to prices reported in the World Bank report of 1981. In that report, the Bank provided figures for the producer price, retail market price, and

the unit import price of rice, for the years 1962-74. According to the World Bank, the retail price of rice was 75 per cent higher than the import price for these years. The table in the report makes it clear that the prices all refer to the same unit of measure (husk or milled equivalent). What then of the rice subsidies? Unfortunately, data on rice subsidies are not available. However, total subsidies to all state enterprises (one of which was the Rice Board) averaged US$12.5 million over the year 1973 through 1983 (CSO, 1980; and 1987). Rice subsidies would have been less than half of this. In 1986 IMF conditionality required that rice subsidies be limited to Le 45 million for the second half of the year, which converted to US$2.9 million (GSL, 1987, p. 31). Thus, the subsidies were not great. The mystery of how one could have subsidies at all when the retail price was above the import price is perplexing. Government sales may have gone to subsidise wholesalers (not consumers), who subsequently sold the cheap rice at the prevailing market price.

[41] This explanation was suggested by Levi in the 1970s, who attributed the increase in rice imports to the boom in alluvial mining which drew labour away from agriculture (Levi, 1976, p. 143). Jamal 1988 has argued this for the sub-Saharan region as a whole.

[42] The argument being made here is usually called "post-Keynesian", as opposed to neoclassical. See Weeks, 1989, Ch. 11.

Bibliography

Balassa, Bela. 1988. "Incentive policies and agricultural performance in sub-Saharan Africa", PPR Working Papers (Washington: World Bank, Aug.).

Binns, J.A. 1987. "Inequality and development in rural West Africa", GeoJournal 14, 1. 1982. "Agricultural change in Sierra Leone", Geography 67, 2.

Blair, James A.S. 1975. "Migration of agricultural manpower in Sierra Leone", paper presented at the Conference on Manpower, Planning and Utilisation in West Africa, Institute of Statistical, Social and Economic Research of the University of Ghana at Legon, Mar.

Braverman, Avishay; Hammer, Jeffrey S.; Jorgenson, Erika. 1983. "Agricultural taxation and trade policies in Sierra Leone" (Washington: World Bank, 23 Dec.).

Byerlee, Derek; Tommy, Joseph, L.; Fatoo, Habib. 1976. "Rural-urban migration in Sierra Leone: Determinants and policy implications", University of Sierra Leone and Michigan State University, African Rural Economy Paper No. 13.

Dahniya, Florence N.; Kangbai, B.S. 1986. "Broadening the food base with traditional food plants: Case study - Sierra Leone", paper presented at the West African Inter-Country Workshop on Traditional Crops, Ibadan, Nigeria, 15-17 Dec.

Donhauser, Franz. 1985. "Agricultural markets and prices: Incentives or disincentives for increasing agricultural production in Sierra Leone?". Studien zur intergrierten landlichen Entwicklung 14.

Economic Commission for Africa. 1989. Statistics and policies: ECA preliminary observations on the World Bank Report. "Africa's adjustment and growth in the 1980s" (Addis Ababa: ECA).

Food and Agriculture Organisation of the United Nations (FAO). 1979. Production Yearbook, Vol. 33 (Rome: FAO). 1987. Production Yearbook, Vol. 41 (Rome: FAO). 1988. Nutrition country profile: Sierra Leone (Rome: typescript, Nov.).

Ghani, Ejaz. 1984. "The effects of devaluation on employment and poverty in developing countries", WEP Working Paper WEP.2-32, WP.57: 7-12 Nov.

Government of Sierra Leone, Central Statistics Office (CSO). 1967. Agricultural Statistical Survey, 1965-66 (Freetown: CSO).

---. 1971. Agricultural Statistical Survey of Sierra Leone, 1970-71 (Freetown: CSO).

---. 1972. Household survey of the rural areas of the provinces, Feb.-June 1969 (Freetown: CSO, Jan.).

