C O N T E N T S

P R E F A C E

This restricted report examines the development of broadcasting in Sierra Leone - notably the Sierra Leone Broadcasting Service - in the context of the transfer of technology from developed to developing countries. It has been prepared as a practical case study, as part of an ongoing programme on the transfer of communication technology, begun in Unesco in 1977. In particular, it is intended as a concrete contribution to a committee of experts' meeting on this theme, to be held in Paris from August 29 - September 3, 1977. The working paper for this meeting deals, in a more abstract fashion, with the general problems of analysing technology transfer in the communication sector, and with possible lessons which may be learned from attempts to research more traditional fields (e.g. industrial technology transfer, or the development of science systems in the Third World). In the present report, these theoretical arguments are reviewed in a specific national context: in a country where the development of broadcasting was, in its formative years, linked to the objectives of a colonial administration.

The report is, therefore, not meant as a functional document in the context of communication planning, though it may well be considered a substantive resource for any future work in Sierra Leone. It is mostly an exploratory essay, designed to review some of the methodological problems raised by studying technology transfer in communication, and to identify the key questions to be posed, the main areas of difficulty in soliciting responses, and the outlines of a framework for future analysis.

In planning the Sierra Leone survey, certain themes and hypotheses were advanced for particular study. They were generally, that:

(i) Domination of technology transfer by multi-national corporations and their offshoots is a characteristic of transfer in broadcasting.

(ii) A consequence of this is technological dependency, which may be reduced by a rational approach to development of local capabilities.

(iii) A further consequence is increased penetration by the metropolitan centre, particularly through imported programmes.

(iv) Broadcasting of this type is related strongly to the cultural modes and demands of urban-based elites, and is strongly centralized.

(v) Broadcasting as transferred under these patterns is not related to the developmental needs of the nation.

These hypotheses were set up partly from a review of writings on communication themes, but more particularly by analogy with the research literature on technology transfer in other fields (e.g. industry). It is acknowledged that a brief review of this kind is not adequate to test hypotheses of such breadth in any very detailed way: nor can the results of the enquiry necessarily be generalized beyond the Sierra Leone environment. They are offered, however, as a means of making the discussion more concrete at an early stage of review; they are also used as a main instrument in organizing the conclusions to the report.

The paper is therefore organized in three parts. The first deals with the historical development of Sierra Leone's broadcasting system, from colonial times to the present day, and relates this growth to a wider perspective of political, economic and social development. The second part comes down more precisely to issues raised by the transfer of broadcasting technology in the Sierra Leone context: it is based on an analysis of available documentation, and most of all upon personal interviews conducted by the study team. The third part offers some tentative conclusions on the pattern of transfer, based upon the hypotheses described above, and makes some basic comments upon methodology, in view of the future development of the programme.

The report is the work of a consultant team, financed under Unesco's Regular Programme, which visited the country for two weeks in July 1977, and spent a further week of report writing and discussion at Unesco Headquarters. The opinions expressed are the team's own, and in no way those of Unesco; they are the concensus view of a social anthropologist, a communications economist, an engineer, and a specialist in the technology transfer field, assisted by a Unesco Secretariat member. The team does, however, sincerely wish to thank the Sierra Leone authorities for the invaluable assistance which they received during their visit, and in particular the Sierra Leone Broadcasting Service and its personnel. This is very much a work of exploration, in which both the team and the Sierra Leone authorities were embarking upon unfamiliar ground. It is hoped that the survey will, by pinpointing some specific problems and difficulties, help to take the next stage of the programme forward in a more confident and detailed manner.

P A R T O N E

THE BACKGROUND

This section outlines the political and economic context for the development of broadcasting in Sierra Leone. Firstly, it gives a brief account of the political and economic history of the country, and secondly, it describes the principal phases in the evolution of broadcasting.

CHAPTER 1

POLITICAL, ECONOMICAL AND HISTORICAL INFLUENCES

Though Sierra Leone, in company with other Third World countries, is undergoing rapid social change, there are nevertheless large areas of social and political life in which change is relatively slow and whose analysis requires a longer time span than might at first seem necessary. Thus, though broadcasting dates only from the mid-1930s, it may be helpful to begin with a brief reference to the constitution of Sierra Leone which was promulgated as long ago as 1863. This provided a framework for government which has survived, with some modifications and interruptions, to the present day, and which has important implications for technology transfer in broadcasting as in other spheres.

Constitutional points

The constitution of 1863 set out to replace the Governor's advisory council of officials and public figures with an Executive Council and a larger, nominated Legislative Council. This constitution served as the basis of government until the 1950s when the post-war Labour government in the UK attempted to introduce a system of democratic local and national government within the rather short period of a decade. The major constitutional change was enacted in 1956: the Legislative Council was to comprise 51 members elected on universal adult suffrage and twelve paramount chiefs elected by the District Councils. This body became known as the House of Representatives.

Since Independence in April 1961 the two major political parties (the All People's Congress and the Sierra Leone People's Party) have sought to revert to a pre-1956 constitution by means of, firstly, a one party system, and secondly the restoration of the function of Governor in some form by the recreation of offices of Governor-General and Prime Minister (i.e. by the policy of establishing a republic, which was finally achieved by the APC in April 1971).

Party Politics and Military Rule

The main feature of party politics over the past fifty years has been the advancement of the interests of the protectorate peoples against those of the colonial powers and the people of the colony (the Creoles). Having successfully eclipsed the latter and then won independence from the colonial power, the Sierra Leone People's Party leadership next began to air their differences, and Siaka Stevens with his followers split from the PNP in 1960 to form the All People's Congress (APC). The SLPP then emerged as a rather traditional and middle class party of the provinces with its power base in the south, among the Mende, and APC attracted the support of younger men, including Creoles, intellectuals, workers and the urban majority. In the country, people in the north (the Temne, Limba, Susu and others) turned to the APC in the face of Mende domination of the SLPP. Thus regional and/or tribal ties became important political issues.

After only two months of existence the APC won the Freetown municipal elections of 1960, though the subsequent General Election of 1962 was a close run affair. SLPP did not have an overall majority but with the help of the Independents it formed a government dominated by southerners. However, the subsequent removal of all APC influence in government and civil service and the placement in office of men whose loyalties were based on tribal allegiances led to disaster at the polls when elections were held in 1967. The APC won a majority of seats, but outside Freetown the position was confused. As it became clear that the SLPP was losing, the Sierra Leone Broadcasting Service stopped announcing results and played popular music: real recognition of the potential role of broadcasting probably dates from this time.

On the 21st March 1967 Siaka Stevens was sworn in as Prime Minister. However, within half an hour he and the Governor-General were arrested by the Army Commander (a Mende from the South) and martial law was declared.

One year and two coups later, Siaka Stevens was again sworn in by the Governor-General, as Prime Minister heading a coalition of APC, SLPP and Independents. This coalition was agreed to while by-elections were held in those constituencies left without representation as a result of the upheaval.

In June 1969, by-elections which intensified tribal animosity gave the APC a clear majority. In the 1973 general elections the APC won all but five seats (three in Freetown and two in BO), and more than half the APC were returned unopposed by the time nominations closed. The 1977 elections were virtually a repeat performance except that no elections at all were held in 30 constituencies.

This is, of course, a very brief and potted history of events; its significance as far as broadcasting is concerned lies in the increasing importance of mass communication within a political context of geographical and tribal loyalties.

Political Economy

Following a more or less explicit philosophy of an international division of labour, the colonial government concentrated its efforts on developing an infrastructure that would support the extraction of raw materials for export. Until the 1930s the non-subsistence sector of the economy was dominated by the export of palm kernels (in the hands of European firms).

In 1933 the iron mine at Marampa came into operation and in the same year the Sierra Leone Selection Trust started mining diamonds in Kono. Within five years diamonds and iron had overtaken palm kernels as the principal export (37% and 28% of exports respectively). Both these operations were financed by European capital, managed by expatriates and controlled from Glasgow and London.

As part of the political changes introduced in the post-war era the government published in 1949 a "Plan for the Economic Development of Sierra Leone". It stated: "The future economic progress of Sierra Leone appears to depend primarily on further mineral expansion, upon the fortunes of the oil palm industry and upon the hope (sic) of developing large-scale swamp cultivation of rice for export". The plan's main recommendations were "largely concerned with expansion and improvement of communications, viz, improvements to port facilities, to the railway and to the roads. Consequently Sierra Leone entered the first decade of Independence with an economy highly dependent on three major export industries, all of whose operations were dominated by foreigners.

Economic policies of the first decade of Independence interpreted economic development as a need to increase this dependency. Thus the Ten Year Economic Plan published in 1962 stated that "economic development for Sierra Leone involves an increase in the volume of imports and of traditional as well as new exports to pay for these imports. Either or both involve an expansion of port (including airport) facilities if bottlenecks are not to develop at the international gateway to our economy and stifle the free flow of the increased volume of our external trade". A further indication of continued dependency was the Plan's warning against an overemphasis on modernization of agriculture.

Consequently, the average contribution of exports and imports to the Gross Domestic Product for the decade 1961-71 was 28% - one of the highest in Africa. Moreover, exports continued to be dominated by diamonds and iron ore, which together comprised 80% of all exports. Imports represented a wide range of manufactured goods, notable being the amount of food imported (17% of all imports); and in the early seventies this was to rise to the alarming proportion of almost a quarter.

During the present decade, despite the efforts of government towards indigenisation, the greater part of the modern sector of the economy has remained under foreign ownership. As a result of this situation, the ability of Sierra Leone to run a development programme

as well as the economy itself remained entirely dependent on the vagaries of international demand for a very limited range of commodities.

The Five Year Development Plan: Processes and Problems

Given this basic structure, we may now turn to a more detailed examination of the economic background to the current Five Year Plan (1974/79), as the context in which broadcasting decisions were made.

Economic growth in the first decade was very uneven, with GNP growing at 6.1% per annum from 1963/64 to 1965/66, decreasing by 2.1% per annum from 1965/66 to 1967/68, growing again at 9.9% per annum for 1967/68 to 1969/70, and dropping to 2.6% in 1969/70 to 1971/72. Sectoral development was also uneven (see Table 1) with agriculture, mining and manufacturing growing at very low rates (2.8% per annum) while infrastructure and service sectors grew relatively rapidly (10.0% and 5.8% respectively).

An important feature for our purposes is that an increasing amount of government revenues during this period came from borrowing, so that the share of debt charges in the budget rose from 5% in 1963/64 to 19% in 1969/70. At the same time, two-thirds of government development during the period, which was dominated by infrastructural development with no short-term pay-off (Table 2), was externally financed. Outstanding foreign debts increased from Le 18.2 million in 1963 to Le 69.7 million in 1968, largely due to the considerable increase in the use of costly suppliers' credits between 1963 and 1966.

The growing amount of debt, and of suppliers' credits in particular, led to a financial crisis in 1966, and the IMF imposed a stabilization programme which decreased the load of foreign debt by 1970.

The fundamental long-range goals of the 1974/75 - 1978/79 Plan were listed as follows:(1)

1. Preserve political and economic stability as one of the main prerequisites for uninterrupted and continuous economic and social advancement;

2. Attain a higher degree of economic self-sustained growth, since political independence can be made meaningful only by achieving economic emancipation;

3. Increase the welfare of the broad mass of population as the ultimate aim of development and to that end achieve more equitable distribution of wealth and income;

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(1) National Development Plan 1974/75 - 1978/79, p. 71, Central Planning Unit, Ministry of Development and Economic Planning, Sierra Leone Government, Freetown, 1974.

TABLE 1

GDP at factor cost and constant 1963/64 prices by sector of economic activity for selected years 1963/64 to 1970/71

	Sectoral shares (per cent)			Average annual growth rates (per cent)			
	1963/64	1966/67	1970/71	1963/64 to 1965/66	1965/66 to 1967/68	1967/68 to 1970/71	1963/64 to 1970/71
Agriculture	38.6	36.8	31.9	0.5	1.5	2.4	1.6
Mining	17.2	17.0	15.9	12.7	-9.4	7.0	3.2
Manufacturing	5.6	5.6	5.2	5.6	-2.3	5.0	3.0
Construction	3.3	3.5	5.0	8.6	-1.2	20.6	10.6
Sub-total goods	64.7	62.9	58.0	4.4	-2.2	5.1	2.8
Electricity and water ..	0.5	0.6	0.8	12.7	13.4	9.8	11.8
Transport and communications	6.8	8.4	9.9	14.9	6.0	14.1	9.8
Sub-total basic services	7.3	9.0	10.7	14.6	6.5	9.2	10.0
Commerce	13.6	13.1	15.6	9.5	-11.0	16.9	6.1
Finance, insurance, real estate	6.0	6.3	6.3	6.8	-0.7	6.4	4.5
Public administration and other services	8.4	8.7	9.4	4.4	3.2	8.1	5.6
Sub-total other services	28.0	28.1	31.3	7.9	-6.5	11.7	5.8
TOTAL	100.0	100.0	100.0	6.1	-2.1	7.4	4.3

Source: Sierra Leone, National Development Plan 1974/75 - 1978/79

TABLE 2

Sectoral allocation of development expenditure
(per cent)

	1963/64	1967/68	1970/71	1961/62 - 1970/71 (average)
Infrastructure, total	63	67	63	59
Transport	31	63	57	47
Posts and telecommunications	17	3	5	7
Electricity	15	1	1	5
Productive sectors, total ..	4	5	11	5
Agriculture	4	5	11	5
Social sectors, total	13	22	20	20
Education	8	5	8	8
Health	1	8	1	2
Water	4	9	11	10
Other	20	6	6	16

Source: Sierra Leone, National Development Plan 1974/75 - 1978/79

4. Achieve rapid expansion of productive capacity of the economy to create the basis for an accelerated pace of economic and social progress;

5. Continue and intensify economic co-operation with other African countries, particularly with neighbouring West African countries.

It should be noted that the Five Year Plan was directly principally towards economic development in terms of increased output. Due in part to a lack of statistical data, and perhaps even more because of the political issues raised, the Central Planning Unit has not considered questions of income distribution, personal consumption, or technology policy. These issues may be raised in the next plan.

The Five Year Development Plan ran into difficulties in 1975, which continued and worsened in 1977. The problem was twofold: first the government's available cash resources diminished sharply causing a liquidity crisis; second, the debt burden of the Sierra Leone government became greater than was manageable. Both of these problems recall the events of 1966-68. They were a result of (a) government spending programmes on low revenue producing projects (roads); (b) drops in government revenues; (c) international inflation; (d) the reduced demand for Sierra Leone exports due in part to recession in Europe and the US; (e) the unexpected closure of the iron mine combined with the declining output of diamonds. Debt servicing as a percentage of government expenditure increased to about 20% in 1975/76. The large debt burden plus low government liquidity forced the Sierra Leone government to reschedule some of its debt and to seek an IMF standby reserve.

The IMF set three major conditions for the duration of the 1976 standby loan, viz: (i) no new loans which mature in less than five years; (ii) no loans greater than Le 6,000,000 maturing between 5 years and 12 years; (iii) domestic credit to government not to exceed Le 15,000,000 and Le 8,000,000 to the private sector. Such problems have forced the government largely to ignore the Five Year Plan and instead to concentrate on some feasible One Year Programmes.

During this period only continuing projects, projects where foreign grants are available, or special projects (including possibly the conversion of television to colour) will be funded. This approach has been criticized as unnecessarily rigid given the changing economic environment of Sierra Leone.

CHAPTER 2

BROADCASTING DEVELOPMENT IN SIERRA LEONE

In turning now to the evolution of broadcasting in Sierra Leone, five principal phases may conveniently be identified.

Phase I 1934 - 1955

An era of establishment and slow development. Many current practices and structures laid down at this time. Transmission by rediffusion.

Phase II 1955 - 1961

Era of transition to wireless broadcasting. Relatively rapid development of new system eventually bequeathed to Sierra Leone at Independence in 1961.

Phase III 1962 - 1968

Era of no coherent policy, *ad hoc* developments, general decline.

Phase IV 1968 - 1969

Some retrenchment and moves towards reorganization.

Phase V 1969 - Present day

Renewal of interest by politicians in the potential of mass communications for promoting "political stability", "national unity" and "development". Era of non-sustained investment and expansion.

PHASE I - 1934 to 1955

A rediffusion (wired) service was introduced into Sierra Leone in 1934 by the then Governor, who had started a similar service in his previous post in the Falkland Islands. Control of the service was clearly a matter of some controversy: originally run by the Railways Department, the service was later given independence for a short period before control reverted again to the Railways. Responsibility for programming later passed to the Public Relations Department, while engineering control went to the Post & Telegraph Department.

Little more is known of the rediffusion service, except that by 1952 it was reported as a "vigorous service" to which there were 2,300

subscribers, at a cost, in 1961, of £4 per year per subscriber. In addition speakers had been installed outside the Law Courts for public use. Programming consisted very largely of relays from the BBC: only 40% of the 10½ hours daily output in the late 50s was locally produced. Even this proportion was based very largely on BBC models. While reminiscences concerning the period are vague, it is clear that the majority of the subscribers were either expatriates, or members of the educated local elite; the concept of broadcasting as a means of communication with the mass of the people was not one which received any attention. Technically, the service was unreliable, especially in the rainy season, when sound quality was poor. Production was finally phased out in 1963.

If rediffusion left any long-term effects on broadcasting in Sierra Leone, these would have been the highly centralized pattern of organization, its dependence on outside production, and the creation of a nucleus of experienced Sierra Leone nationals who would participate in later developments.

