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Rice Policy in Sierra Leone

by

Dunstan S.C. Spencer
West Africa Rice Development Association
Monrovia, Liberia

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BY
DUNSTAN S.C. SPENCER*

I. INTRODUCTION

The purpose of this paper is to review and analyse the role of government in formulation of rice policy in Sierra Leone. An attempt is made to identify the major objectives of government rice policy. Constraints on policy implementation are examined. The different options used by the government in attempting to achieve its objectives are analysed. Shifts in policy directions in the colonial, immediate post independence, and more recent periods are examined, with the objective of determining the success of different policies.

The paper is divided into six sections. Section II provides a general description of the physical, demographic and socio-economic conditions of the country. This is followed by a brief description of the techniques of rice production and a review of output levels during the last two decades. Section 3 contains a brief description of the marketing system and consumption patterns. A description of the shifts in government rice policy is contained in section 5. Three periods are examined - the colonial period up to 1961, the immediate post-independence period (1961-1967), and the period since 1968. In section 6 a detailed analysis of government policies is provided. Policies discussed include trade policies, tax and subsidy policies, investment policies and government participation in direct production and marketing. The final section contains recommendations for future policies.

*Senior Economist West Africa Rice Development Association (WARDA) Monrovia, Liberia. The views expressed in this paper are not necessarily the official views of WARDA.

2. BACKGROUND

Sierra Leone, a former British Colony which attained independence in 1961, is situated on the West Coast of Africa. It has an area of about 72,600 square kilometers and a population estimated at three million in 1978. National population growth is around 2.1 percent per annum and annual urban growth is currently estimated at 5.9 percent. The urban population comprises about 32 percent of the total population. Freetown, the capital and largest city has about 300,000 persons, a third of the whole urban population.¹ Gross domestic product in 1976 was reported at about Le 613 million (US \$613 million) and annual per capita income at Le 216 (10).

Agriculture is the mainstay of the Sierra Leone economy. It employs about 70 percent of the working population and produces about one third of GDP. During the eleven year period between the population censuses of 1963 and 1974 employment in agriculture, forestry and fishing declined from 77 to 72 percent of total employment but the actual number of people employed in agriculture increased by 5.5 percent (10). The agricultural sector is also a major provider of foreign exchange, becoming relatively more important in recent years with the decline of the mining industry. In the early part of the 20th century, agricultural exports accounted for around 30 percent of all exports from Sierra Leone. Since the start of iron ore and diamond mining in the 1930's, its share has generally been between 15 and 25 percent. But in the last four years there has been a dramatic rise to around 40 percent. This was the result of the closure of the country's only iron ore mine, a

decline in diamond mining and small increase in the tonnage of agricultural exports coupled with the large rise in the world market prices for coffee and cocoa, Sierra Leone's major agricultural exports.

The agricultural sector also serves as an important market for domestic urban-produced goods. Although average and marginal propensities to consume domestic urban produced goods are only 0.09 and 0.09 compared to 0.11 and 0.14 for imported products (11), the rural population, because of its large share of total population, constitutes a very important source of demand for growth of urban industries, especially small scale industries.

Rice is the staple food and most important crop grown in Sierra Leone. It is grown by over 85 percent of Sierra Leone's farmers. Of the roughly 645,000 hectares cultivated in 1976² about 72 percent contained rice in mixed or pure stands. Coffee and cocoa ran a distant second together occupying 15 percent of the cultivated area (6,7). The development of the rice industry is therefore of crucial importance to the economy of Sierra Leone in particular and West Africa in general. Sierra Leone is the most important rice producing country in West Africa and the third most important in Africa (after Egypt and the Malagasy Republic). There are also indications that some of its rice production systems may have a comparative advantage in supplying rice for intra-region trade in West Africa (23).

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3. RICE PRODUCTION

Rice is grown throughout Sierra Leone. Average annual rainfall varying from 4000mm in the southwest to 2250mm in the northeast, has a unimodal distribution and is sufficient to allow at least one crop of rainfed rice to be cultivated during the rainy season (May-October).

Using FAO's classification system (28), location, farming practice and level of mechanization we can demarcate 13 systems of rice production in Sierra Leone. A brief description of the systems follow. A more detailed description and analysis of the systems is provided elsewhere (23).

Traditional Upland (Systems 1 and 2).

Upland rice cultivation is practiced on well drained land not subject to flooding. It is the major system of rice production in Sierra Leone. Shifting cultivation is the rule. Because of better rainfall and soils, yields are higher in the south (system 1) than in the north (system 2).

Improved Upland (Systems 3 and 4).

Starting in 1976/77 an improved system of upland rice cultivation was introduced by the Integrated Agricultural Development projects (IADP). Farming practices are the same as in traditional upland rice cultivation except that improved seeds and fertilizers are used. As for traditional uplands we distinguish between improved uplands in the south (system 3) and north (system 4).

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Mangrove Swamp (Systems 5 and 6).

Mangrove Swamps are located along the coast where tidal action causes inundation at high tides and drainage at low tides. Salty water floods the land during the dry season as there is no tidal control in Sierra Leone. Because of differences in land preparation, transplanting and other practices, yields are higher in the north (system 6) than in the south (system 5).

Boliland Rice (Systems 7 and 8).

Bolilands are low, saucer-shaped swamp grasslands located in central and northern Sierra Leone. They are flooded up to 1.5 meters for periods varying from three to six months. Fertilizer use is common in this area. Bolilands are farmed completely by hand (system 7) or using the government's tractor hire scheme for land preparation (system 8).

Riverain Grassland Rice (System 9).

Extensive riverain grasslands are located in the southern coast where silt deposited by two rivers has formed extensive grassy plains which flood up to four meters in the rainy season. Hand cultivation is uncommon because of high labor demand due to heavy weed infestation and a shortage of labor in the area. Mechanical land preparation using the government's tractor hire scheme is popular.

Traditional Inland Swamps (Systems 10 and 11)

Inland Swamps are found throughout the country wherever depressions occur in the rolling upland. Traditionally the swamps are cultivated for a number of years before being fallowed. Transplanting is usual but broadcasting is not uncommon.

No water control is practiced and only one crop of rice is taken each year. Because of better soils and rainfall, yields are higher in the south (system 10) than in the north (system 11).

Improved Inland Swamps (Systems 12 and 13).

To improve the traditional system of inland swamp cultivation the swamps are completely stumped, partially leveled and dykes and contour bunds constructed. This provides partial water control. Improved seeds and fertilizers are used. As for traditional inland swamps we distinguish between improved swamps in the south (system 12) and north (system 13).

Table 1 summarizes the key characteristics and presents area and yield data for each of the sub-systems. Improved systems of rice cultivation in which fertilizer, improved seed and tractor plowing are used account for less than 10 percent of total rice production. Yields are higher in swamps than uplands. Improved inland swamps yield twice as much as improved uplands.

Table 2 shows the growth of area and production of rice during the last two decades. The figures are rough extrapolations based on the 1965/66 and 1970/71 agricultural sample surveys (6,7) and on smaller surveys by Njala University College in 1971/72 and 1974/75, (21,26). There is no systematic annual crop survey in Sierra Leone. The Table shows that by the mid 1970's area under rice had increased about 50 percent over the average of the early 1960's and that tonnage produced had roughly doubled. Average national rice yield has increased somewhat during the same period.³ Sierra Leone's present average national yield of 1.4 tons per hectare is equal to

the West African regional average but much less than the world average of 2.4 tons per hectare (29).

