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PROJECT PERFORMANCE AUDIT REPORT
SIERRA LEONE FIRST EDUCATION PROJECT

(CREDIT 170-SL)

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Operations Evaluation Department

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PROJECT PERFORMANCE AUDIT REPORT

SIERRA LEONE FIRST EDUCATION PROJECT (CR. 170-SL)

Preface

The following memorandum presents a performance audit of experience under the Sierra Leone First Education Project for which the final disbursement under Credit 170-SL of 1970, in the amount of US\$3.0 million, was made in February 1976. It is based on the attached Project Completion Report (PCR), prepared by the West Africa Regional Office, and on preliminary audit discussions held with officials during the completion mission, in which Operations Evaluation Department staff participated. The report incorporates comments on an earlier draft, received from the Borrower, whose cooperation is gratefully acknowledged.

The PCR provides a comprehensive review of the project experience and, on the basis of inefficiencies encountered, makes specific recommendations for improving implementation under similar future projects. These recommendations, with which the audit broadly agrees, are related to the Bank's contribution to project design for civil works and equipment, to formulation of special loan/credit conditions and to project supervision. The audit memorandum highlights the PCR findings and expands on selected issues, centering mainly on the Borrower's role in project preparation and implementation.

PROJECT PERFORMANCE AUDIT BASIC DATA SHEET

Sierra Leone First Education Project (CR. 170-SL)

Key Project Data

	<u>Original Plan</u>	<u>Actual</u>
Total Project Cost (US\$ mln)	4.47	5.02
Overrun (%)		12
Credit Amount (US\$ mln)		3.00
Disbursed		3.00
Physical Components Completed	6/74	7/76
Time overrun (%)		50

Project Background Data

	<u>Original Plan</u>	<u>Actual</u>
First Mention in Files		10/64
Government's Application		10/65
Negotiations	1966	10/27-29/69
Board Approval		12/23/69
Credit Agreement		1/5/70
Effectiveness	4/1/70	5/8/70
Closing Date	6/30/74	2/17/76 ^{1/}
Follow-on Project		
Credit Number		CR 573-SL
Credit Amt. (US\$ mln)		7.25

Mission Data

<u>Original</u>	<u>Sent by</u>	<u>Month/ Year</u>	<u>No. of Weeks</u>	<u>No. of Persons</u>	<u>Man- Weeks</u>	<u>Date of Report</u>
Preparation	UNESCO	5/65	4	4	16	n.a.
Appraisal	Bank	11-12/65	4	4	16	n.a.
 <u>Final</u>						
Reconnaissance	Bank/UNESCO	9/66	1	2	2	10/66
Planning/Preparation	UNESCO	11/67	26	1	26	n.a.
Preappraisal I	Bank	9/68	1	2	2	10/68
II	Bank	3/69	5	5	25	5/69
Appraisal	Bank	7/69	2	2	4	12/69
Total					<u>91</u>	

^{1/} Actual closing date is date of final disbursement.

	<u>Sent by</u>	<u>Month/ Year</u>	<u>No. of Weeks</u>	<u>No. of Persons</u>	<u>Man- Weeks</u>	<u>Date of Report</u>
Supervision I	Bank	6/70	0.5	1	0.5	8/70
Supervision II	"	10/70	1.0	2	2.0	10/70
Supervision III	"	7/71	1.0	1	1.0	9/71
Supervision IV	"	4/72	1.0	1	1.0	5/72
Supervision V	"	7/72	1.0	1	1.0	7/72
Supervision VI	"	11/72	1.0	1	1.0	12/72
Supervision VII	"	2/73	1.0	1	1.0	3/73
Supervision VIII	"	5/73	1.0	1	1.0	8/73
Supervision IX	"	1/74	1.0	1	1.0	3/74
Supervision X	"	7/74	1.0	1	1.0	9/74
Supervision XI	"	1/75	1.0	1	1.0	3/75
Completion	"	9-10/75	n.a.	4	<u>5.0</u>	5/76
Total					16.5	

Exchange Rates

Leones (Le)	
1969 (appraisal rate)	Le 1 = US\$ 1.20
1970 - 71	Le 1 = US\$ 1.20
1972	Le 1 = US\$ 1.23
1973 - 74	Le 1 = US\$ 1.20
1975	Le 1 = US\$ 1.10
1976 (April)	Le 1 = US\$ 1.02

PROJECT PERFORMANCE AUDIT REPORT

SIERRA LEONE FIRST EDUCATION PROJECT (CR. 170-SL)

Highlights

The main objectives of the project were to systematically introduce diversified secondary education and to improve the quality of technical/vocational education to better prepare graduates for further pre-employment training and employment, respectively. General institutional conditions, mainly related to strengthening educational administration and planning, were successfully fulfilled. Early project school operating outcomes reflected difficulties frequently associated with implementation of revised or innovative programs in the formal sector, notably, a lag between official policy and practice partly evident in a shortage of qualified special subject teachers and suitable curricula.

Particular points of interest:

Importance of achieving Bank/Borrower agreement on objectives prior to finalizing project components (paras. 8, 23)

Need for early clarification of Bank policy, procedures and requirements for efficient project preparation (paras. 10-12, 24)

Importance of joint Bank/Borrower formulation of detailed loan/credit conditions and standards for physical facilities (paras. 12, 25)

Borrower preference for, and successful utilization of, local technical assistance (paras. 13, 23)

Conditions for early effectiveness of educational innovation/reform (paras. 14-18, 24)

Potential Bank contribution to improving other agency project assistance (paras. 15-16, 24)

Differing Bank/Borrower approaches to educational reform (paras. 17, 22).

PROJECT PERFORMANCE AUDIT MEMORANDUM

SIERRA LEONE FIRST EDUCATION PROJECT (CR. 170-SL)

I. Project Summary

1. A prolonged preparation period, roughly five years (1965-69), preceded final agreement on the project assisted by CR 170-SL. Delay resulted initially from inadequate detailing and justification of proposed project content but subsequently from strained Bank/Borrower relations and, during 1966-67, from financial and political constraints in Sierra Leone (PCR 2.01). The proposed project comprised substantial expansion of general secondary, technical, vocational and teacher training capacity which the Bank's late 1965 appraisal mission judged premature in the absence of basic manpower and sector planning data. In particular, the Bank questioned planned expansion of secondary education in view of increasing unemployment among mainly academic secondary school leavers.

2. At Bank recommendation, a project centering on quality improvements for a small number of existing institutions was prepared during 1968 and appraised in July 1969. It provided for modernization and diversification of facilities (mainly through construction of laboratories and workshops) at eleven secondary schools, for modernization and expansion of facilities at one technical and three trade schools, for reconstruction of the country's one in-service primary teacher training college and for selected technical assistance inputs.

3. The principal objectives of the project were: (1) to better prepare secondary students for employment, mainly through the introduction of practical training streams (in agriculture, industrial arts, commerce and/or home management); (2) to begin to supply replacement personnel for the mainly expatriate skilled and semi-skilled workers in industry by improving the quality of technical/trade education; (3) to upgrade the qualifications of in-service primary teachers (50% of whom were under-qualified in 1968/69); and (4) to strengthen general Ministry of Education (MinEd) administrative and planning capabilities. The project supported only nominal enrollment expansion at the secondary level (PCR 5.09) but roughly doubled capacities at the technical/trade schools and the primary teacher training college. 1/

4. The credit was extended to assist the Government in financing costs of project civil works and furniture procurement but also provided

1/ As subsequently completed, a more reasonable capacity (in terms of space available) for the technical/trade schools has been set at 1,400, as against the originally planned 1,630.

for retention of a project unit architect (and subsequently, project director) and for technical assistance advisors for several MinEd posts and modernization of academic secondary curricula. The Canadian International Development Agency (CIDA) agreed to finance the cost of instructional equipment for the project schools, and the UNDP the cost of advisors to assist with the general development of the technical/trade schools.

5. The implementation of the project was characterized by efficient provision of planned civil works with two exceptions: a two-year delay was suffered in completion of construction at one site mainly owing to poor contractor performance;^{1/} and the incorporation of numerous supplementary works outside of original contract amounts and an accompanying increase in already high professional fees, led to a final cost overrun of 12% by comparison with the appraisal estimate of US\$4.47 million equivalent. Completed civil works and equipment received are generally appropriate in terms of project educational objectives though provision of spare parts and servicing for the imported equipment will likely present problems due to the absence of local suppliers (PCR 3.11).

6. In accordance with credit conditions, the MinEd was largely successful in building its administrative and planning capacities: permanent staff were appointed to specific posts in the areas of technical education, planning and secondary school inspection and a first education sector plan was produced during 1974. Further, the University-affiliated Institute of Education (IE)^{2/} made notable progress during implementation in developing and testing new curricula in three of four designated secondary subject areas--English, social science and science. ^{3/}

7. By contrast, adherence to forecast targets more directly related to project school operations fell short owing initially to recent completion of civil works and ongoing equipment installation. In addition, operations at the now completed secondary schools suffer variously from shortages of practical subject teachers and consumable student materials and, to some extent, from the absence of detailed practical course syllabi. As yet, new full-cycle (five-year) agricultural and industrial options have not been introduced at project secondary schools (seven of which were visited during the completion/audit mission).

^{1/} Largely as a result, the closing date was postponed three times, from June 1974 to February 1976.

^{2/} The IE, created in 1968, was assigned the curricula revision task under the project. It is also responsible for in-service teacher training, materials development and educational research in Sierra Leone.

^{3/} New units for mathematics, the fourth subject, have since been completed.

8. As regards the technical/trade schools, the UNDP-financed technical assistance program was virtually ineffective during project implementation due, in the first instance, to inappropriate scheduling vis-a-vis completion of project facilities. Enrollments and the quality of training have remained largely as they were in 1968/69. (A second phase of the technical assistance program, focusing on curricula development and vocational instructor training, is now underway.) In the short run, enrollment expansion will depend on instructor availability and allocation of adequate student stipends, the absence of which initially hampered student access. Finally, enrollment expansion at the primary teachers' college has been precluded by the very recent (July 1976) completion of civil works and, in contrast to project objectives, the proportion of pre-service candidates has increased, while on a national basis the proportion of practicing qualified primary teachers has declined from the 1968/69 level, to 40%. At present, as throughout the project preparation period, MinEd long-term plans support relocation of the institute and its use for both pre- and in-service training.

9. As a result of the recent completion of project facilities and the incomplete provision of complementary inputs, early operating outcomes at project institutions do not provide a basis for assessing trends in respect of the project's manpower and educational objectives. However, with the exception of the primary teacher training college, project school and MinEd staff, as well as general sector plan priorities, continue to endorse project objectives. The project's operating impact will be monitored and assessed on the basis of results of student tracer studies established under the second project, CR-573-SL of 1975 (PCR 5.01).

II. Main Issues

Project Preparation

10. The Sierra Leone project is the only completed Bank-assisted education project for which two full appraisals were undertaken. The five-year preparation period represents nearly twice the average time taken for the other projects.^{1/} The Bank was not, however, unaware of problems likely to be encountered during the preparation process. As originally proposed, the project comprised the entire post-primary portion of a UNESCO-prepared, short-term development program; its content was somewhat more comprehensive than other Bank-assisted education projects approved (or in preparation) at the time. Further, an early 1965 UNESCO preparation mission had drawn the Bank's attention to specific obstacles hampering efficient preparation--lack of justification and cost data, an absence of counterpart preparation staff, vacancies in higher level MinEd positions. In retrospect, the late 1965 appraisal was premature. Concentrated Bank support for final preparation of a suitable project came only three years later during the 1968 pre-appraisal,

^{1/} For nine previously audited (first) education projects, the period between conception and loan agreement averaged 2.7 years.

though general UNESCO planning assistance was provided in the interim. A more efficient approach to preparation might have included Bank participation in a 1965 identification (rather than appraisal) mission for purposes of clarifying, early on, the type of project the Bank would likely support, the detailed requirements for preparation and, with participation of the Sierra Leone authorities, the specific types of advisory assistance desirable for efficient project preparation.

11. In fact, the actual preparation process was characterized by discontinuity and tense relations between Bank and Borrower. Sierra Leone, accustomed to bilateral grant-type assistance for the sector, was unfamiliar with the Bank's approach. The country's prior experience, and a shortage until the late 1960s of qualified experts (PCR 6.01), reinforced a tendency to rely heavily on outsiders for project preparation assistance. As finally prepared, the project fitted well within the Bank's prevailing policy objectives and met detailed preparation requirements but reflected only minimal Borrower input. While financial constraints and political events during 1966-67 probably precluded early project finalization (PCR 2.01), agreement on short-term provision of several specialist project preparation advisors (a return of the 1965 four-man UNESCO mission or an earlier Bank preparation/pre-appraisal) and the assignment of permanent counterparts might have eased the problems arising from inexperience with detailed project planning, generally, and provided a framework for more steady progress.

12. Further, continuous Sierra Leonean policy level input into formulation of project objectives and credit conditions could have contributed to an early build-up of the Borrower's experience with the Bank. Instead, during implementation, as project authorities became familiar with Bank procedures, they began to express increasing resentment that they had not participated more fully in the preparation process. They especially regret having so readily accepted the project package as presented during negotiations and complain that their views on detailed appraisal worksheets and credit conditions were never solicited. They now feel that planned design and space standards were too rigid and that appraisal forecasts implied impracticable limits for project secondary school enrollments (PCR 6.02). (Secondary enrollments exceeded targets at some project institutions prior to project completion.)

