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This publication is the outcome of a WEP project.

Structural Adjustment and Rural Labour Markets in Africa

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2 Adjustment, Rural Labour and Inequality: Sierra Leone

John Weeks

2.1 INTRODUCTION

The role of the agricultural sector is treated as central in adjustment programmes 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 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,[1] 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 as the driving force in the economy. Devaluation would have only a limited impact on these exports either on the supply or demand side.[2] In any case the issue was further marginalised since the reserves of both iron ore and diamonds were declining. In the 1980s, particularly in the second half, the economy underwent huge devaluations but these had a much smaller impact on the agricultural sector than was anticipated because of the structural weaknesses of the agricultural sector. Given the preponderant place occupied by devaluation in the adjustment programmes, this chapter will focus on its impact on economic incentives for (1) export crops versus food crops and (2) rural versus urban incomes. These primary issues will in the course of the analysis raise other matters that will require investigation: price responsiveness of agricultural producers and the

required reallocation of resources; and the role of marketing boards and market interventions.

2.2 CRISIS, PERCEPTIONS, AND ADJUSTMENT

Crisis

Unlike most other sub-Saharan African (sSA) countries, and in common with another sSA country studied in this volume, 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 grew 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 in this section, with the role of the agricultural sector placed in its proper context. Analysis begins with Table 2.1, a composite table containing GDP, GDP per capita and agricultural indicators (food as well as export).

Per capita income in 1989–90 was measured at the same level as in 1967–68 and 17 per cent below the peak reached in 1981–82. Instability and decline have characterised the economy since independence: in those 26 years per capita income fell in eleven[3] and instability in growth rates increased in each successive decade.[4] This instability coincided with – and was likely caused by – an even greater instability in the external economic environment. The price terms of trade for the period under consideration declined on average by 3 per cent each year, registering a total decline of 54 per cent, and in only seven years out of 26 did they improve. Such a decline would have produced serious problems of macroeconomic management even in the absence of the collapse of Sierra Leone's two major exports (diamonds and iron ore). From 1963 to 1975, diamonds accounted for 60 per cent of total

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Table 2.1 Sierra Leone: GDP and agricultural GDP (1972–73 prices), export production and food production per capita, 1963–64 to 1989–90

	GDP (L millions)	*Rate of growth*	*GDP p.c. (L)*	*Rate of growth*	*AgVA p.c. (L)*	*Index of exp. crop p.c.*	*Food prod p.c.*
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

Table 2.1 (Cont.)

	GDP (L millions)	*Rate of growth*	*GDP p.c. (L)*	*Rate of growth*	*AgVA p.c. (L)*	*Index of exp. crop p.c.*	*Food prod p.c.*
1986–87	448	5.4	125	2.9	n.a.	54	92
1987–88	444	0.0	122	–2.5	55	91	86
1988–89	–	–0.7	118	–3.2	51	–	90
1989–90	–	2.6	118	0.0	51	–	90

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 form the numbers in the table which are rounded off to the nearest integer. Similarly, the per capita figures are derived form 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 and 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 are two are rather small compared to the total, any bias would be minor.
Exp. crop per cap: Export crop production per capita is measured by adding annual marketing board purchases of coffee, cocoa and palm kernel 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 prod. per cap: This is the FAO per capita food production index. The base year has been shifted.
Source: GSL, CSO (1980 and 1987a), supplemented by World Bank (1992) for 1986–90.

export proceeds and iron ore for 13 per cent.[5] By the early 1980s around US$75 million worth of export earnings had been lost from the decline of mineral output, or about half the average value of exports for the 1970s. The only immediate alternatives were three tree crops: coffee, cocoa, and palm kernels. Their exports 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. A part of this increase represented buoyant world prices, which would not continue into the next decade. Thus a major expansion in revenue from the three agricultural 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 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 Sierra Leoneon economy, certainly not a *laissez-faire* regime in which the Government gave no lead into an uncertain future.