Since 1965, average national rice yields have remained more or less constant only because of the faster annual growth in the area under swamp culture (6.3 percent) compared to the growth in area under upland cultivation (2.4 percent). As shown earlier swamp rice yields, even under traditional cultivation, are generally higher than upland rice yields. Over the last two decades there are indications that the national upland rice yield has been declining an average of one percent per annum because the length of the bush fallow has been reduced. On the other hand the average swamp rice yield has been increasing at about 3 percent per annum because of the gradual adoption of improved varieties and cultural practices under the stimulus of various government programs.

4. RICE CONSUMPTION AND TRADE

Despite the virtual doubling of rice output during the past two decades, imports of rice have continued. Table 2 shows that the annual quantity imported increased from an average of about 16,000 metric tons in the early 1960's to about 34,000 tons in the early 1970's.⁴ In 1974 and 1975 high rice prices forced down consumption and increased domestic production, and as a result Sierra Leone was temporarily self-sufficient in 1975.

Imports resumed the following year with 3,500 tons, rising to 16,500 metric tons in 1977 and 18,000 tons in 1978. But Sierra Leone has been 90-95% self-sufficient in rice during the last decade and there are indications that complete self-sufficiency might be achieved in the 1980's (27).

Table 1
Key Characteristics of Rice Production Techniques in Sierra Leone

Production Techniques	1975 Area (000 ha)	Paddy yield (mt/ha)	1975 Paddy Production (000 mt)	Type of Water Control	Source of Power			Fertilizer	Planting Method ^b	Weeding Practices
					Land Preparation	Harvest ^a	Improved Seeds			
1. Traditional Upland-South	152.8	1.30	190.6	None	Manual	Manual	None	None	B	L
2. Traditional Upland-North	179.2	0.81	115.2	None	"	"	None	None	B	L
3. Improved Upland-South	-	-	-	None	"	"	Yes	Yes	B	M
4. Improved Upland-North	-	-	-	None	"	"	"	"	B	M
5. Mangrove Swamp-South	3.1	1.74	5.4	"	"	"	None	None	T	N
6. Mangrove Swamp-North	24.3	3.15	76.5	"	"	"	Yes	None	T	N
7. Boliland (Manual)-North	12.3	.96	11.8	"	"	"	Yes	Yes	ET	L
8. Boliland (Tractor Plow)-North	5.9	1.13	6.7	"	Tractor	"	Yes	Yes	B	L
9. Riverain (Tractor Plow)-South	5.5	1.84	10.1	"	"	"	None	None	B	L
10. Traditional Inland-South	20.9	2.65	55.4	"	Manual	"	None	None	ET	L
11. Traditional Inland-North	36.0	2.20	79.2	"	"	"	Yes	Yes	T	L
12. Improved Inland-South	3.5	3.98	13.9	Partial	"	"	Yes	Yes	T	L
13. Improved Inland-North	2.0	3.30	6.6	"	"	"	Yes	Yes	T	L

^aPannicle harvesting

^b B= Broadcast; T= Transplant; ET Combined broadcast and transplant.

^c H= Heavy, M= Medium L= Light, N= None

Source: Spencer (23).

Table 2
Average Annual Rice Production, Imports and Consumption in
Sierra Leone.

	1960/61 -1964/65	1965/66 -1969/70	1970/71 -1974/75	1975/76	1976/77
Area (000 ha)	255.8	325.3	423.4	434.6	463.6
Paddy Yield (kg/ha)	1,055.0	1,357.0	1,369.0	1,401.0	1,385.0
Production (000 m.t.)	312.0	442.0	580.0	609.0	642.0
Milled Equivalent (000 m.t.) ^a	206.0	292.0	383.0	402.0	424.0
Imports (000 m.t.)	16.2	21.5	34.3	0.0	3.5
Rice consumption (000 m.t.) ^b	185.2	265.5	336.8	326.0	355.7
Population (000)	2,155.0	2,367.0	2,622.0	2,786.0	2,843.0
Per Capita consumption (kg)	85.9	112.5	128.5	117.0	125.1
Self-sufficiency (%) ^c	91.3	92.0	91.6	98.8	94.1

^a 66% recovery

^b Domestic production less allowance for losses and seed, plus imports

^c Domestic production the proceeding year as a percent of domestic consumption. Although there was no importation in 1975/76 the ratio was not 100% because of imported stock carry over from previous years.

Source: WARDA (29).

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Per capita consumption of rice, around 123 kgs, is the highest in West Africa and is about the same as in many Asian countries. Detailed consumer surveys estimating the calorific contribution of different food items in Sierra Leone are not available. Some rough estimates indicate that close to 90 percent of all the calories in the rural diet is supplied by rice (11).

In a recent survey of rural household consumption in Sierra Leone, Dyerlee and King (11) estimate that average propensity to consume rice (APC) is about 0.4 while that for all food items is 0.7. Average income elasticity of demand for rice was estimated at 0.97. They found only a small drop in income elasticity with increasing incomes compared to a substantial drop for other staples, indicating that average per capita rural rice consumption might still grow despite the high levels already attained. This is probably due to shifts from other foodstuffs to rice.

While Dyerlee and King's estimate of average income elasticity might be too high, the estimates of close to zero by Levi (12) and Snyder (19) are certainly too low. Both authors use data from the 1964 household consumption survey conducted in Freetown, the capital city by the Central Statistics Office (2). The data which were collected only during two months of the year were too aggregative to provide accurate estimates of income elasticities. While awaiting further evidence on the income elasticity of demand for rice in Sierra Leone, it would seem reasonable to use an average figure around 0.6.

In the absence of official measures of rice marketings it is estimated that annual marketings of domestically produced rice amount to about 105,000 tons or 35 percent of annual domestic production.⁵ As shown later, virtually all of this rice is handled by the private trade. The government owned Rice Corporation annually handled less than 10 percent of the domestic crop marketed throughout its 25 year life.⁶ Imported rice was handled exclusively by the Rice Corporation. The imported rice was sold primarily to licenced wholesale merchants who took delivery in Freetown, the main port and capital city.

Domestic paddy is assembled in villages by resident village and itinerant merchants who transport the rice to larger towns where they sell to wholesalers, the Rice Corporation, or process it before re-sale. Rice processing involves parboiling and milling in one of the 350 or more small village mills existing in the country. Milled rice is then transported and sold to retailers or wholesalers in urban areas.⁷

5. GOVERNMENT RICE POLICY OVER THE YEARS

A review of government rice policy in Sierra Leone can be conveniently divided into three periods - the long colonial period preceeding independence in 1961, the immediate post independence period prior to the onset of military rule in 1967, and the period since 1967. In reviewing rice policy in each period an attempt is made to identify goals and analyse policies adopted by the government to achieve the goals.

5.1 Colonial Rice Policy

By the fourth quarter of the 19th century, the colonial presence in the rural areas of Sierra Leone was well established. The Department of Agriculture was created in 1911 to coordinate government's efforts in developing the agricultural sector. Although pursued since 1911, it was not until 1961 that explicit goals for the agricultural sector were published. These goals were the conservation and improvement of lands and forest, the attainment of self-sufficiency in all food stuffs that could be produced in Sierra Leone, the expansion of exports to pay for imports, and the improvement of methods of agricultural production (3).

