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LIBERIA

EDUCATION AND TRAINING SECTOR ASSESSMENT

December 1983

Prepared by the Ministry of Planning and Economic Affairs:
Joint Committee for the Government of Liberia/USAID
Education, Training, and Human Resources Assessment

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THE MINISTRY OF PLANNING AND ECONOMIC AFFAIRS:
THE JOINT COMMITTEE FOR THE GOVERNMENT OF LIBERIA/USAID
EDUCATION, TRAINING, AND HUMAN RESOURCES ASSESSMENT

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INTRODUCTION

The Liberia Education and Training Sector Assessment provides an overview of the systems for developing the nation's human resources. The study includes not only the formal schooling system of primary, secondary, and higher education, but also nonformal or out-of-school systems. These latter seek to address vocational and technical training needs, health and agriculture education, basic education for adults, and management training.

It is important to note that this review of education and training is a systematic assessment of conditions and constraints rather than an analysis of selected problems. Analyses on such topics as the relationship among education delivery approaches and cost and quality will be ongoing and require much additional effort. In the meantime, the assessment serves to identify critical issues for further study while providing an immediately usable base for planning initiatives to improve education and training at thevarious levels.

The study was conducted principally during October and November of 1982. This means that data were, in some cases, estimates for the year. It also means that the significance of more recent goverment measures--for example, reduction of public salaries and curtailment of pre-primary education--has not yet been assessed and will have to be incorporated into subsequent studies.

Perhaps of greatest note, this assessment represents a genuinely cooperative effort by the Ministry of Planning and Economic Affairs together with all the Ministries engaged in education and training. Assisting the effort has been a team of consultants provided by the Agency for International Development through the contracted services of the U.S. Department of Agriculture Graduate School. In any such cooperative endeavor, consensus must lie chiefly in the overarching themes and the basic conclusions which are drawn. Members of the Joint Committee obviously differed on some particular points but believe that the study accurately assesses the situation of Liberia's education and training systems.

If this assessment provokes spirited debate leading not only to better understanding of the education and training subsectors but also to effective implementation of the recommendations agreed upon, it will serve the purpose for which it was prepared.

Note: The portions of this assessment which refer to the University of Liberia have not been agreed upon or accepted by University of Liberia officials.