PHASE II - 1955 to 1961

The second phase came with the emergence of wireless broadcasting. In 1955 a British Government grant of £23,000 provided for the purchase of a studio at Pademba Road and a 5kW transmitter at Hill Station, paid for out of the Colonial Development and Welfare Fund. Frequency broadcasting started in the following year. At this time programming was under the control of the Public Relations Department, at whose headquarters in the centre of Freetown the broadcasting offices were located, while the studio at New England and the transmitter fell under the control of the Post & Telegraph Department. The service appears to have operated for about a year under this arrangement, when day-to-day running operations were under the control of Sierra Leoneans. As in the case of rediffusion, programming was based very largely on BBC transcription services, but included news broadcasts in Temne and Mende, and occasionally in other local languages. Thus the beginnings of a concern for a wider audience could be discerned, but in a fashion much restricted by facilities and personnel.

In 1956, a decision was taken to rationalize the division of broadcasting between two organizations and to create a separate broadcasting department; in 1957 the Sierra Leone Broadcasting Service (SLBS) was created under a Director of Broadcasting responsible to the Minister of Information and Broadcasting (the rediffusion service came under the control of the same organization). The first Director, seconded from the BBC, arrived in mid-1957. By this time the standard of the broadcasting service was very low. Faults in the transmitter prevented use of anything near maximum power, and facilities for its repair were not available. The studio had no air conditioning or sound proofing, and only one microphone, which was permanently suspended from the ceiling. The annual programme allowance was £5,000, but the accounts were in such disorder that it was necessary for the new Director to cut programme expenditure to £60 per week until the end of 1957.

However, a development programme was soon put in hand, whose primary objective was the coverage of the whole country and the expansion of programming. The Director, together with a team of Ghana Broadcasting Service engineers, put together a scheme which provided for two new transmitters of 10kW each at a new site at Goderich, one MW to cover the Freetown area, and one SW to cover the rest of the country. The scheme also included the development of new studios at New England, and the total cost, again provided out of the Colonial Development and Welfare Fund, was £64,000 for transmitter development and £42,000 for studio development.

The new studio complex retained and modernized the large studio taken over from the Post & Telegraph Department, and added a continuity suite to allow programming on the BBC model. In addition, a smaller general purpose studio was provided, together with an engineering control room, recording room and editing room. Staff numbers were increased and sent for training with both the BBC and the Nigerian Broadcasting Corporation; and a chief engineer was seconded from the BBC in April 1958, who stayed until August 1961, by which time the development was nearly complete.

Unfortunately, little is known about the quality of service provided during this period, but by Independence in 1961 the SLBS is reported as being a modest but efficient concern.

PHASE III - 1961 to 1968

Post Independence developments

Given this 'modest but efficient' service inherited at Independence, the first Sierra Leonean Director of Broadcasting went on an international study tour to examine broadcasting systems in a number of countries, both DC and LDC. On his return to Sierra Leone, he produced a master plan for the development of broadcasting in the country, which among other things recommended the setting up of a regional broadcasting network; this probably provided the basis of the broadcasting section of the 1962 Ten Year Development Plan. It appears that initially at least some government approval was obtained, for discussions were held intermittently in the 1960s with a number of companies, including RCA, Philips and Marconi, on possible contracts for the necessary facilities. However, political circumstances changed, and the plan was never carried out in its original form.

During the next eight or nine years the radio service degenerated to a very low level, partly due to the introduction of TV to Sierra Leone.

The possibility of introducing TV to Sierra Leone had been raised as early as 1956-7, but the then Director discouraged any such move, feeling that it was first necessary to develop the skills and expertise necessary for radio to a high level. However, in 1962-3 a television service was introduced for the Freetown area. The reasons for its introduction remain obscure, though the available evidence is discussed

in a later section of this paper: it is sufficient to note here that political considerations played a major role. Officially it was described as a pilot project, to serve part of the Freetown area only, which would be expanded as soon as possible to the provinces. In addition, the main purpose of television was described as follows: "..apart from entertaining, special emphasis would be put on education programmes for schoolchildren and adults in its widest sense". It will be noted from the following pages that since that time there has been ETV for only one 18-month period, and that this was a failure. At the same time, however, it should be noted that officials of SLBS now consider that education "in the widest sense" may include news broadcasts and programmes which illustrate to the people of Sierra Leone the existence and life styles of people in other countries: in the light of the high proportion of imported programmes and the recent literature on 'cultural imperialism', this suggestion might be questioned.

The decision to go into TV was strongly opposed by SLBS, which preferred the development of radio, possibly along Tanzanian lines; indeed it appears that one or two SLBS officials put their jobs at risk by the lengths to which they were prepared to go in order to make their feelings known. Unfortunately, the position of radio to a certain extent undermined their arguments: modest in concept and performance at Independence, it had not had real opportunity to develop its potential. As few government decision-makers had any concept of what an expanded and improved radio system could do, it is not surprising that little attention was paid to the SLBS view.

The creation of the TV system was unusual, and led to conflict with the radio system. The organization which ran TV consisted of a consortium in which RCA NBC and Thompson International Enterprises together held 60% of the capital, and the Sierra Leone Government 40%; the equipment was provided by Pye. It basicially consisted of a facility for the transmission of imported television films, designed to be a one-man operated package. In Sierra Leone a production studio was built, and it must be assumed that other equipment was also purchased, but the basis remained a film transmission facility. An organization separate from SLBS, SLTV, was set up to own and run the service, each organization having its own Acting-Director. It worked for three months after installation and then had to shut down for three months, until an expatriate engineer was flown out by Thompson. He was relieved by an engineer transferred from SLBS, who subsequently ran SLTV under the expatriate consortium managers. During the next five years SLTV provided a service averaging 4-5 hours per day, 75% of which consisted of imported material.

The effect on radio was unfortunate. Already providing service of decreasing quality, the existence of SLTV served to undermine morale, especially as salaries in SLTV were higher than in SLBS for a smaller output; this was perhaps due to the commercial influence in TV. Relations between the two were bad. Starved of funds and incentive, and with lowering morale, the radio service of SLBS continued to deteriorate, both in quality of programme content and in technical quality of output. Similar problems were occurring in SLTV, where

the few attempts to develop local production were frustrated by equipment limitations, training and other institutional problems. By 1967 the position in broadcasting as a whole had become so bad that the then military government merged SLTV and SLBS; the merger worked for six weeks and then the two organizations split again, largely due to personality clashes and the salary issue.

PHASE IV - 1968 to 1969

Post-military rule and the CBC Report

After the departure of the military, the new government found itself in charge of dying broadcasting organizations. In SLBS many of the staff were now leaving in frustration: lack of professionalism, unimaginative programming, technical weaknesses and poor reliability of coverage all contributed. In the TV service the situation was as bad if not worse: the total number of sets in the country was only about 1,000, of which over 35% were out of operation, and the service was not treated seriously. Indeed, it was considered by some that the TV service should be shut down permanently. In 1969 the government sought the aid of the Commonwealth Broadcasting Conference Secretariat, which appointed a Committee of Broadcasting Consultants (CBC) "to conduct a comprehensive study of the Sierra Leone Radio and Television Services, and to make recommendations for the development of those services". The three consultants, a representative of the Canadian Broadcasting Corporation, the Director-General of the Ghana Broadcasting Corporation, and a senior officer of the BBC, duly produced their report in June 1969.

The report was highly critical of all aspects of both SLBS and SLTV: it criticized programme form and content, technical facilities and expertise, morale, training, administration, advertising, etc. While a detailed examination of these criticisms would illustrate the state of broadcasting, it is more important for our purposes to examine the recommendations that the CBC report made to rectify the situation.

The first major decision was in fact presented to the CBC as a datum: the TV service was to be revived since it was politically unacceptable to shut it down. Beyond this, there were two major sets of recommendations, one institutional and administrative, the other technical. The overall objectives can be seen to be the creation of a broadcasting system independent of government on the one hand, and a regional broadcasting network on the other. Given the political considerations examined elsewhere, it could be said that these suggestions were not appropriate.

The institutional recommendations may be summarized as follows:

(i) The merger of the TV and radio services

(ii) The creation of a broadcasting corporation

(iii) The provision of a separate news organization

The main technical recommendations were:

Phase 1

(i) Provision of 3 x 10kW SW transmitters at Magburaka in the centre of the country, to give overall coverage of Sierra Leone.

(ii) Provision of small radio studio centres in 7 provincial towns.

(iii) A start on the construction of a regional TV transmitter at Port Loko, linked to the Freetown studios.

(iv) Provision of a National Broadcasting Centre.

(v) The immediate improvement of existing TV and radio facilities on a temporary basis.

Phase 2

(i) Provision of two low power provincial TV transmitters.

(ii) Completion of the unit at Port Loko.

Phase 3

Provision of four low power provincial TV transmitters.

The government's response to the CBC report was a White Paper in which it accepted the need to merge the SLTV and SLBS, but rejected the formation of a Corporation and the provision of a separate news organization. Of the major technical proposals the government accepted the general concept of the Magburaka transmitter and claimed that it should be given "the utmost priority"(1), at the same time, it saw a need to examine the details, including the transmitter power, the station location and the availability of P & T links with Freetown. It also agreed on the need to rehabilitate existing facilities and accepted the need for the new Broadcasting Centre and the expansion of TV. However, it was cautious at the prospect of provincial studio centres: while desiring "keenly that more news and programme material from the Provinces should be broadcast on Radio", it was not "convinced that the proposed scheme is necessarily the most effective way of achieving this".(2)

After the publication of the White Paper, an engineering consultant from the BBC prepared a feasibility study in 1970 for the technical aspects of the government's proposals (the Christie

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(1) Report of the Committee of Broadcasting Consultants on the Sierra Leone Radio and Sierra Leone Television Services and The Government Statement thereon, Sierra Leone 1969.

(2) Ibid

Report). At this point it became clear that for what appear to be political reasons discussed elsewhere in this paper the government had turned away from the idea of regional broadcasting and the provision of regional transmitters and studios. Indeed, the rejection of the suggestions for a corporation and an independent news organization was itself an institutional reflection of centralization. The process by which the government shifted its position between the time of the publication of the White Paper, and the brief given to Christie, remains unclear: however, the Development Plan which resulted from this brief and Christie's work upon it may be summarized as follows:

Phase 1 Construction of 100kW SW transmitter at Waterloo.

Phase 2 Construction of TV transmitter at Leicester Peak.

Phase 3 Construction of Broadcasting Complex at New England.

Phase 4 Provision of country-wide TV transmission.

PHASE V - 1969 to the present day

Current developments

According to Christie's report, the radio production and transmission services had improved to a certain extent since the CBC report was produced but were still at a low level. He recommended short-term purchases to ensure improved operations during the transitional period prior to the completion of the new broadcasting facility; some of these, including the purchase of 2 ATRs together with continuity equipment, were pursued. In contrast, the television service had continued to deteriorate and little could be done to improve it; nonetheless, Christie did recommend some equipment purchases as a short-term salvaging operation. In this case two second-hand purchases (one from the BBC and one from Germany) were made in 1973 and 1975, and definite improvements resulted: it is claimed with some justification that the decline in demand for receivers has been reversed, to the extent that 10,000 have now been installed. An extremely brief survey of receiver dealers suggested that the market is a buoyant one.

Originally it was intended that the Development Plan should be treated as one unit: negotiations began with at least one supplier over the possibility of providing equipment and expertise for the first three phases. However, this was made impossible by the 1971 decision to install a SW transmitter of 250kW in Freetown, very much larger than the 100kW transmitter planned. The contract was signed with a Swiss manufacturer in 1972, and the inauguration ceremony took place in October 1974.

The negotiations for phases 2 and 3 started in 1970 and contracts were signed in the same year. Funding problems delayed the start of the broadcasting complex until 1974-5: at the time of writing it is

two years behind schedule because of further funding problems. Completion is now scheduled for the end of 1977, but this deadline is unlikely to be met, as funding problems remain and even continuous work for the remainder of 1977 would be unlikely to lead to completion. Equipment for the new complex is being purchased from Pye, UK: it arrived in 1974 and was put into temperature-controlled storage to await installation. Funding problems delayed payment for the equipment by six months, but this is now completed, and SLBS has entered into an arrangement with Pye over deterioration charges, while the installation contract continues to be renegotiated. Construction of the Leicester Peak transmitter station and ancilliary buildings began at the same time: completion is scheduled for the end of 1977.

Thus in theory SLBS will have completed phases 2 and 3 by the end of 1977. However, events may well overtake the plan before then. By the time that the equipment for the broadcasting complex is installed, a period of six or seven years will have elapsed since it was ordered, and it will be out of date. In addition, much of the equipment ordered is colour compatible or colour capable. There has thus been considerable discussion in SLBS over the possibility of exchanging some or all of the equipment, which has not yet been unpacked, for a fully colorized system. The proposal was with Cabinet at the time of writing. While the decision is not yet known, it appears very likely that approval will be given. Proposals are also under way, albeit at a much earlier stage, for the creation of an FM radio system.

P A R T T W O

BROADCASTING AND TECHNOLOGY TRANSFER

In this second part, we come to deal more specifically with the nature of broadcasting technology transfer in Sierre Leone.

Firstly, the objectives of national broadcasting are explored, strategic and tactical, explicit and implicit, including those of user sectors. The Sierra Leone Broadcasting Service is then examined from a politico-economic viewpoint, before particular consideration is given to questions of programming and equipment and the decision-making processes which characterized the development of radio and television. Finally, the issue of choice of techniques is examined.

As background to both this section, and to the conclusions which follow in Part Three, reference should be made to the working paper for the Meeting of Experts on Communication and Technology Transfer (Unesco, Paris, 29 August - 3 September, 1977), particularly on aspects of methodology.

CHAPTER 1

Strategic objectives

The determining feature of broadcasting in Sierra Leone is that it originated as part of the Public Relations Department of the original colonial government. When this department evolved into the Ministry of Information, broadcasting remained as a division within the Ministry. Attempts from within broadcasting to win a degree of autonomy as a public corporation outside the Civil Service have not been successful and other recommendations of a similar nature have been rejected by the Ministry. From the beginning "news" has taken the form of information sheets prepared by the staff of the Public Relations Department (later Ministry of Information). It has concerned itself primarily with what the ministries, or the ministers, have been doing.

The Report of a Committee on Broadcasting (1937) stated that the rediffusion service was "for publicity and educational purposes" but recommended "the possibility of making use of local talent" and also the introduction of a "children's hour". All scripts, other than official sheets, had to be read and approved by a senior government official.

This policy of government publicity revealed itself again when in 1952 vernacular languages were first used in broadcasting: this was for a fortnightly "news" programme. But the service was still mainly concerned to relay the General Overseas Service of the BBC; indeed in 1952 this occupied about nine hours out of ten per day. Apart from the local "news" there were broadcast talks averaging about three a fortnight. The content broke down as follows:

21%	Party political broadcasts[1]
17%	Christian religious topics
4%	Islamic topics
9%	History of colonial government of Sierra Leone
25%	Social, welfare and community affairs
13%	General education
11%	Other

The flavour of the last three is conveyed by such topics as "Using Water Wisely", "Coal and Coalmining" and "My Visit to Britain".

Since the service was continually improved and extended throughout the late forties and early fifties one can only infer, in the absence of direct evidence, that the government judged the service

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(1) Introduced in 1952. Scripts had to have prior approval.

effective and worthwhile. In 1947 the station was moved to more spacious quarters in New England, the present address of broadcasting. In this year a locally produced musical-variety show was broadcast for the first time. In 1948 a sum of £7,000 was provided for improvements to the rediffusion system and £2,800 for studio equipment. In 1949 two members of the BBC staff, at the invitation of the government, assessed the possibility of broadcasting outside Freetown. In 1951 experiments in wireless transmission were made. By 1953 there were 3,508 subscribers to the rediffusion service.

There is no doubt that a rather weakly articulated Reithian philosophy, to "inform, educate and entertain", underlay (and has carried over to the present day) this formative phase in the development of broadcasting.

However, in the mid-fifties a decision to reorganize and invest in wireless broadcasting was made, and by the end of 1961 these plans had been realized. The set-up was basically that found in SLBS radio today. It has not been possible to identify the precise objectives of government in pursuing this second phase of wireless broadcasting development, but it seems unlikely that there was any radical rethinking of the basic strategy of broadcasting and that only objectives of a tactical nature were relevant. These were that:

(i) the wired service technology had become obsolete and the objective of covering the country would be better realized by wireless broadcasting;

(ii) with independence as a general objective of the colonial government there was a need to bequeath a viable broadcasting system, now recognized as an indispensable feature of a modern State;

(iii) the decision followed a pattern already established in other British West African territories. It would be appropriate to establish Sierra Leone on a similar basis.

During the first five or six years of Independence such objectives as did guide broadcasting - and they were largely implicit in the colonial government - became, with the departure of that government, rather less than effective. Decisions relating to broadcasting were contingent and not related to any explicit policy for broadcasting, the obvious example here being the decision to introduce TV in 1962 and the manner of its (non) integration with contemporary broadcasting. Radio broadcasting continued more or less as it had done under the colonial government and there is no evidence that the post-Independence government appreciated the potential of radio and mass communication. Thus, although the Prime Minister from 1964 to 1967, Mr. Albert Margai, used a variety of strategies to help maintain himself and his party in power, there is no suggestion that radio was exploited at all: indeed the opposition parties were allowed to make party political broadcasts for the 1967 elections. Moreover, the government's own Ten Year Plan incorporated proposals for a network-based broadcasting service with regional centres comprising

studios and transmitters at Bo, Makeni and Sofadu. It may be that this plan for broadcasting was never implemented because the government realized the possible political consequences of such a system in a country like Sierra Leone. But since very little of the Ten Year Plan was implemented in general, it is more likely that the broadcasting proposals fell by the wayside for the same reason as the rest of the Plan.