Institutional Achievements and Operating Shortfalls

13. As required by credit conditions, all but one of the several specified MinEd posts, that of agricultural education officer, were filled throughout the main period of implementation and the Government went forward with production of the 1975-79 sector plan despite non-completion of a requisite manpower survey (PCR 5.28-5.30). Progress made by the IE in modernizing academic secondary curricula was especially notable in view of the small specialist staff provided. A 1974 target date for universal introduction of the revised curricula at all secondary

schools proved overly optimistic, however, owing not only to IE staff constraints but also to the lack of provision of facilities and funds necessary for production of new teaching materials and in-service training for teachers (PCR 5.06).1/ The relatively successful achievement of general project administrative/educational objectives can be attributed in part to strong MinEd support and to the project unit director, who carefully monitored progress. Significantly, with the exception of UNDP advisory services for manpower planning and some bilateral assistance to the IE, other staff, including advisors, comprised qualified nationals and the products of the planning and curricula development exercises reflect a concentrated Sierra Leonean input.

14. Early operating outcomes reflect the lesser progress made towards timely achievement of educational objectives at project institutions. In the case of the secondary schools, it appears that needs for the step from provision of diversified facilities to their effective utilization were inadequately considered. The Sierra Leoneans had only limited experience with the introduction of full cycle practical secondary options (though some of the project schools were offering full commercial and home management options, pre-project). Incomplete assessment of possible needs for technical assistance and/or the absence of detailed credit requirements for timely provision of complementary educational/training inputs suggest a shortcoming in project design.2/ At present, the effectiveness and efficiency of operations at project secondary schools is impeded by a shortage of teachers for commercial and industrial subjects (PCR 5.08);3/ an absence of detailed syllabi for agricultural and industrial arts subjects, suitably tailored to existing opportunities for employment or further training in Sierra Leone;4/ and, an incomplete orientation of principals and staff to efficient utilization of the new diversified facilities (PCR 5.03). In retrospect, the technical assistance which was provided under the credit, for developing modern academic secondary curricula of improved quality, represents a departure from the more direct pursuit of the project's main pre-employment objectives (PCR 5.07).

1/ The second project provides for extension of curricula advisory services for the IE as well as for construction of permanent modern facilities.

2/ The exception, the condition calling for appointment of a MinEd agricultural education officer, to develop agricultural curricula relevant to Sierra Leonean needs at primary and secondary levels, was not fulfilled during implementation though work is now underway.

3/ The second project supports a component for the training of teachers of commercial and industrial arts subjects. Training for secondary teachers of agricultural and home management subjects already exists.

4/ Existing commercial and home management curricula appear to be appropriate in the Sierra Leonean context.

15. By contrast, the need for technical assistance for development of project technical/trade schools was clearly perceived during project preparation. However, among particular tasks assigned to the ILO team provided by the UNDP, two--the training of instructors in utilization of new facilities and the commissioning of project workshops--were precluded by inappropriate scheduling: the ILO team members arrived in Sierra Leone by mid-1971 and left in early 1973; 1/ facilities were largely completed only by the end of 1975. The effectiveness of the technical assistance program would have benefited from a more flexible arrangement for synchronizing specialist services with actual facility completion (PCR 5.17).

16. The lack of progress towards completion of remaining non-facility-related tasks in the areas of teacher training and curricula development can be attributed, in the case of technical-level teacher training, to inappropriate assignment of the task: ILO expertise has always been limited to the training of trade (vocational-level) instructors (PCR 5.16).2/ More generally, the ILO contract team suffered from minimal supervision 3/ and, apparently, from differing interpretations of assigned tasks and priorities among the team members themselves. (The Sierra Leoneans now express a clear preference for retention of nationals as advisors, where possible, and for direct hire advisors, where not.) Throughout the first half of the implementation period, Bank supervision missions, mainly comprising architects, reported on problems surrounding the technical assistance program and recommended that the Bank review the situation. However, no attempt was made to follow up on this recommendation (PCR 2.09).

17. Operating shortfalls have thus far been attributed to constraints imposed by recent facility completion and to incomplete provision of complementary inputs. An additional contributing factor has been the Government's generally gradual approach to educational innovation/reform: most established priorities at the plan level have yet to be acted upon at the operating level (PCR 5.31). In respect of the pre-employment objectives of project secondary schools, this approach is reflected in the absence of formal requirements, as yet, for the introduction of new full practical options and for adherence to appraisal scheduling for classroom utilization (namely, student rotation).4/ In addition, allocations for consumable materials necessary to support planned practical work are inadequate owing

1/ The UNDP Resident Representative terminated the technical assistance program in 1973 owing to lack of progress.

2/ The second project's teacher training component supports the training of technical level, as well as secondary technical teachers.

3/ Original plans for the head of the ILO team to work out of the project unit were not carried out.

4/ Rotating classroom use by students, upon which appraisal utilization factors were based, is not being employed in most project schools (PCR 5.03). Project authorities emphasize, however, that a lack of student lockers, cloakrooms and covered walkways impedes, to some extent, utilization of the student rotation system.

to budgetary constraints. As a result, the traditional preference for those combinations of general secondary subjects for which end of cycle examination passes lead to university entrance is reinforced, as is the inefficiency of the secondary system which allows amply for student repetition (PCR 5.12). Similarly, trials of the new academic secondary curricula have been less enthusiastically supported than anticipated, especially at project schools which include some of the country's oldest and most prestigious. The new integrated social science and science curricula are of good quality; they focus on student participation and practical work; they do not, however, fit into the single subject examination structure.^{1/} A parallel situation, at the project's technical institute, is evident in the introduction of a university preparatory program (PCR 5.19); though for the technical/trade schools generally, the most severe constraint appears to be the continuing low priority attached, in practice, to that type of education: less than 2% of total 1974/75 education expenditure was allocated for technical/trade training (PCR 5.20).

18. On balance, the Bank's emphasis on early effectiveness of project school operating outcomes proved unrealistic when set against the Government's approach. While project objectives were fully consistent with stated Government policy, the project itself carried the attributes of a "pilot". In this context, more complete and/or appropriate arrangements for provision of complementary educational inputs (paras. 14-16) might have strengthened the early operating effectiveness of the project and its impact as an example of policy in practice.

Civil Works and Equipment

19. Construction/renovation carried out under the project was efficiently administered by the project director from the designated unit established in the Ministry of Finance (PCR 2.04, 2.05). Originally programmed works of good quality were completed at 12 of the 16 project institutions by (or shortly after) mid-1974, as scheduled. However, delayed completion of works at four sites (owing to unsatisfactory performance by one contractor, whose financial and managerial weaknesses were not sufficiently highlighted by minimal pre-qualification requirements), and the addition of supplementary works, postponed actual availability of new facilities at most sites until the fall of 1975. The incorporation of extra works, necessitated by incomplete initial assessment of rehabilitation needs and by the continuing deterioration of existing buildings during the period of implementation, exemplify the difficulties of planning and costing rehabilitation works under Bank-assisted education projects (PCR 3.02, 3.06). Requests for additional general site improvements were less readily approved by the Bank, and were a source of frustration for the Sierra Leoneans who criticized the Bank's austerity with regard to design and space standards for educational

^{1/} Project officials point out, however, that enthusiasm on the part of non-project teachers at IE workshops indicates a more general support for the new curricula.

facilities throughout implementation. ^{1/} Nonetheless, numerous additional works were approved and others, including staff housing for some of the more isolated rural schools, were carried over for second project financing (PCR 6.02). Mainly owing to the additional items, a 13% construction overrun, as compared to appraisal estimates, was suffered: complementary works, completed outside of contracts, were more expensive than initial works and themselves contributed to an increase in professional fees, to 16% of construction costs. (Contracts for professional services contained no limits on fee increases resulting from rising prices or on time charges.)

20. Project equipment, provided by CIDA, arrived mainly in phase with termination of civil works. Delay with equipment installation (now being completed with ILO assistance) resulted from the absence of qualified technicians but the more serious long-term problem is the likely future expense and delay arising from dependence on Canadian-based suppliers for servicing and for provision of spare parts (PCR 3.11).

III. Conclusions

21. The Sierra Leone First Education Project was satisfactorily and fully implemented in respect of physical facilities and compares favorably with other previously audited education projects as regards general institutional achievements--in educational administration, planning and curricula development. Less progress was made towards early achievement of operating objectives at project schools (though it should be stressed that the completion/audit exercises were carried out at the earliest possible time, coinciding with completion of most civil works). Future progress towards the project's manpower and quality objectives will depend on Government provision of complementary inputs, mainly curricula (and, ultimately, revised examination procedures), teachers and consumable student materials not provided for, or incompletely implemented, under the project. Trends will be monitored through implementation of a tracer system established under the second Bank-assisted project.

22. As with previously audited education projects, the complexity of introducing revised/innovative formal sector programs into established traditional systems, including the time consuming nature of providing necessary support inputs, are reconfirmed by the Sierra Leonean experience. The fact that Borrower approaches to the introduction of educational change vary from case to case and, notably, may contradict the Bank's approach, is further highlighted.

23. In relation to Bank objectives for assisting potentially effective education projects, the Sierra Leonean experience suggests: 1) that agreed project components clearly supported by the Borrower and for which little or no outside implementation assistance is necessary (in this case, those in the general institutional category) tend to yield more timely and positive results than components for which

^{1/} It should be noted that project authorities disagree with the PCR view that such additional site works (mainly paved areas and water drains) were excessive (PCR 1.05, 3.06) and argue instead that they were necessary for convenient circulation and preventive maintenance.

general Borrower support is expressed but for which inexperience, lack of local expertise or other factors may render the Borrower somewhat less than fully committed in short-run practical terms (here, the provision of complementary inputs in support of project school operating objectives); 2) that careful Bank consideration be given prior to incorporation of project components (such as the primary teacher training college) for which Bank and Borrower objectives clearly differ. More generally, project results reinforce the current trend towards a flexible Bank approach to modifications in project design and targets on the basis of project implementation monitoring results.

24. In view of specific shortfalls experienced in provision of complementary educational inputs and (to a lesser extent) the delays encountered in completion of civil works and equipment installation, the Bank's recommendation for a small interim project, aimed at improving the quality and relevance of programs, appears to have been essentially correct (PCR 6.01). However, preparation delays and early operating results raise questions regarding the Bank's assessment of the Borrower's needs for preparation and implementation assistance. The prolonged preparation period and the subsequent resentment expressed by the Sierra Leonean authorities underscore the importance of integrating the Borrower into the preparation process--a need all the more acute in a first project situation, where authorities are likely to be unfamiliar with Bank policy, procedures and requirements. Similarly, early operating outcomes at project institutions support the need for direct Bank participation in project formulation for purposes of assessing, as accurately as possible, the Borrower's requirements for implementation assistance. In particular, results suggest a need for careful Bank consideration of each agreed project component to avoid overlooking possible assistance needs (as in the case of the secondary schools). Further, technical/trade school outcomes point to a need for careful Bank review of consultants' terms of reference to ensure their clarity and compatibility with related physical inputs and also argue for a potentially positive Bank contribution to monitoring of advisory inputs (mainly by Bank educators), including those financed by other agencies.

25. Finally, project outcomes reinforce the recognized need for continuing Bank consideration of specific political and social constraints in the detailing of project content and conditions (such as the appraisal implications for control of secondary enrollment expansion). They also raise questions as to how best to come to agreement on appropriate design and space standards for educational facilities in the face of differing Bank/Borrower views on the definition of such standards.

SIERRA LEONE CREDIT 170-SL

FIRST EDUCATION PROJECT

COMPLETION REPORT

I. Summary and Recommendations

Project Data

1.01 The Credit

Borrower	Sierra Leone
Amount of credit	US\$3.0 million
Date of credit agreement	January 5, 1970
Effective date	May 8, 1970
Original closing date	June 30, 1974
Final closing date	February 17, 1975
Terms of credit	40 years
Period of grace	10 years
Service charge	3/4 of 1% p.a.
Appraisal exchange rate	Le 1 = US\$ 1.20
Average exchange rate of disbursements	Le 1 = US\$ 1.216
Current exchange rate (April 20, 1976)	Le 1 = US\$ 1.02

1.02 The Project. The project consisted of:

- (a) construction and furniture for --
 - (i) extensions to 11 secondary schools
 - (ii) extensions to one technical institute and three trade schools
 - (iii) rebuilding the Freetown Primary Teachers College;
- (b) 13 man-years of technical assistance for the following posts --
 - (i) project architect
 - (ii) agricultural education
 - (iii) educational statistics
 - (iv) curriculum revision;
- (c) a UNDP-financed team of specialists in technical education and vocational training and associated teacher training; and
- (d) CIDA*-financed instructional equipment for the project schools.

The total project cost was estimated to be US\$ 5.6 million of which US\$ 0.5 million was to be financed by UNDP and US\$ 0.6 million by CIDA for items (c) and (d) above. The IDA credit (US\$ 3.0 million) and the Government contribution (US\$ 1.5 million) were to cover the remaining US\$ 4.5 million. The project was to be implemented in 4 1/2 years.