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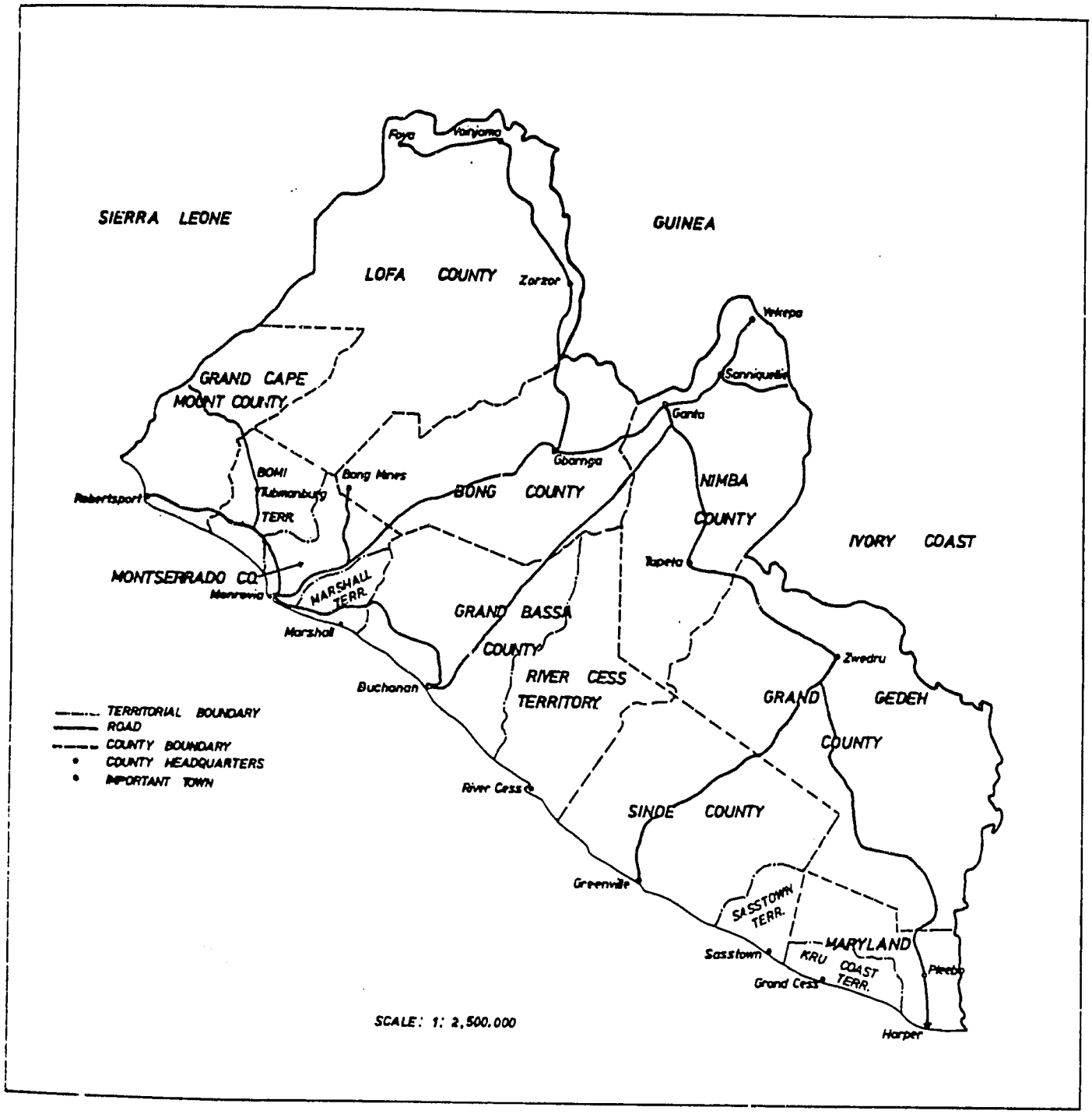
MAP OF LIBERIA SHOWING COUNTY SEATS AND ROADS



SOURCE: Prepared by Liberian Cartographic Service

EDUCATION AND TRAINING SECTOR ASSESSMENT

1.0 SUMMARY

1.1 INTRODUCTION

This assessment of the education and training sector in Liberia has been coordinated by the Ministry of Planning and Economic Affairs and prepared by USAID-sponsored specialists working with a team of professional staff from the concerned ministries and institutions. The purpose of the assessment is to:

- o identify priority areas in education and training for the investment of internal and external resources;
- o focus attention on constraints affecting the investments; and
- o provide a sounder basis for external assistance.

The assessment begins with an economic and financial analysis of human resources development which includes analyses of fiscal capacity, manpower supply and demand, and program costs and rates of return. This sector-wide economic study is reflected in the analyses and recommendations throughout the assessment.

The assessment next covers the formal education system, which includes primary, secondary, higher, and teacher education. Remaining sections concern vocational and technical education and training, health education, agricultural education, adult basic education, and management training.

Each section first presents a status overview covering current programs and funded plans, and then identifies needs and presently unfunded plans. An analysis of current strategies with respect to national goals is then used as a basis for a set of priority-ordered recommendations.

1.2 NATIONAL GOALS

Three broad goals are stated in the Second Four-Year National Socio-Economic Development Plan 1981-1985 (also referred to as the Second National Development Plan): economic diversification, improved income distribution, and Liberianization. The assessment evaluates the relevance of plans and strategies in each subsector to these national goals.

1.3 SOCIAL AND ECONOMIC BACKGROUND

In 1847, Liberia became the first independent nation in Africa. From that time until the military coup in 1980, the political and economic control of the country was in the hands of Americo-Liberian settlers and their descendants.