The military takeover in 1967 could leave nobody in doubt as to the strategic significance of mass communications for the State and the interests of the ruling group. From this point on the government has not had any illusions. One of the first steps taken by Siaka Steven's APC Government was to invite a committee of Commonwealth broadcasters to enquire into and make recommendations on broadcasting in Sierra Leone. This report, its recommendations and the government's response were published as a single document in May, 1969. It is interesting to note that of the strategic proposals made the government accepted those that centralized (the merging of TV and Radio into a unitary service) but rejected the decentralizing proposals, viz. (a) a broadcasting corporation that was not part of a government department; (b) an autonomous news agency for the broadcasting service; (c) regional studio centres producing programmes based on local issues and culture; and (d) the CBC recommendation for a transmitter in the geographical centre (not administrative centre) of the country at Magburaka. In other respects the government has accepted the proposals and is investing considerable resources in developing and expanding the broadcasting service, both radio and TV.

Since 1969 the broadcasting service has been consciously used to promote the views of the government and publicize its achievements. There seems to be no doubt that this embarrasses SLBS staff, affecting their morale and reducing their effectiveness. SLBS requested that they be allowed to introduce their news programmes with the phrase "The News as prepared for SLBS by the Ministry of Information" but this was rejected by the Ministry. There is no doubt that, though the government has a clear idea of what it wishes broadcasting to do - a public relations role - the Ministry of Information seriously lacks the capability to realize this objective.

Tactical issues

As was noted in the previous section, the broadcasting service is held by the government to have an important role in realizing its basic objective, viz. what the government calls "political stability". This involves maintaining and strengthening the credibility of the government and discrediting the opposition. Current tactics as regards broadcasting are rather elementary, indeed crude. They comprise three parts:

(i) so-called "news" programmes;

(ii) so-called "discussion", current affairs type productions

(iii) "news" mixed with a great deal of popular light entertainment

An evident conflict in this situation is between SLBS programming, which inclines towards a BBC tradition, and the needs of the government's public relations officials in the Ministry of Information. As we have noted, this means that the Ministry of Information can only make up content for the "news" programmes. In other respects it merely exercises a controlling influence by putting informal pressure on producers to keep off particular issues as they crop up.

Secondly, radio is used in specific campaigns. These may be short term or longer term, e.g. the change from driving on the left to driving on the right, the current "clean up Freetown" campaign, and such programmes as "Farm Forum" and "Radio Doctor" which over a very long term hope to improve the habits and practices of the people.

The following table is a content analysis of radio broadcasts (as advertised for one week in July 1977). "Foreign news" consists in relaying BBC, VOA and Radio Moscow news and compiling foreign news from Reuters, Agence-France, and material sent from various embassies. The problem, now that VOA and Radio Moscow have been introduced (by the Military Government in 1968 as a token of non-alignment), is to drop them without causing a diplomatic incident.

A comparable table for TV is also provided.

Radio output for one week in July 1977

Light (popular)	42¼	hours	41 %
Local news	27	hours	25 %
Local discussion	7	hours	7 %
Religion (Christian)	5	hours	5 %
(Islam)	2½	hours	2 %
Educational	5	hours	5 %
Foreign news	5	hours	5 %
Foreign discussion	4	hours	4 %
Others	6	hours	5 %
Totals	103	hours	100 %

Content analysis TV output - one week in July 1977

		mins.	hours
Melodramas (films)	55 %	1225	20½
General educational, current affairs, documentary (films) (1)	18½%	425	7
News (live)	8 %	175	3
Panel games	7 %	145	2½
Sport (film)	7 %	160	2½
Religion (live)	4 %	90	1½
Other (children)	1 %	30	½
		37½ hours	37½

(1) e.g. "Science Today", "The Work of the U.N.", "Steel Works in Soviet Socialist Republics"

Links to user sectors

The three user sectors with which SLBS has links and which were studied are the Ministry of Agriculture, the Ministry of Health and the Ministry of Education.

Ministry of Agriculture

Broadcasting in the field of agriculture began in the 1960s, and apparently lasted for three years, but the decline of SLBS radio services led to the end of these efforts, about which little is now known. They began again in 1976. The organization within the Agriculture Ministry which deals with broadcasting is the Committee for Farm Broadcasting, which has representatives from both the Ministry and SLBS. Operations are carried out by a team of three or four people headed by an agriculturalist who spent six years in rural areas, assisted by a journalist who previously worked for SLBS as a producer. The former produces the basic technical information which is then translated into scripts by the latter.

The programme objectives appear twofold: to explain to farmers the aims of government policy in agriculture; and, with more emphasis, to provide basic information on techniques, particularly in cultural practices. This may include information on a variety of crops which is being increased as part of the diversification policy desired by the government. Examples include information on rice, for which the source is the Rokupr Rice Research Institute, and on maize or onions, for which the sources are the Ministry's own technicians. Subjects also include forestry, fishing and veterinary information. Seventy-five per cent of the output concerns agricultural techniques, while the remainder is aimed at businessmen interested in agricultural markets.

The languages used are Temne and Mende: the section would like to use more, but is restricted by limited facilities, and by the fact that broadcasting is on a single channel.

There has been no precise evaluation of the programmes: however, as far as possible the names and locations of agricultural officers are given on the programmes when problems in a specific area are discussed. These officers report that requests for more help or information reach them frequently as a result of the programmes. The Ministry has its own independent VHF radio system which is sometimes used to respond to farmers' needs. The section spends as much time as finance and transport facilities will allow up country, talking to farmers, finding out their problems and how they react to the programmes. Their general impression is that there is great interest and an unsatisfied demand for further aspects, particularly in some of the minor languages.

The general impression obtained is that this is a dynamic operation which is severely restricted both by the limitation on the Ministry's own resources and by the existence of only one-channel radio. Relations with SLBS appear to be friendly and effective: equipment and manpower are lent willingly by SLBS to the section.

Future plans include the use of television. The section appears to feel both that it will, with the help of SLBS, be able to undertake the necessary production, and that enough reception sets will become available in the rural areas to make TV agricultural programming worth while. The first assumption may, with reservation, be justified; the second remains a serious area of doubt. In addition, little thought appears to have been given either to the appropriateness of television for rural extension work, or to the extra costs involved in an already restricted financial climate.

Ministry of Health

In the health field, broadcasting plays a different role. While there is a long tradition of health programmes, these have been organized on a more ad hoc basis, with the use of outside contributors such as missionary and other doctors, local health personalities, etc. Often programmes take the form of panel discussions; in TV these are sometimes preceded by imported film programmes on hygiene or similar

subjects. No evaluation is carried out, and it is difficult to establish the effectiveness or otherwise of health broadcasting. The impression gained is that output is too random to have any significant effect on the population, although it is claimed that TV is playing a major role in the present "Clean up Freetown" campaign. An important point is that at present there is no co-ordination with the Health Ministry: while the latter incorporates a health education section, it has only recently been set up and, for reasons which are not clear, an early request from SLBS for scripts produced only a small number which was not sufficient for a consistent series.

Ministry of Education[1]

1. Schools broadcasting

In 1962, with the aid and advice of a Unesco specialist, a schools radio service came into being under the auspices of the Ministry of Education. In specific terms it was part of the Department of Teaching Aids who were responsible for the provision of the scripts, the presentation of the lessons and the support materials. Studio and transmission facilities were provided by SLBS.

There is little evidence available to enable a specific aim or objective to be ascribed to the emergence of schools radio in Sierra Leone. There is no doubt, however, that it was believed, by all concerned, to be 'a very good thing'. All broadcasting institutions worthy of the name had a Schools Broadcasting Unit at that time.

The original purpose of the Schools Broadcasting Unit was to provide programmes to enrich the teaching in both primary and secondary schools. The service was not intended, even in its early days, to replace the classroom teacher. Programme content was invariably 'on-syllabus'.

The Committee of Consultants was able to say in 1969 that the Schools Broadcasting Unit had a vigour and sense of purpose that was lacking elsewhere but this remark seems to have been directed towards the quality of the studio output rather than the service as a whole.

A constant weakness in the service to schools has been the lack of attention paid to the reception end. Almost all the efforts, energies and finance given to the Schools Broadcasting Unit have been directed towards the studio end of the operation. Production

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(1) This section is largely taken from "A Background to the History and Development of Broadcasting in Sierra Leone", A. B. Edington, British Council, May 1977

and transmission have dominated the claims for priority treatment.

Very little was done, or is being done, in the vital area of classroom utilization, feedback and research. The minutes of the Advisory Committee meeting for February 1966 stress the extremely poor response of the listening schools to the service. All the standard reasons were given: the broadcasts did not coincide with the timetable; the lessons were not on-syllabus; the timetables and teachers' notes did not arrive in time; the radio receiver was not reliable; new batteries were required for the receiver and so on.

The mechanism which had been set up to regulate and govern schools broadcasts was a large and impressive-sounding Committee. This Committee, whose Chairman was the Chief Education Officer, contained representatives of almost every conceivable organization with claims for recognition by the Schools Broadcasting Unit and its interests. The Sierra Leone Teachers Union, the Conference of Principals of Secondary Schools, parliamentarians, the Ministry of Education, the Sierra Leone Broadcasting Service, etc, etc, all had representation. The minutes record that attendance was seldom more than 60% and was very often less.

The schools programmes were originally directed towards secondary schools only and it was not thought possible to extend them to primary schools until late into the 1960s.

Since the sharing of facilities had been proved to be satisfactory, the Schools Unit was given its own studio in the SLBS in 1969. This studio had, however, acquired equipment which was not fully compatible with the rest of the SLBS equipment. The Committee recommended that in future no equipment should be acquired for educational broadcasting which was not fully compatible with that used by the SLBS in its general programming.

As has been indicated earlier, the problems of reception of schools broadcasts are even greater than those of production and transmission. The number of receivers belonging to schools was, and still is, small. At present, about 200-250 schools, primary and secondary, are known to own receivers, including 41 distributed to primary schools in the Provinces - 1976. However, this does not include the reportedly much larger numbers available for reception through the goodwill of teachers and others in authority. The Schools Unit is now attempting to encourage local communities to set up their own fund-raising organizations for the purchase of receivers.

As yet, there is little information or evidence about the efficiency or effectiveness of schools broadcasting. However, the Unit recently completed a survey of teacher attitudes: this was a somewhat naive attempt at eliciting teacher responses, particularly in the format and wording of the survey. However, enough informal evidence was gathered to provide some information on the main problem area, particularly the problems faced by teachers in trying to understand the purposes of the broadcasts and the best ways to use them.

In an attempt to overcome one of the most persistent and resistant obstacles to the effective utilization of educational broadcast media in the classroom, the British Government in 1966 supported a project to provide twelve Ferrograph tape-recorders to secondary schools. The purpose of this was to enable the schools to receive and use tapes of the schools broadcasts as and when it was appropriate and convenient. These tapes, it appears, were distributed by hand to the schools concerned. This was not for timetable convenience and for ease of use but because the SLBS transmissions were inaudible in the daytime. The maintenance of the equipment was the responsibility of a short-term Voluntary Service Overseas (VSO) engineer from Britain. There is, unfortunately, little evidence or information available about the success or otherwise of this project. No evaluation seems to have been done. By 1972 recommendations were yet again being made by visiting experts for the creation of such a transcription service.

The Schools Radio Service has fluctuated wildly in its quality and external respectability. In 1966 it was castigated for poor programme utilization by its own Advisory Committee; in 1969 its programme output was highly commended by the Committee of Consultants; in 1973/74 it was producing pupils' booklets comparable with the best of those produced anywhere in the world; in 1976/77 it had no money whatsoever to produce any support material of any type for either pupils or teachers.

Anotner major weakness of the present system is the extremely wide spread of target audiences for the programmes put out. Of the six series which are broadcast, one is for infants and lower primary classes, two are for upper primary, one for secondary forms IV and V and a fifth series on Law for form VI. The sixth series, 'Focus on Teacher Education', goes out late on Tuesday evenings and is repeated on Sunday afternoons. It is debatable whether these limited outputs have any real effect on the educational system. It would seem that a more concentrated drive on either one level in the school system or on one specific subject would have much more impact and produce more lasting results.

Undeterred by the past, the Ministry of Education and Social Welfare has put forward a proposal to the IDA as part of its overall Education Development Project to 'explore the possibility of utilizing radio broadcasts for significantly improving the education of children and adults and for familiarizing schools with the new curricula and curricular trends'.

In order to follow through this proposal it has been suggested that, because of the present shortage of transmission time, two 50kW transmitters (one main and one stand-by) be provided from IDA funds. The estimated cost is 200,000 leones. The Ministry of Education and Social Welfare believes that the new Broadcasting Centre of the SLBS will be capable of providing all the studio and other facilities required. Both these proposals appear to require a great deal of concentrated thought before they are taken any further.

Another proposal which requires more consideration is a further bid for IDA funds to support a study on the use of radio for direct teaching at primary school level. The research design is still at an elementary level and the small scale of the project as presently envisaged makes it reminiscent of the ill-fated ETV project. Eight schools in which only one stream of one class will receive radio broadcasts in one subject for eight months is no real test of the value of radio as a direct teaching aid.

There is no doubt that, at present, the Ministry of Education and Social Welfare is committed to a phase of experimentation leading to the potential development of radio as an educational tool.

2. Schools television

At the 1964 Commonwealth Education Conference held in Canada interest was expressed in the idea that "mass media may yet constitute the means of extending the services of one skilled teacher to a larger number of children at the same time." The British Government offered to sponsor a pilot educational television project. Sierra Leone asked to participate in the project which was "to ascertain whether TV can teach science to a class without the help of a teacher's support."

Because of the acute shortage of teachers in General Science this subject was chosen and six secondary schools within the TV transmitter coverage area were selected to participate (the number subsequently dropped to five). It was decided that since the experiment was an attempt at total teaching by television only a 'monitor' (a non-science teacher) would be present in the class. Two British experts were recruited to participate in the Project for its eighteen month duration.

On the basis of all the evidence available it would be unfair to claim that this project achieved any degree of success whatsoever. In planning, in timing, in execution and in evaluation it was unsatisfactory. The difficulties, ineptitudes and personality clashes which characterized the Project invalidated any specific conclusions from the study. As a lesson in how not to run a project it was a first-rate example; as an example of the effectiveness and efficiency of television, it was a disaster.

It is perhaps unprofitable to probe too much into this experiment but in view of the long-term aspirations which exist to develop a national ETV Service some of the most salient points are worth noting.

Pre-project planning was inadequate; lines of control were obscure; strong central leadership was absent; the teachers and school principals were not brought into the project until the last moment; personality clashes of a severe nature existed and were allowed to continue; equipment reliability was low; servicing and spares were in short supply; the evaluation mechanism was faulty. These, and other weaknesses, contributed to the complete lack of success of the Project.

CHAPTER 2

THE POLITICAL ECONOMY OF SLBS

(i) Economic structure and processes of SLBS

The Sierra Leone Broadcasting Service operates as a division of the Ministry of Information and is funded by the Sierra Leone government. Although its budget forms a relatively small part of the overall government budget, its relative share has grown since 1962. Looking at Table 3 it may be seen that SLBS's share of the overall budget has grown from .43% in 1961 to approximately 1.1% in 1975. This represents an absolute growth of 1841%; it compares[1] with an overall government spending increase of 694% in the same period. Thus, it is readily apparent that while the SLBS accounts for a minor portion of government spending, it has increased its annual spending at a faster rate than the rest of the government. This reflects the general increase in broadcasting activities since 1962, with the addition of television and a general expansion in staffing of both the television and radio services.

As noted, SLBS is a government department supported by tax revenues. This structure was established by the British, originally for the Rediffusion Service which was a division of the Public Relations Department, and continued with the establishment of SLBS in 1955. There is no indication that any thought was ever given to establishing broadcasting as a private corporation, and at the time of Independence no change was made in SLBS's status within the government.

Originally SLBS was to be operated like the BBC, i.e. without commercial advertising. Attempts were made, and are still made, to collect licence fees on televisions and radios. However, it is generally acknowledged that the government never established an adequate frameowrk for the policing of this tax and most receivers are not currently taxed. The collection of the receiver tax was entrusted to the Ministry of Transportation and Communications and the revenues went into the government's general fund. Thus, neither the Ministry of Transportation nor the Ministry of Information had any compelling reason to pursue the collection of these revenues very far, since for the former, the collection had little to do with its operations, and for the latter, the collection contributed absolutely nothing to its operations.

At the time television was introduced in 1963 Parliament decided that commercial advertising should be introduced to offset some of the costs of the mass media. However, as the Parliament generally opposed placing commercials on television, they allowed commercials on radio and disallowed them on television. This policy was changed during the late 1960s, and now advertising is allowed on both media.