* Canadian International Development Agency.

1.03 Project Objectives. The principal objectives of the project were:

- (i) to prepare secondary school leavers better for employment through provision of facilities and curriculum revision specialists necessary to diversify and modernize programs;
- (ii) to increase the output and improve the quality of craftsmen and technicians through expansion of the technical and trade schools and training of technical teachers;
- (iii) to expand programs for upgrading primary teachers through enlargement of an in-service teacher training college; and
- (iv) to improve educational planning and administration through provision of specialist services and through Government actions pledged in the credit agreement.

The closing date was extended three times from June 30, 1974 to February 17, 1976, due to delays in construction and installation of equipment.

Summary Conclusions

1.04 Because the buildings and equipment were so recently completed and installed, it is premature to assess the achievement of the project's principal objective of improving the employment prospects of graduates of project institutions. Based on the interim evaluation of the completion mission, however, the project's objectives remain valid and attainable. Efforts at diversification and modernization of secondary education are beginning to take effect in some schools and their impact will increase as more physical facilities and trained teachers become available. Delays in equipment installation have prevented the technical and trade schools from operating at full capacity, but beginning in September 1976, they will be in a position to begin increasing the number and improving the quality of their graduates. Expansion of in-service training programs for primary teachers has not taken place because construction at the teachers college concerned has not been completed. Finally, educational planning and administration have been strengthened largely through the Government's establishment of planning and administrative posts and through preparation of an education sector plan.

1.05 Physical Execution. The project was well administered by a competent project unit, largely locally staffed. With the exception of one contractor, the civil works contracts were executed satisfactorily (para. 3.04). The principal difficulty in physical execution of the project concerned the supplementary works at project schools. The need for these works was due to:

- (i) the difficulty of making complete identification of required rehabilitation works prior to establishing the contract specifications;
- (ii) the continuing deterioration of buildings at project schools during the construction period; and

- (iii) the inclination of the Borrower to add general site improvements not absolutely essential to achievement of project objectives.

These works created difficulties of supervision and of projecting the final costs of the contracts. They were ultimately the cause of the US\$ 550,000 cost overrun on the project.

1.06 Suitability of Buildings and Equipment. The buildings and equipment provided for both the secondary and technical/trade schools are generally suitable for supporting the programs for which they were intended. The major drawback regarding the equipment financed by CIDA (para. 1.02) is its lack of compatibility with equipment already existing in the schools or available on the local market (para. 3.11).

1.07 General Secondary School Diversification and Modernization. Diversified programs have not been introduced in secondary schools as extensively as expected due not only to recent completion of the buildings but also to a shortage of teachers of practical subjects, absence of detailed curricula, especially in agriculture and industrial arts, and orientation in many schools toward university preparatory curricula instead of toward courses leading more readily to employment (para. 5.10). Curriculum revision specialists financed under the project generally performed satisfactorily and their work is well advanced but the project provided too little technical assistance to complete the entire revision task during the project period (para. 5.06). The introduction of new curricula has been slower than expected because of shortage of facilities and trained teachers. On balance, however, the Government and school principals favor diversification efforts and believe they are improving the quality and relevance of secondary education (para. 5.11).

1.08 Technical and Trade School Development. The technical/trade school component suffered from lack of coordination between the construction program and the UNDP/ILO technical assistance project charged with training instructors and revising curricula (para. 5.16) and from delays in equipment installation. The technical assistance program is now operating satisfactorily and almost all equipment is installed. Beginning in September, 1976, the trade schools will have the capacity to increase enrollments and to provide good quality trades training. However, there is a risk that enrollments will not reach the schools' enrollment capacity if the Government does not act soon to train additional teachers on a crash program basis and provide sufficient funding for student subsistence allowances (paras. 5.17, 5.20).

1.09 In-service Primary Teacher Training. The objectives related to improving in-service primary teacher training cannot be assessed because the buildings of the Freetown Teachers College have not yet been completed (para. 3.04). The anticipated completion of the buildings by June, 1976 should easily allow for the projected enrollment of 250 (para. 5.22).

1.10 Planning and Administration. Educational planning and administration have been strengthened through small technical assistance inputs and the creation of certain planning and administrative posts in the Ministry of Education (MinEd). A manpower survey was initiated but never completed and an education sector plan has been prepared. Planning is slowly being integrated into MinEd operations but it has to be more fully accepted by administrators and educators, and planning exercises need to be translated into concrete programs (para. 5.31). The general sector covenants not directly linked with physical components, such as those related to planning and enrollment targets, were sometimes misunderstood or resented by Government officials.

1.11 Government Observations on IDA Performance. Based on its experiences during project implementation, the Government has expressed the view that the following measures would improve project preparation and implementation:

- (i) closer integration of the Borrower in project preparation, including ensuring that the Borrower understands Bank/IDA procedures (para. 6.02);
- (ii) greater flexibility by IDA in approving supplementary works and modifications in designs and space standards (para. 6.02); and
- (iii) a more conscious effort by IDA to avoid implicit or explicit attempts to influence Government policy in socially sensitive areas such as school enrollment growth (para. 6.03).

Recommendations

1.12 Relative to the Bank, we make the following observations and recommendations:

- (a) Regarding project supervision (para. 2.09):
 - (i) supervision mission staffing should be balanced between architects, educators and economists; and
 - (ii) the uncompleted first project schools (para. 3.04) should receive continued supervision during second project supervision. Since the second project's provision for establishing a tracer system includes follow-up of graduates from first project schools, the educational objectives of Cr. 170-SL will be monitored in the course of second project supervision.
- (b) The merits of rehabilitation of buildings in a state of serious deterioration should be carefully weighed against those for new construction not only on the basis of costs and benefits but also in the light of procedural problems that can arise in implementation (para. 3.06).

- (c) To facilitate maintenance of project schools, projects should include a provision for establishment (by the consultant architects or Government services) of drawings to record works executed under the project (para. 3.07).
- (d) School equipment procured under or for Bank projects should be compatible with equipment existing in schools or available through local dealers. Equipment contracts should provide for an equipment technician to install sophisticated equipment if qualified technicians are unavailable in the country (para. 3.11).
- (e) In projects in which the technical assistance component is provided by another agency, the Bank should review at an early stage the terms of reference and particularly the timing of the technical assistance activities vis-à-vis the nature and timing of Bank inputs and, to the extent possible, make recommendations to the agency accordingly (para. 5.16).
- (f) Loan/credit conditions should relate as directly as possible to the achievement of specific project objectives being supported through physical (including technical assistance) project components. In cases where general sector covenants are included, their objectives should be clearly spelled out (para. 5.32).

1.13 Relative to the Government of Sierra Leone, we recommend the following:

- (a) The Ministry of Education should pay the Ministry of Energy and Power to maintain the electricity generating sets and water treatment plants at project schools (para. 3.07).
- (b) School principals, should be encouraged, possibly through seminars on utilization of school timetables, to make greater use of classroom rotation (para. 5.03).
- (c) Budgetary allocations for materials and maintenance at secondary and technical schools should be increased (paras. 5.13, 5.20). For the technical/trade schools, either the budgetary provision for student allowances should be considerably increased or methods should be established for allocating allowances to ensure that enrollments will equal the schools' capacity (para. 5.20).
- (d) The MinEd should recruit 40 new teachers for the technical/trade schools and give them a 2-3 month crash course in technical teaching methods (para. 5.17).
- (e) The management as well as the quality and motivation of the technical teaching staff at the Freetown Technical Institute should be strengthened and the programs improved, starting with termination of the pre-university course and reintroduction of the technician certificate courses. Kenema Technical Institute should be

required to limit its program to the trades training level (para. 5.19).

- (f) The MinEd should ensure that enrollment growth and program scheduling at Bishop Johnson secondary school do not impinge upon the enrollment capacity forecast at appraisal for Freetown Teachers College or upon the scheduling of its programs (para. 5.22).

II. Project Generation and Management

Project Generation

2.01 More than five years elapsed between the Government of Sierra Leone's initial request for an IDA-assisted education project in October, 1964, and signature of the credit agreement in January, 1970. An initial project comprising the construction/renovation of about 40 general secondary and roughly an equal number of technical, vocational and teacher training institutes was identified and prepared in 1965 with limited Unesco and Bank assistance. In late 1965, an IDA appraisal mission judged the project too large, particularly in the absence of established sector and manpower planning bases. The Government agreed to IDA's recommendation of a smaller project aimed at quality improvements rather than expansion, and a revised project was prepared by Unesco and IDA during 1968 and early 1969. The delays in preparation resulted largely from a shortage of planning specialists in Sierra Leone, general inexperience with IDA preparation requirements and, during 1966-67, from strained relations between IDA and the relevant Government authorities, a national financial crisis and a coup d'état. The "shopping list" identification which initiated the project design process undoubtedly contributed not only to delays but, more important, to sensitive Bank-Government relations: the necessity of paring down the list of project schools probably underscored differences of opinion on educational priorities and inevitably resulted in disappointment on the part of school and government officials.

2.02 During appraisal of the revised project in July, 1969, several items were eliminated from the project. Two of the items were subsequently included in a second education project* due to a change in circumstances during the period 1969-1974 which strengthened their justification. These included expansion of Milton Margai Teachers College (MMTC) to establish a technical teacher training program and provision of a building for the University Institute of Education**. Another Government request, for relocating Freetown Teachers College, was repeated during preparation of the second project, but the item was not supported because of doubts about its justification (paras. 5.24-5.25).

2.03 Outstanding issues, centering on provision of technical assistance and

* Cr. 573-SL of July, 1975.

** The Institute of Education, created in 1968, is attached to the University of Sierra Leone, but funded jointly by the Ministry of Education and the University. It is responsible for in-service teacher training, materials support and educational research, in addition to curriculum development.

choice of the responsible project executing authority, were resolved during negotiations in October, 1969. Technical assistance for the technical/trade schools component was dropped from the project when UNDP agreed to provide a team of curriculum and teacher training experts, and at the Government's request, technical assistance was added for secondary curriculum development advisors, a statistician for the Ministry of Education (MinEd) and an architect for the project unit.

2.04 The credit agreement was signed on January 5, 1970, and carried a side letter describing particular educational objectives. The status of fulfillment of credit covenants is spelled out in Annex 1. The credit became effective on May 8, 1970, a month behind the original schedule, because of difficulties in finalizing arrangements with the UNDP, delay in appointing a project architect and delay in submitting a legal opinion.

Project Unit

2.05 In accordance with the credit agreement, a project unit was established under the Ministry of Finance. The agreement stipulated the employment of a full-time director, full time architect, accountant, and support staff. The project financed the post of architect and, beginning in January, 1973, the post of project director. The project was efficiently administered throughout its duration by a competent well-qualified director who had previously been permanent secretary of several ministries. Having held this post in the MinEd before becoming project director, she maintained close relations with education officials throughout project implementation. The post of architect was held by four persons, all but one of whom performed satisfactorily. A Sierra Leonean architect from the Ministry of Works has been project architect since August, 1973. Both the project director and architect are continuing in their respective posts for second project implementation.

2.06 Given the Government's continuous liquidity problems, the location of the project unit under the Ministry of Finance, as proposed by the Government at negotiations, probably outweighed the disadvantage of its not being an integral part of the Ministry of Education. The unit's close relationship with the Ministry of Finance assured prompt payment of service charges on the credit and obligations to contractors and suppliers, even during periods of Government budgetary constraints.

Consultant Architects

2.07 As required by the credit agreement, consultant architects were retained by the Government. After protracted negotiations on fees, a Sierra Leonean/British firm was selected at a fee rate of 14.1 percent of construction costs, with the Government responsible for salaries of clerks of works. This rate, which was 15 percent higher than the appraisal estimate of 12.3 percent, resulted from computing the fees on a time basis. Because the architects provided instructions for supplementary works outside the contracts at an elevated fee rate, consultant

fees ultimately reached almost 16 percent of construction costs.* This percentage, which does not include clerk of works' salaries, is considered extremely high. The consultant architects' contract should have included certain limits both to time charges and to fee increases attributable to price escalation.

2.08 Some buildings were overdesigned but the architectural designs and quantity surveying work were of high quality and the architects adhered largely to their timetable. The structural engineering work, contracted to another firm, was costly and over-specified. Savings could have been achieved if greater use had been made of local timber and locally manufactured items such as cement floor tiles, steel window frames and blockboard.

Bank Supervision

2.09 During project implementation there were 11 supervision missions, averaging about 5 days in length every 6 months and usually consisting of just one architect. As well as assisting in the resolution of immediate problems associated with the civil works program, the missions examined difficulties in recruitment of required technical assistance advisers and other staff for the Ministry of Education. The supervision missions made sound recommendations, especially regarding the need for assistance by IDA educators in solving problems with the UNDP/ILO project and with the work done by the UNDP-financed manpower statistician, but these recommendations were not always followed-up. One or more supervision visits by a technical educator might have helped resolve the UNDP/ILO project difficulties (para. 5.16) and encouraged the rehabilitation of the technician training program at the Freetown Technical Institute (FTI) (para. 5.19). We therefore recommend that:

- (i) staffing for future education project supervision missions be better balanced between architects, educators, and economists; and
- (ii) the uncompleted first project schools (para. 3.04) receive continued supervision during second project supervision.