English is the official language. It is used throughout the formal school system and is the language of government and commerce. Sixteen other languages, from three major linguistic groups, are spoken throughout the country. The major languages are those of the numerically dominant tribal groups which comprise about 70 percent of the population of approximately 1.9 million: the Kpelle, Bassa, Gio, Kru, Mano, and Grebo.

The land is green and tropical, with rainy seasons common to West Africa. Most of the country is flat, with some hills near Monrovia, in the Bomi Hills region, and the Guinea Highlands. Parallel to the characteristic coastal plains is a belt of low mountains and plateaus between 600 and 1,000 feet in height. The Northern Highlands cover Lofa County and Nimba County and extend to the Guinea Highlands. Just under one-half of the entire area is covered by tropical woodlands.

The health status is about average for West Africa, which is among the lowest in the developing world. Life expectancy at birth is estimated at 54 years. About 20 percent of the population has access to safe water. In 1977 there was one physician per approximately 9,280 inhabitants. Health care for most villagers in the rural areas is available only from native healers, herbalists, and traditional birth attendants. The average nutritional status is minimally adequate with a daily per capita intake of 2,400 calories.

There is a dual economy in Liberia. The monetary sector accounts for about 85 percent of the Gross Domestic Product (GDP) and is characterized by enclave concessions producing for the export market. Major exports are iron ore, rubber, and timber. The traditional sector is based on subsistence agriculture, estimated to support about 60 percent of the population and to contribute about 15 percent to the GDP. Principal crops are rubber, rice, oil palm, coffee, and cocoa.

The country is in the midst of an economic crisis. Liberia's financial position has deteriorated over the last two years, caused mainly by continued high rates of spending by government during a time when income from iron ore, rubber, and other exports was declining due to depressed world market conditions. This was compounded by an increase in the cost of imports, higher interest rates for borrowed capital, and a deteriorating infrastructure. The government entered into standby agreements with the International Monetary Fund (IMF) during 1980-1982, obtained budget support assistance from the United States, and rescheduled external debt through the Paris Club and the London Club groups. The medium-term prognosis will depend on the success of government plans to reduce current budgetary deficits, restrict borrowing, attract increased private investment, and improve economic policy and fiscal management.

The current institutional capability to respond to these challenges is not strong. The efficiency of government ministries and agencies is low due to inexperienced leadership and the loss of many experienced staff following the 1980 coup. Manpower utilization is low. Skills in policy and economic analysis are still being developed, and there are weaknesses in resource management and expenditure control.

1.4 LABOR MARKET OVERVIEW

The labor market overview is based on employment data available in the Second National Development Plan. A more detailed analysis of the labor market, including supply and demand comparisons, is given in Sections 2.3.3 and 2.3.4 of the assessment. The estimated number of employees in the ten major industrial categories is indicated in Table 1-1.

TABLE 1-1

ESTIMATED NUMBER OF EMPLOYEES IN TEN MAJOR INDUSTRIAL CATEGORIES (1980)

Industrial Category	Number Employed	Percent of Total Employment	Percent of Monetary Employment
Agriculture and Related Activities (Total)	538,000	79.6%	N/A
Agriculture and Related Activities (Monetary)	(60,000)	(8.9)	30.3%
Government Services	32,000	4.7	16.2
Wholesale/Retail Trade, Restaurants, Hotels	32,000	4.7	16.2
Other Services	18,800	2.8	9.5
Mining and Quarrying	17,500	2.6	8.8
Transport, Storage, and Communications	15,600	2.3	7.9
Manufacturing	11,000	1.6	5.6
Construction	8,000	1.2	4.0
Finance, Insurance and Business Services	1,650	0.2	0.8
Electricity, Gas, and Water	1,450	0.2	0.7
TOTALS	676,000	100.00	100.0

Agriculture and related activities dominate the employment picture with 538,000 employees. If the non-monetary agricultural employees--estimated to be 478,000 (538,000 minus 60,000)--are excluded, there remains 60,000 within the monetary employment total of 198,000 (676,000 minus 538,000). The monetary sector of agriculture includes the concessions as well as commercial farming, forestry, and fishing activities.