---. 1972. Agricultural Statistical Survey, 1977-71 (Freetown). n.d. Annual Statistical Digest 1977 (Freetown: CSO).

WP101P2/cw

---. 1980. National Accounts of Sierra Leone (1974-75/1978-79) (Freetown: CSO, June).

---. 1981. Report on the general survey first round (June 1976-July 1977), Vol I; Demographic characteristics (Freetown: CSO, Feb.).

---. 1981. Report of the general survey first round (June 1976-July 1977) Vol. II; Household expenditure (Freetown: CSO, Mar.).

---. 1982. Annual Statistics Digest, 1980 (Freetown: CSO, July).

---. 1983. Report on the first annual survey of industries (1980/81) Vol. I. Summary results (Freetown: CSO, Mar.).

---. 1986. The preliminary report on the 1985 national population census (Freetown, Aug.).

---. 1987a. National Accounts of Sierra Leone (1984/85 and 1985/86) (Freetown: CSO, Dec.).

---. 1987b. Report on Establishment Surveys (1980/81, 1981/82, 1984/85 and 1985/86), Vol. 1; Manufacturing Establishments (Freetown: CSO Feb.).

---. 1988a. Annual Statistical Digest 1986 (Freetown: CSO, Jan.).

---. 1988b. Report on pilot labour force survey (Freetown: CSO, July).

---. 1988c. Report on pilot consumption and expenditure survey (Freetown: CSO, Aug.).

Government of Sierra Leone. Ministry of Agriculture and Foresty. 1983. Agricultural Statistical Bulletin No. 1 (Freetown: MAF, Feb.).

---. 1986. 1984/85 Sample Census of Agriculture of Sierra Leone (Freetown: MAF).

---. 1986. Report on the 1984/85 Large-Scale and Institutional Farm Census (Freetown, MAF, Apr.).

---. 1986. Agricultural Statistical Bulletin, No. III (Freetown: MAF, June).

---. 1987. Report on area, yield and production of groundnuts, rice and maize for the 1986/87 crop production season in Sierra Leone (Freetown: MAF Mar.).

---. 1988. Agricultural Statistical Bulletin, No. IV (Freetown: MAF, Aug.).

Government of Sierra Leone, Ministry of Development and Economic Planning. 1985. Sierra Leone: A programme for rehabilitation and economic recovery, 1985-86/1987-88. Vol. I - Main Report (Freetown: MDEP, Sept.).

---. 1987. Sierra Leone: A programme for rehabilitation and economic recovery 1986-87/1988-89: Vol. I - Supplement Report (Freetown: MDEP, Jan.).

WP101P2/cw

Hardiman, M.; Midgley, J. 1982. "Social planning and access to social services in developing countries: The case of Sierra Leone". Third World Planning Review 4.

Harvey, Milton E. 1981-82. "Rural development in Sierra Leone: Two decades of war on rural poverty", in Rural Africana, 12-13 (Winter-Spring).

Hesp, Paul. 1985. Producer Prices in Tropical Africa: A review of official prices for agricultural productions, 1960-80 (Leiden: African Studies Centre), Ressearch Reports No. 23/1985.

International Labour Office (ILO). 1987. Yearbook of Labour Statistics, 1987 (Geneva: ILO).

International Labour Office and Jobs and Skills Programme for Africa (ILO/JASPA). 1981. Ensuring equitable growth: A strategy for increasing employment, equity and basic needs satisfaction in Sierra Leone (Addis Ababa: ILO/JASPA).

---. 1982. Rural-urban gap and income distribution: The case of Sierra Leone (Addis Ababa: JASPA).

---. 1986. Women's employment patterns, discrimination and promotion of equality in Africa: The case of Sierra Leone (Addis Ababa: JASPA).

International Monetary Fund. 1988. Balance of Payment Statistics; Yearbook, Part 1, Vol. 39 (Washington: IMF).

---. 1989. International Financial Statistics, Jan. 1989. XLII, 1 (Washington: IMF).