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(1) cf Table 4

TABLE 3

Percentages of SLBS and Selected Ministries of Recurrent Expenditure

	61/62	62/63	63/64	64/65	65/66 (15 mnths)	66/67	67/68	68/69
Transportation and Communication	6.6	6.5	9.3	9.4	8.2	8.0	6.7	-
P & T	2.2	2.2	2.3	2.4	2.3	2.5	2.2	-
Education	13.4	14.7	15.1	16.2	17.8	20.3	18.2	-
Health	7.2	7.8	8.4	8.6	7.2	8.0	6.6	-
Agriculture	3.6	3.8	4.0	5.3	5.5	5.8	2.8	-
Information	1.8	1.7	2.3	2.8	2.5	2.5	2.8	-
SLBS	.43	.37	.85	.59 (without TV)	.62	.58	.95	-
Total N=	13918776	14041168	29965153	32824609		32509302	41028986	

	69/70	70/71	71/72	72/73	73/74	74/75	75/76
Transportation and Communication	8.3	6.5	5.4	5.8	5.1	4.3	4.1
P & T	2.3	2.1	1.7	2.0	1.9	1.7	1.7
Education	15.9	18.4	16.0	20.06	19.2	17.0	15.6
Health	5.8	7.5	6.0	8.2	7.5	6.8	6.7
Agriculture	3.5	3.5	3.3	3.9	3.9	4.1	4.2
Information	2.0	2.6	1.7	3.2	2.6	2.5	2.9
SLBS	.83	.95	.62	.70	.91	.90	1.1
Total N=	54745612	52763449	71611371	66663212	80407458		

TABLE 4

Growth in Recurrent Budget Expenditures
SLBS v Total Sierra Leone 1961-1975

	1961	%	1962	%	1963	%	1964	%	(15 months) 1965	%
SLBS	60067	-12.8	52363	387.5	255261	-23.6	195130[1]	40.3	273862	-31.1
Total Government	13918776	.9	14041168	113.4	29965153	9.5	32824609	33.8	43933759	-26.0
	1966	%	1967		1968		1969	%	1970	%
SLBS	188675	173.0	391074		-		453897	11.0	504036	-11.7
Total Government	32509302	26.2	41028986		-		54745612	-3.6	52763449	.2
	1971	%	1972	%	1973	%	1974	%	1975	%
SLBS	444816	5.25	468177	56.07	730681	31.6	961612	21.27	1166124	1841.4
Total Government	52857000[2]	26.1	66663212	20.6	80407458	31.2	105459130	4.7	110400669	693.5

Source: Sierra Leone, Budget Estimates, 1960/61 - 1975/76

(1) without TV

(2) based on Bank of Sierra Leone Annual Report 1970

The introduction of advertising at SLBS (which until 1972 was separate from television) was generally disliked by the staff. John Akar, the General Manager of SLBS at the time advertising was introduced, made clear his discomfort at the clash between having to sell advertising and his own regard for the BBC's stance against advertising. This ambivalence continues to this day. The personnel at SLBS perceive a conflict between advertising and the medium's role as a public service medium. The present general manager fears that a commercial orientation will establish undesirable constraints on the flexibility of SLBS in the future.

However, this attitude must be balanced against the fact that much of SLBS's television programming is entertainment material which would in other situations quite appropriately have commercials attached: it is not programming that would be 'public service' material in the UK or US. The ambivalent attitude to commercials seems to have more to do with a traditional dislike of commercials per se, than with any overwhelming commitment to the substance of the medium, especially in television.

Aside from this traditional reluctance of SLBS staff to accept commercials, there are other factors which limit the amount of commercial time sold. First, the Sierra Leone Government does not allow any of its revenue-producing departments or corporations to have special funds, i.e., all revenues generated go directly to the general fund and not to the agency producing them. This reduces the incentive to produce the revenues. The same incentive is further diminished by the government's general policy of not relating an agency's revenue performance to its annual budget. Agencies are not held accountable for deficient revenue performance - in fact, agencies will often have their budgets increased even though their revenues are decreasing. While there are merits to such a policy, especially when the agency is providing some social services, such a blanket approach does little to help increase the amount of non-tax revenues available to the government or the agency, and also tends to diminish efficiency.

Second, the government is generally ambivalent about the sale of advertising. Over the past two or three years SLBS has attempted to increase its commercial earnings to help justify the establishment of a second commercial radio station and to show the government that it could increase its overall revenues. In the latter case, SLBS introduced programme sponsorship for the first time in television - a medium which historically had spot advertising occurring only around Christmas.

The reaction of the government was largely negative: it is not interested in a second commercial radio station. Over commercial sponsorship, SLBS was exposed to complaints from the Ministry of Information that commercials on at least one programme would have to be terminated as they were "nauseating".

The amount of revenues generated has generally been relatively trivial as a result of these attitudes (cf Table 5).

TABLE 5

SLBS Revenues (Leones)

	1963/64	1964/65	(15 months) 1965/66	1966/67 *	1967/68 *	1968/69
TV	23	12,654	235	4,622	1,376	6,500
Radio	16,077	26,822	33,455	26,861	68,122	70,000
Total government	34,305,324	35,051,816	42,201,797		41,716,542	41,705,057

	1969/70	1970/71	1971/72	1972/73	1973/74	1974/75
TV	2,453	4,003	184	424	282	-
Radio	105,700	85,337	102,481	69,821	90,995	76,045
Total government	56,612,717	57,931,266	59,179,318	64,626,120	92,221,936	97,720,418

* Forecasts

Source: Sierra Leone, Budget Estimates 1964/65 - 1973/74

Television's extremely low earnings are due to two major factors. First, the quality of television transmission has traditionally been poor, which limited its appeal. Improvements in television transmission since 1975 have considerably corrected this problem.

Second, television is only received within Freetown, while radio has a national circulation. This makes radio generally more attractive to advertisers.

Thus, in general it would be fair to say that the revenues earned by radio and television have remained very low due to (i) general dislike of the entire principle of advertising; (ii) government policies which do not encourage the generation of non-tax revenues, (iii) technological and qualitative constraints of the television medium, and (iv) fluctuations in the demand for advertising due to changing economic conditions. Overall, revenues have been adversely affected in the past and, especially over the last two years, by the slackness of the economy and by controls over imports (and hence, advertising for imports).

Its complete dependence on government revenues for operations places SLBS in the difficult position of not being able to assure a steady and predictable inflow of revenue from year to year. If Table 4 (recurrent expenditures) is examined, it is clear that, while the overall trend has been for SLBS's budget to increase, the change from year to year may be either an increase or a decrease. In practice this has led to periods where the amounts allocated for spare parts, for example, were barely adequate to keep the stations operating. Generally, a private corporation would have maintained various reserve funds which would help stabilize revenue fluctuations: this is not true for the Sierra Leone government, which may have doubts about the performance of accounting control systems if SLBS were allowed a degree of financial autonomy.

Another problem arising from the government's management of SLBS is the lack of any criteria for success. This problem stems in part from the ambiguous role which SLBS plays in the national plan (see below). However, there also appear to be no real operational goals of an economic or non-economic nature, which could indicate whether the expenditure of funds is appropriate or desirable in terms of what SLBS is supposed to be doing. As a result, it is difficult to judge the efficiency with which the service operates. While the general, BBC-derived standard of public service is a goal of sorts, it is not an operational one.

Given that the service neither has to maximize revenues nor minimize costs (lacking a criteria for either), and given that it is not responsible for the revenues it generates in terms of its costs, we might expect, drawing upon various theories of the not-for-profit firm, that SLBS will attempt to maximize certain internal benefits - such as purchasing new equipment which goes beyond immediate necessities (e.g. colour television or FM radio) or competing with other divisions of government (e.g. by gaining salary increases). This certainly, is one factor which must be taken into account in judging the technological decisions made by SLBS over the past five years.

(ii) Interfaces with Government - budgets, programmes and staffing

The Ministry of Information, of which SLBS is a division, is made up of three autonomous divisions - Printing, Public Information and Broadcasting. It is not clear why these three operate as autonomous units, but for broadcasting the relationship dates back to 1957. Being an independent department, SLBS prepares and submits its own budget directly to the Ministry of Finance (or to the Ministry of Development and Economic Planning, in the case of the Development Budget). Ostensibly, the Ministry of Information plays no direct role in the daily operations of SLBS and does not determine overall policy - these are questions left to SLBS and to the President and Cabinet.

In practice, the recurrent budget is submitted by the Director of SLBS to the Minister of Finance without any review by the Ministry of Information. The Minister of Finance, in turn, passes the amended budget to Cabinet for approval.

During the past two years the liquidity crisis of the government has led to fairly steep cuts in the budget, of around 25%. In the event that such cuts prove unacceptable to SLBS, there are several steps which may be taken. The director of SLBS may appeal the budget cuts through the Ministry of Finance. He may discuss the matter with Cabinet officials at State House and attempt to have the issue sorted out below the Cabinet level. Or the director may demand that the Minister of Information take up the matter at a Cabinet meeting on his behalf - SLBS cannot go directly to the Cabinet, but its Minister must present its case upon request. Finally, the director of SLBS, depending on his political standing, may appeal the case directly to the President. This last policy may prove the most direct and efficacious.

The Development Budget is generally evolved in the same way, although there is substantially less review of the SLBS budget by the Central Planning Unit within the Ministry of Development. Generally, the CPU staff are not very interested in broadcasting and consider its allocations of development funds too small to be of much account. Thus, in practice, the budgets are passed through fairly quickly with only minor changes. One recent exception was the exclusion of a proposed 50kW shortwave transmitter to act as a spare for the 250kW transmitter, though it is not clear where this proposal was denied.

This policy of budgeting SLBS outside of a particular Ministry leads to SLBS being more overtly political in the acquisition of its funding than would necessarily be true of other divisions of other ministries. In practice, it seems SLBS budgets are determined against political criteria by the President and Cabinet, rather than by the general procedure of balancing the division's budget against the Ministry's overall plans or, in the case of the Development Budget, against the requirements of the Five Year Plan.

Staffing

In terms of staffing, the government's rules have led to profound changes in the operations of SLBS. The British established the policy

that personnel of the rediffusion and broadcasting services would be recruited through civil service procedures. Ostensibly, this practice was to ensure that candidates for service possessed a certain minimal level of skill.

While staff appointments came through the Public Service Commission (the administrative agency controlling the civil service) during the 1950s and early 1960s, the director of the radio service had a major role in selecting personnel for the radio service. It appears that this procedure changed at some time during the late 1960s, most probably after the military coup.

In theory, staff are hired by the PSC if they meet the basic educational requirements established by SLBS and passed on to the Public Service Commission. Recently, SLBS attempted to codify these requirements in a single publication listing all jobs along with minimum qualifications.

In practice, SLBS may audition and review each candidate proposed by the PSC, but in the end cannot refuse to hire those selected by the PSC. It seems that the Sierra Leone government may see SLBS as a source of public employment, leading to it becoming the employer of well over 400 personnel for the operation of a part-time television facility and one radio station.

These policies have led to SLBS employing large numbers of "production assistants" - ostensibly graduates from secondary schools who often lack not only production skills, but basic English language competence. This inevitably created difficulties when production staff are expected to write and deliver their own scripts. A major complaint by the programming division of SLBS relates precisely to this large core of inefficient, semi-skilled personnel, who are under-utilized for want of anything to use them for. This has led to greater specialization of personnel at SLBS so that people are trained in a particular field (e.g. reporting).

The connexions with the PSC do not end with the hiring of staff. The PSC has bureaucratic procedures for disciplining staff which, in effect, prevent people from being fired or demoted for anything outside of extreme cause.

It should be noted that all positions, including the director's, are civil service appointments. In the case of the director, he is nominated by an appointments committee attached to the PSC and either approved or disapproved by the President. All lower level positions are dealt with only by the PSC.

Finally, as the CBC Report noted, civil service rules on salaries have led to a rigid salary structure at SLBS. In fact, this rigid structure plus the slowness of salary increases has limited the ability of SLBS to recruit creative people and to retain their own best staff. While the present director has managed to increase overall salary levels at SLBS, the civil service rules continue to apply and limit the ability of management to promote staff in accordance with perceived merit.

Programming

While programming does not officially come under the purview of the Ministry of Information, except in the case of news broadcasts, there is a continuing interface between the Ministry and SLBS. In terms of the news, the British established the practice of having the Department of Public Relations prepare the news, while having the Rediffusion Service read it. This reflected the small size of the Rediffusion, and later broadcasting, departments; however, the practice has continued since Independence, even though the staff of SLBS has grown considerably. As is noted above, SLBS may only read the news script sent by the Department of Public Information without any substantive revision: until recently SLBS was not even permitted to correct grammatical errors in the script.

In other programming areas, ostensibly there is no censorship. In practice, SLBS management have been called to explain to the Minister of Information why certain programmes have been broadcast, or to explain the contents of other programmes. In the past, the Ministry has demanded that shows be terminated or revised, and also that certain personnel be removed from programmes. In order to prevent such interference, the SLBS management now exercises self-censorship, though the process operates outside of the formal structure of the autonomous broadcasting service.

SLBS and the 1974/75 - 1978/79 Plan for Economic Development

The role of SLBS within the overall plan for economic development needs to be explored as it exposes some of the ways in which the broadcasting system relates to its political and economic environment. The first economic plan which mentioned broadcasting in any detail was the "Ten Year Plan for Economic Development: 1961-1971". This Plan called for an extensive expansion of broadcasting which included the introduction of a television service, replacing the rediffusion service completely by distributing transistor radios at low prices, introducing new medium and shortwave transmitters for national and overseas broadcasting, establishing regional broadcasting centres for production and transmission, and regional studios which would feed material to Freetown. The total cost of this project was estimated at Le 5,438,212. The Plan made no clear statement of the possible uses of television and radio aside from vague references to education, and it did not relate the two media either to each other or to the goals of the Plan. Owing to shortages of funds during the middle 1960s, implementation of the Plan's programmes was very slow. Thus, the major developments of the 1960s occurred outside of any formal planning apparatus.

Plans for the decentralization of broadcasting were later rejected after the coup. Instead, the emphasis of the government was placed on centralized broadcasting which would serve to unify the nation. In effect, the goal of political unity under the auspices of the central government took priority over any further goals which might be

elaborated for broadcasting under subsequent plans. Thus, as will be noted in the section on Choice of Technique, investment decisions were based on maintaining a centralized source of information - the centre being Freetown.

The current plan, the "National Development Plan: 1974/75 - 1978/79" made no mention of broadcasting in its original document outlining the full five years. The broadcasting sector came under the jurisdiction of one of 15 technical sectoral committees; the committee apparently never met. As the UNDP experts who guided the Plan's development were neither conversant with nor advocates of the use of media in development, and as there were no other media enthusiasts in the other technical committees, broadcasting went more or less by default.

This does not imply that programmes were not planned for Broadcasting - the broadcasting sector was in a state of major expansion from 1972 onwards, starting with the construction of its 250kW shortwave transmitter and leading to the construction of a new broadcasting centre and the purchase of an entirely new television facility. But while all of these expenditures appeared in the Development Estimates, they did not figure in the overall Plan.

This exclusion was corrected in part in the subsequent Annual Plans and Annual Progress Reports on the conduct of the Five Year Plan. However, these documents refer to broadcasting only in terms of planned expenditures, progress of work and actual spending. There has been no attempt to relate broadcasting to the development process - broadcasting development estimates are not set against the overall development of the Five Year Plan.

Again, this is not to imply that the CPU planners are unaware of broadcasting. However, they generally defer to SLBS and the government to declare and implement policy in this sector. A consequence is that while the government has spent millions of Leones developing and improving the transmission of television and radio, no attention at the planning level has yet been aimed towards the problems of receiving signals. This may become a major problem if colour television and FM radio are introduced. While there has been a proposal that in a fashion similar to that followed in the government bulk purchase of radio receivers in the mid-60s, some 2,000 TV sets should be purchased and located at strategic points in the rural areas, this is unlikely to be taken up because of the problems of covering costs, and of maintenance.

The one area where television does fit within the Plan relates therefore to its prime goal - promoting political stability. Investment patterns in broadcasting since the 1967 coup, together with government policies concerning access to programming and control of the news, would tend to confirm the view that broadcasting is principally a vehicle for promoting the stability of the central government. While this may not relate closely with the other portions of the Five Year Plan, especially in regard to promoting popular participation in planning programmes, it is clearly consistent with the first goal.

(iii) Telecommunications: SLBS and Posts and Telegraphs

During the days of Rediffusion, the broadcasting service produced the programmes and the Post and Telephone Department (P&T) controlled the distribution of signals over the wired service. With the introduction of broadcasting SLBS gained control of its own transmissions but still had to negotiate with P&T for lines for remote broadcasts, and, if transmitters were built around the country, SLBS would have had to use P&T transmission facilities to reach these transmitters.

P&T currently has a microwave system which forms the backbone of the country's telecommunications network. This system, constructed in 1962, consists of two major routes: the northern route running from Freetown, through drop repeaters at Port Loko and Lunsar on to Makeni and Magburaka. The route extends to Sefadu passing through Mahali and Maduy. The southern route, starting at Freetown, goes through repeaters at Rotifunk, Moyamba, Mano to Bo and then from Bo to Kenema. Most of these routes are designed so that in the event of a fault in one route the traffic that it usually carries can be automatically switched to the other. With the completion of the route between Sefadu and Kenema the system will have complete redundancy.

The current microwave route has a technical capacity of 120 voice channels. Due to the small amount of long-distance traffic, only 60 channels of the microwave are actually equipped and recent studies indicate that only 17 channels on some of the route may actually be carrying traffic. This microwave system is currently plagued with maintenance and design problems so that downtime on the routes is about 50%.

The Sierra Leone government is now planning to construct a new microwave route as part of the Pan Africa Telecommunications Union. This route, which will have capacity for 960 channels plus redundant capacity, will run from Liberia to Guinea and will replace sections of the present system. Eventually, all of the microwave routes will be upgraded to the Pan African Telecommunications Union standard, and the new system will include capacity for a colour television signal.

Interestingly, there is very little interaction between P&T and SLBS. Each carries out its own planning independently of the other. Thus, in the case of the Pan African Telecommunications Union, there has been little liaison between the two services over the proposed colour television channel.

SLBS uses P&T services on an occasional basis for transmitting remote broadcasts to the New England studios for transmission. Such events would include anything reported on outside of Freetown, and events not covered by the Radio O.B. Van within the city. However, as such transmissions generate very little revenue for P & T, and as there has been no joint planning on upgrading the facilities, the P&T only provides telephone channels (4khz) for radio channels which are generally the equivalent of five telephone channels (20khz). While there is more than enough capacity on the P&T microwave, the P&T lacks

the necessary multiplexing equipment to provide radio standard channels. There is currently no P&T carriage of television signals.