The last column of the table shows the percent of total employment for all industrial categories comprising the monetary sector. While agriculture is still dominant (30.3%), the importance of government services (16.2%), and wholesale/retail trade, restaurants, and hotels (16.2%) emerges clearly.

Further analyses presented in Section 2.0 of the assessment indicate that, unless there is a major change in the structure or level of industrial production, the demand for highly educated manpower will remain low, and there will continue to be a concentration of employment opportunities in the least skilled or least educationally demanding occupations. The intermediate sectors, such as manufacturing, construction, transportation, and government services, appear to offer the best opportunities for absorption of the more highly educated graduates over the next decade. These observations, however, do not negate the need for sufficient numbers of highly educated Liberians to assume the many professional, technical, and managerial positions now held by expatriates.

1.5 CONSTRAINTS

Major constraints in the education and training sector are the financial and human resources limitations affecting new and continuing activities in all subsectors. Present projections indicate that Liberia's capacity to generate significant additional domestic financial resources is limited for the next few years. External support may largely be allocated to budget support, debt relief, and continuation of critical ongoing development programs, with possible shifts in funding within the last-named category to cover some recurrent costs. There is a

particular need for more training to strengthen management skills, and for an improvement in the incentive system.

All development activities in the sector will have to make more efficient and effective use of existing capital and human resources. Any new projects should be designed so that no capital or incremental recurrent costs are required except by reallocations of funds from existing programs of relatively low priority or effectiveness. In addition, funding for new donor-sponsored projects should be programmed to include all capital and recurrent costs for the project duration, and designed to have post-project incremental recurrent costs which are minimal, justifiable, and affordable.

1.6 ISSUES

Analyses for each of the subsectors in this assessment identify issues in five categories: administration and supervision, internal efficiency, external efficiency, access and equity, and costs and financing. These categories have been useful for studies of educational development in other countries and reflect the basic concerns of education and training in Liberia. Use of this comparative framework for all subsectors makes it easier to discern trends of strengths and weaknesses which may be systemic rather than sector specific.

Issues emerging from the analyses are discussed in detail within each section of the assessment. In this summary, some of the salient issues are discussed briefly with a focus on generalizations over most subsectors.

1.6.1 Administration and Supervision

Over the past several years government has made considerable improvements in capabilities to plan and administer the educational system. Manpower planning units, for example, have been established in

the Ministry of Planning and Economic Affairs and in the Ministry of Education. In addition, the recently established Agricultural and Industrial Training Bureau (AITB) will coordinate vocational/technical training activities.

Given the narrow base upon which the above improvements were made, there remains considerable opportunity to improve further the administrative and supervisory capabilities of government units concerned with education and training. There is a serious shortage of trained and experienced administrators, for example, who can plan, manage, supervise, and evaluate programs. One result of this shortage is that none of the major extension programs--in agriculture, health, or adult education--is operating at reasonable levels of effectiveness. This is particularly serious given the high recurrent costs of these programs and their potential for social benefits. In addition to the shortage of adequately trained administrators, a major contributing factor to administrative inefficiency is the highly centralized government administration, which makes it difficult to manage personnel and effectively deliver services.

Manpower utilization is hampered further by the absence of a performance evaluation system relating productivity to salary level and promotion. Job expectations are not clearly defined, and there is no operational system of accountability. Initial salary levels for equivalent jobs and increases in salary are not clearly dependent upon qualifications or performance.

The Ministry of Planning and Economic Affairs, specifically, could benefit from improvements in capabilities for the collection and analysis of manpower data, the selection of proposed programs on the basis of manpower requirements, and the monitoring and evaluation of current programs. Even with the staff training to be provided under the Fourth Education Project, the Ministry of Education will still require further staff development.

1.6.2 Internal Efficiency

Internal efficiency implies optimal use of funds for education and training so that maximum instructional quality is made available to all

students in the system. Inefficiencies are characterized by high dropout and repetition rates, under-utilized facilities, unqualified and underqualified teachers, lack of instructional materials, and low student/teacher ratios at upper grade levels.