Iyanda, Olukunkle. n.d. "Multinationals and employment in a West African subregion: Liberia and Sierra Leone" (Geneva: ILO), Working Paper No. 29.

Jamal, Vali. 1982. "Poverty in Sierra Leone" (Addis Ababa: JASPA).

---. 1984. Rural-urban gap and income distribution: The case of Sierra Leone. Addis Ababa: JASPA.

---. 1986. "Taxing the peasants in Sierra Leone", in JASPA, The Challenge of Employment and Basic Needs in Africa (Nairobi: Oxford University Press).

---. 1988a. "Coping under crisis in Uganda" in International Labour Review (Geneva, ILO), Vol. 127, 6.

---. 1988b. "Getting the crisis right: Missing perspectives on Africa", in ibid.

Jamal, Vali; Weeks, John. 1988. "The vanishing rural-urban gap in sub-Saharan Africa", in International Labour Review, 127, 3.

Johnny, Michael. 1981. "Agricultural change and peasant farmer resistance: The case of the traditional upland rice farmer in Sierra Leone", in Rural Africana 10 (Spring).

WP101P2/cw

King, Robert P.; Byerlee, Derek. 1977. "Income distribution consumption patterns and consumption linkages in rural Sierra Leone", Unversity of Sierra Leone and Michigan State University, African Rural Economy Paper No. 16.

Levi, John. 1976. African Agriculture: Economic Action and reaction in Sierra Leone (London: Commonwealth Agricultural Bureaux).

Lisk, Franklyn A.N. 1974. The political economy of Sierra Leone, 1961-71, with special reference to the IMF programme of 1966 to 1969 (Birmingham; Centre of West African Studies, Mar.).

---; van der Hoeven, Rolf. 1979. "Measurement and interpretation of poverty in Sierra Leone", in International Labour Review, 118, 6 (Nov.-Dec).

Longhurst, Richard; Kamara, Samura; Mensurah, Joseph. 1988. "Structural adjustment and vulnerable groups in Sierra Leone", in IDS Bulletin (Jan.). Colclough, Christopher; Green, R.G. (eds.); "Stabilisation - for growth or decay? Short-run costs and long-run uncertainties in Africa".

Nutrition Economics Group, US Department of Agriculture. 1984. "Summaries of consumption effects of agricultural policies in selected African countries: Sierra Leone" (Washington: USDA, Apr.).

Office of Nutrition, Development Support Bureau, Agency for International Development. 1978. Sierra Leone: national nutrition survey (Washington: USAID).

Okai, Matthew. 1983. "Rural poverty and alleviation measures in Sierra Leone". In-depth Studies Series; No. 6 (Rome: FAO).

Organisation for Economic Co-operation and Development (OECD). 1988. Financing and External Debt of Developing Countries (Paris: OECD).

Riddell, Barry J. 1985. "Urban bias in underdevelopment: Appropriation from the countryside in post-colonial Sierra Leone", in Tijdschrift voor Economische en Social Geografie, 76, 5.

Rimmer, Douglas. 1984. The economies of West Africa (New York: St. Martins).

Rogers, J.D. 1985. Patterns of rural development and impact on employment and incomes: The case of Sierra Leone (Addis Ababa: ILO/JASPA).

Saylor, R.G. 1967. The economic system of Sierra Leone (Durham: Duke University Press).

Sierra Leone, Bank of Sierra Leone (BSL). (a) Balance of Payments (1984-86) (Freetown: Bank of Sierra Leone, n.d.).

---. (b) Annual report and statement of accounts for the year ended 30 June 1986. (Freetown: Bank of Sierra Leone, n.d.).

WP101P2/cw

---. (c) Economic Trends, July-Sept. 1987, Oct.-Dec. 1987 (Freetown; Bank of Sierra Leone, n.d.).

---. (d) Economic Trends, Jan.-Mar. 1988 (Freetown: Bank of Sierra Leone, n.d.).