Since the second project's provision for establishing a tracer system includes follow-up of first project school graduates, the supervision of the first project's educational objectives will be carried out in the course of second project supervision.

III. Physical Execution of the Project

3.01 General. All project facilities have been completed except for three buildings at one Freetown site. The remaining works, which are being financed by the Government, are expected to be completed by June, 1976. The total project period was 6 years from credit signing (January, 1970) to closing (February 1976) as against 4 1/2 years estimated at appraisal. The delay was largely attributable to financial and material delivery problems of one contractor and to delays

* This fee rate covered structural and quantity engineering services as well as architectural services.

in installation of instructional equipment. Annex 2 compares the project's forecast and actual implementation schedule.

Civil Works

3.02 Sites. Since the project consisted of extensions and rehabilitation at existing schools, site availability posed no problem. The funds allocated for site development (12.5 percent of construction costs) were relatively modest, given that site surveys were not up-to-date. The unanticipated need for new site surveys resulted in delays in the architectural design program. The surveys confirmed that all sites were suitable to accommodate the additional buildings and there were no unusual difficulties with foundations, draining or landscaping. Provision of electricity, piped water supply and approach roads, not all of which had been foreseen at appraisal, had to be provided in some cases. Because these additional site works were not included in the original contracts, they were expensive to commission and supervise.

3.03 Construction. Civil works were divided into seven contract packages, each containing more than one building location and all of roughly equal cost. Bidding documents were well conceived and of high quality. The Government's prequalification procedure consisted of proof of registration with the Sierra Leone Register of Contractors which is open to both foreign and local firms. However, the registration requirements are minimal, and they did not adequately filter out contractors with management and financial liquidity weaknesses, as proved to be the case with one contractor (para. 3.04). All but one of the seven contractors who prequalified were Sierra Leone-based contracting firms; the non-Sierra Leone-based firm did not participate in the bidding.

3.04 The seven bid packages were spaced about three months apart. There was keen competition, and bids averaged only 84 percent of appraisal estimates. One firm was awarded two contracts, but it lacked the financial and management capacity to complete the works satisfactorily. Both contracts with this firm were finally terminated, and the works are being completed by another contractor. All other contractors completed the works within the contractual time limits and exhibited a high standard of workmanship and attention to detail.

3.05 Other difficulties encountered during construction included price escalation and supplementary works. Contracts included a price escalation clause, but since the Government does not publish statistical data on prices of building materials, the price escalation formula in the contracts placed the onus of proof of escalation on contractors. This resulted in inconsistencies and variations from contract to contract.

3.06 Supplementary works had greater impact on construction costs than did price escalation. The need for these works was due both to the difficulty of complete identification of the required work prior to establishing contract specifications for the rehabilitation of existing dilapidated school buildings, and

to the continuing deterioration of the buildings during the construction period. Since these works were considered essential to completing renovations and since the contract bids were much lower than the appraisal estimates, there was little hesitation to undertake these additional works despite their falling outside the contracts and therefore having higher unit costs. Furthermore, there was an inclination by the Borrower to undertake improvements in the overall appearance of project schools through more site works and upgrading than were necessary for implementation of the diversified programs. These works considerably increased the workload of the project unit and the consultant architects, whose fees were computed at an accelerated rate. Moreover, the large number of small works undertaken created difficulties in projecting the final costs of the contracts, and neither IDA nor the project unit was aware of their impact on the final cost of the project until it was too late to avoid overruns. Because of the supervision, procedural, and unit cost problems likely to be encountered in rehabilitating buildings in a state of serious deterioration, it is recommended that these be carefully considered prior to the inclusion of rehabilitation work in a project.

3.07 Maintenance. At an early stage of project implementation, the Government fulfilled the condition in Section 4.02 (f) of the credit agreement requiring the assignment of a MinEd official responsible for inspection and maintenance of school buildings. However, project-financed buildings are too recently completed to assess the impact of this condition on the quality of their maintenance. Because the electricity generating sets and water treatment plants financed by the project are installed at schools in remote areas to which private maintenance and repair services do not have easy access, the project unit has correctly proposed that the Ministry of Education pay the Ministry of Energy and Power to maintain these installations. It is also recommended that to facilitate maintenance of project schools, future projects should include a provision for establishment (by the consultant architects or government services) of drawings to record works executed under the project, indicating the location of underground service lines and buildings as they were actually constructed.

3.08 Furniture. Furniture was tendered on an international basis. Bidders were prequalified and required to submit furniture specimens. In August, 1972, the Central Tenders Board received tenders from 16 firms, including 9 foreign firms. The period of validity of tender offers expired before a decision was taken, and the bids were therefore retendered in August, 1973. Nine valid tenders were received and evaluated, and contracts were awarded to two Sierra Leonean firms who were the lowest bidders for the lots on which they bid. There was some delay in furniture delivery and some furniture was not strong enough but overall the furniture was satisfactory.

Equipment

3.09 The purchase of equipment for the project schools was financed by a grant of C\$650,000 (about US\$600,000) from the Government of Canada, and administered by the Canadian International Development Agency (CIDA). The IDA

credit provided \$195,000 to pay for packaging and ocean freight from Canada to Sierra Leone and the Government of Sierra Leone met local costs, including storage and inland transportation. There were no serious delays in procurement or shipment, and practically all equipment has been received by the project schools.

3.10 Equipment selection and the preparation of specifications were carried out by ILO advisers with some help of science and other practical subject teachers. Unpacking, assembly, electrical installation and mechanical adjustment was undertaken by the ILO project manager (para. 5.16) and four British technical specialists (VSO) with assistance from technical teachers at the project schools. The final installation and handover of the technical workshops has lagged far behind completion of construction but will be completed by September, 1976. Laboratory equipment, handtools and other portable items not requiring special installation procedures, were put into operation by school or government staff without serious difficulty.

3.11 There were three major problems in the selection, procurement and installation of equipment:

- (a) the requirement that two-thirds of the equipment supplied bilaterally be from the donor country, which resulted in:
 - (i) lack of compatibility with equipment already existing in the schools, or available on the local market, and
 - (ii) lack of spare parts or service available locally, and hence the need for continuous dependence on Canadian-based suppliers;
- (b) the involvement of three external agencies -- IDA, CIDA and UNDP -- in equipment procurement, which led to duplication of effort (especially regarding review of equipment lists) and difficulties of timing and of coordination of building and equipment requirements; and
- (c) the absence of competent technicians in Sierra Leone to install and test the equipment, and the lack of provision of an equipment technician as part of the equipment contract, which seriously delayed installation of machines in the laboratories and workshops, especially in the technical schools. In view of these difficulties, we recommend that, when possible, school equipment procured under or for Bank projects be compatible with equipment existing in schools or available through local dealers. Equipment contracts should provide for a technician to install sophisticated equipment if qualified technicians are unavailable in the country.

IV. Project Costs and Financing

4.01 The estimated costs of the project by category are shown in Annex 3 and summarized below. In November 1973, the appraisal estimates were adjusted and the allocation of credit proceeds recalculated (Annex 4) to take account of:

- (i) lower than expected bids on civil works (para. 3.04); and
- (ii) designation of US\$130,000 from the unallocated category to cover the packaging cost of CIDA-financed equipment.

		(US\$ Thousands)					
		<u>Appraisal Estimates</u> (1)	<u>Adjusted Appraisal Estimates</u> (2)	<u>Estimated Final Expenditures</u> (3)	<u>Overrun (3)-(2)</u> (4)	<u>Overrun as % Increase over(1) over(2)</u> (5) (6)	
I.	Civil Works	3,344	3,214	3,784	570	13	18
II.	Consultants and Professional Services	811	811	882	71	9	9
	a. Architectural Consultancy	(411)	(411)	(592)	(181)	(44)	(44)
	b. Technical Assistance	(400)	(400)	(290)	(-110)	(-28)	(-28)
III.	Furniture	248	248	196	-52	-21	-21
IV.	Packaging and Freight of Equipment	<u>65</u>	<u>195</u>	<u>156</u>	<u>-39</u>	<u>140</u>	<u>-20</u>
	<u>TOTAL</u>	4,468	4,468	5,018	550	12	12

4.02 The principal cause of the construction cost overrun was the supplementary works at project schools (para. 3.06). A comparison of appraisal estimates, contract bids and final cost by contract phase is given in Annex 5. These works engendered an even larger increase in percentage terms in architectural consulting services since the architects' fees were calculated on a higher percentage for supplementary works. The consultant architect category exceeded appraisal estimates by 44 percent, due not only to supplementary works but also to a base line fee rate which was 15 percent higher than the appraisal estimate (para. 2.07). The cost overruns on construction and consultant architects were offset by savings on furniture, equipment freight and technical assistance. Savings in the last category were due to recruitment of local experts in place of expatriates, to the filling of three technical assistance posts through bilateral assistance, and to the conversion of another technical assistance post to a ministry-funded post. Losses due to currency fluctuation had little impact on the cost overrun, amounting to only US\$ 39,000 or 1.3 percent of the IDA credit of US\$ 3 million.

4.03 Average construction cost per square foot and cost per student place are not calculated since all project items were extensions to existing institutions. Recurrent costs for sample project schools (paras. 5.13 and 5.20) are shown in Annex 6.

4.04 Financing. In accordance with the credit agreement, the credit was disbursed at the rate of $66\frac{2}{3}$ percent on civil works, professional services, and furniture and 100 percent on freight of equipment. Due to the cost overrun, IDA's share of total project expenditure dropped from 67 percent to 60 percent. Projected and actual disbursements of the credit are shown in Annexes 7 and 8.

V. Operational Results by Project Objective

5.01 It is too early to judge the impact of the project on employment prospects of students at project institutions since the buildings and equipment were so recently completed and installed. The assessment below is therefore based on observations and discussions at sample project schools and will be verified later through tracer studies when the new programs will have been instituted for a longer period. The operating outcomes observed are grouped by objective rather than by institution or by category (e.g., civil works, technical assistance, etc.) to gain a clearer picture of the contribution of different inputs to the goals of the project.

A. General Secondary School Diversification and Modernization

5.02 The objective of this project component was to improve the employment prospects of secondary school leavers through rehabilitation of existing buildings and provision of facilities, equipment and curriculum revision specialists for diversifying and modernizing programs. Four of the eleven project schools are in Freetown. Three of the project schools are coeducational; two are all girls and six are all boys, reflecting the low country-wide proportion (29%) of girls in secondary enrollments.

5.03 Suitability and Use of Buildings and Equipment. The specialized classrooms are generally suitable for support of the programs envisaged. Regular and commercial classrooms are being heavily utilized while workshops, laboratories and social science rooms are underutilized. It is unlikely that most schools will achieve the classroom utilization factors estimated at appraisal. These were based on rotating classroom use by students, which has not been introduced in most schools. Instead, timetables and enrollments are based on one ordinary classroom per class; this classroom is vacant each time the class uses a specialized room. This preference for a "home room" classroom, coupled with enrollment pressures, has in several schools led to the conversion of specialized rooms for use as ordinary classrooms. We recommend that to benefit more fully from the specialized rooms, the MinEd should encourage school principals, possibly through seminars on utilization of school timetables, to make greater use of the rotation system. Other factors contributing to lower than optimal utilization of specialized rooms include:

- (i) inadequate briefing of teachers on operation and maintenance of audiovisual aids;
- (ii) insufficient budgetary allocations for consumable materials such as chemicals and wood, which limit the amount of practical work carried out in science and workshop courses; and
- (iii) inadequate cabinet space for storing equipment in some rooms.

5.04 The equipment provided by CIDA is also well suited to the level and kinds of programs envisaged. The commercial equipment is already heavily used; the quantities and types of equipment for agriculture and metal and woodshops, largely comprising hand tools commonly used in Sierra Leone, are also suitable, as is most home economics equipment. Only in the case of science equipment does there appear to be some oversupply or oversophistication for secondary level teaching.

5.05 Technical Assistance. The credit agreement called for revision of general secondary curricula in four subject areas (English, mathematics, science and social studies) for universal introduction in secondary schools by 1974. Responsibility for curriculum development was assigned to a curriculum revision unit, established in 1970 at the University Institute of Education. Proceeds of the credit were allocated for 4 expert advisers, one for 18 months and the others for 6 months each. Despite delays in appointments due to recruitment difficulties, the curriculum revision unit made considerable progress in preparing and testing new programs in English, social studies and science. Little was accomplished in mathematics since the post was vacant throughout most of the project implementation period.*

5.06 The 1974 targeted introduction of new curricula was not achieved. Irrespective of delays, the three man-years of technical assistance provided were insufficient in view of the magnitude of the task and the fact that the specialists were working relatively singlehandedly in their subject areas. Moreover, the project provided only for curriculum revision but stipulated universal introduction of these curricula, a broader task requiring more time and, at later stages, complementary inputs to train teachers in new methods and prepare teaching aids. The Institute lacked the staff, money and physical facilities to accomplish these tasks. In retrospect, even if the project had included additional assistance for introduction of curricula into schools, the 1974 target was overambitious. It should probably have been substituted by a target date which was more compatible with the Government's conception of the phasing of curriculum introduction, such as introduction of curricula on a pilot basis in selected schools by 1974. Assistance in furthering introduction of curricula is being provided under a second education project through extension of specialist contracts and construction and equipment of a new building for the Institute.