The internal efficiency of the education and training systems in Liberia has been generally low. This demonstrates the priority need to improve the output of these systems in all areas covered by the assessment. At all levels there has been a tendency to concentrate on the numbers enrolled rather than on the quality of training. The low efficiency of the systems is reflected in high dropout and repetition rates which necessitate remedial programs and otherwise result in wasted resources.

A major contributor to low internal efficiency is the lack of sufficient numbers of fully qualified teachers, in part because of the lack of incentives for training. At the primary school level, for example, only about 30 percent of the entire teaching force has had pedagogical training. Related to this is the under-utilization of those who are fully qualified. This is due to the lack of supervision, in some cases, and to the maintenance of less-than-optimum student/teacher ratios in other cases.

Another contributor to reduced internal efficiency is the pervasive shortage of instructional materials, textbooks, educational equipment, libraries, science laboratories, and basic school furnishings. These shortages, as well as the need to improve the use of teachers, will be addressed to some extent under the Fourth Education Project, particularly at the primary level. Also, the USAID-sponsored Improved Efficiency of Learning Project (IEL) represents an experimental application of programmed instruction intended to reduce costs and improve efficiency.

The assessment gives many suggestions for improving the internal efficiency of the education and training programs that are reviewed. These generally include better use of existing resources through the acquisition of instructional materials to support ongoing programs, upgrading of instructional staff, higher student/teacher ratios where appropriate and, in some cases, better quality control through the use of external examinations (e.g., for teacher training).

1.6.3 External Efficiency

The external efficiency of an educational system refers to the relevance of what is taught to what a student does after completion of schooling or training. The concept often relates to employment, but also applies to programs for further studies.

The external efficiency of the secondary school system is generally low, both with respect to preparation for further studies and for employment. Students who leave the secondary schools to study at post-secondary institutions are often hampered by insufficient preparation in language skills, science, and mathematics. Those who leave to enter the labor force may have no employable skills in vocational, technical, or agricultural areas.

The concept of external efficiency is more often applied to educational and training institutions preparing students directly for the work force. There is not a serious shortage of such institutions or training places within them. While there are some areas where increased capacity and additional programs would be useful, the main problem has been that the existing institutions have not selected their programs on the basis of the country's priority manpower requirements. The external efficiency of the system is low because the programs are not fully relevant. Students leave the institutions and are not adequately prepared for employment.

The lack of a close relationship between training content and post-training activity has led to a general lowering of productivity for Liberian workers. The low quality of some of the training also has been an issue. The recently formed AITB will address the need for the coordination and quality improvement of industrial training programs.

Program relevance is an important area for a successful approach to Liberianization, a major government goal. Expatriates own or manage many small business enterprises and hold many managerial and professional positions in Liberia. Estimates of their numbers have been made in the 1978 publication of the Ministry of Planning and Economic Affairs entitled

Manpower and Employment. This document reports for 1977 that 150 (68%) of the 220 managers of large enterprises were expatriates with work permits, as were 1,500 (38%) of the 3,950 owners or managers of small business enterprises, and 580 (30%) of the 1,945 senior level professional workers at the decision-making level. Lower percentages of expatriates occupied positions as teachers, clerical workers, sales workers, service workers, agricultural workers, and production workers.

The economic, social, and political advantages to having Liberians in influential managerial and commercial positions are very great. The first step to develop a Liberianization program has already been taken. The Ministry of Planning and Economic Affairs has recently completed a Manpower Survey which will make it possible to identify the types and levels of skills required, and the numbers of individuals who must have these skills in order to begin the program. The next step is to identify or develop training programs required to prepare Liberians in the appropriate skills.

1.6.4 Access and Equity

Access to education is measured by enrollments, indicating the numbers of individuals to whom education and training opportunities are made available. Equity refers to the distribution of these opportunities, which often is unequal depending on a person's sex, ethnic origin, socioeconomic status, geographic location, or other characteristics not subject to individual control. While there are no legal barriers to full educational participation in Liberia, equity concerns the de facto extent of participation by different segments of the population.