It is quite clear that in attempting to achieve the above goals the colonial government adopted a policy of minimum intervention throughout the long period of colonial rule. Direct government participation in production was apparently ruled out. No attempt was made to displace traditional small-scale farming. In fact, contrary to its policy in East Africa and Asia and contrary to the policy of other colonial governments in West Africa, the British government took active steps to prevent the development of large scale plantations under European settler control in Sierra Leone and in the rest of British West Africa. Foreigners were prevented from owning land and requests from them for permission to establish plantations were refused (18). The reasons for this policy are not very clear but it is possible that they rest on philanthropic interests in West Africa, which suffered most from the slave trade and to which slaves were repatriated, as well as on the health

hazards of the West Coast which made it more dangerous for europeals than other areas of West Africa.

Because of the above policy, the Department of Agriculture concentrated its efforts in two directions. An attempt was made firstly to increase farmers' production by providing advisory or extension services backed by a rudimentary research and education network and secondly, to regulate the marketing of agricultural produce by exercising supervision and assisting in marketing. Towards the end of the colonial period input subsidy policies were introduced on a small scale. As we shall see in section 6 most of the colonial schemes were failures, poor planning and under-financing being the major causes.

5.2 The Immediate Post-Independence Period (1961-1967).

The onset of independence saw a rather dramatic shift in agriculture policy in Sierra Leone. Driven by a desire to get agriculture moving quickly and encouraged by the large reserve funds of the export crop marketing agency, the Sierra Leone Produce Marketing Board (SLPMB), the government changed its approach and decided to go into direct agricultural production. The Government's "white paper" stated:

'Hitherto the Department (of Agriculture) has confined its activities to research and advisory services. It is now felt that while the vital research work must be continued and expanded, much more money must be spent on switching the emphasis from advisory services to actual direct supervision of productive effort" (2).

Most of the direct production schemes were undertaken in the export crop sector by the SLPMB. But the Government owned Rice Corporation for the first time cultivated about 590 hectares on its own account in 1966.

The experiment in direct production by government was short lived. Like the colonial efforts the schemes were poorly planned, very unwisely located, and generally staffed with unqualified personnel. Consequently, yields were extremely low. For example, the Rice Corporation reported average yields of 438 and 795 lbs per hectare for its mechanically plowed riverain and inland valley swamps in 1966, less than half of traditional farmers' yields. Furthermore since the projects were poorly, if at all, documented it was impossible to secure external financing for them. So the Rice Corporation and SLPMB had to dig heavily into their reserve funds. By the onset of military rule in 1967 they could no longer perform even their traditional marketing operations and instead of paying farmers in cash, gave them I.O.U's which were not redeemed for months. The military government closed the production divisions of the Rice Corporation and SLPMB and confined them to traditional marketing activities, thus ending a short but tumultuous chapter in the history of Sierra Leonean agricultural policy.⁸

Throughout this short post independence period other government policies, including marketing and price policies, were virtually unchanged. The only other major occurrence was the establishment of a University College to train agricultural staff at the middle level (agricultural instructors) as well as at higher levels (Agricultural officers).

5.3 Rice Policy since 1968

Following the total failure of the direct production projects, the onset of military rule in 1967 and the present civilian government in 1968, policy makers went back to the drawing boards to redesign agricultural development policy. Emphasis shifted to encouragement of small scale agriculture. An agriculture planning team was set up in 1967 with United Nations assistance. Starting in 1966, Mjale University College began to turn out increasing numbers of middle and higher level graduates to staff the extension service. The level of government expenditure on agriculture increased to levels which for the first time could be regarded as more than token levels of expenditure.

Agricultural investment policy also assumed a different form. In contrast to the approach during the colonial era, when the complex of interrelated problems facing the farmer was attacked in a piecemeal fashion,⁹ an integrated approach began to be adopted. In 1967/68, a pilot scheme, financed by the Diamond (Marketing) Corporation, was introduced in the Eastern Province. Farmers were provided with a cash grant to cover the costs of improved seed and fertilizer as well as part of the cost of hiring labor for land development. There was also heavy extension input. Participating farmers cleared, developed, and brought new inland valley swamps into production. In 1970/71 the Ministry of Agriculture took over the scheme and expanded it into a nation wide scheme. The subsidy was increased from Le.35 to Le.74 per hectare.¹⁰ The scheme had many problems including poor organization, inadequate supervision and dishonesty on the

part of some officials as well as a poor input delivery system (30). It was closed in 1972 because of lack of funds to pay the subsidies, and the decision to replace it by a scheme that had limited geographical coverage. By then, it had succeeded in bringing about 2,500 hectares of new inland swamps into cultivation although yields were only a little above traditional swamps levels (30). While its success was limited the scheme provided very useful lessons for future projects.

Starting in December 1972, a series of new Integrated Agricultural Development Projects (IADP) have come into operation while others are in advanced stages of planning. The main features of these integrated projects are that they cover a limited geographical area, are usually mainly financed by foreign soft loans and grants (World Bank, African Development Bank, World Food Program, European Development Fund, Chinese Government, Dutch Government), provide a heavy extension input with extension agent/farmer ratios between 1:40 and 1:70 compared with a current national average of 1:1200, supply improved planting materials, improved tools, fertilizer and chemical on credit to farmers, provide low interest development and seasonal loans to finance farmer operations including hiring of labor, make provision for infrastructural items such as feeder roads and village wells, and utilize highly qualified usually expatriate manpower for senior management positions.

The integrated projects usually try to improve the cultivation of more than one crop, but the development of an improved system of inland valley swamp rice cultivation has been the base so far. About 3,000 hectares had been brought under improved cultivation by the end of 1977.

The newer integrated projects also include upland, hill and riverain rice cultivation and it is expected that mangrove swamp development will feature in future projects.

6. ANALYSIS OF RICE POLICIES

The objectives of agricultural policy in Sierra Leone have remained more or less those established during the colonial era. They were restated in the 1974/75 - 1980/81 development plan as follows:

1. To stimulate development from the traditional subsistence type of production to a more productive system of commercial agriculture;
2. To achieve self-sufficiency in staple foodstuffs and other products;
3. To diversify agricultural production with emphasis on food and cash crops in suitable areas;
4. To increase the productivity, incomes and living conditions of the rural population;
5. To maximize foreign exchange earnings through expansion of export crops and import substitution;
6. To increase rural employment through stimulation of private investment in various agricultural enterprises;
7. To improve human nutrition and to conserve the fertility of the soil and other natural resources, (9)

This list contains elements of what Pearson, Stryker, and Humphreys (16) have categorized as fundamental objectives - generation of income, distribution of income, and security (the probability of obtaining income), as well as what they regard as proximate objectives - achievement of self-sufficiency in staple food stuffs, conservation of land resources, increasing agricultural exports etc.

While there is no published order of priority for Sierra Leone's stated objectives, observation of the implementation of government policies since independence leads one to believe that of the three fundamental objectives income distribution has been given top priority followed by income generation. Security of income has received minor emphasis.

Following Pearson and Humphreys we can classify the rice policies used in achieving these objectives into four groups - investment in research, education and extension; trade and price; subsidy; and direct government participation in production. These policies are analysed with the aim of determining how successful they have been in helping the government achieve its objectives. The analysis concentrates on the effect of the different policies on the fundamental economic objectives, but reference is also made to the other stated objectives of the government.