The situation of the economy gave little cause for optimism at the beginning of the 1980s, and unfortunately that expectation was fulfilled. Mineral exports declined further, as did agricultural export prices, the fiscal base contracted, and foreign debt became increasingly unserviceable. The agricultural sector had to confront 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). As for feeding the population, per capita food production was generally stagnant (Table 2.1, last column). Cereal imports increased, but not by as much as would be expected from food production declines. Agricultural and food production per capita did not fall catastrophically. In common with most other African countries, one does not find evidence 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 2.1). Internal agricultural prices also increased faster than non-agricultural prices and agriculture's share of GDP increased from 25 per

cent in 1970 to 30 per cent in 1980 and 42 per cent in 1986 (UNCTAD, 1988, table 6.4). In the mean time, 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 2.2 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 1983–87 dropping to below US$150 million. Between 1980 and 1987 imports fell by 14 per cent *per annum*, and with imports at 30–40 per cent of their previous level, only the barest necessities were entering the country.

Sierra Leone's crisis was thus of a different nature from that of most other sSA countries. However, the solution suggested by the multilaterals was similar, with a great emphasis upon devaluation. Given that imports had been compressed to a minimum and that export crop production required new investment 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 a continuous nominal devaluation after 1982 (a 'sink', one might say) particularly after 1986.[6] The effect showed up in the price level, with inflation proceeding at an annual rate in excess of 50 per cent beginning in 1983. Devaluation enabled higher prices to be granted to agricultural crops but unfortunately the impact on production was much less than hoped for (Table 2.3). Food production just about kept pace with the population after 1988, but since it had fallen quite sharply between 1980 and 1988, cereal imports increased even after 1988 to make up the earlier deficit. Non-food production – mostly exports – fared extremely poorly between 1985 and 1989 but showed quite a major improvement in the next year. Rice output stagnated. Altogether, given the context of cheapening labour in the formal sector, the response to the price stimuli must be considered disappointing. And it bears repeating that the remedy of raising – or even maintaining – agricultural prices is not

Table 2.2 Sierra Leone: trade balance, terms of trade, and cost of living, 1963–90

	Commodity trade (US$ millions)			*Terms of Trade*		*Cost of living*	
	Exports	*Imports*	*X-M*	*Index*	*Change (%)*	*Index*	*Change (%)*
1963	72	74	–2	134	–		
1964	88	89	–1	127	–5.7	35	–
1965	83	94	–11	122	–4.0	37	5.6
1966	78	87	–9	131	7.8	38	2.7
1967	68	79	–11	120	–8.8	40	5.1
1968	93	81	12	122	1.0	41	2.5
1969	105	99	7	107	–12.9	42	2.4
1970	101	103	–2	97	–9.6	45	6.9
1971	104	109	–5	91	–6.3	44	–2.2
1972	114	105	8	92	0.9	48	8.7
1973	131	140	–9	91	–0.9	52	8.0
1974	145	200	–54	87	–4.7	60	4.3
1975	147	186	–40	88	–1.1	72	18.2
1976	115	148	–33	103	15.7	84	5.4
1977	148	168	–20	100	–3.0	91	8.0
1978	193	263	–71	93	–7.3	100	9.9
1979	197	336	–139	83	11.4	115	14.0
1980	214	386	–172	75	10.1	130	12.2
1981	152	282	–130	75	0.0	161	21.3
1982	110	260	–150	78	3.9	204	23.6
1983	107	133	–26	82	–5.0	343	50.8
1984	133	150	–17	81	–1.2	573	50.2
1985	132	141	–9	89	–9.4	1,011	55.3
1986	126	111	15	80	–10.7	1,829	57.6
1987	139	115	24	109	36.0	5,097	94.4
1988	104	138	–34	80	–26.6	6,692	31.3
1989	112	174	–62	95	18.8	10,895	62.8
1990	142	177	–35	98	3.2	22,988	111.0

Notes: See note to table 1 on calculations. Further, the trade balance may not precisely equal exports minus imports due to rounding.
1. Trade balance: Merchandise exports minus merchandise imports for calendar year.
2. Terms of trade: Ratio of index of export prices to index of import prices.
3. Cost of living: Freetown cost-of-living index.
Sources: FAO (1979, p. 79 and 1987, p. 93); GSL, CSO (1980 and 1987a); World Bank (1969, 1974, and 1981); UNCTAD (1988); BSL, items a, b, c; UN (1971, pp. 112–13; 1976, pp. 114–15; 1980, pp. 112–13; 1986, p. 116; and 1988, p. 117); IMF (1989).