The availability of quality instructional programs to all persons throughout the country, within the limits of current resources, is a goal of the Ministry of Education and other ministries and agencies with training programs. Yet, as shown by the data presented in the sections of this assessment on primary and secondary education, inequities do exist.

Enrollment ratios are higher in Monrovia and the coastal areas; enrollments for girls are less than for boys throughout the primary and secondary system; and girls' enrollments are lower in rural than in urban areas, decreasing as female students advance to the higher grades.

Rural development depends on access to basic education, and it is in the rural areas where such education is weakest. This delays advances in improved income, health, agricultural production, and overall enhancement of the quality of life for the rural poor. Lowered access to primary education for girls deprives their families of the returns associated with basic education for females: economic productivity, improved family planning, better maternal and child care, and general health benefits.

1.6.5 Costs and Financing

Government burden in education is eased through the efforts of private schools. With respect to private participation in education, the non-government or private schools provide 33 percent of the places for elementary education, 37 percent for lower secondary, and 61 percent for upper secondary. Also, private groups and concessions provide a considerable amount of training under authority of the government.

Government has encouraged private participation in education through a subsidy program. Although the subsidy program has not been used most effectively in the past, it remains a potential source of reduced unit costs in education. The Ministry of Education has plans to improve its use.

A problem has been the shortage of funds for recurrent costs of educational programs, contributing to the lowered internal efficiency of the education and training system. In general, for the next few years, allocations of funds should focus more on improving quality than on expanding access. Also, the government should consider steps to reduce the high costs to government of education in such areas as pre-primary education, teacher education, secondary vocational education, and certain programs in higher education.

The foreign scholarship program also offers a significant opportunity for the improved use of funds. About 5.5 percent of the Ministry of Education's recurrent budget is spent on this program. It serves a small number of beneficiaries at a high unit cost, and it is not adequately managed to provide training in priority areas for national development.

1.7 CONCLUSIONS

There are several conclusions which refer generally to all or most of the subsectors of this assessment. These are given immediately below. The section following this summary (1.8) closes with sector-specific overviews and recommendations.

Conclusion 1. Give priority to staff development for managerial personnel, with particular emphasis on training in cost analysis, economic analysis, planning, and personnel and resources management.

Conclusion 2. Make more effective and efficient use of existing resources within all training and educational programs, with particular attention given to improving instructional quality.

Conclusion 3. Evaluate all current and planned programs with respect to their contribution to national educational goals, and revise or discontinue those which are not relevant.

Conclusion 4. Improve equity at all levels of education and training, with particular emphasis on reducing regional imbalances and on increasing the number of females receiving basic education.

Conclusion 5. Reduce costs for all educational and training programs where such costs cannot be justified on the basis of their contribution to national goals.

Conclusion 6. Continue the current emphasis on primary education, with a moderate program of expanded access as is consistent with available resources.

Conclusion 7. Improve the quality of instruction at the secondary level in order to reduce the need for remedial instruction in post-secondary institutions and also to raise the quality of those students going directly into the work force.

Conclusion 8. Develop technical packages in agricultural and health education to improve training programs for extension workers and to better equip them in the field.

Conclusion 9. Strengthen the staff of the AITB so that all vocational and technical training programs can be coordinated to focus on national goals.

1.8 SECTOR-SPECIFIC OVERVIEWS AND RECOMMENDATIONS

This section provides abstracts for each education subsector covered in this assessment: primary, secondary, higher, teacher education, vocational/technical, health, agriculture, adult basic, and management education. The abstracts briefly summarize the status of the subsector, principal challenges, plans, conclusions and recommendations. For more complete discussion of these topics, the reader is referred to subsequent sections of this report.

1.8.1 Primary Education

The primary school system is composed of one to two years of pre-primary education followed by six years of primary education. Combined enrollments for the primary system totaled 247,000 in 1981, of which about 35 percent are in private schools. Less than two-thirds of the country's six-year-olds are in first grade. Given past completion rates, slightly over one-third of these will complete sixth grade, which means that approximately 23 percent of the age-six cohort will eventually graduate from sixth grade. In the public schools, a student takes an average of 10.6 years to complete primary school at an average total cost of $905. Fewer than half as many females as males enter and complete primary school, and they take longer to do so. Many school facilities are in poor condition, and such furnishings as chairs and desks are frequently in short supply. The student/teacher ratio for pre-primary and primary is 35/1, suggesting that access cannot significantly be extended by increasing this ratio, but only by increasing the supply of teachers and, in some areas, schools.