The lack of joint planning between the two services may become critical as SLBS begins its planning for FM transmitters placed around the country with feeds from Freetown, and similar transmitters for television service. Unless SLBS plans to provide its own microwave distribution (which technically would not be legal as P&T has a statutory monopoly on telecommunications carriage within Sierra Leone), joint planning will be necessary to assure the provision of the proper channelizing equipment, redundant channels, and the like.

The Directors of the two departments both state that they favour joint planning between their engineers, but have not yet been successful in pursuing this point. The problem may arise from SLBS's somewhat ambiguous relationship with P&T. As a user of telecommunications services it is a customer of P&T and should receive treatment as a customer. However, as a sister government department the situation is complicated by traditional political rivalries over funds, salaries, and the like, and by the financial arrangements within government for providing telecommunications services to government agencies. There appears to be some disagreement between P&T and SLBS as to whether SLBS should pay directly for its use of P&T services, or whether it should be handled through the "paper transfers" which are standard for handling government telephone accounts.

It appears, however, that the relationship of the two departments is not strictly one of mutual disinterest. There have been reported incidences where P&T could not co-operate with SLBS in providing lines or provided the lines in an untimely manner, and this has been attributed to political motives by P&T. In one case, in particular, P&T reportedly reacted to a statement made by the Director of SLBS about SLBS's mobile units and declined to provide further service to SLBS until the statement was retracted. In the end SLBS had to appeal to the President to have service restored for remote broadcasts.

It should finally be noted that joint planning and co-operation is not as strong as might be desirable in the sphere of external communications. Sierra Leone External Telecommunications, Ltd., provides all communications between Sierra Leone and the rest of the world. This corporation is 51% owned by the Sierra Leone government and 49% by Cable and Wireless of U.K. Even though S.L.E.T. is planning a Class B Earth Station for Sierra Leone which will be capable of receiving television, there has still been little interaction between SLET and SLBS. At the same time, the relations between SLET and the P&T appear to be less than fully effective, especially on planning matters. It is possible that at some time in the near future an attempt will be made to bring SLET's operations under the direct control of the P&T. Such integration, however, is not feasible with SLBS and other forms of joint planning will have to be developed.

CHAPTER 3

PROGRAMMES AND EQUIPMENT

The following chapter is transitional: it comes after the discussion of broadcasting objectives within the Sierra Leone political economic environment, and before a more detailed account of patterns of decision-making concerning choice of technology and technique. It develops the earlier section on the evolution of the Sierra Leone Broadcasting Service (cf Part One), adding further information on changes in programme character and output, programme operations, problems of equipment maintenance, and staff relations. All of these issues are important to the study of technology transfer, in particular to discussions of dependency in broadcasting. For a more detailed account of their relevance, reference should be made to the working paper produced for the Meeting of Experts on Technology Transfer and Communication (Unesco, Paris 29 August - 3 September 1977).

(i) Radio Programmes

The radio output of SLBS has apparently changed little in format or content in the past decade, though information about programme schedules is difficult to obtain. The Press in Sierra Leone consists of one regular daily newspaper, one bi-weekly and a collection of publications which appear with random frequency. The one daily has a circulation of about 15,000 and usually does carry the schedules. The SLBS itself produces an SLBS Times which is a roneod listing of two weeks output on radio and television. It is not sold but has a limited distribution to Government officials and other well-placed contacts of the SLBS.

A breakdown of the output was given above in Part One (Chapter 2, Section II). The analysis was carried out on the basis of the published programmes rather than on what may actually have gone out; in addition, a comparison of output in 1969 and 1977 is shown in Table 6.

The SLBS puts out about 16 hours of programming each day with a close-down period between 10.30 am and 12 noon. In view of the heavily congested schedule of programmes, the frequent repetition of news programmes in different languages and the expressed desire for another channel, this period of close-down seems anomalous.

About 60% of the output is in English with programmes in Krio, Mende, Temne and Limba occupying most of the rest. Summaries of the week's news are broadcast in the minority languages of Foulah, Sherbro, Susu, Kono, Mandingo, Kissi, Loko, Yalunka and Koranko. In addition there is one 45 minute weekly programme in French which is put out for listeners in Guinea, Mali, Ivory Coast and Senegal. Although this has been described as an "external service", the best description is that given to it by the present director of a "good neighbours programme".

TABLE 6

Radio Output: one week in 1969 and 1977

	1969			1970		
	hours	mins.	%	hours	mins.	%
Light entertainment	44	-	52	42	30	41
Religion (Christian)	2	-	2	5	-	5
(Islam)		50	1	2	30	2½
Local news	16	-	19	27	-	26
Discussions of local affairs	2	30	3	7	-	7
Foreign news	5	30	7	5	-	5
Foreign affairs	5	30	7	4	-	4
Educational	2	30	3	5	-	5
Others	5	-	6	6	-	6
TOTALS	84	hours	100%	103	hours	100%

The international news output of the SLBS must make it unique in the broadcasting world. Rebroadcasts are put out each day of the international bulletins of the BBC as well as those of Radio Moscow and Voice of America.

(ii) Television Programmes

When it was first introduced, the purpose of television in Sierra Leone was, in the words of the Minister for Information, "apart from entertaining, special emphasis would be put on educational programmes for school children and adults, in its widest sense". (sic)

However, the first General Manager, an American, stated privately ten days before the service went on the air, "I hope to make this station into a typical African low-cost operation, just as we planned before we came. I believe this can be done in about a year". Within a few weeks there was a clash between the General Manager and the then Minister on programme policy. The manager wanted to use more light entertainment material from the USA, such as wrestling, than the Minister felt appropriate.

Similarly, the original intention, as stated by the General Manager, was to have 50% of local production and the rest imported film. In the event, the Committee of Broadcasting Consultants stated that in 1969 most of the four hours of broadcasting each evening was taken up by American and British syndicated film. Table 7 gives an indication of the present sources of origin of programmes. Locally-originated material still forms a small minority of the total output, even including straightforward newscasts, extended discussion/interview programmes, local musicians etc. Notwithstanding the sentiments of the General Manager, it appears that the design of the original facilities as noted above was to promote the use of foreign-produced films with only the most marginal local production.

Television production is largely in English with some Krio - other languages are infrequently used as the audience for television is limited to an economic class in Freetwon which speaks English and Krio. A sample week of output is given in Table 8.

Programming, as in the past, is purchased largely through European distributors. Thompson International Enterprises has been the dominant supplier of programming since 1963, and continues to receive about Le 2000 per quarter in fees for its services. Other suppliers include Transtel and the BBC.

Other suppliers of programmes and film sequences which may be incorporated into programmes are the information services tied to the various embassies in Freetown. For example, the United States Information Service makes USIS films available to SLBS through its film libraries as well as providing 25' film clips on selected topics which can be incorporated into documentaries or news presentations.

TABLE 7

PERCENTAGE CONTENT BY COUNTRY OF ORIGINATION ANALYSES OF SLBV TV OUTPUT FOR A WEEK IN FEBRUARY 1977

Category	Monday (28 Feb)	Tuesday (15 Feb)	Wednesday (2 March)	Thursday (24 Feb)	Friday (4 March)	Saturday (26 Feb)	Sunday (6 March)
Locally originated programmes	15%	14%	22%	25%	35%	31%	20%
Programmes of USA origin	83%	75%	73%	47%	60%	44%	73%
Programmes of UK origin	2%	3%	-	-	2%	12%	7%
Programmes of other origin, eg UN, West Germany, France, etc	-	8%	5%	28%	3%	13%	-

TABLE 8

SLBS TV Output: one week in July 1976

	hours	%
News	3	7.5
Religion	1½	4.0
Film melodramas	21	53.0
Panel games	3	7.5
Sport **	3	7.5
Documentaries,* discussions	7½	19.0
Others (children's)	½	1.0
	39½ hours	99.5%

** Mainly imported, e.g. German football

* Most of these come from information agencies of foreign delegations in Freetown and from the UN.

In the 1975 Audience Survey only 0.6% of those in the Freetown area said that reception was "good" on the sets they watched. This limited study indicated that as many as 18% of the population of Freetown had at some time watched television but that only just over 1.7% did so regularly.

SLBS has no formal means of assessing audience response to its programmes. During the 1950s the broadcasting service had monitors scattered throughout the country, who would report what they and their friends thought of programmes and, in particular, of the native-language output. This method of audience feedback ended by 1962 with the withdrawal of expatriates from SLBS management.

A formal audience survey was undertaken in 1975. This was the only attempt systematically to measure audience views. At present, audience response to programmes is estimated from the hundreds of letters received by SLBS, personal comments, and the intuitive reactions of the SLBS management.

The picture, therefore, is one of limited indigenous output, especially in television. Behind this lie other factors, including those of equipment life and maintenance, and programme production practices.

(iii) Maintenance: Equipment Performance and Technical Aspects

The study team saw some evidence of equipment disrepair in all areas of SLBS. This general disrepair stems from four major problems: old equipment, shortages of spare parts, inadequate technical training of the staff, and detachment among some members of the engineering staff.

The age of the equipment is probably the most important limitation on SLBS operations, since most of the radio studio and transmitter equipment dates from the early 1960s. For example, the primary medium-wave transmitter at Goderich went into service in 1960 with an expected life of ten years - it is still operating some 17 years later. For the most part, in fact, radio equipment has been given a lower priority than television equipment in recent years.

Television is similarly afflicted by problems of age. The original Pye television facilities had become almost unserviceable by 1969 - live productions had virtually ceased and transmission was sporadic. This equipment was replaced by used equipment purchased in 1973 and 1975: while improvements resulted, the fact that the equipment was secondhand had inevitably led to other problems in spare parts supply.

Provision of spare parts appears to be even more problematic for the various transmitters. None of the transmitters is running at full power. Of the two television transmitters, the 1973 transmitter is operating at only 45 watts with a design output of 100 watts, while the 1963 transmitter is operating at 70 watts, also with a design capacity of 100 watts.

The problem of spare parts arises from several causes. First, until the recent contracts with Brown-Boveri for the 250kW short-wave transmitter and with Pye for television equipment, spare parts were not included in the purchase contracts. This was clearly also true of the used television equipment.

Second, the continuing liquidity crises of the Sierra Leone government have led to suppliers having to wait for payment which, in turn, hinders their willingness to provide spare parts to SLBS. In the past, Aero Electronics of U.K. was SLBS's major parts suppliers. However, the Finance Ministry had delayed payments of some £10,000 - 15,000 for about one year, and Aero has proven unwilling to provide further parts until the outstanding balance is paid. It is not clear what precise effect the loss of one main supplier, requiring a reference to a broader range of suppliers, may have had on the stock of parts, but it obviously did not help improve the inflow of spares.

Third, the annual budget appropriations to SLBS are not consistent from year to year: in some years appropriations for spares may be sufficient, while in others, especially these last two fiscal years, they are not. Shortages in the budgets prevent SLBS from maintaining an inventory of spare parts, and indeed for expensive parts like valves few spares may be kept on hand, even though it is clear that they will be needed.

Fourth, it is possible that the international sellers of broadcasting equipment and parts sometimes deliberately encourage the purchase of new equipment by making spare parts difficult to acquire. Such a technique has been observed in other contexts, but it must be stated that there is no specific evidence of the practice at this time in regard to Sierra Leone's suppliers. The spares argument has been cited as a reason for a conversion to colour TV, but it is not clear whether this is advocacy by SLBS directed towards the government for funds, or pressure on SLBS by manufacturers for further purchases, or a combination of both. The real situation cannot be assessed without more complete knowledge of the international spare parts market.

Shortages of spare parts may prove detrimental to equipment in several ways. Obviously if the spare part is not on hand, an item of equipment will not be fully operational (as with the transmitters). If the spare is difficult to acquire, the circuitry of the equipment may have to be modified to make the equipment functional in some sense.

Also, the absence of spares may lead to pieces of equipment being cannibalized from other equipments. There is a case of this worth noting in regard to the 10kW medium-wave transmitters. In 1966 SLBS purchased a 10kW medium-wave standby transmitter. The government, experiencing a liquidity crisis, could not pay the installation fee of £2,500. As the government feared that the manufacturer would not honour its warranty if the SLBS engineers finished the installation, the transmitter was simply put aside until 1971. At that time SLBS decided to finish the installation with its own engineers, but this proved impossible as many of the parts had been removed for use on other transmitters. Now SLBS has the problem of raising the funds and finding the spare parts to activate this transmitter.

In terms of staff training, the problem appears to derive partly from the type of training received by engineers. Furthermore, most of this training is undertaken abroad, and with equipment which may have little resemblance to that used in Sierra Leone; in addition, the training concentrates on operations rather than on maintenance. This must obviously limit the ability of the engineering staff to provide effective maintenance.

Staff attitudes also appear to be a major constituent of the maintenance problem. The study team noted a number of cases where relatively minor, but nevertheless important, forms of maintenance were neglected. In part, this appears to reflect an attitude of indifference by the maintenance staff - as one engineer put it, "I don't care". This attitude would appear to be grounded in several causes. First, the age of the equipment plus the problem of acquiring spares makes equipment operation difficult even under the best of conditions. If one expects that the equipment will never work properly, then it is unlikely that great vigour will be applied to maintenance.

Second, there appears to be some resentment among the engineers of the civil service structure, which appears to hinder promotion to better jobs and salaries.

Third, it is possible that the condition of the SLBS equipment causes conflicts with the engineers' sense of professional pride: having learned engineering on relatively sophisticated equipment abroad, the engineers, confronted with the SLBS antiquities, may assume an attitude of "who cares?".

(iv) Programme Production and Operations

A similar situation to that described above arises in programming. Based on the team's observations, shortcomings in the production of programmes appear to stem from several causes, some technical, some managerial. First, the equipment has certain built-in limitations which affect the choice of technique. Two examples of this come immediately to mind. In the television studio there are no means of controlling the intensity of studio light - SLBS uses neither light-meters nor waveform monitors, so that the picture must be approximately adjusted by watching the picture monitors. The degree of adjustment is further limited by the absence of lighting dimmers.

Another example of such a limitation is in the continuity studio of the radio facility. This studio has only one microphone, although on the day of the observation there were two speakers. This forced one speaker to stand up while the other sat, leading in turn to two very different sound levels feeding into the sound mixer.

Second, problems appear to derive from poor maintenance practices As discussed above, these problems relate to a number of factors such as equipment age, parts availability, and engineering attitudes. However, a number of problems of maintenance were also noted which

did not appear to be very difficult to overcome. These included improperly adjusted monitors, lack of communication between master control and the studio due to intercome system breakdown, and the absence of a monitor for telecine in the studio control room. Such problems appear to be more questions of attitude by the staff than inherent defects in the equipment.

Third, some problems appeared to arise due either to staff indifference or lack of technical skill. For example, at a taping of a radio programme it was noted that sound levels were improperly balanced throughout. New sound sources (e.g. taped interviews) were not pre-adjusted: instead, the sound levels were balanced once the source was feeding into the sound mixer and the transmitter.

On a somewhat different front, there were problems which appeared to derive mainly from a lack of production discipline. For example, during the production of a live television programme, a number of production personnel sat in the master control room and conversed loudly (conversation which could be heard in the studio and presumably over the air). On other occasions it was noted that cameramen paid little attention either to their cameras or to the director.

In the case of such staff weaknesses, some special considerations apply. The basic problem here seems to be that the formal organization of the operating personnel bears little or no relation to what actually happens. Consequently production tends to be very casually executed.

A number of reasons for this situation are conceivable, amongst them the following.

(a) It is not always the case that appointments are filled according to the competence of the individual. Unless there is some compatibility between what is expected of an individual and his capacity, the form system will be seriously weakened.

(b) It seems as though staff below the level of producer have no clear idea of how their several roles and their apparently separate contributions make up a totality - the production. Therefore whatever meaning their job has for them will not be in reference to the business of production. Moreover, if some staff <u>are</u> competent, this may not be understood by the others and hence can be of no avail.

(c) Disciplinary action is seldom resorted to by the management. Hence such control as is effective on the behaviour of the staff derives from the informal network of personal relations which need not bear any relation to the supposed formal system.

(d) When disciplinary action is taken it is usually arbitrary. Rewards are also arbitrary. Material benefits from working for SLBS go to those who are supposed to control the resources and not to those who use them in production.

(e) Frictions - different motivations, priorities, assessments of relative status - occur between technical and programme staff. this is a situation in no way limited to Sierra Leone, but has been observed in a number of studies of broadcasting organizations.

Some of these problems may be assumed to stem from historical causes. As mentioned above (in Part One) SLBS's staff structure evolved through the civil service which was established by the British. But SLBS was never overly dominated by expatriates - it had an expatriate director and several expatriates at lesser posts (Chief Engineer, Gramophone Librarian) only until 1962. Since 1962 the radio service has been run by Africans, apart from a brief interval with an expatriate Director-General. It is interesting to note that members of the SLBS staff who were involved with SLBS during the early 1960s have noted that the quality of programming was much higher during that period than at present. In their opinion, this was due to the existence of a smaller staff of more highly motivated professionals than now exists.

Sierra Leone Television, which did not merge with SLBS until 1972, has a somewhat different staffing history. When the SLTV was established as a consortium, an expatriate General Manager, originally from NBC, was appointed. In addition, the Chief Engineer, the Production Training Officer and Head of Film Production were expatriates. These officers were supposed to help manage the station and train local personnel in running the system, but in fact various personnel at SLTV were sent to Thompson Television College for training. Even though most of the expatriates left by 1967 (at about the time the consortium ended), there was an expatriate General Manager up until the merger with SLBS.

Also, unlike SLBS, SLTV apparently did not recruit experienced engineers, except for Abdul Kahnu, the first African Chief Engineer. SLTV, as a result, had great difficulties developing a trained engineering staff. This lack was reflected in the general difficulties the station had in staying on the air during the 1960s and the general state of disrepair the station exhibited in 1969.