Table 2.3 Sierra Leone: indicators of agricultural performance, 1980–90, selected years

	1980	*1985*	*1988*	*1989*	*1990*
Food production index	93	95	97	103	105
per capita	109	100	94	98	98
Non-food production index	131	133	112	80	117
Rice output ('000 Mt)	513	428	420	430	n.a.
Agricultural exports ('000 Mt)	39	33	24	n.a.	n.a.
Cereal imports ('000 Mt)	83	119	119	145	146

Source: World Bank (1992). Indices use 1986–88 = 100.

going to be available for ever. Sooner or later attention must turn to remedying the structural weaknesses of the Sierra Leoneon economy.

Perceptions

Perceptions of the malaise of the Sierra Leonean economy changed drastically from the 1970s to the 1980s, especially on the part of the multilateral 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 Leone crisis and that agriculture would have to be the new growth sector. The necessary restructuring would not be costless[7] and would require government intervention to ensure an equitable outcome. This dual emphasis, sustainable growth and equity, formed the main theme of the 1978 ILO/JASPA report. The report cautioned that both goals required careful planning (ILO/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).[8] 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), since it was

judged that unregulated markets functioned inefficiently in Sierra Leone, particularly in agriculture.[9] The report called for taxation of the rich[10] 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, 1981, pp. vi and ix). 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' (ibid., p. vii). Nowhere was there concern that market interventions in agriculture seriously distorted rural or urban labour markets.

Within three years the Bank had reversed its position. On rice policy it contended that '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, 1984a, p. vii). Rice subsidies should be eliminated with two goals explicitly stated: to increase production and decrease domestic consumption (ibid., p. 27) and improve income distribution. The last would transpire by changes in the 'rural-urban income imbalance'. The resulting redistribution of income, it was asserted, would 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' (ibid., 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 noteworthy was its comment on urban employment – 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 complete elimination of all subsidies became conditionality for a Bank adjustment loan.[11] These macroeconomic measures were 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 (ibid., p. 100).

The turnaround demonstrates that even to skilled economists the precise nature of the economy's problems and their solution remained elusive. What seemed to be sound economic management at the beginning of the 1980s appeared a few years later to be manifestation of mismanagement. No wonder the Government itself, which would bear the political costs of policies, had difficulty developing a coherent and successful package.

Adjustment

Between 1967 and 1987 the Sierra Leone Government entered into five agreements with the IMF (Table 2.4).[12] After the rather small borrowing agreement in 1977, three programmes were put in place (1981, 1983 and 1986), all of them cancelled by the Fund after the first tranche. In November 1987 the Government introduced the National Economic Emergency Programme which tried to impose rigid controls over currency holdings, cross border trade and food prices. In April 1988 the Fund suspended any new lending to Sierra Leone in view of the Government's failure to implement reforms and the accumulation of arrears to it totalling over US$55 million. The World Bank, too, terminated any new lending to the country. Towards the end of 1989 the Government backtracked and began to implement widespread liberalisation of the economy including export (coffee, cocoa) and import (rice) trade. Sierra Leone was on the verge of regaining its eligibility to borrow

Table 2.4 Sierra Leone: summary of multilateral policy interventions, 1967–92

	Policy Intervention	*Outcome*
1967–69	IMF stabilisation programme	Conditionality met, all tranches disbursed
1977	IMF loan of Le7 million form 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 Structural Adjustment Loan	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
1988 Apr.	IMF suspends new lending	
1989 onward	De facto liberalisation measures	
1992	Imminent loan from IMF	

Source: GSL, MDEP (1985 and 1987); interviews with officials at the World Bank, International Monetary Fund and Bank of Sierra Leone; and update from World Bank (1992).

from the IMF, with the first tranche simply to clear the accumulating arrears ($100 million by April 1992). Strictly speaking although the Sierra Leone Government was only briefly involved in policy-based lending programmes of the IMF and the World Bank during the 1980s, in practice economic policies throughout the decade reflected the influence of these programmes – operational, suspended or anticipated.[13] Thus the entire decade of the 1980s may be treated as one in which economic policy sought to conform to structural adjustment conditionality.