The major emphasis of the Ministry of Education over the next few years is improvement of the primary education system, principally through

activities supported within the Fourth Education Project described in Section 3.0. The broad benefits from improvement in primary education are important to national and individual development. These benefits include increased satisfaction of basic human needs for knowledge, values, and skills; a means of satisfying physical needs through better health and nutrition and an improved quality of life; and a means to improve the basic pool of manpower required for national development.

The principal challenge confronting the government in primary education is threefold: how to improve the quality and efficiency of instruction, how to expand access while reducing regional and gender imbalances, and how to strengthen the administrative and supervisory capabilities of the Ministry of Education--all within severe fiscal constraints and limited resources.

Plans for which funding is available under the Fourth Education Project encompass five activities: (1) strengthening the MOE's capacity for education planning, administration, project preparation, and project management; (2) procuring and distributing nationwide low-cost textbooks for the primary level; (3) improving the teaching skills of 2,250 primary school teachers; (4) making the school inspectorate fully operational; and (5) constructing and furnishing approximately 24 new rural primary schools and equipping approximately 30 existing ones.

Four major conclusions concerning primary education follow from the analysis of constraints and issues. First, improvement of internal cost-related efficiences deserves highest priority. Special attention should focus on more effective use of the subsidy program, and on implications of the cost-effectiveness study to be made of the Improved Efficiency of Learning Project (IEL). Second, qualitative improvement in the instructional program generally should receive a higher priority than expanded access, with due consideration nevertheless given to redressing regional and gender inequities within a modest expansion program. Third, programs require greater monitoring for quality control, necessitating MOE staff development and technical assistance. Fourth, improvement of access and equity over the next few years can be addressed only through external assistance for both capital and recurrent costs.

The specific recommendations for primary education follow according to priority of needs. First, increase internal efficiency by improvement of the subsidy program and a phased implementation of the Improved Efficiency of Learning (IEL) model. Second, strengthen administration and supervision through continuing professional staff development. Third, improve equity by emphasizing school location planning and encouraging female enrollments. Fourth, increase access by developing a low-cost model for school construction and constructing low-cost schools, within financial constraints and using community participation, for use in rural areas where educational opportunties are lacking or to replace rented facilties.

1.8.2 Secondary Education

The secondary school cycle consists of three years of lower secondary (grades seven through nine) and three years of upper secondary (grades ten through twelve). Combined secondary enrollments totaled about 56,000 in 1982, of which about 37 percent in lower secondary and 41 percent in upper secondary were in private schools. About 26 percent of the age cohort attends lower secondary, and about 17 percent attends upper secondary. In the public schools a student takes an average of 7.4 years to complete the secondary cycle at an average cost of $1,521. Fewer than a third as many females as males enter and complete lower and upper secondary school. Student/teacher ratios are 21/1 in lower secondary and 17/1 in upper secondary.

There is a single overriding consideration which rationalizes the Ministry of Education's plans for secondary education and which makes this program central to the government's goal for long-term economic recovery: the need to supply well-prepared students for critical post-secondary programs. Thus, as a priority second to primary education, the Ministry will emphasize further improvement in the quality of secondary education.

In addition to development of the policy and economic analysis capabilities required for economic recovery, there also needs to be an increase in the availability and utilization of human resources well trained in vocational and technical skills, in middle management, and

in social and political leadership. Post-secondary education and training programs are the source of trained nationals for all of these areas, yet the secondary institutions are not graduating individuals with the appropriate entry skills. As a result, many post-secondary education and training institutions devote much of their resources to remedial programs, teaching, in effect, what should have been taught in secondary schools. This is most evident at the two universities, but similar problems are reported for vocational and technical institutes, commercial schools, and out-of-country undergraduate programs.