6.1 Investment In Research, Education and Extension

Research, education and extension policies are the oldest of Sierra Leone government agricultural policies. As already pointed out the Department of Agriculture was established in 1911. A series

of agricultural experiment stations were established by the Department between 1920 and 1940 to carry out research and facilitate extension work. Each station emphasized one or two crops. Kolahun Rice Research Station was established in the Scarcies mangrove swamps area in 1934 with funds from the Colonial Welfare Fund. This station developed slowly, and its laboratories were completed only around 1950. It was converted into a West African regional rice research station in 1953 and it functioned as such until independence. Unfortunately during the colonial period the station concentrated almost exclusively on research on mangrove swamp rice, a system which was already quite well developed under traditional conditions and which contributed only a small proportion of Sierra Leone's total rice output. However some work was done in the late 1950's with inland swamp and deep flooded rice. In general although some useful experimental work was done on mangrove soil chemistry, plant pathology and rice agronomy, and some improved rice varieties were selected, the station was understaffed and inadequately funded. It therefore had very little measurable impact on Sierra Leone's rice industry during the colonial period.

To carry out its extension activities the Department needed a cadre of trained workers. An agricultural school was established at Njala, the headquarters of the Department in 1924. But like much of the Department's other activities in those days, it was underfunded. In fact, funds were cut off from the school during the depression of the 1930's. By 1944 probably less than 50 lower and middle level agricultural instructors had been trained. By independence in 1961

less than 10 Sierra Leoneans had been trained abroad for senior agricultural positions in the department. Agricultural training and research were given a much needed boost after independence when Njala University College was established in 1964 as a degree granting institution. An average of about 30 middle level certificate holders and 7 B.S. graduates have been produced annually since 1963.

Table 3 shows the extension staff position and level of government expenditure on agriculture, including research. The Department (later Ministry) of Agriculture has been heavily understaffed and underfinanced throughout its history, in relation to the job it was expected to do. The ratio of farmers to extension workers has been grossly inadequate. During the pre-independence boom year of 1944 it stood at the highly unsatisfactory rate of about 4000: 1. It currently stands at about 1200 : 1.

The proportion of total government expenditure spent on agriculture has been much lower than warranted by the importance of the sector to the national economy. Table 3 shows that less than 4 percent of total development and recurrent expenditure was annually spent on agriculture throughout the long colonial period. In the more modern era the proportion of expenditure spent on agriculture has increased modestly reflecting the government's heightened interest in agricultural development but is still unsatisfactory considering that agriculture contributes a third of Gross National product.

It is not possible to say exactly what proportion of government expenditure on agriculture went to the rice industry, but it is clear that it is over 50 percent. What has been the effect of government

expenditure on rice research, extension and training on rural income generation and distribution? While it is not possible to quantify the effects, there is ample evidence that the investments on research extension and training are having some stimulating effect. The recent increased level of activity in rice development projects, the effects of which we shall examine later, were partly made possible by the larger pool of trained manpower available for planning and executing the projects, as well as by the availability of improved technology flowing out of the research institutions. These are the effects of post-independence investment in rice research and training which have been shifting the supply curve of manpower and available technology thus easing one of the constraints on agricultural development in Sierra Leone.

6.2 Input Subsidy Policies

Input subsidy policies have been widely used in Sierra Leone to encourage producers to use inputs which the government feels would increase farm production and incomes.

During the long colonial era government's input subsidy policy concentrated on land development. As has been pointed out, swamp rice yields are higher than those of upland rice. The colonial government believed that the goal of land conservation could be achieved simultaneously with that of increased rice production and incomes if there was a general switch from upland to swamp rice production. In 1938 therefore the government started giving

Table 3

Extension Staff and Government Expenditure on Agricultural Research, Extension in Sierra Leone during selected years

Year	Number Extension Workers		Government Expenditure on Agriculture from Different Sources (million Leones)			Percent Total Government Expenditure on Agric.
	Senior	Intermediate and Junior	Agric. Dept.	Educ. Dept. ^a	Total	
1922	3	5	n.a.	n.a.	n.a.	0.38
1929	7	29	n.a.	n.a.	n.a.	3.71
1934	6	n.a.	n.a.	n.a.	n.a.	2.31
1938	11	11	n.a.	n.a.	n.a.	2.85
1944	15	75	n.a.	n.a.	n.a.	3.35
1950	18	n.a.	.12	.01	0.13	2.98
1955	17	n.a.	.65	.13	0.78	3.13
1960/61	19	16	0.62	.23	0.83	2.59
1966/67	19	40	1.08	.33	1.40	2.78
1970/71	49	129	1.99	0.60	2.59	4.12
1976/77	53	230	10.68	1.20	11.9	7.1

^a Appropriations for agricultural education estimated at 50 percent of total cost of Njala Training Center and University College.

Source: 1920-1960 Levi (14), 1960-1977 Annual Estimates of Expenditure (A) and National Development Plan (9).

interest free loans to farmers to help them finance the heavy labor costs of clearing and bringing mangrove swamps into cultivation in the southern province. The scheme was closed in 1951 when it proved difficult to recover loans. Official records which show that about 3,230 hectares were brought under cultivation under the scheme (17) are much exaggerated since that figure implies that all the presently cultivated area in the south was cleared under the scheme.

Starting in 1940 attempts were made, with very little success, to encourage communal clearance of inland swamps. In 1941, the Agriculture Department formulated an ambitious and peculiar scheme to drain 222,000 hectares of land in the Searcies River Basin. Saylor (18) reports that because of technical miscalculations and delays only 305 hectares had been drained by 1944 when the scheme lapsed. Subsequent irrigation and drainage schemes for the mangrove swamps also failed for similar reasons. Furthermore, in the few cases when some land was drained, it was either not cultivated by farmers because of land tenure problems or, more importantly, abandoned after a few years because of weed and soil problems.

In the modern period, emphasis has shifted to the inland valley swamps. Farmers participating in integrated agricultural development projects receive subsidies to cover part of the costs of clearing new swamp land, building partial water control structures and other inputs. It has been estimated that about 48 percent of the annual user costs (depreciation plus interest charges) of

improved inland swamp development is currently subsidized (2). This amounts to Le 27.45 per hectare in the Southern province and Le 24.40 in the Northern province.

As part of its land development policy which attempted to encourage swamp land development the colonial government started contract plowing of previously uncultivated Riverain grasslands and Bolilands in 1949 using government owned equipment. Starting with 20 hectares, the pre-independence peak was reached in 1956 when 4,900 hectares were plowed. Thereafter, there was a drop in area as difficulties arose with fee collections. Costs have always exceeded the revenue collected. During the colonial period the scheme was subsidized at around 50 percent. In the post independence period, the costs and rate of subsidy have increased. It has been estimated that it now costs the government about Le 108 to plow and harrow each hectare while farmers pay only Le 24.70 so that the subsidy rate is about 77 percent (23). Because of the heavy subsidy rate the government has found it difficult to make the necessary budgetary provision to consistently provide the service to farmers. Funds are not always available for purchase of spare parts, fuel or replacement tractors. Consequently area cultivated in the post-independence period has fluctuated widely, reaching 11,250 hectares in 1971, dropping to 8,000 in 1973, increasing to 21,000 in 1974 and dropping again to less than 10,000 hectares in 1977.

Tractor plowing usually results in about a 40 percent drop in labor use per hectare (21) but because the scheme is concentrated in

the Riverain Grasslands and Bolilands - areas with unutilized land and low population density - the scheme has had little adverse effect on aggregate rural employment. In fact, there is evidence that the plowing scheme has encouraged rural to rural migration increased farm sizes resulting in higher rice output, and therefore higher incomes per family (23,26). By concentrating the scheme in the Northern Bolilands during the last 10 years the present government has also apparently been trying to achieve its income distribution goals by shifting resources to the poorer Northern Province. Unfortunately it is in the Northern Province that the technology appears to be having an adverse effect on the sexual division of labor within the family. The workload of women is apparently increased as they are called on to weed and harvest larger areas while that of men, replaced by the tractors, falls (25).