2.3 ADJUSTMENT PROGRAMMES AND LABOUR MARKETS

A Profile of the Agricultural Sector[14]

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, and 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 . . . (ILO/JASPA, 1981, p. 111).

A farm survey in 1970–71 estimated that only in the case of 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 Le72 million (including imputed value of subsistence), with the marketed output of non-export crops being put at less than Le8 million (GSL, CSO, 1972b, p. 73). Coffee, cocoa, and palm kernels brought in an additional Le10 million, yielding a figure for cash agriculture of Le18 million. If one deducts the intermediate component of sales, the degree of monetisation of crop agriculture would be 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 1984a, p. iv). By these estimates only one-third of crop value was monetised. As far as food crops are concerned most farmers remained subsistence-oriented. As Johnny (1981, p. 16) observed, '[The] overriding traditional emphasis on security helps to explain the lack of specialised production . . . why

all producers tend to grow the same staple crops regardless of agronomic conditions'.

Rice is by far the most important food crop in Sierra Leone and would seem to be the first priority of all farmers (ILO/JASPA, 1981, p. 115). Soil fertility is maintained through shifting cultivation, rice grown under this system being called 'upland rice'. A second system to manage the fertility problem is the swampland system. Swamp cultivation, like 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 (ILO/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 (ILO/JASPA, 1981, p. 116). In fact in the 1970s great hopes were pinned on the expansion of swamp 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 additional 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' for Sierra Leoneon farmers. Finally, swampland rice is constrained by seasonal labour shortages. Managing labour shortages at peak periods and phasing cultivation to ensure 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.[15]

There at least two reasons to doubt the existence of surplus land. First, available evidence indicates that given the techniques of production, whatever land that 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 constitute unsustainable land pressure, leading to environmental degradation. The second factor that casts doubt on the idle-land hypothesis is the rationality of the peasant farmer. Given that malnutrition exists in rural Sierra Leone,[16] 'idle land' would imply that farm families are induced by low prices to choose hunger rather than be adequately fed. Obviously such a hypothesis cannot be sustained.

Rural Inequality

While most agricultural producers in Sierra Leone are 'smallholders', inequality in the distribution of land was substantial. This is shown in Table 2.5, based on two farm surveys.[17] 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.[18] At the same time the proportion of farms less than five acres increased from 65 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 has 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

Table 2.5 Sierra Leone: percentage distribution of farm households by size of holding, 1970–71 and 1984–85

	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: GSL, CSO (1972b); GSL, MAF (1986a).

generates landlessness, though the problem is as yet not so acute in Sierra Leone.

Among a wealth of other information, the 1984–85 farm survey provided data on crops grown, area planted, and yields per hectare. This information can be used to estimate total farm income by farm size (Table 2.6). 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 also 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 that by the farmgate price the value of this output.[19] This gross income from crops was then rendered into net income using the information from a 1974–75 survey of 552 smallholders (Spencer and Byerlee, 1977). The resulting estimate of 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 intention is to derive comparable income figures across farm sizes, which necessarily requires aggregation of crops with monetary weights.

Table 2.6 Sierra Leone: imputed and cash income from crops by size of holding, 1984–85

Size (hectares)	*Households*	*Total cash and imputed income (Le mns)*	*Households ('000s)*	*Av. farm income (Le)*	*Index (average = 100)*
Under .5	21.7	53.9	48.3	1,115	26
.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	467
Total	100.0	940.3	223.3	4,211	100

Source: GSL, MAF (1986a and 1988). N.B. Figures here are in terms of hectares.

Substantial rural inequality is indicated.[20] Assuming that the distribution of households is skewed within farm size ranges in the same way it is among ranges, 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 3 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.[21] 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 agricultural 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 the smaller ones).