But the problems of technical operations and production quality do not necessarily stem from the past, from dependency models, or even from frustrations within the service. It is, in fact, possible that some of the perceived problems were not problems to the Sierra Leoneans. For example, it was noted that programmes rarely ended or began at the allotted hour. On one occasion this meant that another broadcast, the Voice of America newscast, which started exactly on time, was lost in part. Yet it is possible that such behaviour is more reflective of different attitudes to time than to indifference or incompetence. Similarly, some of the casual behaviour in production may stem from an indifference to certain elements of production which, while important to someone within a Western professional orientation, are not terribly important in Sierra Leone. It is here that questions of adaptation of technology become important: with an understanding of technology and its infrastructures which pays proper attention to social and cultural dimensions.

CHAPTER 4

CHOICE OF TECHNOLOGY AND TECHNIQUE

In this chapter we shall be examining some of the characteristics of technology choice. Before doing so, however, a few definitions are necessary, as confusion between the use of the terms technology and technique easily arises. The principle of their differentiation in this context is that the choice of broadcasting medium, an 'inter-system' choice, is a choice of technology, as is the choice of system size and location: the selection of radio as opposed to that of TV is an example. Choices of technique are 'intra-system' choices within a given system: an example would be the use of VTR within the TV system. Additions to existing system frameworks may therefore be either technology or technique choices, according to whether they extend the framework coverage or provide an additional technique within the system.

The discussion will first of all cover radio between 1934 and 1977, and then turn to TV between 1963 and 1977.

(i) Radio Technology Decisions

(a) Beginnings in 1934

Very little is known about the circumstances surrounding the creation of the rediffusion system beyond what is noted in Part One. The equipment all came from the UK, and it may be assumed that it was a turn-key operation with little involvement of local personnel other than expatriate technicians; a similar assumption may be made as to repair and maintenance, at least in the early years. But by the mid-1950s African clerical and technical staff were working on the system and constituted a significant proportion of local broadcasters: these formed the nucleus of the broadcasting organization as it subsequently expanded.

(b) Early frequency broadcasting equipment

The decision in 1955 to set up frequency broadcasting appears to have been taken entirely within the government body. The determinants of the choice of system are unknown; it might be assumed that it was seen as a small-scale experiment covering part of Freetown only, which would utilize the small pool of expertise, and provide a basis for further expansion. The source of equipment and of installation expertise is also unknown; however, given the circumstances we may assume that UK equipment and expertise were utilized throughout, in a turn-key operation.

(c) 1958-9. Purchase of 10kW SW and 10kW MW transmitters; development of New England studios

The decision to expand frequency broadcasting was also taken within the government body. Given available expertise and the objectives as laid out in Part Two, Chapter 1, the range of suitable systems was very limited, particularly as broadcasting at that time had no development or national unification function which might put an emphasis on regional broadcasting. Thus the choice of system appears appropriate. Decisions concerning the choice of technology and technique, and the means of transferring them, appear to have been in the hands solely of two expatriates, the Director of Broadcasting and the Chief Engineer; however, there is evidence that close relationships existed between these two and the rest of the technical staff, so that for them there was a learning process which would assist local decision-making in subsequent years. The transfer process itself has been described as turn-key: none the less there appears to have been a degree of involvement of local personnel, particularly in installation, which the chief engineer quoted as "excellent training for recently recruited technicians [which] in conjunction with operational duties gave the job real interest value"(1). The process was indirect in that the expatriates acted as intermediaries, but it is likely that additions to local skills were greater because of this informality than they would have been had the intermediaries been formal consultants, either linked to or independent from the equipment suppliers. As far as can be ascertained, at the time there was no overseas training for technicians or engineers in SLBS; it was entirely on-the-job training, in which a degree of disembodiment of the technology occurred.

(d) The 250kW SW transmitter at Waterloo

The purchase of this transmitter was part of the Boradcasting Development Plan, which recommended the location of 2 x 50kW SW transmitters in Magburaka, together with a 100kW SW transmitter in Freetown for external services. The decisions which led up to the choice of systems are complex.

Soon after receipt of the report of the seconded BBC engineer, Christie, tenders went out for the provision of 2 x 50kW transmitters to be located in Freetown(2). Pye and Marconi replied to the tenders, and the Tenders Board was in the process of evaluation, with Pye as a strong contender, when other circumstances began to influence the decision. A senior member of government had been present at the recent inauguration of Zambia's 200kW SW transmitter and was presumably impressed. Subsequently, contact was made between the firm which built the Zambia transmitter (Brown-Boveri) and the Sierra Leone government, and as a result Brown-Boveri proposed a 250kW short-wave system. This proposal was well received by the government.

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(1) C.I. Griggs in 40 Years of Broadcasting, SLBS, Freetown, 1975

(2) not Magburaka (see Part Two, Chapter 1, section (i))

However, the then Director of SLBS disagreed strongly with the suggestion that such a high power transmitter should be purchased, calling instead for the provision of one of 100kW output. (It should be noted here that the CBC report, in recommending a 100kW transmitter for external broadcasting, suggested that this would be sufficient for a 1000 miles radius; the need for Sierra Leone to broadcast beyond this might be questioned.)

Other SLBS objections to the 250kW transmitter proposal were:

(i) It would over-reach SLBS needs.

(ii) It would prove more expensive in capital cost than necessary.

(iii) It would be incompatible with SLBS skills and capabilities.

(iv) It would provide extra financial liabilities in terms of staff and maintenance costs.

Brown-Boveri's arguments for the 250kW choice are not clear, but they appear to have emphasized that it would ensure high quality 24-hour coverage and very strong signals to other countries; and they also held that the purchase would prove economical in the long run. There is evidence that a group of technical advisers was to have assisted in making the choice, but this was probably the relevant technical committee for the planning process, which never met.

In the event, the contract was signed after an extremely short period for appraisal, and it was apparently accepted without the normal procedural submissions. Thus the choice of technology and of technology supplier appears to have been primarily a political decision. While the change in location from Magburaka was appropriate, given the declared political priorities of stability and national unification, the choice of system size appears to be highly inappropriate in that it bears no visible relation to any stated political and/or economic objectives. The source of transfer method choice is unknown, but could well have been the same as that of the choice of supplier, with the two linked. The transfer method was primarily a turn-key or packaged one; however, in contrast to the previous experience, this indirect method did not allow for any local involvement in decision making or in any significant disembodiment of technology. Although the civil works were subcontracted to a local contractor, there is no evidence of local involvement in the installation. Four engineers were trained in Switzerland and retain operating capabilities, but repair and maintenance capabilities seem to be at a relatively low level (which probably reflects the characteristics of the training received).

Subsequent events appear to bear out the SLBS arguments. The 250kW transmitter reportedly accounts for a disproportionate amount of the recurrent budget, and at the same time it is only working at

half power. The reasons for this have not been clarified. It may be due to lack of adjustment, or to faults in the equipment which cannot be rectified with local skills. Equally it may be a conscious decision on the part of SLBS that full power output should not be used until operational standards have been raised by the use of the new broadcasting complex.

(e) Other examples

In addition to these two major system/technology choices there has also been the addition of a 10kW MW stand-by transmitter at Goderich. The decision to purchase this transmitter and the choice of Marconi as supplier were confined to SLBS, as was the decision to use a packaged turn-key operation. However, subsequent events, as described in the section on maintenance above, have ensured that once installation is actually undertaken, the transfer method will be direct, with a very high level of SLBS involvement.

(ii) Television Technology Decisions

The possibility of introducing television had been a subject for discussion in Sierra Leone since the late 1950s, but its first official mention came in the Ten Year Plan for the Social and Economic Development of Sierra Leone, published in early 1962, which stated that "the proposed TV service will be connected to sound at Broadcasting House". There is no indication of the circumstances surrounding this statement, and it must be assumed that it stems from the report compiled by the Director of Broadcasting and submitted in the previous year. In February 1962 it was announced that a television service would be set up: the timing appears to have been determined by the political situation, as discussed in Part One of the paper.

(a) 1963 Television acquisition

That the planning for television was precipitate is confirmed by the 1962-63 Development Estimates, or the capital budget for development projects, which includes no mention of television investment. However, the 1963-64 Development Estimates indicated that the Television Project would cost Le200,000, with Le62,456 spent by March 31, 1963.

The project was reportedly a consortium with RCA-NBC and Thompson International holding 60%, and the Sierra Leone government holding 40%. While the original agreement is not available, the participants appear to have offered the following: RCA-NBC provided the general manager, who was paid by the Sierra Leone government, and also supplied the transmitting equipment. Thompson packaged the television station, acted as supplier of foreign programmes and films, and supplied spare parts for the equipment. In addition, Sierra Leone paid an annual fee to the commercial members of Le8,000 from 1963-1966, and Le11,000 in 1967. The equipment provided by Pye through Thompson was basically a package system for the showing of imported films. In theory it was a one-man studio, consisting of two cameras, a simple switcher and audio-mixer, and a telecine: the present TV studio was built to accommodate it.

In 1967 the commercial members of the consortium withdrew. Since the Sierra Leone government had paid off the cost of the facility by 1967, it is possible that the consortium provided a financing arrangement which terminated when the investment was amortized. At the same time it has also been suggested that RCA-NBC and Thompson withdrew from active ownership as the television service was crumbling, disappointed with the station's non-commercial orientation and lack of expansion. This last point is important. Fox de Cardona (1973 Masters Thesis) has shown that RCA attempted similar investments in Latin America during the early 1960s and used the investment in RCA facilities as a 'foot in the door' for future sales of NBC programmes. Certainly, given the equipment provided, the facility was inherently incapable of local production at a scale sufficient to fill a daily broadcast schedule or even part of a schedule. With no film or video recording facilities, local production would only be possible for a minimal period and the gaps would have to be filled with imported programmes.

But while the programme importing activities of the consortium probably prospered, the Sierra Leone Parliament barred commercial advertising and made no moves to expand television's coverage. This necessarily limited the charges which SLTV could make for programming and hence the potential profitability of the enterprise. If the interpretation of motives described here is correct, the subsequent pull-out was inevitable.

With no local personnel having any TV training or experience whatsoever, the choice of system technology and technique lay solely within the consortium. Local involvement was at a very low level, especially as basic decisions appear to have been made in a hurry: at the very most there could have been some involvement in construction. It is important to note that there was no involvement of SLBS in any decision-making, except in so far as it argued against the introduction of TV in the first place.

The transfer method was therefore entirely a packaged turn-key operation, with no local involvement in installation: as far as can be ascertained, there was no training of local personnel in operation, repair or maintenance prior to start-up. Indeed it was not until at least six months after TV broadcasting commenced that the engineer transferred from SLBS to SLTV was sent to the Thompson International TV training school near Glasgow. An indication of the low levels of local expertise which emerged from this transfer is that as well as the General Manager, expatriates filled the posts of Chief Engineer, Production Training Officer, and Head of Film Production until about 1967.

(b) Subsequent choices

Between the major decision to set up the television service, and the decisions and transfers concerning the new complex, there were three relatively minor additions to the technology system.

The first of these was the purchase of a Gates 100 W transmitter as a stand-by for Signal Hill: all decisions concerning the purchase appear to have been made by SLBS, which was also involved in installation.

More significant from the point of view of the quality of the TV service itself were the two second-hand purchase of 1973 and 1975. As Christie had noted, replacements of TV were vital if the service was not to shut down; in 1973 the assistant engineer, knowing that the BBC was taking out some monochrome equipment due to colourization, managed to obtain three EMI cameras, some switchers, monitors, lighting equipment and various other bits and pieces for the very low price of £5,800, which enabled studio production to restart. This direct transfer probably benefited SLBS more than might be expected; all the decisions had to be taken locally, and the technical incorporation of the equipment into the old system offered a valuable technical experience and learning process, which involved a high degree of disembodiment. This was repeated in 1975 in a similar fashion when ZBF of Germany was also colourizing: on this occasion five Fernseh cameras, two scanners, a flying spot telecine to replace the original optical telecine and other small items were obtained, as well as an OB van. The total cost was £30,000: while ZBF apparently had been prepared to let it go for nothing, an administrative requirement necessitated a charge.

A final technology question arose over the siting of the new TV transmitter on Leicester Peak in Freetown. As we have already noted, the decision of the government not to carry out the regional TV recommendations of the CBC report probably reflected its desire to retain centralized control over broadcasting. There is some evidence that one aspect of the Leicester Peak location also reflects the role of political considerations in broadcasting.

The range of the new Leicester Peak transmitter will be somewhat over 100 kms. It has been suggested by officials concerned with programming for agricultural broadcasting that the topographical features of the transmitter's location will prevent reception in much of the southern half of the part of the country covered by this range. How the decision to locate at Leicester Peak was arrived at is not known: there were no facilities there prior to the decision and there was no mention of Leicester Peak in the CBC report. The first documentary note of it occurs in the Christie report, and we must assume that the decision was taken either by Christie or by the government or by a combination of the two. The significance of this point as made to the team is that the area which will be covered is a prime area of support for the government. However, it must be said that the team was not in a position to investigate alternatives.

(iii) The New Broadcasting Complex

The major addition to both radio and television capacity in the near future is in the new Broadcasting Complex, which is now nearing completion. The decision-making process in choosing between options is difficult to unravel but appears to be as follows.

(a) The tenders

The drawing up of tender specifications was initially by Christie, who also evaluated the responses to the tender: there were five - from Thompson, Philips, Marconi, Pye and Radionica. Thompson and Philips were rejected because their tenders were only partial, and a turn-key operation was required. As far as the building of the complex was concerned, Pye's plan was incomplete and needed expensive modifications, Marconi's submission did not include a building, but Radionica's building was complete and acceptable. Building tender prices were: Pye Le 2.26 mn; Radionica Le 2.36 mn.

On the equipment side, Marconi's plan was acceptable apart from revisions needed to the transmitter components, which would increase costs, and there was inadequate definition of spare parts provision. Pye's submission was technically acceptable but omitted certain items and did not include their most advanced transmitter. Radionica, who prepared a package deal, satisfied the technical requirements fully, although its spare parts provision was queried. Radionica was also prepared to negotiate on the price, and to provide Pye equipment if the Sierra Leoneans so desired, following their historical preference. The tender prices were:

Marconi	Le 2.75 mn
Pye	Le 2.37 mn
Radionica	Le 2.60 mn

Because of funding problems, no decision was made on the tenders. However, in 1973, when finance again became available, only Pye was asked to re-tender. Various reasons were put forward, but the primary argument was that the state of the television studio and equipment was so bad that an immediate decision had to be taken either to shut down or to invest rapidly before a final collapse. It was therefore considered that to approach a wide range of suppliers would mean time wasted. Pye was the obvious choice, as it had longstanding ties both with SLBS, with P & T and with the Ministry of the Interior VHF system. To change the major supplier would have entailed a risky "experience cost", and indeed this was one reason why Pye was favoured over Radionica in the first tender. There is evidence that initiatives taken by Pye's local representative in ensuring that Pye had full and early knowledge of likely requirements also played some part.

(b) Authority of the specifications

In the first stage described above, SLBS involvement in the potential transfer was indirect, and it seems, very slight, with all decision-making and advice provision being left to Christie. There is some controversy over the extent to which SLBS staff themselves provided the later specifications in 1973. SLBS claim that this was all their own work: in contrast, it has been argued that this was unlikely and that a model for the specifications would have been provided by Pye themselves. A similar controversy exists over the broadcasting complex specifications, but SLBS states that it provided them through the combined efforts of the assistant engineer, who had done a short-term system management course with the BBC, and the chief architect in the department of public works, who was also an associate member of the consulting firm for the building. A clear answer to these questions would provide some better indication of the level of technical expertise within SLBS: whether it is at an operating, maintenance and repair level, or at the initiating and decision-making level. While the questions remain unresolved, a tentative answer is that SLBS skill level is somewhere between the two extremes, and has certainly shown considerable increases over the past five years.

However, it is interesting to note that, while the transfer method is now a direct one, in that SLBS is dealing directly with Pye, it is still a packaged and turn-key operation, and that there is an installation contract (which has been renegotiated twice because of delays). Such a contract may however have been a condition of the supplier, to avoid future problems over guarantees, etc.

(iv) Choice of Technique

In this section an attempt is made to list some characteristic intra-system equipment choices which have been made within the radio and televisions systems, and where relevant to explore why these decisions were made, by whom they were made, and to suggest some consequences.

(a) Radio

Outside broadcasting. An OB Land-Rover was purchased in 1958, but nothing is known of the circumstances or of its operations. Not until 1975 was another OB van purchased, using Pye equipment in a Ford van. There is disagreement over the amount of time for which the OB van is used: at the time of its purchase, a senior government official suggested that it should not be used too often. The reasons for this could be: (i) it might wear out, or (ii) it might increase the scope for or danger of unedited reporting on politically sensitive subjects, or (iii) in relation to (ii) it increases the scope for regional production. So far it has been used primarily for formal

reporting: sporting events, religious programmes, State openings of Parliament, etc. A possible further restriction on its use is the sensitive relationship between SLBS and P&T, which acts as a political constraint on SLBS's use of P&T telephone lines and microwave links when the OB line-of-sight microwave system cannot be used. There is disagreement within SLBS on the extent to which this is a problem.

(b) Television

A German OB van with Fernseh equipment was obtained as part of the secondhand equipment purchase in 1975. It appears that this decision was entirely fortuitous, in that the OB van happened to be for sale at the same time as the rest of the equipment. Prior to this there had been no TVOB: surprisingly in view of the complexity of the new facility but to be expected in view of the political and other factors noted in dealing with the radio OB van, such a facility is not included in the schedule of equipment for the new broadcasting complex.

The van has apparently been used only twice: once at the inauguration of Siaka Stevens as President and once at the presentation of medals at State House.