While net social returns at the national level have remained positive indicating that investment in the scheme has been justifiable social profitability is lower for mechanized than for hand cultivated bolilands (27). If costs, and the level of subsidy could be reduced the scheme would make a bigger contribution to national income thus better helping the government achieve its goals.

Prior to the start of the pilot Rolako mechanization project by the Chinese in 1975, little serious effort was made to get farmers to adopt yield increasing practices at the same time as tractor plowing. The experience in the Rolako pilot project where average yield per hectare of 190 farmers cultivating 315 hectares has risen from 1.2 tons in 1975 to 2 tons in 1977

indicates the possibilities. The government's tractor plowing services in the Riverain grasslands have recently been taken over by the Terma Bum project, jointly financed by the Sierra Leone government, African Development Bank, and the Dutch Government. It is hoped that this project will have similar yield increasing results to the Chinese project on a larger scale, while reducing costs, so that social profitability would be increased.

Agricultural Credit Policy, except that tied to land development, was not a feature of colonial policy until the 1950's when rudimentary efforts were made. A Development Industries Board established in 1946 to give credit to industry and agriculture gave virtually nothing to agricultural enterprises. A Cooperative Loan Scheme was conceived in the 1950's but was just getting off its feet at independence. It was designed to give low cost institutional credit to cooperative societies to finance their marketing and other activities. Loans guaranteed by Government were obtained from the commercial banks by the Registrar of Cooperatives, and passed on to cooperative societies. The societies loaned the money to their members, or used it to invest in society projects such as purchase of tractors, rice mills and weighing scales, boat building and construction of rice stores.

The cooperative movement in general, and the credit scheme in particular enjoyed a measure of success in the early 1960's. By 1965/66 there were 56 registered rice marketing societies, about 30 of which owned small rice mills while seven owned tractors purchased with loans received from the scheme. The loan fund stood at over

Le 400,000 and repayment rates were over 60 percent. Unfortunately, reflecting developments in other areas of national life, politics intruded more and more into the operation of the scheme. Unqualified staff of doubtful integrity were recruited as cooperative officers and loans were disbursed to people with political connections who regarded them as "gifts". Moreover produce collected by cooperative societies was sometimes stolen by employees and what was delivered to the SLPMB or Rice Corporation was not paid for on time. As a result cooperative members were completely disillusioned. Because of massive defaults, the commercial banks refused to advance any more credit and called on the Government to repay outstanding loans. The loans scheme collapsed in 1967 and the whole cooperative movement went almost into oblivion.

In the post 1968 era, institutional credit to agriculture has been better handled. In the integrated agricultural development projects supervised credit is given in kind to farmers adopting yield increasing practices. Cash loans to cover part of the cost of hiring labor for land development activities, and seasonal credit in kind are given for inputs such as improved seeds and fertilizer. Subsidized interest rates are about 8 percent for 4-10 year development loans and 10 percent for seasonal loans. Total loans advanced by the longest established projects in the Eastern and Northern provinces amounted to over Le 1 billion in 1978. Repayment rates which were close to 100 percent in the early years have now stabilized at around 65 percent.

In addition the National Development Bank (NDB), a government owned institution, disbursed Le 562,000 (51 percent of its total loans in 1978) to medium size farmers. The Cooperative Development Bank, established in 1971 to finance cooperatives, advances about Le 50,000 annually to marketing cooperatives. But the commercial banks still make only negligible advances to agricultural enterprises. The above figures show the steady increase in institutional supervised credit for agricultural production after the debacle of the immediate post independence period. With the expansion of agricultural projects financed by foreign soft loans, the increase in foreign funds available to the NDB and the planned development of rural banks, it is likely that the availability of well-supervised, low-cost institutional credit to farmers will increase in the next five years.

Colonial rice policy did not include supply of fertilizers. When research revealed the need for fertilizer use in the bolilands if farmers were to obtain reasonable yields a subsidized fertilizer distribution scheme was started in the early 1960's (1). Only about 3 percent of Sierra Leone farmers use the 5-8,000 tons of fertilizer imported each year. Subsidy rates are currently estimated at about 57 percent for farmers in the IADP and 66 percent for others (2).

In order to encourage widespread distribution of improved seed selected by Rokupr Rice Research Station, a seed loan scheme was started in the Scarcies area by the colonial government in 1936. Pure seed was issued to farmers who repaid with interest in kind after harvest. When the scheme closed in 1947 because of high administration costs, a total of 2,500 tons of seed had been

distributed. Subsidized improved seed distribution started again on a national scale in 1977 with the establishment of the National Seed Multiplication project, financed mainly by a grant from the German government. About 300 tons of pure seed were supplied to the IADP's and other development projects in 1979.

What has been the effect of the government's input subsidy policy on income generation and distribution? The description of input subsidy policy above shows clearly that inputs used in improved systems of swamp rice cultivation (Bolilands, Riverian grasslands, Mangrove and Inland valley swamps) have received the greatest subsidy. This is in line with the government's belief that swamp rice cultivation is more attractive than upland cultivation from the national point of view. It was not until 1977 that the IADP's started to encourage upland rice farmers to adopt an improved farming system in which improved seed and fertilizer are used. Details of the amounts of subsidies received by farmers cultivating the different types of rice in Sierra Leone are presented elsewhere (23). Because they employ the widest range of subsidized inputs farmers cultivating improved inland swamps receive the highest amount of subsidy of over Le 95.00 per hectare. Because of relatively higher yields the subsidy per ton of rice produced, valued at about Le 50.00, is lower than that provided to farmers using tractor plowing (Le 70-120 per ton). Traditional systems of cultivation in uplands and swamps receive virtually no input subsidies. Swamp rice cultivation is more socially profitable than upland cultivation (23) this tendency for government input subsidy policy to favour swamp

rice cultivation is consistent with the proximate goal of land conservation since there is much less danger from soil erosion in the swamps. Moreover, the policy is in theory neutral to the regional income distribution goal since inland swamps are widely distributed throughout the country. But in practice, by concentrating the IADP's in the poorer Northern province the government is trying to reduce the regional income disparity.¹¹

6.3 Trade and Price Policies

Rice trade and price policies have for long featured prominently in agricultural policy in Sierra Leone. The stated objectives of such policies of the colonial government were to ensure adequate supplies of good quality food and fiber to both domestic and foreign (imperial) markets and to provide stable prices to producers. To achieve these objectives in the rice industry, the government created a rice mill division in 1936. During the second world war this was converted to a supplies department. In its early years, especially during the war, the department mainly purchased rice needed by the government for government employees in Freetown.

During the war the transactions were at controlled prices. Otherwise, until 1952, the Department operated alongside private (usually foreign) traders, and prices were determined solely by market forces. The Department usually purchased husk rice in the Scarcies area. A large rice mill was installed in Freetown in 1936 and a second at Mambolo in the Scarcies area in 1951.

In 1952 there was a change in the free market policy when the government accepted the following Committee recommendations (5).

"That in order to encourage the planting of rice a guaranteed price to producers should be fixed annually before the clearing of farms....."

"That in order to implement the guarantee.... the government must be prepared to buy a considerable proportion of the crop offered for sale to the present storage capacity....."

"That Government should hold adequate reserve stocks of rice not only in Freetown but also in the large urban centers in the Protectorate....."