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 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 2.7. While food-deficit farm families contribute to the total of net food-buying households, the other two groups are the more important. In 1965–66, only 19 per cent of rural families were non-farm; by 1984–85 their share was 28 per cent, reflecting increasing pressure on land. Along with this shift went rapid urbanisation, with the number of urban families increasing at a rate of 5.8 per cent from 1965 to 1984. 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, at least for the last 20 years the country has been an economy of net food buyers. The implications for structural adjustment should be clear: policies which raise relative food prices lower the real incomes of most people in short run.

Table 2.7 Sierra Leone: net food-buying households, census years ('000)

Category	*1965–66*	*1970–71*	*1984–85*
Total households	378	442	531
Net food-buyers:	169	206	354
farm	35	43	42
rural non-farm	58	62	85
urban	76	101	227
Net food-buyers (%)	44.5	46.6	66.8

Source: GSL, CSO (1967 and 1972) and GSL, MAF (1986).

Moving from food to export crops, the 1984–85 survey demonstrates clearly the overwhelming concentration on the larger farms. Table 2.8 shows statistics on the three major export crops (coffee, cocoa and palm trees) by farm size. 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

Table 2.8 Sierra Leone: percentage distribution of farms and cash crop area by size, 1984–85

Farm size (hectares) *1*	*By no.: farms* *2*	*By area: land* *3*	*Coffee* *4*	*Cocoa* *5*	*Palm** *6*	*Area in the three crops* *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: GSL, MAF (1986a, table 16).

shows the proportion of land for each range that was planted in the three crops. Comparing column 3 with columns 4–6, 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 under coffee and cocoa and 11 per cent under palm (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 31 per cent of the land but accounted for 47 per cent of coffee area, 55 per cent of cocoa, and 50 per cent of palm. 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 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.

Rural–Urban Inequality

The increase in rural incomes relatively to urban incomes is also justified on the grounds of a substantial 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 total incomes for the urban and rural sectors. These measures 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 2.9 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 qualifications do not nullify the conclusions that follow. Urban wage incomes in the table are the annual

Table 2.9 Sierra Leone: a comparison of farm incomes, wages and related magnitudes, 1963–87

	Farm family income (Le)	*Average non-agric. wage (Le)*	*Ratio: Wage to farm income*		*Real incomes (1973 = 100)*		*Divided by GDP per capita*		*Cost of living (Freetown)*
			Per family	*Per capita*	*Farm*	*Wage*	*Farm incomes per capita*	*Wage incomes per capita*	
	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

Table 2.9 (Cont.)

	Farm family income (Le)	*Average non-agric. wage (Le)*	*Ratio: Wage to farm income*		*Real incomes (1973 = 100)*		*Divided by GDP per capita*		*Cost of living (Freetown)*
			Per family	*Per capita*	*Farm*	*Wage*	*Farm incomes per capita*	*Wage incomes per capita*	
	1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*
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
1986–87		3,318							
1987–88		5,164							

Notes: Columns 1 and 2 are in current Leone. Column 3 is the ratio of column 2 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 at 1973 = 100 for consistency. Columns 7 and 8 are columns 1 and 2, first divided by family size then by aggregate per capita income. Column 9 is the same as the cost-of-living index in table II.1 with the base year shifted.
Sources: GSL, CSO (1983 and 1987b); ILO (various); and SLLC (1987).

equivalent of average weekly non-agricultural earnings.[22] 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 2.8).[23]

Jamal had calculated a poverty line for urban areas for the JASPA mission at Le620 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 comprised six members.[24] 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 *within a week*. Urban families have managed to stay above food poverty through survival (straddling) strategies involving family members in all sectors of the economy – formal as well as informal, rural as well as urban.[25]

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 (per capita) for farm 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 as we saw, argued that an increase in farm incomes relatively to wage incomes would change the distribution of income 'in the right direction' (World Bank 1984a, 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 2.10 shows what happened to producer real wage in the manufacturing sector.[26] Four selected years over two decades illustrate the trend. Between 1966 and 1975 producer real wage rose,[27] 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 (and perhaps the informal sector employers).

Table 2.10 Sierra Leone: manufacturing average earnings and manufacturing GDP deflator, 1966–85 (selected years)

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

Source: ILO (various) and SLLC (1987).