* Meanwhile, however, considerable progress was achieved in revising math curricula by the West Africa Regional Mathematics Program.

5.07 A final remark on the technical assistance component is related to its intended impact on improving employment prospects of secondary school graduates. The appraisal report stated that curricula should be modernized "to accord with employment opportunities in Sierra Leone's expanding commercial, industrial and agricultural sectors". Section 4.10 (b) of the credit agreement reaffirmed that revision of the curriculum was needed "to adapt this curriculum to the skilled manpower needs of (the) economy". Preparation for employment opportunities was indirectly assisted through the project's provision of labs and workshops at secondary schools, which were to allow for diversification of programs and, hence, contribute to a general "pre-employment" framework upon which later skill training can be more readily assimilated. However, the links between modernization of academic subjects and preparation for employment opportunities were even more indirect since the subjects singled out for revision will result in enhanced student prospects for further study more than, or as well as, for employment. Hence, while modernization of academic curricula is a valid objective, the linkages between the stated goal of adapting curricula to skilled manpower needs and the subject areas selected to receive technical assistance were weak. This might be explained by the fact that the four curriculum revision posts were added to the project only at negotiations when other technical assistance posts dropped out (para. 2.03).

5.08 Teacher Supply. The formal educational qualifications of teachers at sample project schools slightly exceeded the national average for secondary teachers, as shown in Annex 9 and summarized below:

	Project School Sample (1974/75) %	National Average (1973/74) %
<u>A. Teachers Meeting Formal Qualifications</u>		
1) University degree with teacher training	65	63
2) Higher Teachers' Certificate		
<u>B. Teachers not Meeting Formal Qualifications</u>		
1) University degree without teacher training	20	7
2) No formal qualifications beyond GCE "A" level passes or trade certificates	<u>15</u>	<u>30</u>
	100	100

Although the proportion of teachers holding formal qualifications was roughly equal, the proportion of "unqualified" project school teachers who held a university degree was three times the national average. Nationally, the supply of secondary teachers has been adequate for all academic subjects except mathematics and higher level science. Most expatriate teachers in Sierra Leone, representing 24 percent of the total in 1973/74, were teaching these subjects and mainly in rural schools. (As many as 66 percent of teaching staff at two of the rural project schools were expatriate while the Freetown schools had few non-Sierra Leoneans.) Principals at project schools visited noted a difficulty in filling teaching positions in one or more of the practical subject areas, especially in commerce and industrial arts, for which Sierra Leone does not yet have a training program.* While the supply of teachers for agriculture and home economics is adequate, the rural schools report difficulty in attracting qualified teachers for the latter, largely because housing and other amenities are often inadequate in the villages where these schools are located.

5.09 Enrollments and External Productivity. The project supported only nominal expansion of enrollments: 1,183 new student places were to be created at the 11 project schools. Enrollments for a sample of five project schools grew at an average rate of 7 percent p.a. from 1968/69 to 1974/75, and in 1974/75 exceeded planned capacity by 11 percent (Annex 10).**

5.10 While no quantitative targets could be established to measure external productivity, the major objective of the project -- improved employment opportunities -- was to be achieved through provision of a common core of improved academic and practical courses at the junior secondary level (Forms 1-3) and the addition of one to three specialized streams in commerce, industrial arts, agriculture or home economics at the senior level (Forms 4-5). It is not possible to assess fully the links between diversification and employment prospects since the project schools do not yet reflect the degree of diversification envisaged at the time of appraisal.*** Only three schools offer specializations in non-academic subjects at the senior level -- in commerce and home economics. However, teachers and principals at these schools cite positive results: home economics graduates often enter nursing and teacher training programs, and commerce graduates are readily employed in office jobs. Agricultural and industrial arts programs have not yet been offered as specializations at the sample project schools, although agricultural science, woodwork and metalwork courses have been continued or introduced. Nor are the new programs in general science or social studies being taught on a wide scale. In short, diversified or modernized subject disciplines are generally being taught in cases in which an end of school "O" level examination - the entry to university study - is given, but there is

* A commercial and technical teacher training program is included in the second IDA project, Cr. 573-SL of 1975.

** The national average secondary growth rate was 9.3 percent p.a. during the same period, but is not comparable with the rate for project schools since the former includes establishment of new schools.

*** The second education project provides for establishing a tracer system which should assist in measuring the impact of diversification on first project schools.

considerably less enthusiasm for those disciplines which aim simply at broadening students' general knowledge. In fact, because the project included a number of long-established schools with a reputation for high quality university preparatory programs, project school teachers tended to be less receptive to new curricula than teachers at nonproject schools. Apart from the bias toward "O" level preparatory specializations, the limited progress achieved so far in diversification can be attributed to recent completion of most project facilities, recent or continuing receipt and installation of equipment, and a shortage of teachers of practical subjects. Furthermore, while course outlines exist for agriculture and industrial arts, more detailed curricula are needed since the teachers of these subjects are often poorly trained and in need of extra guidance.

5.11 The majority of project school principals interviewed continue to support altering curricula to provide full practical options and revised academic syllabi in the subject areas agreed at appraisal. Furthermore, the project schools have had a spill-over effect on other secondary schools: in 1973/74, approximately one-half of all recognized secondary schools had adopted some practical courses as existing facilities permitted. Further progress towards the diversification of secondary education will require appropriate physical facilities and suitably trained teachers.

5.12 Internal Efficiency and Costs. The side letter to the credit contained conditions directed toward improving the efficiency of utilization of teachers and physical facilities at secondary schools. These appear to have been largely achieved by 1972/73. Lower Form 6 intake had risen from 17 in 1968/69 to 26, mainly due to a consolidation of Form 6 schools,* and Form 1 intake had increased to 38,** but mainly as a consequence of increasing pressure for admittance. Finally, the side letter called for an increased average primary class size to 35 by 1974. Available information suggests that the primary student/teacher ratio had increased from 29:1 to 33:1 between 1968/69 and 1973/74, due again to enrollments rising faster than teacher supply. The average student teacher ratio at the secondary level in Sierra Leone was 22:1 in 1973/74. At sample project schools, student/teacher ratios varied from 18:1 to 34:1 and averaged 24:1, slightly higher than the national average. By other yardsticks, project schools operate on about the same level of efficiency as non-project schools. Repeater rates average 17% per annum in sample project schools (1974/75) vs. 15% in nonproject schools (1972/73) (Annex 11). Average dropout rates are 11% vs. 10% nationally. About 41% of students enrolled in Form 1 of project schools in 1970/71 entered Form V (generally the final year of secondary school) in 1974/75; the national average is 47%. However, students who ultimately reach Form 5 at project schools are far more successful at passing the requisite number of "O" level examinations for university entrance: almost 30% of project school students pass the required number of exams as compared with a national average of 14%, probably due to the high quality of some of the project schools whose students traditionally do well on "O" level exams. Despite this relative achievement, efficiency in both project and nonproject schools is

* Form 6 consists of two additional years of academic secondary education. Students successfully completing examination requirements for Form 6 are exempt from a year of preparatory work at the university level.

** The appraisal report did not include a figure on average pre-project Form 1 class sizes.

low, and will remain low, as long as virtually the only objective of the secondary system is to serve as a filter for selecting university candidates.

5.13 As shown in Annex 6, the recurrent cost per student at six project schools ranged from Le 97 to Le 189 (US\$99-193*) in 1974/75. Government grants averaged Le 92 (US\$94*) per student in 1974/75, compared with a national average of Le 83 (US\$85*) (1972/73). The wide variation at project schools is attributable mainly to the differences between independent (privately sponsored) and Government schools (independent schools spend more) but also to differences in school size, the quality of management and the school's divergence from the Ministry-prescribed pupil:teacher ratio of 25:1, the basis upon which grants are allocated. Distribution of recurrent expenditure is similar to the national average: 85-90% for salaries, and 10-15% for administrative expenditure, equipment and materials. This allocation reflects one of the most frequent complaints at project schools visited: the lack of recurrent funding for consumables and for maintenance. In the interest both of greater internal efficiency and of the upkeep of the project-financed facilities, we recommend that the Government increase funding for materials and maintenance at secondary schools.

Technical and Trade School Development

5.14 The project provided for additional buildings plus equipment for two trade schools and two technical institutes (one of which is only equipped to be a trade school). The principal objective of the project was to improve the quality and quantity of the output of the technical/trade schools to meet existing shortages of technicians and craftsmen. In accordance with the credit agreement, a UNDP project to train technical and vocational teachers was to complement the IDA project.

5.15 Suitability and Use of Buildings and Equipment. The physical facilities and equipment provided are generally well suited to the teaching requirements of the schools. Although the equipment is of high quality, several items are oversophisticated and should probably have been dropped in favor of more handtools. Two oversights with regard to the building program have been observed: (i) the absence of boarding accommodation at one school located in a small town which is inhibiting enrollment growth; and (ii) the absence of practical training facilities at the trade schools where students can work in a realistic industrial setting. These shortcomings are being remedied in the second education project through the construction of a dormitory and special workshops to be operated as industrial production units.

5.16 Technical Assistance. Section 4.09 of the credit agreement called for a UNDP technical assistance team to aid in the development of the technical institute and the trade schools and in the establishment of a technical teacher training program. The terms of reference of the ILO team charged with implementing the UNDP project included commissioning the new workshops and equipment,

* At the current exchange rate of Le 1 = US\$1.02.

developing curricula, training vocational instructors, and establishing an apprenticeship scheme and an industrial advisory committee. The UNDP/ILO project met with initial difficulties, the most serious of which was the inappropriate timing and terms of reference of the team's activities vis-à-vis the construction of workshops for the trade schools. The project consequently did not achieve its principal objectives listed above. A second phase of the ILO project is now underway with new staffing, and the team is making progress in revising curricula and in providing skill upgrading and instruction in special methods for trade school instructors. However, because the ILO team's mandate has always been limited to the training of trade school teachers, the second requirement of the 170-SL credit agreement, that of creating a technical teacher training program, has never been met. This shortcoming is being corrected under the second IDA education project through the establishment of a technical teacher training department at Milton Margai Teachers College. In retrospect, technical assistance project difficulties might have been more readily resolved if at the initial stages: (i) it had been recognized that while ILO was the appropriate agency to undertake vocational training activities, the technical teacher training element should probably have been designated as a Unesco project; and (ii) the original plan of operation of the ILO team had been more carefully examined to ensure that its terms of reference were compatible with the stage of construction at which the specialists were to arrive. We recommend that in education projects in which the technical assistance component is provided by another agency, the Bank should review at an early stage the terms of reference and, in particular, the timing of the technical assistance activities vis-à-vis the nature and timing of Bank inputs and, to the extent possible, make recommendations to the agency accordingly.

5.17 Staffing of the Technical/Trade Schools. In 1975/76, there were 69 technical/vocational instructors serving 806 full-time students in the four technical institutions. The average length of their formal education (general education and technical training) was 13 years, some two years beyond the educational level of the average student at graduation (Annex 12). Their technical qualifications ranged from City and Guilds craft certificates to (in some cases) university degrees in engineering, and are considered adequate. Approximately 70 percent of the instructional staff had two or more years of practical experience in industry or commerce. Only 25 percent had received formal teacher training (one or more years of a recognized teacher training program) although a number of teachers had followed short courses in teaching and instructional methods. The expected increase in enrollments in 1976/77, when the new school buildings are fully operational, will generate a need for an additional 40 vocational instructors. To avoid a severe teacher shortage in September, 1976, it is recommended that the Ministry of Education recruit 40 technically qualified people from industry and give them a 2-3 month crash course in technical teaching methods at the ILO instructor training unit.

5.18 Enrollments and External Productivity. Enrollments totaling 806 in 1975/76 are at virtually the same level as in 1968/69 when the project was prepared, due primarily to the very recent completion of buildings and commissioning of equipment. Beginning with the coming school year, however, the physical capacity of the schools will allow for enrollments totaling 1,400 (Annex

13). At present, as at the beginning of the project, the technical/trade schools produce about 230 technicians or skilled craftsmen per year. The project aimed at raising output to 650 per year, intended to replace an estimated one-third of workers lost annually through attrition from the stock of 70,000 skilled workers in Sierra Leone's economically active population of 900,000. Recent employment estimates indicate that the appraisal figures were high. Modern sector employment is estimated to total 141,000, and average annual requirements for skilled labor are projected to be 800 per year, of which 400 can be met from the output of the school system. At full capacity the output from the three trade schools will be 340 per year, or 85 percent of jobs available to school leavers. There are no figures on technician requirements, but since the output of technicians from the technical institute is negligible, it is certain that requirements are not being met.