The Committee was set up to inquire into, and to report on the production and marketing of rice in Sierra Leone, to make recommendations on the methods to stimulate production, to regulate prices and to regulate speculation in the best interest of producers and consumers" Coinciding with the start of the diamond mining boom around 1950, rice shortages had developed in Freetown and other urban areas. Prices had shot up, because perhaps 100,000 farmers had left their farms and migrated to the diamond areas thus increasing market demand while total national production remained constant.

The Rice Department established a price of Le 69.45 per metric ton (rice equivalent) in 1952. This was raised 60% to Le 111.10 in 1954 and another 5% to Le 116.67 in 1955 in an attempt to secure more domestic supplies. At the same time the Department imported over 30,000 tons of rice in 1954 marking the change from a self-sufficient to Sierra Leone becoming a

rice deficit state (see Table 4).

The Rice Department soon ran into trouble in its trade in domestic rice. Purchases averaged about 7,000 tons and the limited available storage space was soon filled, indicating that in 1954-55, the Department's producer price was attractive enough to command supplies.¹² The two rice mills averaged more than one shift operation. Nonetheless the Department was still losing money on its domestic account. These losses, amounting to about Le 125,000 in 1955, were officially claimed to be subsidies to producers. In fact, they represented the Department's rice milling costs, its storage losses (which were substantial) and other losses due to its inefficient operation. Moreover, although there are no precise data to indicate whether farmers were actually getting the Department's announced producer price, the impression of people active in the field at that time was farmers in general received less than the announced buying price because traders took a larger share than their officially allowed margins.¹³

Plagued by its losses in the domestic rice account, the Department progressively reduced its producer price to about Le 90 per ton in the immediate post-independence years. Consequently it was able to purchase very little domestic rice (Table 4).¹⁴ The Department (later Rice Corporation) was therefore not able to directly defend its official producer price for paddy. Private traders using small mills to process paddy, were able to compete effectively with the

Corporation. Although there is again no precise data to that effect, casual observations lead one to believe that farmers received prices from traders which were higher than the official producer price. In 1974/75, when the official producer price was doubled and for the first time was substantially higher than the price in the 1950's, traders once more delivered noticeable quantities to the Corporation.

Although the Corporation was not able to directly control producer prices by its trade in domestic rice, there is evidence that by its restrictive rice import policy and price setting for imported rice it was able to indirectly affect the level of producer prices through the effect it had on domestic rice prices. As pointed out earlier, imports of rice have been handled exclusively by the Rice Department/Corporation since 1954. The Board of the Corporation each year decides what quantities are to be imported.¹⁵ Since there is no annual crop survey or production forecast in Sierra Leone, decisions on quantities to be imported have been made on what could be described as nothing more than inspired guesses of what available domestic supplies would be. Imported wholesale rice prices are also set by the Corporation's Board. Table 5 shows that these prices have almost always been fixed so as to allow the Corporation a large market margin. The Nominal Protection Coefficient (NPC) dropped below 1.0 only in 1968 and the early part of 1974. In those years sharp increases in the CIF cost of imported rice were not immediately passed over to consumers, who were therefore

subsidized for a short period. In all other years imported rice consumers have been taxed by the Corporation's pricing policy.

Once imported rice left the Corporation's stores it was traded in a free market. There is no available retail price series for imported rice. The available series for domestic rice, presented in Table 4, shows that there is correlation between the wholesale price for imported rice and the retail price for domestic rice. Domestic rice was usually not purchased from the Corporation, indicating that the Corporation's import price policy had an effect on domestic rice prices. The evidence was strongest in 1974/75. In that year there was a big increase in the Corporation producer and consumer prices. Anticipating a shortfall in domestic rice production the Corporation imported 45,000 tons of rice in 1974. There was no concrete evidence to support this anticipation since there is no crop reporting service in Sierra Leone. In fact, the rather unusual event of a stock carryover of about 3,000 tons of imported rice at the end of 1973 should have pointed to the need for less imports in 1974 compared to 1973. But seeing the skyrocketing world market prices, resulting mainly from world wide crop failures in 1972 and 1973, the government panicked. Consequently a record 45,000 tons of rice was imported in 1974 at almost Le 300 per ton, three times the 1973 price.

Table 4

Rice Equivalent of Quantities of Domestic Paddy Purchased and Rice Imported, Rice Prices of the Sierra Leone Rice Corporation, and Urban Free Market Retail Prices, 1954-1977

Year	Domestic Rice ^a		Imported Rice		Wholesale		Urban Retail Price ^e (Le per ton)
	Quantity Purchased (000 tons)	Producer Price ^b	Quantity ^a (000 tons)	C.I.F. Price (Le. per ton)	Price ^b	NPC ^d	
1954	n.a.	111.10	4.59	126.50	n.a	n.a	n.a
1955	3.37	116.67	21.06	91.91	n.a	n.a	n.a
1956	4.95	116.67	36.80	89.67	n.a	n.a	n.a
1957	6.67	116.67	31.05	92.04	n.a	n.a	n.a
1958	6.67	111.10	21.78	94.29	n.a	n.a	n.a
1959	5.54	111.10	43.31	92.23	n.a	n.a	n.a
1960	12.61	106.50	28.59	86.53	117.80	1.34	n.a
1961	12.30	100.90	4.11	102.24	117.80	1.13	n.a
1962	7.26	95.30	26.83	101.32	117.80	1.14	172.70
1963	12.08	89.70	20.82	90.43	117.80	1.28	151.10
1964	6.36	89.70	.54	173.11	n.a	n.a	174.20
1965	2.14	89.70	18.72	97.52	n.a	n.a	202.00
1966	0.94	89.70	34.55	99.83	120.60	1.18	191.30
1967	2.87	112.15	23.85	99.05	130.90	1.30	193.50
1968	2.21	112.15	16.88	148.91	130.90	0.85	187.10
1969	3.63	112.15	12.68	119.73	159.60	1.31	210.00
1970	0.53	112.15	49.36	112.23	198.00	1.74	249.90
1971	1.85	127.90	26.93	100.11	198.00	1.95	204.20
1972	4.75	127.90	6.63	132.24	198.00	1.47	232.40
1973	0.46	127.90	43.72	136.25	198.00	1.43	235.40
1974	3.27	177.90	45.02	388.73	198/412 ^f	0.48/1.03	366.10
1975	7.17	277.75	0.0	-	412.50	1.03	447.90
1976	0.53	250.00	3.50	343.00	412.50	1.18	457.60
1977 ^g	0.75	277.75	16.50	n.a	412.50	n.a	n.a

^a Paddy converted to rice equivalent using 66 percent recovery rate.

^b Official government prices. Wholesale rice price were the same for domestic and imported rice.

^c Usually medium quality parboiled rice with 12-35 percent broken.

^d Nominal Protection Coefficient defined as the sum of CIF and implicit tariff (Wholesale price CIF + landing costs) divided by CIF. Landing cost were estimated at Le 9.00 per ton or 2.62 percent of CIF price in 1976.

^e Free market domestic rice in Freetown, the capital city.

^f Price raised progressively from Le 198 to Le 412.50 during the first half of the year.

^g Provisional.

SOURCE: Rice Cooperation, Ministry of Labor and Central Statistics Office.

The Government at first tried to subsidize consumers by fixing a wholesale price less than the cost price, but soon abandoned this attempt because of its severe budgetary impact. The consumer price was gradually raised to Le 412.50 per ton by mid 1974 allowing the Corporation an unusually small, but still positive profit margin.