How much of the above changes were caused by structural adjustment is difficult to assess, partly because of 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 exacerbated 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 wage earners[28] 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, contraction of imports, and 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. Regardless of changes in relative agricultural prices (see next section), the demand for export crops would have been unaffected by the decline of the domestic economy (at least with regard to partial equilibrium effects) and, therefore, the incomes of export crop producers might well have improved relatively to incomes of food producers.

2.4 ADJUSTMENT PROGRAMMES AND PRICE INCENTIVES

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 (see in particular World Bank, 1989, p. 25). This hypothesis is now examined. It was demonstrated earlier 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 outweigh the social and economic cost of greater inequality?

In unregulated markets, farmers would face international prices for their crops (with a discount for intermediaries, transport, etc.). Prices could rise as well as fall. This was certainly the case for Sierra Leone's three major crops, coffee, cocoa and palm kernels,[29] whose prices in international markets actually fell in real terms. *Ceteris paribus*, producers should have switched resources away from these crops. Thus a fluctuating or stagnant production 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 Sierra Leone Produce Marketing Board (SLPMB) on export crops could 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 farms 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 2.11). For each crop the producer price is estimated as a function of the FOB ('free on board') export price.[30] In all three cases the elasticity exceeds 0.9, nor are they significantly different from unity at the 0.01 level. 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. In the second half of the 1980s the government has even gone beyond the international market signals in pricing agricultural crops (Table 2.12). Producer prices of cocoa, coffee and palm kernels were raised more than ten fold between 1985 and 1990 and of paddy nearly thirty fold. In the mean time the consumer price index increased by over 23 times so that real prices fell for coffee and cocoa. However, in the international market their prices in real terms were being decimated

Table 2.11 Sierra Leone: regression analysis of the SLPMB producer price and the FOB export price, 1984–86 (natural log functions)

Crop	*Constant*	*World Price*	*Adjusted R^2*
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).

(and, it is also relevant to note, wages and salaries continued to decline).

Table 2.12 shows these comparisons. In all cases the Sierra Leoneon farmers received a much better deal from their government in terms of their purchasing power compared to what their commodities were able to command in the international market. Put another way, cocoa in real terms was buying for Sierra Leone only half as much in real goods in 1990 compared to 1985, whereas the Sierra Leoneon farmer, through devaluations, was allowed to purchase 65 per cent as much. Similarly for coffee, whereas for palm kernels and rice, farmers' purchasing power was allowed to improve quite significantly compared to trends in the world market. Of course, a relevant comparison is also what the wage earners were being afforded for their labours. Between just 1985 and 1987 the real wage in manufacturing declined by two-thirds (ILO, various) and government wage fell by one-third. By all accounts wages have not kept up with the 4.5 fold increase in prices between 1987–90.

Table 2.12 Sierra Leone: changes in crop prices compared to cost of living and international prices, 1985 and 1990

	1985	*1990*
Local prices (Le/kg)		
Cocoa	6.61	99.21
Coffee	8.82	88.19
Palm kernel	0.88	22.05
Rice	1.30	37.04
Cost of Living	100	2,300
International prices ($/kg)		
Cocoa	2.25	1.26
Coffee	2.67	1.21
Palm kernels	0.28	0.19
Rice	0.38	0.38
US deflator	100	119
Real prices (1985 = 100)	*Local*	*International*
Cocoa	65	47
Coffee	43	38
Palm kernels	109	57
Rice	124	84

Source: Local prices from World Bank (1992); international prices and US deflator from IMF, *Financial Statistics Yearbook*, 1991.

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 often alleged, it is an extremely difficult question to answer without data on costs of production, which are not available. The best one can do is to work with indirect evidence presented in Table 2.13, which gives marketing board purchases and sales along with relevant relative prices.[31] The analysis is confined to the period 1964–87 for which all the required series are available. Three relative prices are shown: the ratio of the producer price to the urban cost of living, frequently and erroneously called 'agriculture's terms of trade';[32] 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 marketing boards farmers would still have to pay handling charges and commission, the latter ratio is the more accurate measure of the difference between producer price and export price.