5.19 The buildings provided or to be provided under the two IDA education projects plus the ILO team's work on apprenticeship and industrial liaison should shortly begin to have an impact on improved external efficiency of the trade schools. A tracer system is being established under the second education project to follow graduates and thereby give planners information for better adapting programs to demand. Nevertheless a major constraint on increasing output of skilled workers and technicians is the attempt by two schools to train at a level above their capacity. Freetown Technical Institute (FTI), which is equipped to train middle-level technicians, has, in cooperation with the Department of Engineering of the University of Sierra Leone, introduced an essentially academic course leading to university entrance. Consequently, the training of middle-level technicians has declined considerably. As a result of poor management and this shift in objectives, neither industry nor students have much confidence in FTI. The only successful program offered at FTI is commercial training. To revitalize FTI's technician training, it is recommended that the Government strengthen the institute's leadership as well as the quality and motivation of the teaching staff on the engineering side. Furthermore, the pre-university course should be terminated and the technician certificate courses reintroduced. The other school training above its capacity is Kenema Technical Institute, which is equipped to be a trade school but shows little commitment to trades training and aspires to be a technical institute. However, it lacks the programs and sufficiently qualified staff to do technician training. It is recommended therefore that the Government require the Kenema Technical Institute to limit its program to the trades training level.

5.20 Internal Efficiency and Recurrent Costs. Retention and dropout data are not available for the technical/trade schools but efficiency is not high. The low priority accorded to technical education is reflected in the Government current budget: less than 2 percent of education expenditure was allocated to technical training in the 1974/75 budget, and the expenditure per student-year was only Le 348.* Of this amount, 50 percent was allocated for teaching

* US\$355 at current exchange rate.

salaries, 29 percent for administrative salaries and wages, and 21 percent for equipment, consumables and student subsistence allowances. More funds need to be awarded not only to consumables but also to student allowances since there are almost no boarding facilities at the trade schools. In fact, inadequate budgetary provision for student subsistence allowances is imposing a serious restriction upon trade school enrollment growth. While enrollment capacity will reach almost 1,400 by September 1976, the budgetary allocation for student allowances is only about US\$55,000, sufficient for only 450-500 students. Hence, even with all facilities at the trade schools fully operational, enrollments cannot be expected to reach more than 50-55 percent of estimated capacity. We therefore recommend that the Government substantially increase the budgetary provision for student allowances or, alternatively, establish methods of allocating allowances to ensure that enrollments will equal the schools' capacity.

In-service Primary Teacher Training

5.21 Freetown Teachers College (FTC) was originally established to provide a four-year in-service training program for underqualified practicing primary teachers, mainly from the Freetown area. The College is nonresidential, its courses are held in the afternoon and evening, and its program leads to the Teachers Certificate (TC). At the time of appraisal, it was operating in inadequate facilities adjacent to one of the project secondary schools, Bishop Johnson. Under the project, minimal facilities were to be provided expressly for the College, which was also to share new classrooms, laboratories and workshops with the secondary school. Enrollments were to be doubled from 125 to 250.

5.22 Project objectives for FTC have not been achieved because the buildings are not yet completed (para. 3.04). FTC's plight is in fact worse than prior to the project because some of the classrooms it was using have been torn down to make way for the new buildings. Furthermore, Bishop Johnson has initiated a double shift since the time of project appraisal, leaving classrooms available to FTC only in the late afternoon and evening. Hence, enrollments have hovered around the 1968/69 level: 145 students in 1973/74 vs. 125 in 1968/69. The completion of the unfinished buildings (classroom block, science block and multi-purpose hall) should easily allow for the 250 student enrollment capacity forecast at appraisal. FTC has had to turn away some applicants over the past few years, so it should have no difficulty filling all places. The MinEd should ensure that enrollment growth and program scheduling at Bishop Johnson secondary school do not impinge upon the enrollment capacity forecast at appraisal for FTC or upon the scheduling of its programs.

5.23 FTC's original training objectives and the complexion of its student body are slowly altering. In 1968/69, 2,267 of the country's 4,583 primary teachers, or 50 percent of the teaching force, had no professional teaching qualifications. FTC, the one in-service teacher college in the country, aimed at giving a share of these untrained teachers their teaching qualifications without withdrawing them from the teaching force. By 1973/74, the proportion

of untrained primary teachers had risen to 60 percent: 3,425 of the 5,690 teaching force. The absolute number of trained teachers actually dropped from 2,316 to 2,265, due largely to the propensity of trained primary teachers to return to school to seek higher qualifications.

5.24 At the same time that the proportion of unqualified teachers has grown, fewer of FTC's students are practicing teachers. Of the 145 students enrolled at FTC, 60 percent teach during the day, 15 percent hold nonteaching jobs and 25 percent are not employed. The last category is growing with the increasing number of secondary school graduates who do not find places at the university and hence resort to primary teacher training. Since these young people usually have a better general education than many of the untrained practicing teachers, FTC and the Ministry of Education encourage their enrollment. Moreover, MinEd officials argue that practicing teachers are too tired to perform well in the FTC evening program. It is also difficult to recruit teacher trainers to work at FTC in the evenings. The Ministry therefore wishes to convert FTC into a pre- and in-service teacher college and relocate it, as it has requested during both first and second project preparation.

5.25 On cost grounds, however, it is difficult to justify the investment required for a full-time program, given the large number of unqualified teachers who could benefit from training while still remaining in the teaching force. The internal efficiency of FTC may be lower than the residential teacher colleges, but so are the costs: FTC's cost per student is 55 percent of the cost at residential colleges. Furthermore, difficulties of transportation of students and recruitment of teacher trainers would be reduced if FTC had access to the school buildings earlier in the afternoon, now precluded by Bishop Johnson's uncontrolled growth which has necessitated introduction of a double shift. Finally, the motivation and examination performance of students might be improved if there existed a curriculum better adapted for in-service training. At present, the FTC curriculum is simply a four-year version of the three-year preservice curriculum, itself in need of revision. The second education project is providing technical assistance in primary teacher education to help develop a primary teacher training curriculum that can be tailored for use in both preservice and in-service programs.

Planning and Administration

5.26 Largely through special covenants in the credit agreement, the project sought to improve educational planning and administration. It provided technical assistance in agricultural education and educational statistics and stipulated (i) the completion of a manpower survey; (ii) the preparation of an education sector plan; and (iii) the creation of certain posts in the Ministry of Education.

5.27 Technical Assistance in Agricultural Education and Statistics. The funds allocated for these posts were never used. The Government considered that

there was duplication between the 3 man-years of specialists in agricultural education and the credit condition that an agricultural education officer be appointed (para. 5.30), since qualified Sierra Leoneans were available at Njala university college. IDA agreed to the Government's naming a Sierra Leonean to the post of agricultural education officer in 1972; he remained only a short time and the MinEd could not find a replacement. As a result, agricultural education has remained poorly developed at both the primary and secondary levels, as teachers of agriculture receive no guidance in adapting the agriculture syllabus to the Sierra Leonean context. An educational statistician was found through the British Voluntary Service Overseas (VSO), who served from September, 1972 through July, 1975 and performed well.

5.28 Manpower Survey. The Government was required within two years of credit signing, to "produce, with the assistance of competent experts, a manpower survey, including projections of future skilled manpower requirements, for the purpose of developing its educational system" (Section 4.10 (a)). Two specialists were recruited through UNDP, the first, a statistician (November, 1971 - August, 1973), to undertake an establishment survey, and the second, a manpower planner (August, 1972 to present), to analyze and project manpower requirements.* The establishment survey was never completed due largely to a low response rate by the firms surveyed and no follow-up by the survey team. The analytical and manpower projection work, which was to follow upon the statistical part, went forward nevertheless, and global projections were made. The manpower projections are too aggregated to be of use in planning enrollment growth in specific disciplines; they have, however, provided a foundation for development of an education plan.

5.29 Education Sector Plan. An education plan was to be produced within one year of the manpower survey's completion (Section 4.10 (b) (i)). This condition was met through the preparation by the Ministry of Education planning unit and the UNDP manpower planner (para. 5.28) of a sectoral education program for the National Development Plan 1975-1979; this program was published in March, 1974. In addition, the University of Sierra Leone, in collaboration with the Ministry of Education, sponsored an Education Review in 1973/74 to help define a long-term pattern of educational development. While the proposals of the two documents differ in some respects, they are not fundamentally inconsistent with each other. It is not yet possible to determine how or whether the plans will be translated into policies and programs.

5.30 Ministry of Education Posts. In accordance with Section 4.02 of the credit agreement, the Government has:

- (a) appointed a principal education officer for technical education;
- (b) established a secondary school inspectorate, currently staffed by eight inspectors; and

* The second specialist was part of a UNDP development planning team.

- (c) staffed the Ministry of Education planning unit with an educational planner and statistician (the Sierra Leonean statistician vacated his post in September, 1975 and another candidate is being sought).

The officers appointed are performing well. As stipulated in Section 4.02, the Government appointed an agricultural education officer in 1972, who left the Ministry shortly thereafter and was not replaced during the project implementation period.

5.31 In summary, the principal objective the above conditions sought to achieve was the development of a systematic approach to planning through staffing a planning unit, studying manpower needs and establishing a development plan. Planning is slowly becoming integrated into MinEd operations, but principal education officers need to recognize more fully the importance of planning in their own work, more planning officers need to be recruited and trained, and data collection and retrieval need to become more systematic. The second education project seeks to strengthen the planning process further through equipment and fellowship assistance to the Ministry of Education planning unit.

5.32 The Government's major criticism of the conditions related to planning and administration, including those which stipulated targets for enrollments, intakes, and teacher:pupil ratios (para. 5.12), is their piecemeal nature and their attempt to influence a large number of unrelated aspects of the education system. While none of these conditions is singularly ill-conceived, some of them are linked neither to physical components of the project nor to each other. It is recommended that in future education projects, conditions should relate as directly as possible to the achievement of specific project objectives being supported through other project components such as civil works, equipment or specialist services. It is recognized, nonetheless, that there are instances, particularly in the case of first projects, in which conditions not linked to physical (including technical assistance) components are necessary to establish basic planning mechanisms or undertake certain measures needed for future investment. In these cases, the objectives sought through loan/credit covenants should be clearly identified and their rationale fully explained.

VI Government Observations on IDA Performance

6.01 The emergence from 1969 on of increasing numbers of qualified Sierra Leonean educators, planners and administrators have led Sierra Leonean authorities to argue that the Government could have implemented a larger project. However, given the absence of education sector and manpower planning in Sierra Leone during the 1960's plus the problems and delays encountered in implementing some of the civil works contracts and in achieving the project's educational objectives, a small first project supporting qualitative improvements appears to have been an essentially correct decision. The Sierra Leoneans continue to express support for the objectives set by the first project, i.e., improving the quality of education at project institutions and of educational planning and administration.

6.02 The responsible authorities have a less positive view of the project preparation process and their own participation in it. They complain that appraisal worksheets and credit conditions were not presented for their review prior to negotiations. In view of the delegation's inexperience with IDA procedures, this being a first project, the package was accepted with little debate. The authorities have also felt a lack of flexibility on IDA's part, particularly with regard to approval of modifications to original designs and space standards and of numerous supplementary works which might have been included in the original worksheets. Government proposals for modifications or supplementary works were consistently met by IDA requests for further information and justification, which were frequently interpreted by Government as delaying tactics. Nonetheless, IDA did approve a large number of supplementary works during implementation; the fact that the final cost of civil works was 55 percent higher than the original contract sums was due largely to approval and execution of these supplementary works. By contrast, in the case of constructing staff houses at secondary schools, IDA withheld approval pending Government's enunciation of some policy or procedures governing allocation of staff houses, which IDA never received.