At the same time the guaranteed producer price was more than doubled, rising from Le 128 per ton (rice equivalent) at the end of 1973 to Le 278 in October 1974. This rise in producer price had the effect of making the Corporation competitive in the domestic market. Hence in 1975 the Corporation was able to purchase enough domestic rice to fill all its available stores, about 10,800 tons of paddy or 7% of all domestic crop marketings. As is shown in Table 4 domestic retail prices increased over 60 percent between 1973 and 1975.

Domestic retail rice prices have remained high in Sierra Leone since then despite the fact that world rice prices have dropped substantially since 1975. This has been partly because the Corporation has maintained its wholesale prices at the level reached in 1975. Faced with a drop in consumer demand,¹⁶ full stores¹⁷ and all its operating capital tied up in stock, the Corporation imported virtually no rice in 1975 and 1976 while maintaining its high prices,

In summary, it is evident that the effect of the government's rice trade and price policy has been to tax consumers and protect domestic rice producers, whose prices have been generally kept at a higher level than would have been the case if imported rice had been allowed to flow freely into Sierra Leone.

7. WHICH WAY FORWARD ?

This paper has presented a review and analysis of Sierra Leone government rice policies. Rice is the staple food in this West African country with a per capita income of about Le216 and a population of about 3 million, two thirds of whom live in the rural area, and virtually all of whom grow rice. Upland rice production, using the traditional bush fallow method, is still the most important system of rice production, occupying 75 percent of the land under rice and producing 55 percent of national rice output. But the more productive swamp rice systems in which rice is grown in standing water are gradually increasing in importance, particularly the inland valley swamps which are being developed to a higher level of technology using water control, improved seed and fertilizers under the sponsorship of government development projects. These development projects aim at increasing rice production sufficiently to allow Sierra Leone to change from the present 95 percent to at least 100 percent self-sufficiency in rice production.

This review of government rice development policy was divided into three time periods, during which policies were different. During the colonial period lasting well over a hundred years, the government made only minor attempts to increase the pace of agricultural development. The Agriculture Department which was established in 1911 concentrated what little efforts it made on research and extension, with limited attempts at land development, staff training and supply of inputs to farmers. In the last years of colonial rule a rice marketing organization was established with the objective of trying to stimulate domestic production using price policy. It soon had to abandon its attempts to directly maintain a guaranteed producer price for paddy and concentrated instead on trading imported rice. Because of poor organization, inadequate staffing and under-funding, all colonial rice schemes with the exception of the research program ended in varying degrees of failure.¹⁸

In the immediate post independence years (1961-1967), there was a dramatic shift in government policy, as the government attempted to increase agricultural output by directly establishing and managing state farms. Because of grave errors in planning and management the experiment was a complete failure and incurred losses of several million Leones.

The present era, starting in 1968, has seen a more cautious approach to agricultural development, with the emphasis shifting to small farm development. A series of integrated projects

have been launched, with rice as a major component. These projects have a low extension worker to farmer ratio (about 1 : 70 compared to a national average of 1 : 1,200) and are attempting to get farmers to adopt yield improving technology (improved seed, fertilizers, water control measures, etc) while providing the villages with needed infrastructure (feeder roads, wells). In the last five years government expenditure in agriculture has shown a welcome though slight tendency to increase relatively faster than expenditure in other sectors.

In recent years government rice policy has aimed at increasing rural incomes by increasing rice production. Another major objective has been to improve regional distribution of rural incomes. Increasing security of income has not been an important goal.

To achieve these goals the government has implemented a series of input subsidy measures which have provided fertilizers, improved seed, land development and water control, extension, tractor hire services and credit at subsidized prices to farmers participating in agricultural development projects. These subsidized inputs have been mainly available to farmers cultivating swamp rice.

Between 1970 and 1977 about 8,000 hectares of improved swamps have been brought under cultivation under the stimulus of the scheme. Since yields are 30-50 percent higher than in traditional swamp rice systems and more than double those

on traditional upland farms, domestic rice production in Sierra Leone has been increased by government input subsidy and investment policies.

Government agricultural investment policies are currently funded mainly by external funds which are obtained on long term, highly concessional rates. This situation contrasts sharply with that in other sectors for which the government has had to obtain short-term contractor finance loans at very high interest rates. Therefore, while developments in most other sectors of the Sierra Leone economy are being held up because of the ever tighter government budgetary constraint, developments in the agricultural sector are less affected.¹⁹

By concentrating rice project investment in the Northern province the government has also been trying to achieve its regional income distribution objectives. Farmers in the Northern province are poorer and have fewer alternatives for profitable agricultural production than those in the Southern and Eastern Provinces. Rice production systems in the North have lower social profitability than those in the South and East. Consequently the policy of emphasizing developments in the North results in a lower gain in social profitability. This is the social cost of the government's regional income distribution policies. However, since net social profit is positive in both northern and southern inland swamps the policy does lead to increases

in rural incomes as well as rice output.

The government's rice trade and price policies have also aimed at encouraging increases in rice production by providing stable and fair prices to producers while ensuring adequate supplies of good quality rice to consumers. By pursuing a restrictive import and implicit tariff policy the government has succeeded in protecting rice producers by keeping domestic rice prices higher than would have been likely without such policies. The rice trade and price policies have therefore had some effect in stimulating domestic production. Since the policy was neutral to rice production system it has had little effect on regional income distribution.

The net effect of the present government input subsidy and trade policies is to make net private profit exceed net social profit for all rice production systems in Sierra Leone (23). This indicates that producers were on the average protected by government policy ²⁰ while consumers were taxed. This conclusion is contrary to one of the major conclusions mistakenly arrived at by Levi in a recent article whose title (African Agriculture Misunderstood) probably describes the authors greater misunderstanding of the Sierra Leone rice policy situation compared to that of policy makers (13). He claims that a consumer oriented, cheap rice policy has been pursued in Sierra Leone. He arrived at this conclusion because he failed to take cognisance of input subsidy policies or the producer price support effect of the restrictive rice import policy.

What should be the direction of government rice policy in the immediate future? Since Sierra Leone has a comparative advantage in producing rice to replace imports as well as to export to neighbouring countries (23), efforts to increase domestic rice production should continue. Net social profitability is highest in the inland swamps and mangrove swamps in the south and manually cultivated bolilands, in the north. But exclusive reliance on their development for output and income increases, while yielding highest social returns, could worsen the rural intra-regional income distribution. The essential elements of a rice production strategy in the 1980's which would give Sierra Leone a reasonable chance of achieving self-sufficiency and improve regional income distribution include increasing the area under improved inland swamp cultivation at a rate of 10 percent per annum, doubling the area under mangrove swamp in the southern province by 1990 i.e. increasing mangrove swamp output substantially, improving yields and efficiency of mechanical cultivation in the bolilands and riverain grasslands and bringing 80,000 hectares of upland rice under improved management (22).

Since most rice production systems have positive social profitability, government protection policies would not be necessary, if world rice prices (CIF Freetown) do not drop below Le 225 per ton for the quality imported by Sierra Leone. The level of input subsidies could therefore be progressively

reduced in the immediate future while efforts are made to stimulate production.

First the level of subsidies on fertilizers, credit, tractor hiring and improved seed should continue to be reduced. The government is in fact presently attempting to reduce subsidies on these inputs by raising the farmer price and trying to reduce the government costs of providing tractor hire services and improved seed by more efficient operation of the agencies. Removal of these subsidies would help bring Sierra Leone rice production in line with world market conditions and reduce the strain on the government budget.

Given the high cost of land development (construction of water control structures in swamps) and extension input (due to the need to use expatriate man-power to supplement scarce local man-power), and the availability of foreign funds to finance such subsidies, it would be possible to continue to provide subsidies on these two inputs for a longer period.