The table shows that generalisations about the relationship between relative prices and production performance are not straightforward. Table 2.11 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 exploded. 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. Thus the World Bank experts had not done their sums when in 1984 they wrote, 'Production

Table 2.13 Sierra Leone: LPMB purchases, exports and relative producer prices, 1964–87

Period	*Volume bought*	*Export sales*	*Relative prices*		
	('000 tons, annual average)		*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 a 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 (item b); 1987: BSL (items c and d).

[of palm products] has been depressed by adverse pricing policies' (World Bank, 1984a, p. 25): from 1980 to 1984 producer prices stood above the world price.

The results for coffee and cocoa are 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.[33]

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, only that production is not dependent on 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 at the least misleading. Certainly the Government held producer prices below export prices, imposing a heavy tax burden upon coffee and cocoa 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 (ILO/JASPA, 1981) and in Jamal's paper on taxation of export producers (Jamal, 1986). It should be noted from Table 2.11 that overt taxation did not decline for coffee and cocoa. 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 2.13 should thus be carefully interpreted.

Of course, this view of taxation arises from the concept of 'the over-valued exchange rate', one of the centrepieces 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 empirically, it appears that the leone was not substantially over-valued in the 1980s in terms of the usual measures of the IMF.[34]

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 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 2.14 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 2.2 and particularly Table 2.1). From a low level through the mid-1970s, rice imports began to rise rapidly, staying consistently above 50,000

Table 2.14 Sierra Leone: Rice quantities, 1976–87 (metric tons)

	Population ('000s)	*Imports (Milled)*	*Domestic production*		*'Requirement' (115 k/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 0.525 that is used for all other years in the table and also considered technically correct by the MAF statisticians. Compilers 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 0.525 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 is converted to milled by a factor of 0.525. 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: GSL, MAF (1988, p. 8).

tons after 1978, with domestic production providing a fluctuating but generally declining proportion of total available rice (the 'self-sufficiency' ratio in the table). This was interpreted by the World Bank 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, 1986b, 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, MDEP, 1987, p. 25; and in a similar vein, GSL, MDEP, 1985, p. 16).

In addition, conditionality required that rice imports be privatised and operations of the Board 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). Fifteen years later the Bank's judgement remained the same.[35] Why within two years after that the Bank demanded that the price of rice be 'market determined' when its agricultural specialists reported such to be the case remains a mystery.

Import policy has also been accused of undermining domestic rice production and stimulating excessive consumption by holding down market prices. There are repreated 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 2.15 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

Table 2.15 Sierra Leone: rice prices, 1976–87 (Leone per metric ton)

	Government buying market		*Domestic market (milled)*	*Implicit import (milled)*	*Domestic market divided by import*
	Actual (unmilled)	*Actual (milled)*			
	1	*2*	*3*	*4*	*5*
1976–77	250	476	494	288	1.72
1977–78	278	530	494	249	1.98
1978–79	294	560	494	393	1.26
1979–80	294	560	706	356	1.98
1980–81	294	560	600	432	1.39
1981–82	440	838	776	515	1.51
1982–83	514	979	953	624	1.53
1983–84	734	1,398	1,023	830	1.23
1984–85	1,101	2,097	1,940	1,109	1.75
1985–86	1,468	2,796	6,139	1,926	3.19
1986–87	2,202	4,194	10,796	6,548	1.64
1987–88	5,505	10,486	18,451	5,993	3.10

Note: This table is reproduced from GSL, 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 0.525.

unmilled to units of milled rice. Column three is the unregulated retail price in Freetown,[36] and column four the import price of rice.

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.[37] 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, extreme 'overvaluation' would be needed 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. A more promising explanation is demographic changes.[38] Looking back at Table 2.14, we see that total population increased by 35 per cent over the 11 years. Further, as was shown in Table 2.7, 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 overwelmed by population growth and the relative decline in the number of food producing and selling households.

This chapter has devoted considerable attention to rice prices because of its integral place in the adjustment remedy. As discussed in Section 1.1, 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 unnoticed: 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 2.16 provides an 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 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

Table 2.16 Sierra Leone: 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	*International 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. COL = cost of living.