VTR. Three x 1/4 inch VTRs were purchased direct in 1971-2 in order to extend the scope of local production, and also in order to cover the visit of Hailie Selassie to Freetown. The attempts failed, since the complicated interface engineering necessary to fit these low-cost 1/4 inch VTRs into the SLBS system could not successfully be undertaken, while inappropriate adjustments to tape tensions meant that the heads wore out very quickly.

Film processing. Film processing techniques are highly primitive, using a slow manual process. The result is that news and other film sequences are inconsistent in quality. A negative processor was purchased in 1974 as part of the equipment scheduled for the broadcasting complex but has not been installed. This is because the quality of output through the secondhand telecines presently installed is so variable that increasing the quality of the film processing would not lead to any improvement in output.

Camera mounts. Three Vinten tripods were purchased direct from the UK in 1973. As it is difficult to track these mounts, and they provide no vertical movement for the camera, they clearly restrict the range of production techniques. While there is no guarantee that hydraulic pedestals would have been fully utilized, given the present limits of production talent, it would have at least removed one of the many equipment restrictions. The reason for the purchase of the tripods was purely economic, and such decisions are understandable given the state of finances in 1973. However, the mountings ordered for the new Complex consist of 4 tripods and 1 pedestal, which is probably insufficient - 3 tripods and 2 pedestals would have provided a more adequate basis for flexible production. The reason for the choice

of tripods is unclear, but is most likely due to the domination of equipment specification by engineering staff rather than by production personnel (a problem by no means confined to the developing world).

PART THREE

CONCLUSIONS

In this final chapter we examine tentatively the themes and hypothesis upon which the study was based, in the light of the data gathered. These were stated in the preface to the paper; they are also referred to in summary below. The chapter concludes with some notes on methodology, particularly related to the framework advanced in the working paper for the Committee of Experts' Meeting on Technology Transfer and Communication.

1. Themes and Hypotheses

(a) MNC domination of technology transfer is a characteristic of technology transfer in broadcasting

The hypothesis is framed in narrow terms, but we shall treat it within the broader framework of the Sierra Leone economy and political situation. In this context two systems must be considered: that of the government, and that of the MNC, for the latter does not act in isolation from the former. At various stages of the decision making and transfer processes the two interact: it may well be in the government's interests to oppose MNC domination on the one hand, or to collaborate with it on the other. MNC domination of technology transfer may take several forms. These include control of the technical options within which choices may be made; the use of MNC resources in inducing government decisions favourable to them; the control of transfer processes themselves; the subsequent control of operations and inputs.

In the discussion which follows, the term MNC is used to include some large national or international enterprises which, although not MNC in the strictest sense, nevertheless share many of the same operating characteristics.

MNC domination in the broadcasting framework

1962-3. In the case of the creation of the television service it is clear that the consortium was in control of all technical options of the transfer process and partly of subsequent operations and inputs. However, to a large extent elements within the political system collaborated with the MNC domination, in that the latter was offering perhaps the only technical solution to very short term government requirements. One might speculate that, if the collaboration had been less, or if more time had been available, other technical and institutional options might have been considered.

Such options might not have left SLTV (and later SLBS) with a system whose inefficient and inappropriate mode of operation left its mark on broadcasting for 15 years. At the same time it should be emphasized that in 1962-3 a pool of local manpower sufficiently qualified to acquire a range of options and to evaluate them was simply not available: thus the domination that resulted was inevitable, only increased to a limited extent by collaboration.

1971-2. The choice of the 250kW transmitter is a different case. By this time the qualified manpower lacking in 1962-3 was available and capable of evaluating technical options; however, political factors overcame the objections put forward by SLBS and others. In short, the choice of technological options was resolved by collaboration rather than by domination. Moreover, the subsequent transfer processes were entirely dominated by Brown Boveri, and it may turn out that a further degree of domination becomes a feature of repair and upkeep in the future.

1973. The case of the choice of Pye as equipment supplier reflects a different type of domination, in that one major factor in the choice was the company's previous connection with Sierra Leone, not only in broadcasting but to a much greater extent in the provision of telecommunications facilities. It is still not clear to what extent Pye dominated the technical options considered, or how much Pye resources helped to induce a favourable response from government. In the former case a tentative conclusion would be that the range of technical options was determined to a significant extent by local engineers: in the latter that there was collaboration, but in the sense that choosing another supplier would have presented problems in terms of experience costs. The degree of domination of the transfer process remains to be seen, as does that of subsequent operations and inputs: a reasonable forecast would suggest that domination here will be slight.

MNC domination in the national framework

The fact that Pye's role in broadcasting is linked to its role in telecommunications brings us to relate the MNC role in broadcasting to its role in the economy as a whole. Here it is necessary to refer back to the summary analysis of the Sierra Leone economy as presented in Part One, in which it was made clear that the bulk of the modern sector, while not necessarily the domain of MNCs in the strictest sense, is controlled by European companies which may readily be grouped together with MNCs. The near-monopoly on supply of telecommunications equipment held by Pye is a specific example.

We can take this point further: the stability of the government depends to a certain extent on its ability to appear to the majority of the people, particularly its supporters, as able to manage the modern sector and maintain a flow of benefits from it. A symbol of this ability is the recognition of the group by the representatives of

the modern sector, such as local MNC managers and international agency representatives; equally the latter require the good will of the former if their operations are to prosper, so that collaboration between the two is necessary to both.

In this context the role of MNCs in broadcasting technology transfer is one which exhibits symptoms of domination in different parts of the transfer process in each of the major investment decisions. In the wider context of the Sierra Leone economy this is not inconsistent with the role of other MNCs and foreign companies.

(b) "A consequence of this is technological dependency, which may be reduced by a rational approach to development of local capabilities"

Our concern here is with the development of those local capabilities which will counter technological dependency. The main areas in which MNC (or equivalent) domination is likely to be relevant are:

(i) Broadcasting needs definition

(ii) Definition of the range of technical options to meet these needs

(iii) Evaluation of technical options

(iv) Evaluation of suppliers

(v) Installation

(vi) Operation, maintenance and repair.

The data available suggests that there has been a certain development of these capabilities within SLBS through experience or learning by doing, and by training (whether locally or overseas) over the past 15 years. However, in evaluating the role of MNCs and their possible impact on the development of these capabilities, a particular problem arises, in that we are dealing with the interaction of MNCs and government. When the enquiry is expanded to include financial and institutional constraints on the broadcasting system, which in part determine the potential for capability development, it is difficult to trace separately the possible influence of MNC domination. However, some general comments may be made.

(i) The process of needs definition, in so far as it exists, is very largely the prerogative of government, and thus a direct MNC influence on needs definition within the broadcasting organization itself is likely to be slight. The only area where SLBS is involved in needs definition is in its relationship with user sectors such as agriculture: here the development of capabilities is restricted primarily by the institutional and financial factors noted above, and thus only indirectly by MNCs.

(ii) and (iii) The definition of technical option ranges depends very largely on overseas training and local experience. A common characteristic of such training is that LDC nationals are trained solely to operate and maintain equipment, usually parts of the range of the suppliers with whom they are dealing. Thus there is very little development of the capabilities necessary for making choices between ranges of technical options for a particular need, or for choices between options, and this is often a direct consequence of dealing with MNCs. Indeed it has been suggested that a simple means of improvement would be for SLBS engineers to obtain all the telecommunications equipment manufacturers' manuals, rather than relying on those now available which relate solely to current SLBS suppliers. Within a relatively short period this should ensure wider choice capabilities. It is interesting to note here that the greatest developments of SLBS technical capabilities other than simple operation have probably resulted from the purchase of second-hand equipment direct from broadcasters rather than new equipment purchases from MNCs.

(iv) A similar situation arises in the case of supplier evaluation. In the first two cases of major investment examined, appraisal from the point of view of broadcasting was interrupted by external and political considerations. Only in the case of Pye in 197. can it be said that broadcasting personnel and those issues of importance to them played a major role in the choice of supplier, and even here some elements of domination may well have been present.

(v) Installation is an area of great potential for improvement. The control and domination of the transfer processes by the consortium in 1962-3, and by the British in earlier investments, led to turn-key operations which allowed very little participation in the transfer process by local engineers, and missed opportunities for a much deeper understanding of interface engineering and equipment characteristics. It is not known to what extent this was the case in the Brown Boveri contract, and it remains to be seen what will happen in the case of the Pye contract for 1973. An installation contract exists, but this is probably necessary, and reasonably so, from the manufacturer's point of view, so as to ensure the maintenance of guarantee conditions. At the same time, a rational approach would be to write into the installation contract the participation of, say, three SLBS engineers in all aspects and stages of the installation process. In fairness to manufacturers, however, it should be noted that in some cases - not necessarily in Sierra Leone - there is local resistance to such proposals for institutional and financial reasons.

(vi) We have already noted that the capacity to operate, maintain and repair equipment has been improved in SLBS. The fact that these processes do not always proceed as efficiently as might be desired is due more to the cultural, institutional and financial factors described elsewhere than to direct domination

of technology transfer by MNCs. None the less, it should be emphasized that these factors are partly a consequence and a reflection of historical circumstances, and of the domination of the economy as a whole by overseas-based companies.

(c) A further consequence is increased penetration by the metropolitan centre through imported programmes

The issues raised by imported programming are most serious in relation to television in Sierra Leone, and the discussion below is mostly of television programming. Nevertheless, many of the arguments can also be applied to radio, in a more indirect manner. Unlike television, where the foreign programming is easily visible, radio uses foreign music, foreign news sources, and the like which are not as readily detectable but which may well have a substantial impact.

The problem of television programme imports and dependency has generally received a good deal of attention in Latin America, where there have been growing signs of alarm about penetration of American programmes as opposed to the development of local industries. One of the basic problems raised by foreign-produced programming is the economics of the international programme market. For countries like the US, UK and FRG, the cost of programming is generally recovered through domestic sales. Thus, exports of programmes provide pure profit - any amount that can be charged above the cost of reproducing and shipping the film is profit. As a result, such programmes can generally be sold very cheaply (e.g. Le 120 in Sierra Leone for half an hour). In effect, it is cheaper for the country to purchase a foreign-produced programme than to produce its own, and this is particularly true for colour programmes which are expensive to make. In addition, the foreign imports are technically 'better' than the local production companies can expect to produce, especially on a regular basis.

While there is no evidence to judge whether such results have occurred in Sierra Leone, studies in Latin America have indicated that, in the presence of foreign and local production, local production will be unfavourably compared with the relatively slick foreign product. This can impede the growth of a local or regional production industry which, in turn, can reinforce the trend for a higher level of programme imports.

The major problem with programme imports from industrialized nations is that they were made to reflect the values and historical situations of those countries. Thus, American programming has been shown to emphasize heavily the individual succeeding by placing himself against society and to emphasize the regular consumption of industrially produced goods. Such implications, while possibly appropriate in the US, would seem to be inappropriate in a developing society where co-operation is necessary, and where excessive consumption prevents the mobilization of capital and wastes foreign exchange.

It is, of course, difficult to evaluate the impact of such programmes on audiences. First, the impact of messages in programmes has been difficult to evaluate under any number of different research conditions in the US and Europe. Second, the contrast between the portrayed life-styles in the programmes and the local life-style should lead to some discontinuities in interpretation. However, this does not mean that the lessons are not learned: they may simply be interpreted in different ways from the Americans and Europeans.

It may also be unscientific to speak of the "impact" of foreign programmes on local populations, as the media cannot somehow be isolated from other social events. However, it is reasonable to hypothesize that at a minimum, such programmes will most closely reinforce the aspirations of the urban middle classes who already have links with the US and Europe through business contacts, other media, consumption imports, and the like. The impact of entertainment programming for such classes may militate against attempts to reduce dependency if the outcome is increased import consumption, and more importantly, against attempts to learn to structure development alternatives with lessons appropriate to very different societies. In effect, such programmes may act as a contributing agent to the maintenance of dependency ties with Europe and the US. This is dependency beyond that which may come from a simple continued dependence on foreign sources for programmes.

In terms of the rural population, who do not have television yet in Sierra Leone, the impact of foreign programming is difficult to imagine. Here again, however, the danger for development is the evolution of forms of behaviour and expectations which may be irrelevant to an evolving agricultural society like Sierra Leone.

The important issue in terms of technology transfer is that the use of imported programming is tied to the original decision to import a technology. Different media technologies have different requirements for production. In situations like Sierra Leone, where choices of technology are made apart from development strategies, or even without any assumptions on use preceding the choice of the technology, the likely result will be the importation of associated technologies - in this case, programming.

(d) <u>"Broadcasting of this type is related strongly to the cultural modes and demands of urban-based elites and is strongly centralized"</u>

Regardless of what might be broadcast, ownership of a radio or a television is important to Sierra Leoneans. On the whole, television and its content are derivative of Western culture, and to the extent that the urban elite seeks to participate in this style of life TV is quite compatible with its aspirations. Until TV broadcasting achieves a greater degree of maturity and flexibility there seems little likelihood of this pattern changing. The programmes, soap operas, thrillers, and films, also seem to suit the Lebanese trading minority and the

Third World expatriate elite. However, European and North American expatriates do not reportedly watch SLTV, or even have TV receivers.

Among the people at large a radio is an important indicator of status: radio is definitely a mass medium in Sierra Leone. Moreover, SLBS has a tradition of broadcasting in the vernacular, which it does to the best of its ability, and there is no doubt that this is appreciated.

However, despite the pop arity of radio amongst the rural population, it is generally true that the programmes aimed at the masses do not originate among them, but are what the urban elite considers appropriate for them. Though broadcasts such as "Farm l rum", which are occasionally produced out of tape-recorded discussions among local farmers, are known to be popular, current plans for the future of broadcasting are based on the preservation of central control, with programmes conceived and handed down from the centre.

(e) "Broadcasting as transferred under these patterns is not related to the development needs of the nation."

The process of transfer of broadcasting to Sierra Leone extends over forty years. During this period not only have the development needs of the country, as seen from the perspective of the present day, changed, but so also have the philosophies of what these development needs might be.

An early view of development needs was simply the sum of those features of a modern State which Sierra Leone lacked. The actions identified were aimed at 'closing the gap" between Sierra Leone and the modern countries. Accordingly, any kind of technology that contributed to establishing a Western industrial style of life in Sierra Leone was thought appropriate. The underlying philosophy was that of "modernization", i.e. a "modern" State has among other things a sophisticated broadcasting system. This could be interpreted to mean that not only were the media to be "modern", but also their content should derive from the culture of "modern" States.

There is no doubt that this thinking was behind the decisions made by the British right up to Independence in 1961, when BBC programmes were broadcast 90% of the time and where "local talent" was identified as Africans who had mastered Western musical instruments and music. It was during this era that the institutions and practices of SLBS were established.

During the sixties this early view of development was replaced by one which laid greater emphasis on the economic and structural relations between developed and underdeveloped countries. A revised agenda for development planning emphasized the attainment of control over economic processes, in a direction that would lead to a creation of wealth, thereby raising the standard of living. In effect this meant economic planning and developing the infrastructure of a modern

economy. In Sierra Leone the problems of this approach were soon highlighted by the fact that control over the modern sector of the economy was largely in the hands of expatriate companies. The price of commodities was determined in USA and Europe, decisions to invest or not to invest made outside Sierra Leone (e.g. the closure of the iron mine).

Given these difficulties, and also the problem of ethnic diversity, the government inevitably saw national integration as an important part of development. Thus, though broadcasting did not obviously find a place in the economic planning process or in the development of an infrastructure, it naturally came to the fore as an instrument for promoting national integration.

In Sierra Leone this meant that during the first decade of Independence, while the country was moving away from the "modernizing" theory to the "planning and infrastructure" view of economic development, technology decisions were made without any clear reference to development needs. However, the establishment of institutionalized planning and investment in roads in the early seventies was followed very quickly by a move in international circles towards rural development. Therefore in Sierra Leone we find, in the mid-seventies, that broadcasting was assigned a role, implicitly, which simultaneously promoted national integration and rural development.(1)

Though successive governments have perceived a need for a national broadcasting system, in the absence of any clear idea of how the medium might be used, its effectiveness as a tool becomes doubtful. This is the situation which apparently exists today in Sierra Leone. In particular, the practice of centralization, instituted by the British, appears to be more a tool of government than of national integration. While there has been some development of public affairs programming by SLBS, and of agricultural and health programming by other ministries in co-operation with SLBS, the growth of such programmes has been ad hoc and is limited in range by political considerations. This is not to deny the real value of this programming: indeed, it serves valuable purposes in terms of reinforcing ongoing programmes of the government. But it appears that the emphasis in media development in television, and to a large extent in radio, has been on the acquisition of technologies rather than on development of media systems. This is not a minor distinction. In the absence of a positive and explicit media strategy, decision makers are confronted by manufacturers of equipment and associated materials who are primarily interested in selling their products. With unclear strategies, the choice of technology becomes problematic and the decision then, in reality, is with the manufacturers.

Moreover, the long-term impact of these transfers may well be to narrow the range of alternatives available for future development - in effect, to perpetuate the general state of dependency. As noted above, the use of colour television may increase dependency on imports of

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(1) cf. Speech by President Stevens at the inauguration of the 250kW transmitter (see "40 Years of Broadcasting")

foreign programmes which, in turn, may have adverse effects on public attitudes, the development of the import sector, and the role of the urban middle class. In Sierra Leone, the transfer of technology has in fact led to a situation where investments taking place during the 1970s are apparently constrained by decisions made in the 1950s and 1960s, and where future investment decisions will be influenced by those made now.

2. Theoretical and Methodological Questions Raised by the Case Study

As this was a pilot study, it is important to note some of the difficulties experienced by the study team during its field work.