Sierra Leone Labour Congress (SLLC). 1986. Research Assistants Training Courses Details (Freetown: SLLC, Nov.).

---. 1987. Workers' conditions and the Sierra Leone economy (Freetown: SLLC).

Spencer, Dunstan S.C. 1979. "Labour market organisation, wage rates and employment in rural areas of Sierra Leone" in Labour and Society 4, 3 (July).1981. "Rice Policy in Sierra Leone", in S.R. Pearson et al. (eds.), Rice in West Africa: Policy and Economics (Stanford: Stanford University Press).

---; Byerlee, Derek. 1977. "Small farms in West Africa: A descriptive analysis of employment, incomes and productivity in Sierra Leone". African Rural Economy Programme Department of Agricultural Economics, Njala Unversity College, Njala, Sierra Leone, Working Paper No. 19 (Feb.).

---; May-Parker, Ibi I; Rose, Frank S. 1976. "Employment, efficiency and income in the rice processing industry of Sierra Leone". University of Sierra Leone and Michigan State University, African Rural Economy Paper No. 15.

Taylor, Lance. 1983. Structuralist Macroeconomics (New York: Basic Books).

United Nations. 1971. Monthly Bulletin of Statistics, XXV, 12 (New York: United Nations).

---. 1976. Monthly Bulletin of Statistics, XXX, 9 (New York: United Nations).

---. 1980. Monthly Bulletin of Statistics, XXXIV, 10 (New York: United Nations).

---. 1985. Monthly Bulletin of Statistics, XXXIX, 8 (New York: United Nations).

---. 1986. Monthly Bulletin of Statistics, XL, 5 (New York: United Nations).

---. 1988. Monthly Bulletin of Statistics, XLII, 12 (New York: United Nations).

United Nations Conference on Trade and Development (UNCTAD). Handbook of International Trade Statistics 1988.

United States Council of Economic Advisors. 1988. Economic Report of the President (Washington: Government Printing Office).

WP101P2/cw

Weeks, John. 1989. A critique of neoclassical macroeconomics (London and New York: Macmillian and St. Martin's).

World Bank. 1969. (IBRD/IDA). The current economic position and prospects of Sierra Leone (Washington: IBRD, 28 Feb.).

---. 1974. Sierra Leone: Current economic position and prospects (Washington: World Bank, 27 Nov.).

---. 1979. Sierra Leone: Country economic memorandum. (Washington: World Bank, 26 June).

---. 1981. Sierra Leone: Prospects for Growth and Equity. (Washington: World Bank, 31 July).

---. 1983. Kenya: Growth and structural change (Washington: World Bank).

---. 1984. Sierra Leone: Agricultural Sector Review, Main Report (Washington: World Bank, 7 Mar.).

---. 1984a. Toward Sustained Development in Sub-Saharan Africa. (Washington: World Bank).

---. 1985. Sierra Leone: Review of the public expenditure program. (Washington: World Bank, Sept.).

---. 1986a. Report and recommendation of the President of the International Development Association to the executive directors on a proposed credit of SDR 4.6 million to the Republic of Sierra Leone for a health and population project (Washington: World Bank, 22 Apr.).

---. 1986b. "Sierra Leone; Economic and financial policy framework, 1986/87-1988/89" (Washington: typescript, Oct.).

---. 1988. A Report on Adjustment Lending (Washington: World Bank, Aug.).

---. 1989. "Comments on ECA's response to World Bank/UNDP Report on Africa's Adjustment and Growth in the 1980s" (Washington: World Bank, May).

World Bank/UNDP. 1989. Africa's Adjustment and Growth in the 1980s (Washington: World Bank, 1989).

---. 1987. Energy Assessment Program, Sierra Leone: Issues and options in the energy sector (Washington: World Bank, Oct.).

Yudelman, M. 1967. Africans on the Land (Cambridge: Harvard University Press).

WP101P2/cw