Sources: International rice price: UN (1985, p. 208); FAO (1979, p. 293 and 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 2.13.

well, for had they done so, Sierra Leonean farmers would have been victims of severe price disincentives, 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 towards 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 achieve:

> 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 1984a).

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 2.16 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 2.17. Here the prices of coffee, cocoa and palm kernels have been divided by the rice price (from col. 1, Table 2.16). At the bottom of the table the ratios are divided 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

Table 2.17 Sierra Leone: relative agricultural prices, 1976–87

	Producer prices (Leone per ton)			*Rice price divided by (1977–78 = 100):*		
	Coffee	*Cocoa*	*Palm kernel*	*Coffee*	*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
1976–81 (av.)*				84 (19)	98 (23)	98 (14)
1982–87 (av.)				78 (27)	69 (25)	95 (57)

* Standard deviation are given in parentheses
Source: BSL (items b, c, d).

period, but the standard deviations are so large that the difference in means is not significant. Thus, devaluation seems to have had no statistically significant impact on the relative prices of export crops and rice. 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 the change in 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 had not risen relatively to non-tradeables.

Finally, it should be noted that there is a very practical reason why the prices of export crops might not have risen relatively to rice: the former were 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 should rise slower than the general price level. Inflation is frequently the result of excess aggregate demand 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 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 why none should have been expected.

What devaluation does seem to have generated is considerable relative price instability, for the coefficients of variation for all three crops are much higher for the adjusting period than before. To the extent that fluctuations create a perception of insecurity, and insecurity discourages expanding production, devaluation may have provided across-the-board disincentives for 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 generally declining. 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 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, quantity adjustments were involved, 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.[39]

2.5 CONCLUSION

This chapter has focused upon the impact of structural adjustment programmes on rural incomes and labour markets, and on rural–urban interactions in Sierra Leone. Some tentative conclusions seem warranted. Adjustment generated tendencies to accentuate the long-term trend towards inequality. The increase in farm prices benefited mostly the large farms since they market a greater proportion of their output than small farms. In the labour markets the following processes occurred: First, non-farm rural households suffered compared to farm households since prices facing them increased. Second, the demand for agricultural labour declined during adjustment; limited by effective demand, the marketed output of rice declined. In the mean time, the output of export crops did not increase substantially to offset the decline in rice production. Thirdly, 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 that liberalisation would improve matters is misleading. While the Government held producer prices below export prices, it consistently passed on changes in export prices to producers, i.e. 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 was 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 worsened the situation. 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 diagnosed as being constrained by inappropriate relative prices. This approach, so typical of the multilateral stand on 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: a decline in effective demand as a result of government expenditure reductions and other demand-depressing measures; and 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. 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.

2. Some have alleged that there was diamond smuggling during the 1960s and 1970s and that it would have been reduced had the exchange rate not been 'overvalued'. The first proposition is true; the second is impossible to confirm because of lack of data.
3. UNCTAD figures show that in the 1960s per capita income increased at 5.7 per cent per year, then in the 1970s it stagnated, while in the 1980s it declined by 2 per cent annually. Altogether, the spurt in the 1960s assured Sierra Leone a positive growth (1.6 per cent per annum) between 1960 and 1987. See UNCTAD (1988, table 6–2).
4. 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 higher, and in the 1980s seven times higher.
5. In 1976 iron ore production came to an end (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 represented an increase in illegal exports, primarily through Liberia. However, there is general agreement that the total volume of exports declined due to growing exhaustion of the alluvial deposits. The point about smuggling has been made forcefully by Reg Green in a personal communication; he goes so far as to suggest that we have here a 'Somalia Story' à la Green and Jamal (1988) where unrecorded remittances (from Gulf workers) gave a completely different complexion to the Somali economy, compared to what emerges from the national accounts. Could the same be said of the impact of illegal diamond exports on the Sierra Leonean economy?
6. 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 temporarily suspended it had reached 30 and touched 38 by January 1987. In June 1992 the rate was Le 500. The early exchange rate story is summarised in GSL, MDEP (1987, pp. 31 ff).
7. Referring specifically to the balance of payments, a World Bank Report on Sierra Leone put it thus: '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).