At the simplest level, documentation was a major problem, and will probably be the same for future studies. The Sierra Leone government does not maintain centralized, catalogued archives: rather, documents are scattered among agencies, serial documents are incomplete and many files are simply mislaid or destroyed. The acquisition of reliable statistics proved to be impossible: the Ministry of Development and Economic Planning has one set of economic statistics, the Bank of Sierra Leone and individual agencies others. It is admitted that the basis for all of these statistics is rather loose, and as a result the Sierra Leone government has recently made efforts to improve the quality and quantity of statistical materials.

Lack of documentation compelled the team to rely on interviews. The problems of interviewing are well known in social research; interviewees tend to have selective memories, information may be delivered in a strategic manner, or the facts as reported may simply be wrong. For the study, this posed a particular problem as much of the material desired related to events of over ten years before. In the case of television in particular, it was difficult to find anyone to interview who was directly involved with SLTV. This made the findings secondhand, and often hearsay.

There were even more serious issues, however. First of all, there is at all levels of government a considerable gap between the formal procedures and the informal organization. While it was possible for the researchers to come to terms with the former relatively quickly, far greater problems were posed by the volume of important traffic within the informal organization. This compounded the difficulty of interviewing, since it demanded of a formal interview that it elicit informal information. It was often difficult to establish the limits of an enquiry as it moved into the informal arena, since more and more factors came into play and appeared relevant as the investigation was pursued. At the same time, there was a question of discretion and confidentiality. It should be recorded that the team was treated with great openness and given information that it was not expected to use in this report (a wish which has been respected).

Finally, the investigation looked at only half of the technology transfer issue - that relating to the recipients, in this case SLBS

and the Sierre Leone government. It did not consider the other half - the suppliers of the technology, the manufacturers and their agents, or the impact of other bodies such as bilateral and international agencies. To some extent the scope of these omissions is discussed in the final section (4) of this chapter.

3. Specific Problems of Method

One of the difficulties in approaching this type of inquiry is in isolating the participants in decision-making. This is a question of delineating not only who participated, but what influence these participants had. For example, in discussing the purchase of a radio transmitter, advice may have been given to Sierra Leone government officials by officials in other countries which could be significant. Or informal participation (e.g. the participation of one's friends and family in programming decisions) can also be important when building up a complete picture of the decision-making process.

The problem of participation goes further. In discussing some investment decisions, for example, it is important to determine whether participation by certain people or agencies was a one-time involvement (i.e. particular to that decision), whether it was tied to officially demarcated functions or informal influence, or whether it reflected structural conditions which persist over time.

Identifying participants is very much part of the problem of analysing technology transfer. The formal processes of transfer are relatively observable, although specific studies are often difficult due to loss of documents, memory, or the span of time. It is clear, however, that formal processes are often post hoc - the actual decision to import a technology may have taken place at a higher level of government with different rationalisations offered to the public than those which were originally considered. An example discussed in this paper was the purchase of the 250kW short-wave transmitter. It would be reasonable to conjecture, in this case, that the reasons for the purchase put forward in formal statements by the government only partially reflected the considerations involved.

The time element in the decision process is equally important. For example, in examining the introduction of television in 1962, one question which arose was whether the government had approached various television equipment suppliers about supplying a facility, or whether it had itself been approached by RCA/Thompson with a proposal. The issue of who contacted whom, and when, allows us to formulate some idea of how alternatives were structured and acted upon by the various parties to the transfer.

A particularly difficult problem in the transfer process is in determining the uses of influence. First, it is naturally difficult to research, and second, it is difficult to evaluate in terms of significance. It is not always clear how and where it may enter the decision process: does it enter at the beginning with, in a simple

case, a company encouraging the adoption of a particular technology, or does it occur at a later stage, more to assure a specific purchase from a particular supplier? Obviously, the question does not divide so easily, but the issue is relevant to understanding the interface between foreign firms and local elites: the sequence of events will help establish those considerations which went into planning for technology acquisition.

4. Relationship to an Analytical Framework

This final section begins to relate the data obtained from the research in Sierra Leone to a theoretical systems approach to technology transfer in broadcasting. This latter approach was evolved in the working paper for the Committee of Experts' Meeting on Technology Transfer and Communications, a meeting for which this document is also destined.

The approach is summarized in the two diagrams which follow (which were also part of the original working paper). Diagram (i) notes the various systems which, both from the DC or 'supply side' and from the LDC or 'demand' side, influence the choices of technology, technique and transfer methods for broadcasting. Diagram (ii) depicts the systems and system interactions which need to be analysed if developmental objectives are to be met by LDC broadcasting systems.

Diagram (i)

DC or 'supply' systems

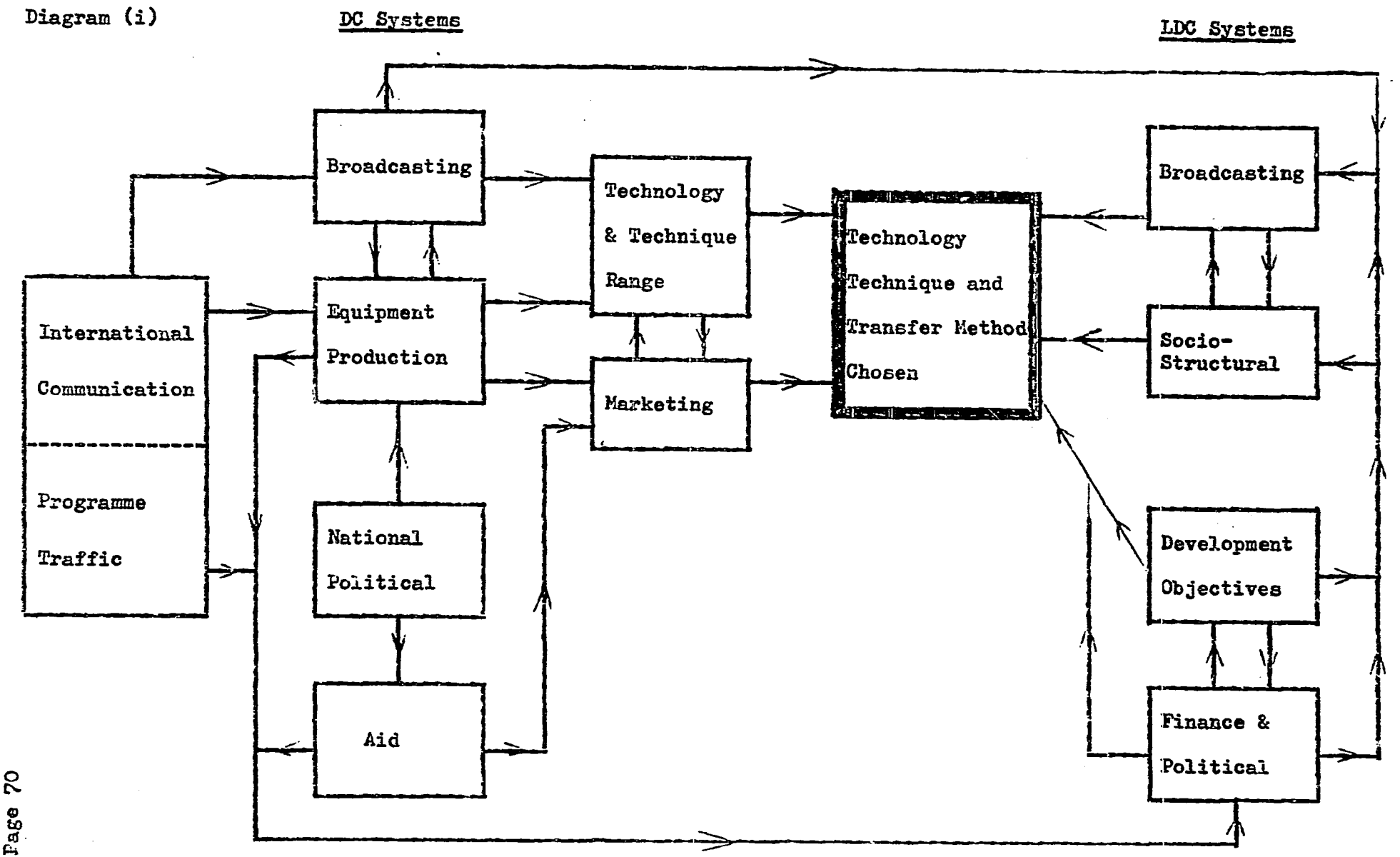
In general, the data provided by the Sierra Leone research are adequately catered for in this part of the diagram. None the less, various comments may be made and additions suggested, in the light of the SLBS experience.

(a) The International Communication Programme Traffic system was relevant in only one transfer, that of TV (1962-3), and is unlikely to be of great relevance in the future.

(b) The Aid system has to date played a very minor role, insofar as the main aid organizations are concerned. However, it is probably necessary to redefine the system so as to incorporate bodies such as the Commonwealth Broadcasting Conference, which were influential and which have some of the same characteristics.

(c) The case of the 250kW transmitter suggests that a direct link should be drawn between DC marketing systems and the LDC political system, a link which influences choices in transfer independent of the LDC broadcasting system.

Diagram (i)


DC Systems
LDC Systems
Broadcasting
Technology & Technique Range
Technology Technique and Transfer Method Chosen
Broadcasting
International Communication
Equipment Production
Marketing
Socio-Structural
Programme Traffic
National Political
Development Objectives
Aid
Finance & Political

(d) Insofar as the structure of international economic relations influences the LDC economy, and hence the political and economic constraints on transfer, the international economic system must be included.

(e) In the paper we noted that the position of Pye as a near monopoly supplier of communications equipment to Sierra Leone might be able to influence technology transfer choices in broadcasting. This suggests that the broadcasting equipment production system should either specifically include other communications equipment, or alternatively, be divided into two systems: one for broadcasting and one for other communications equipment.

(f) A significant proportion of SLBS programming has been provided by foreign sources other than those covered by the commercial programme traffic system. This proportion is mainly politically oriented (VOA, Radio Moscow, embassy publicity, etc.) and thus overseas political systems (mainly DC) should be linked to programme traffic.

LDC or 'demand' side

The basic structure of the diagram appears adequate, but again, additional considerations are necessary.

(a) The system labelled Finance & Political is insufficient to take account of either the influence of the international economic system, or of the political system's determination of various aspects of broadcasting technology transfer. Thus it needs to be split into three separate systems. The first is an economic system with direct links to the international economic system. The second is a finance system with links to both the international and the LDC economic systems, and also to the LDC political system. The third is the LDC political system itself.

(b) In the Sierra Leone case, development objectives that have influenced issues of broadcasting technology transfer are primarily political, while the development objectives component of diagram (i) was originally seen as economic. Thus there is a case for further refinement here.

(c) The Sierra Leone Ministry of Education and Public Welfare is attempting to set up transmitters for educational broadcasting, seemingly independent of SLBS. This is not an unprecedented, although not a common situation. In certain circumstances, therefore, it may be necessary to incorporate a user sector system as an independent determinant of technology transfer choices.

(d) A major staffing problem in SLBS relates to its civil service-oriented structure; there may therefore be a case for incorp-

erating the civil service system into the analysis, with links to the broadcasting, socio-structural and political systems.

(d) Current transfer choices appear to be largely constrained by past choices. Thus it is necessary to emphasize both the present and past structure, pool of expertise and range of technologies and techniques within the broadcasting system.

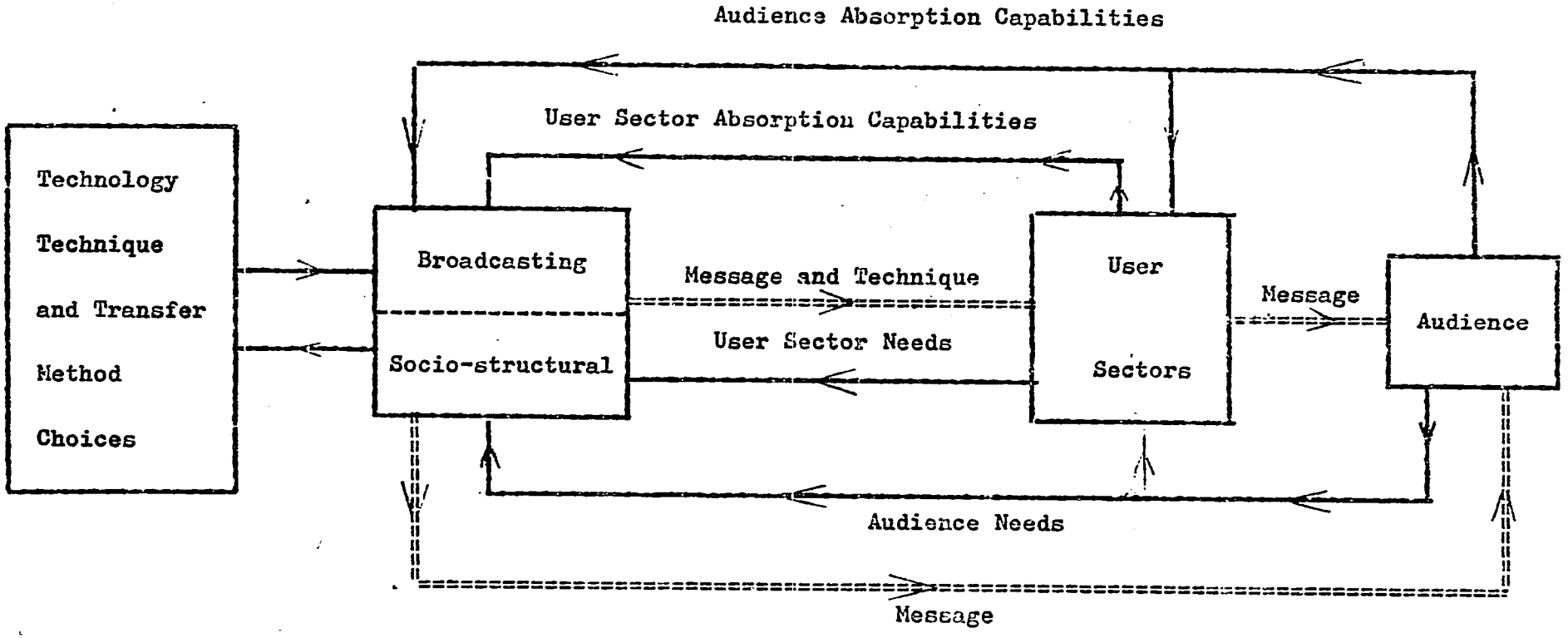
Diagram (ii)

(a) The main addition required to this diagram is the political system, as commented upon above.

(b) Other required additions are really refinements which will vary according to circumstances. These include, for example, the breakdown of audiences and programmes to suit individual situations.

(c) Finally, insofar as the past and present operations of the broadcasting system determine present and future technology transfer, it may be necessary to incorporate the LDC economic, financial and developmental goal systems into the diagram in order to assist further analysis.

Diagram (ii)


Audience Absorption Capabilities
User Sector Absorption Capabilities
Technology
Technique
and Transfer
Method
Choices
Broadcasting
Socio-structural
Message and Technique
User Sector Needs
User
Sectors
Message
Audience
Audience Needs
Message
======== = Output flows
———— = Required influences on characteristics and operations of output sectors

POSTSCRIPT

This paper, as stated at the outset, must be considered a limited case study, in an area of investigation which is still very much in its infancy. Some attempt has been made to relate the Sierra Leone example, both in its conduct and in its subsequent analysis, to comparable work at a more theoretical level. The conclusions are tentative and suffer from two acknowledged defects. In the first place, the period of field study in Sierra Leone was very short, and there are gaps in data and experience. Second, as a pilot study, the study was compelled to refine its methodology more or less as it proceeded.

As a result, the analysis raises quite as many questions as it draws conclusions. This is probably all to the good: if the purpose of the exercise is to help advance a new field of study, it is useful for it to raise as concrete questions as possible.

LIST OF INTERVIEWEES

Joseph W.O. Findlay, Jr	-	Director of Broadcasting	SLBS
Mohammed J. Tunis	-	Deputy Director of Broadcasting	SLBS
A.C. Ellis	-	Chief Engineer	SLBS
F.D. Green	-	Assistant Chief Engineer	SLBS
Lloyd George	-	Chief Superintendent	SLBS
W.A.I. George	-	Senior Engineer	SLBS
J.B. Shanu-Wilson	-	Deputy Head of Programmes	SLBS
Tommy Tucker	-	Senior Producer (TV)	SLBS
P.J. Kuyembeh	-	Deputy Development Secretary	
J.K.C. Cole	-	Economic Adviser to the President	
Dr. Eustace Pearce	-	Deputy Financial Secretary (Economic Development Ministry)	
P. Deigh	-	Permanent Secretary, Ministry of Information	
J.E.O. Jonah	-	Education Ministry	
Elma Lisk	-	Education Ministry	
Chippee Palmer	-	Senior Publicity Officer, Ministry of Agriculture	
Pat Lewis	-	Publicity Officer, Ministry of Agriculture	
Tom McColli	-	Education Officer, Ministry of Health	
Peter Metcalfe	-	Deputy Resident Representative	UNDP
S.M. Arquisola	-	Financial Planner	UNDP
Dr. M. Mesaric	-	Project Manager	UNDP
K. Ruud	-	Human Resources Planner	UNDP
M.A. Jallo-Jamboria	-	Chief Architect, Department of Public Works	
Selame Koka	-	Deputy Director of Planning	SLBS
Mrs. Caese	-	Senior Auditor, Auditor-General's Office	
Mr. Taylor	-	Director of Research, Bank of Sierra Leone	
S.J. Sesay	-	Senior Lecturer in Engineering, Fowah Bay University	
Cortis Stewart	-	Third Secretary, US Embassy	
Francis Davis	-	SLET	
Mr. Crommarty	-	Deputy Director of Telecommunications	P & T
Mr. Johnson	-	Planning Engineer, P & T	