Although the restrictive trade policies which have raised domestic rice prices are not necessary, given the present world rice price situation it would appear unwise to completely remove them immediately given the basic unpredictable nature of world prices. The Sierra Leone government should ensure that the private trade which has efficiently processed and transported domestic rice in the past, should be encouraged to continue to do so. The Rice Corporation or other government agencies could continue to restrict imports but should strive to reduce the cost of operation so that the implicit tariff could be reduced.

To supply its institutional and other urban customers the Corporation should purchase milled domestic rice from private traders. The inefficient domestic rice processing operations should also be phased out.²¹

To facilitate the achievement of government goals using the above strategy two kinds of changes in present practice are required. First, steps must be taken to improve the morale of extension staff, particularly intermediate and lower level staff. It is presently difficult to hire and keep high caliber staff in the Ministry of Agriculture because of the unattractive salary for what is a difficult job, compared to that of staff in the administrative wings or that of teachers who have similar training but are better paid. Second, a marked feature of policy making in the past has been the taking of crucial decisions on prices, subsidy levels, and so forth with little or no empirical information. It is not surprising that such policy making has sometimes led to mistakes (for example importation of too much rice in 1974 and of too little in 1961 and 1964). The gathering and processing of agricultural statistics has improved during the last decade, but there is still one major gap -- the provision of regular production statistics. Presently statistics on rice and other agricultural output are the result of guesses. More accurate policy making calls for a more systematic crop reporting system.

FOOTNOTES

- 1 Defined as towns with more than 2,000 inhabitants, more than 50 percent of whom are engaged in non-farm activities.
- 2 This amounted to only 9 percent of the country's land area but should not be interpreted in itself as showing a land surplus situation. Shifting cultivation which is practiced on about half of this area, requires a fallow period of at least 10 years given present levels of technology. Most uncultivated uplands are therefore under fallow.
- 3 The reported average yield of 1055 kg/ha for 1960-64 is probably an under-estimate. There is no reasonable explanation for the 30 percent increase in yield between the averages of 1960-64 and 1965-69, except an improvement in statistics. Post 1965-66 yields are more reliable, being based on extrapolations of the 1965-66, 1970-71 and other objective sample surveys.
- 4 Imports have usually been average quality rice containing 20-40 percent broken although about 30 percent of the imports in 1974 was of higher quality (less than 5 percent broken).
- 5 In 1974-75 Byerlee and King estimated that 79 percent of rural household expenditure on rice was subsistence consumption. A maximum of 20 percent of total urban expenditure on rice might also be subsistence expenditure. (Urban areas include settlements of as few as 2,000 inhabitants in which the proportion of subsistence rice consumption could approach 50 percent. On the other hand the proportion could be virtually zero in large urban areas like Sefadu and Freetown). Table 2 shows that out of the 337,000

metric tons of rice consumed annually in the 1970's about 303,000 tons was produced domestically. Virtually all imported rice is consumed in urban areas, and assuming a per capita urban and rural consumption figure of 123 kgs about 71,000 tons of domestic rice are consumed in urban areas. If one assumes that 30 percent of urban consumption and 21 percent of rural consumption is local rice that is not home grown, annual marketings of domestically produced rice amount to 105,000 tons or 35 percent of annual domestic production.

- 6 The Rice Corporation was liquidated in April 1979. Since it handled all imported rice the Rice Corporation handled up to 30 percent of all rice that moved in commercial trade in its more active years e.g. 1974/75.
- 7 For more detailed description of the marketing and processing systems see Spencer (20), Spencer, May-Parker and Rose (24) and Mutti, Atere-Roberts and Spencer (15).
- 8 It is difficult to estimate exactly how much money was lost by the two Corporations in this experiment, but it is likely that the SLPMB lost at least Le.6 million and the Rice Corporation at least Le.1 million.
- 9 One project would emphasize drainage, another in a different area, seed distribution, while yet another emphasized credit and so forth.
- 10 The subsidy was intended to cover only part of the total cost of development. Although it was recognised for example that labor costs exceeded Le.125 per hectare, only Le.14.50 was provided in the subsidy.

11 Since the establishment of the first LADP in the Eastern and Southern Provinces in 1972 two others have been established and two more are in advanced stages of negotiation for finance. All four are located in the Northern province. Since the northern province contains the poorer farmers in Sierra Leone with fewer alternative possibilities for profitable agricultural activities (11,26) the policy is consistent with that of equitable distribution of income. In fact the policy could only have been faulted from the point of income distribution within a given geographical area. This is because it concentrates on a system of rice farming practiced by less than a third of Sierra Leone farmers. Farmers adopting the improved technology have the potential of widening the income gap between them and non-adopters in the same village. The improved upland rice farming system, which could theoretically be adopted by virtually all Sierra Leone farmers therefore has greater potential for minimizing rural-rural income differences while increasing rural incomes.

12 Purchase were much lower in subsequent years. Unfortunately there is no information on the exact amount of storage space owned by the Department at that time, but it was probably insufficient for 12,000 tons. After considerable expansion, it was about 23,000 tons in 1966 (15). Of course, a large percentage of the available capacity was used for storing imported rice.

- 13 This does not necessarily imply that traders earned excess profits. It is quite likely that actual marketing costs were higher than allowed for in the Corporations, officially allowed margin. Existing evidence indicates that rice marketing margins in the private trade have not been excessive in Sierra Leone (15).
- 14 Much of the domestic rice purchased in the early 1960's, when prices were around Le.90 per ton, was sold to the Department by Cooperative Societies that were pressured by the Cooperative Department to sell to it.
- 15 The Board includes representatives of the Ministries of Agriculture, Finance, Trade and Industry as well as people representing farmers and private rice traders.
- 16 Per capita consumption is estimated to have declined from 132 in 1973 to 117 kgs in 1975.
- 17 The Corporation had substantial stock carryover-30,000 tons at the end of 1974 and 25,000 tons at the end of 1975.

18

Success of the research program was mainly in generating knowledge. Although some improved varieties were released for mangrove swamp cultivation, the net effect on Sierra Leone rice production was minimal. The only area where colonial agricultural production policy in Sierra Leone had some success was the establishment of the export tree crop industry (coffee and cocoa). Even here compared to the success in Ghana and Nigeria with coconuts, or in Kenya with coffee, the Sierra Leone case could only barely be described as successful.

19

The budgetary constraint has had some effect on agricultural policies in the last few years. The tractor hire scheme has been particularly affected by the inability of the Ministry to provide capital and operating funds. Also attempts are being made to reduce the level of subsidy on fertilizers for the same reason. But foreign funds are being brought in to relieve the situation. The tractor plowing scheme in the Southern Riverain grasslands has been taken over by a foreign financed project which hopes to run the scheme efficiently enough to make subsidization unnecessary.

20

It is pointed out elsewhere (23) that the apparent contradiction in government policy that protect a socially profitable industry is probably recent, starting when rice prices doubled in 1974-75. Before that, prevailing prices probably meant that production to replace imports was socially unprofitably. Government protection policies were therefore

warranted given its aim of replacing imports by domestic production.

21

It has just been learnt (May 1979) that the Rice Corporation has been dismantled. Two of its three large rice mills (Mambolo and Torma Dum) will be handed to two agricultural development projects. The third (in Freetown) as well as all other assets of the Corporation are apparently passed over to the export crop marketing Corporation (SLPMB). What its policy for Rice marketing will be is yet unclear. Imports of rice are apparently to be handled by private firms that will be licenced and will submit bids for the import quota.

CITATIONS

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