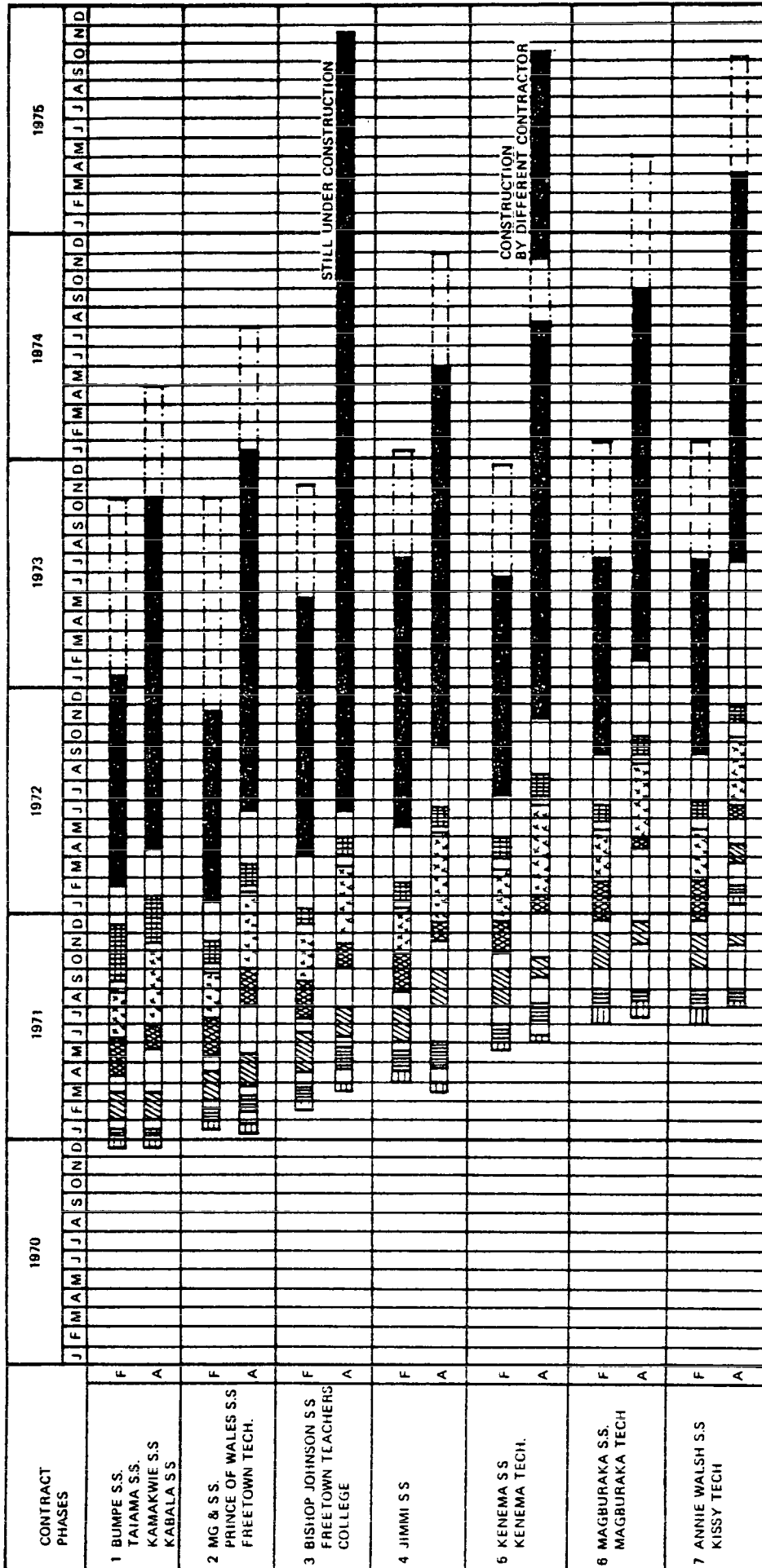
6.03 Finally, Government officials question whether the stringent compliance required on procurement procedures and fulfillment of credit conditions was warranted in view of the small amount of direct IDA financing received. They agreed that ICB procedures are desirable for award of civil works contracts. However, the Government found compliance with the credit conditions, through which education objectives were being sought, more difficult. Furthermore, although there was no specific covenant calling for limited growth of secondary enrollments, Government authorities believe that the tenor of the credit conditions and the enrollments forecast in the working papers for project-assisted schools implied an effort by IDA to influence Government policy in a highly sensitive area where social pressures cannot be ignored.

Western Africa Regional Office
May 1976

Status of Fulfillment of Credit Covenants

<u>Issue</u>	<u>Measure to be taken by</u>	<u>Action taken</u>	<u>Observations and Credit Agreement Reference</u>
<u>Educational Planning</u>			
1. Provide Ministry of Education planning section with educ. planner and statistician (4.02, e)	July 1, 1970	Yes	Posts filled by Sierra Leonean planner and British volunteer respectively during project implementation.
2. Complete manpower survey in two years (4.10, a)	Jan. 5, 1972	No	Establishment survey never completed due to low response rate and no follow-up by survey team.
3. Produce education plan within one year following completion of manpower survey (4.10, b (i))	Jan. 5, 1973	Yes	Completed by Ministry and UNDP planning team by March 1974 without benefit of manpower survey.
4. Revise secondary school curricula to adapt curricula to manpower needs of economy (4.10, b (ii))	Jan. 5, 1973	Partially	Curricula still being revised. Unrealistically short time allowed for curriculum revision. Question of whether general secondary curricula can reflect economy's "manpower" needs per se.
5. Introduce revised curricula in secondary school system (4.10, c)	Jan. 5, 1974	Partially	Curricula introduced in some schools on pilot basis. Unrealistically short time for mass introduction of curricula.
<u>Educational Administration</u>			
1. Appoint Principal Education Officer (Technical) (4.02, b)	Aug. 1, 1970	Yes	
2. Appoint officer in charge of agricultural education (4.02, c)	July 1, 1970	No	Official left shortly after being appointed. No replacement was found during project implementation.
3. Establish secondary school inspectorate (4.02, d)	July 1, 1970	Yes	Currently staffed by eight inspectors.
4. Assign an officer in Ministry of Education to be responsible for regular inspection of maintenance needs of schools buildings (4.02, f)	-	Yes	
5. Increase primary pupil:teacher ratio from 31:1 to 35:1 (Suppl. letter)	1974	-	Increased to 33:1 by 1973/74 due mainly to enrollments rising faster than teacher supply.
6. Increase efficiency of secondary education by:			Intake into Form 1 increased to 38; intake into Form 6 to 26. Both increases due mainly to increased pressures for admittance into secondary school.
a. Increasing intake into Form 1 to 40	a) as soon as classroom sizes permit		
b. Increasing intake into Form 6 (lower) to 30 through consolidation of sixth form teaching (Suppl. letter)	b) immediately		
7. Improve distribution of financial resources among the several levels of education (Suppl. letter) (implying reduction of proportion of university expenditure)	-	Yes	Commission on Higher Education appointed to study university expenditure. Proportion of education budget devoted to university dropped from 34.1% in 1967/68 to 29.2% in 1973/74.
<u>Technical Assistance (Schedule 2 Exhibit B)</u>			
3 m.y. Agric. education specialists (Min. of Education)		No	Post filled by local staff who remained only a short time in the post.
3 m.y. Education statistician		Yes	Post filled under bilateral finance.
3 m.y. of four curriculum specialists		Yes	Underway, partly bilateral finance (U.K.).
4 m.y. of project architect	Condition of effectiveness	Yes	On the job.
UNDP 8 Tech. education experts (4.09, 6.01, c)	Condition of effectiveness	Yes	Problems regarding timing and terms of reference of UNDP/ILO team. Project did not fulfill objective of establishing a technical teacher training program.
<u>Implementation</u>			
1. Establish a project unit responsible to the Minister of Finance (4.02, a, 6.01, b)	Condition of effectiveness	Yes	Project Unit fulfilled duties described in Schedule 4 of credit agreement.
2. Appoint a project director and project architect (6.01, c)	Condition of effectiveness	Yes	
3. Obtain IDA approval of Canadian equipment list incl. (a) time schedule for phasing of supply and installation (b) specifications and unit prices (4.04)	-	Yes	

SIERRA LEONE EDUCATION PROJECT COMPLETION
170-SL
FORECAST AND ACTUAL IMPLEMENTATION SCHEDULE



LEGEND

- F = Forecast
- A = Actual
- Briefing
- Preliminary Design
- Final Design
- Bill of Quantities
- Production Drawings
- Bidding
- Approval
- Construction
- Defects Liability

SOURCE: World Bank

SIERRA LEONE EDUCATION PROJECT COMPLETION (Cr. 170-SL)

ANNEX 3

Estimated Project Costs
(US\$ and Le Thousands)

	<u>Adjusted Appraisal Estimate 1/</u>			<u>Estimated Final Expenditure</u>			<u>Overrun 2/</u>			
	<u>IDA</u>	<u>Govt.</u>	<u>Total</u>	<u>IDA</u>	<u>Govt.</u>	<u>Total</u>	<u>IDA</u>	<u>Govt.</u>	<u>Total</u>	<u>In %</u>
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
A. US\$'000										
I Civil Works	2,113	1,101	3,214	2,158	1,626	3,784	45	525	570	18
II Consultants	531	280	811	556	326	882	25	46	71	9
a. Professional Services	(269)	(142)	(411)	(363)	(229)	(592)	(94)	(37)	(181)	(44)
b. Technical Assistance	(262)	(138)	(400)	(193)	(97)	(290)	(-69)	(-41)	(-110)	(-28)
III Furniture	161	87	248	130	66	196	-31	-21	-52	-21
IV Packing/Freight Equipment	195	0	195	156	0	156	-39	0	-39	-20
TOTAL	<u>3,000</u>	<u>1,468</u>	<u>4,468</u>	<u>3,000</u>	<u>2,018</u>	<u>5,018</u>	<u>0</u>	<u>550</u>	<u>550</u>	<u>12</u>
B. Le '000										
I Civil Works	1,761	918	2,679	1,775	1,337	3,112	14	419	433	16
II Consultants	442	233	675	446	262	708	4	29	33	5
a. Professional Services	(224)	(118)	(342)	(291)	(184)	(475)	(67)	(66)	(133)	(39)
b. Technical Assistance	(218)	(115)	(333)	(155)	(78)	(233)	(-63)	(-37)	(-100)	(-30)
III Furniture	134	72	206	117	59	176	-17	-13	-30	-15
IV Packing/Freight Equipment	163	0	163	130	0	130	-33	0	-33	-20
TOTAL	<u>2,500</u>	<u>1,223</u>	<u>3,723</u>	<u>2,468</u>	<u>1,658</u>	<u>4,126</u>	<u>-32</u>	<u>435</u>	<u>403</u>	<u>11</u>

1/ See Annex 4 for comparison with original appraisal estimate.

2/ Estimated final expenditure minus adjusted appraisal estimate

Average exchange rate by category:

- I. 1 Le = US\$ 1.216
- II. 1 Le = US\$ 1.246
- III. 1 Le = US\$ 1.111
- IV. 1 Le = US\$ 1.20--(hypothetical exchange rate since goods were never costed in Leones.)

Total (Average) 1 Le = US\$ 1.216

April 30, 1976

Source: World Bank.

ADJUSTMENTS TO APPRAISAL ESTIMATES AND CREDIT PROCEEDS
(US\$ and Le '000)

A. Estimates of Total Project Costs

<u>Category</u>	<u>Appraisal Estimate</u> ^{1/}		<u>Adjusted Appraisal Estimate</u> ^{1/ 2/}	
	<u>\$</u>	<u>Le</u>	<u>\$</u>	<u>Le</u>
I Civil works	3,344	2,787	3,214	2,678
II a. Professional services	411	342	411	342
b. Technical assistance	400	333	400	333
III Furniture	248	207	248	207
IV Packing and freight of equipment	65	54	195	163
TOTAL	4,468	3,723	4,468	3,723

B. Schedule 1: Allocation of Credit Proceeds

<u>Category</u>	<u>Original Credit Agreement</u>	<u>Amended Credit Agreement</u> ^{3/}
	<u>\$</u>	<u>\$</u>
I Civil works	1,900	1,900
II Consultant and Professional Services	500	500
III Furniture	150	150
IV Packing and freight of equipment	65	195
V Unallocated	385	255
TOTAL	3,000	3,000

^{1/} Rate of exchange: Le 1 = US\$ 1.20.

^{2/} Per request for reallocation of proceeds in Project Director letter of November 13, 1972.

^{3/} As amended in IDA letter of September 24, 1973.

Source: World Bank.
April, 1976

SIERRA LEONE EDUCATION PROJECT COMPLETION (Cr. 170-SL)

ANNEX 5

Estimated and Actual Costs of Civil Works by Contract Phase
(In Leones)

Phase	School	Appraisal Estimate a/	Initial Contract Sum	Final Cost b/	Contract Sum as % of Appraisal Estim.	Final Cost as % of Initial Contract
1	Bumpe S.S. Talamo S.S. Kamakwie S.S. Kabala S.S.	309,600	330,074	484,936	107	147
2	Methodist Girls S.S. Prince of Wales S.S. Freetown Tech.	347,700	259,212	440,000	75	170
3	Freetown Teachers College Bishop Johnson S.S.	250,100	231,894	343,796 ^{c/}	93	148
4	Jimmi S.S.	392,900	264,282	431,713	71	163
5	Kenema S.S. Kenema Tech.	363,600	267,480	492,157	74	184
6	Magburaka Boys S.S. Magburaka Tech.	400,000	282,838	282,838	71	100
7	Annie Walsh S.S. Kissy Trade Center	311,100	365,797	630,212	118	172
	UNDP/ILO Tech.	—	4,500	6,348	—	141
	TOTAL	2,375,000	2,006,077	3,112,000	84	155

(from Annex 4)

	<u>Appraisal Estimate</u>	<u>Adjusted Appraisal Estimate</u>
Total civil works allocation incl. contingencies	2,787,000	2,678,000
Final cost as % of total allocation	111.7	116,2

- a/ excluding contingencies
b/ including supplementary works
c/ being completed by the Government

Source: World Bank.
April, 1976

Recurrent Cost Per Student at Sample Project Schools
(in Le)

A. General Secondary Education (1974/75)

<u>Government-Assisted</u>	<u>Total</u>	<u>Excluding Boarding</u>	<u>Government grants only</u>
Annie Walsh	174	158	104
Taiama	189	152	116
Bishop Johnson	97	97	66
Methodist Girls	n.a.	n.a.	109
<u>Government</u>			
Prince of Wales	138	138	n.a.
Kenema	147	108	n.a.
<u>National Average for General Secondary Education</u> (Government expenditure only - 1972/73)			83
B. <u>Technical Education*</u> (1974/75)	379	348	348

* Breakdown by school not available. Includes all four project schools.

Source: Sierra Leone Government, Estimates of Revenue and Expenditure 1974/75 and World Bank.

April, 1976

SIERRA LEONE EDUCATION PROJECT COMPLETION

ANNEX 7

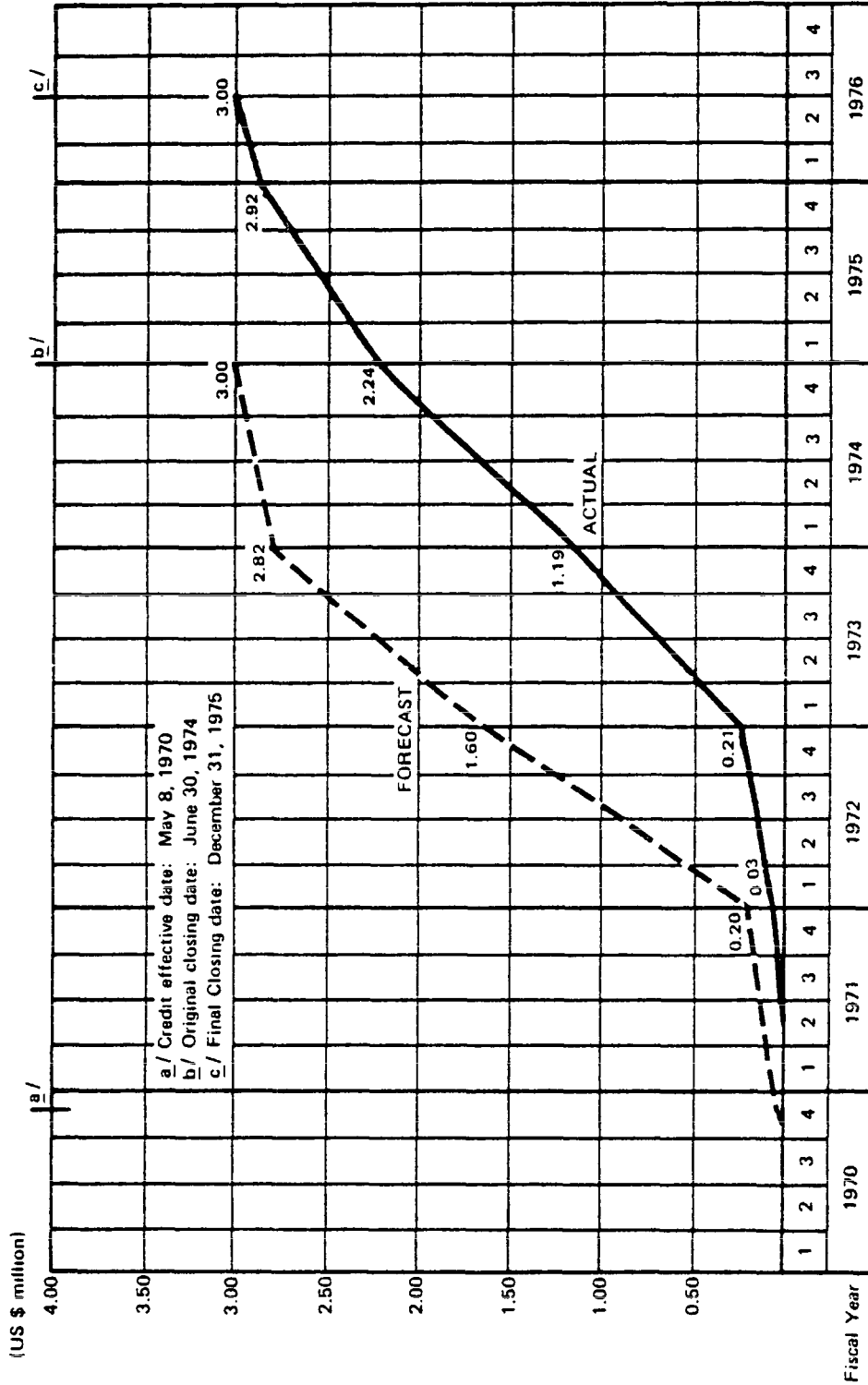
CREDIT 170-SL

SCHEDULE OF DISBURSEMENTS

IBRD/IDA fiscal year and quarters	Accumulated Disbursements in Thousands US\$						Actual Disbursement as % of:	
	Actual Disbursements	Appraisal Estimate	Revised Estimates			Last Estimate Feb. 75	Appraisal Estimate	Last Estimate
			June 71	June 73	Aug. 74			
FY 71-1970/71								
1st								
2nd	6.8						0.0	
3rd	15.5							
4th	26.8	200.0					13.4	
FY 72-1971/72								
1st	63.8							
2nd	76.3							
3rd	126.6							
4th	206.0	1,600.0	336.0				12.9	
FY 73-1972/73								
1st	314.7		706.0					
2nd	518.5		1,366.0					
3rd	711.2		1,946.0					
4th	1,188.2	2,820.0	2,396.0				42.1	
FY 74-1973/74								
1st	1,409.7		2,636.0	1,640.0				
2nd	1,739.8		2,742.0	2,120.0				
3rd	2,027.3		2,861.0	2,400.0				
4th	2,242.4	3,000.0	2,919.0	2,560.0			74.7	
FY 75-1974/75								
1st	2,388.9		2,968.0	2,780.0	2,350.0			
2nd	2,666.6		3,000.0	3,000.0	2,570.0			
3rd	2,771.0				2,780.0	2,790.0		99.3
4th	2,915.7				3,000.0	2,930.0		99.5
FY 76-1975/76								
1st	2,976.8					3,000.0		99.2
2nd	3,000.0							

Source: World Bank
April, 1976

SIERRA LEONE EDUCATION PROJECT COMPLETION
CREDIT 170-SL
DISBURSEMENTS - FORECAST AND ACTUAL



SIERRA LEONE FIRST EDUCATION PROJECT COMPLETION (CR170-SL)

Teacher Qualifications, Teacher Loads and Student Teacher Ratios at Sample Project Secondary Schools (1975/76)

Project Schools	Total No. / 1 of Teachers	Distribution by Level of Qualification					No. of Years Teaching Experience (Average)	No. Direct Contact Per. Week (Average)	Student/ Teacher Ratio
		Univ. Degree Incl. Pedagogical Training	Univ. Degree	Higher Teacher's Certificate	Teachers/ Trades Cert. or "A" Levels	GCE "O" Level or No Formal Qualifications			
Prince of Wales As % Total	42	19 45	8 19	10 24	5 12	0 0	7	24	21:1
Annie Walsh As % Total	38	17 45	10 26	7 18	3 8	1 3	9	25	22:1
Methodist Girls As % Total	31	— —	14 45	11 36	5 16	1 3	n.a.	25	18:1 ^{1/3}
Bishop Johnson As % Total	44 ^{1/4}	n.a. —	n.a. —	n.a. —	n.a. —	n.s.	n.s.	22	34:1
Kenema ² As % Total	27	15 55	1 4	7 26	4 15	0 0	—	23	21:1
Tajima ² As % Total	19	5 26	7 37	2 11	2 11	3 15	6	25	25:1

¹ Full-time teacher equivalents.

² Principals carry full teaching load.

³ Best estimate; 1975/76 enrollments not available; projected on basis of past average annual growth rate; 1974/75 student/teacher ratio was 17:1.

⁴ Thirty-three teachers (75%) had completed at least one of the various teacher-training programs.

Source: World Bank.
April, 1976

SIERRA LEONE FIRST EDUCATION PROJECT COMPLETION (Cr 170-SL)

Enrollments and Boarding at Sample Project Secondary Schools (1970/71-1974/75)

A. <u>Enrollments</u>	Prince of Wales 1/			Annie Walsh			Methodist Girls			Kenema			Taima		
	M	F	Total	M	F	Total	M	F	Total	M	F	Total	M	F	Total
1970/71					589	589		427	427	506	3	509	387	144	531
1971/72	596	28	624	605	605	605	440	440	557	557	557	557	424	166	590
1972/73	644	7	651	678	678	678	470	470	570	570	570	570	389	136	525
1973/74	715	0	715	719	719	719	495	495	597	597	597	597	334	141	475
1974/75	763	6	769	732	732	732	518	518	571	571	571	571	336	156	492
Planned Capacity	680	40	720	660	660	660	600	600	400	400	400	400	300	100	400
1974/75 as % Planned	112	15	107	110	110	110	86	86	142	142	142	142	112	156	123
Appraisal Capacity															
Average Annual Growth Rate %			7.2		5.6	5.6	4.9	4.9	2.9	2.9	2.9	2.9			-2.0
B. <u>Boarders</u>															
1970/71					-	-	40	40	160	160	160	160	54	56	110
1971/72				67	67	67	42	42	160	160	160	160	73	58	131
1972/73				71	71	71	42	42	120	120	120	120	-	-	-
1973/74				73	73	73	42	42	125	125	125	125	33	57	90
1974/75				75	75	75	42	42	135	135	135	135	36	59	95
Planned Capacity				60	60	60	50	50	200	200	200	200	85	25	110
1974/75 as % Planned				125	125	125	84	84	68	68	68	68	42	236	86

Note: Average for five project school samples 1974/75 enrollments as % planned = 111%.
 Average annual growth rate for six school samples over period = 6.8% per annum; estimated 1971/72 enrollments for Prince of Wales, derived from following period growth rate (1971/72-1974/75).

1/ Prince of Wales and St. Helena are double shift schools.

Source: World Bank.
 April, 1976

SIERRA LEONE FIRST EDUCATION PROJECT COMPLETION (Cr 170-SL)

Enrollments and Boarding at Sample Project Secondary Schools (1970/71-1974/75)

A. <u>Enrollments</u>	Prince of Wales ^{1/}			Annie Walsh			Methodist Girls			Kenema			Taima		
	M	F	Total	M	F	Total	M	F	Total	M	F	Total	M	F	Total
1970/71					589	589		427	427	506	3	509	387	144	531
1971/72	596	28	624	605	605	605	440	440	557	557	557	424	166	590	
1972/73	644	7	651	678	678	678	470	470	570	570	570	389	136	525	
1973/74	715	0	715	719	719	719	495	495	597	597	597	334	141	475	
1974/75	763	6	769	732	732	732	518	518	571	571	571	336	156	492	
Planned Capacity	680	40	720	660	660	660	600	600	400	400	400	300	100	400	
1974/75 as % Planned	112	15	107	110	110	110	86	86	142	142	142	112	156	123	
Appraisal Capacity															
Average Annual Growth Rate %			7.2		5.6	5.6	4.9	4.9	2.9	2.9	2.9				-2.0
B. <u>Boarders</u>															
1970/71					-	-	40	40	160	160	160	54	56	110	
1971/72				67	67	67	42	42	160	160	160	73	58	131	
1972/73				71	71	71	42	42	120	120	120	-	-	-	
1973/74				73	73	73	42	42	125	125	125	33	57	90	
1974/75				75	75	75	42	42	135	135	135	36	59	95	
Planned Capacity				60	60	60	50	50	200	200	200	85	25	110	
1974/75 as % Planned				125	125	125	84	84	68	68	68	42	236	86	

Note: Average for five project school samples 1974/75 enrollments as % planned = 111%.
 Average annual growth rate for six school samples over period = 6.8% per annum; estimated 1971/72 enrollments for Prince of Wales, derived from following period growth rate (1971/72-1974/75).

^{1/} Prince of Wales and St. Helena are double shift schools.

Source: World Bank.
 April, 1976

Teaching Staff by Qualification and Discipline at
Technical/Trade Schools (1975/76)

Teaching Subject Area	Total Number of Teachers per Subject Area	B R E A K D O W N O F T E A C H I N G S T A F F															
		By Length of Schooling (years) (Including Teacher Training)									By Industrial, Agricultural, Commercial Practice in Years				By Length of Teacher Trg. in Years		
		≤10	11	12	13	14	15	16	>16	≤1	2	3	>3	≤1	1	2	>2
Mechanical	18	1		8	5	1		1	2	4			14	1	5		
Electrical	8			3	1	3		1		3	1		4	2	2		
Building Construction	18	2	4	7	4	1				1	4	2	11	2	2		
Automotive	7			2	4			1		3			4		4		
Secretarial and Business Studies	11			1	3	5	1	1		4	4	2	1				
Related Subjects	7					3	4			4	1		2	1	1		3
Total number of teachers	69									19	10	4	36	14			3

Source: Sierra Leone Ministry of Education and World Bank.
April, 1976

Enrollments at Technical/Trade Schools
(1968/69 and 1975/76)

	<u>Enrollments</u>		<u>Enrollment Capacity</u>		<u>Actual as % of Capacity (2) + (4)</u>
	<u>Actual 1968/69</u>	<u>Actual 1975/76</u>	<u>Appraisal Estimate</u>	<u>Completion Estimate</u>	
	(1)	(2)	(3)	(4)	(5)
Freetown Technical Institute:					
Technical	160	90	225	180	50
Commercial	113)273	182)272	250)475	380)560	48)49
Kenema Technical Institute	105	153	480	385	40
Kissy Trade Center	310	271	475	380	71
Magburaka Trade Center	<u>58</u>	<u>110</u>	<u>240</u>	<u>190</u>	<u>58</u>
Total	746	806	1,670	1,335	60

Source: Sierra Leone Ministry of Education and World Bank.

April, 1976