The government has four major goals for secondary education: (1) to improve internal efficiency with emphasis on instructional quality, (2) to reduce wastage within the lower secondary cycle, (3) to make instructional program content more relevant to needs of a capable citizenry and to subsequent work or study, and (4) to address regional imbalances in access and equity.

Currently funded plans, which address needs in secondary as well as primary education, call for strengthening of MOE staff skills in administration and planning, making the school inspectorate more effective, and improving teacher education.

Six conclusions are reached regarding secondary education. First, improvements of instructional quality merit highest priority, with particular emphasis on language skills, science, and mathematics. Second, as a prerequisite to improving instructional quality, textbooks and related instructional materials must be made available, as well as such support facilities as libraries, basic science laboratories, and workshops for pre-vocational studies. Third, the curriculum should be reviewed for relevance to pursuits beyond secondary school to make it consistent with the country's present and anticipated social and economic needs. The courses should have sequentially ordered instructional objectives, learning strategies, and validation criteria. Fourth, the present system of external examinations at the end of lower and upper secondary school should be improved, closely aligned with instructional objectives of the revised curriculum, and used as a means for quality control of the instructional program. Fifth, imbalances in access and equity cannot be addressed in an adequate way at present because of the inability to mount

a major expansion program. Such needs should be gradually addressed simultaneously with improvements at the primary level. Sixth, the reallocation of funds should be examined closely to make more effective use of existing resources, focusing on reduction or elimination of low-priority programs.

The recommendations for secondary education address needs in order of priority. First, to improve internal efficiency, the recommendations are to (a) use existing funds more effectively and efficiently through reduction or elimination of programs not contributing significantly to government's education goals (e.g., multilateral schools) and through improvement of the subsidy program; (b) provide affordable instructional materials; (c) develop and install appropriate-cost, basic science laboratories; (d) effectively implement a relevant curriculum; and (e) explore alternative instructional systems. Second, to improve access, (a) construct low-cost replacement schools and (b) upgrade existing schools. Third, to improve equity, (a) emphasize school location planning and (b) encourage female enrollments.

1.8.3 Higher Education

The only institutions of higher education offering four-year bachelor's degree programs are the University of Liberia and Cuttington University College (CUC). The 1982 combined enrollments of these institutions is 3,912 (3,372 for the University and 540 for CUC excluding 164 RDI students). These two institutions receive 23 percent of the Ministry of Education budget, indicating the high degree of importance the government of Liberia assigns to higher education.

Both institutions are seriously constrained financially and in terms of facilities, furniture, equipment, instructional support materials and supplies, and data gathering and analysis capacity. Both institutions are also involved in outreach programs and have extensive reorganization plans, including construction and renovation of facilities, expansion of programs and faculty, and increased student enrollment. Staff development and Liberianization of the faculty are concerns for both school administrations, and both are interested in external assistance for institutional self-study and long-range planning.

Each institution also has unique concerns. The size of the University of Liberia in terms of faculty, student body and campuses creates administration problems in communication and logistics. The poor academic preparation of applicants results in admission of many students who fail part or all of the University entrance examination and, thus, are not sufficiently prepared to handle academic work. As a result, wastage in terms of student attrition and repetition of courses is a serious problem. The issue of how many students to admit at what standard remains to be addressed. Cuttington's residential nature presents additional problems in terms of housing for students and faculty, as well as supplying electricity, water, and food.

Both institutions need to further address their roles in national development, particularly in terms of matching programs to manpower needs and undertaking research into development issues. Duplication of programs should be reviewed in terms of national needs and adjusted accordingly. Linkages and articulation with other institutions, particularly the Rural Teacher Training Institutes, would help ensure quality and facilitate transfer between programs with credit for courses completed. Expansion of outreach programs in areas of national manpower needs would further contribute to government development efforts.

The major constraint for both the University of Liberia and Cuttington University College is funding for operational costs. Because increased government subsidy is unlikely given current financial difficulties, it may be necessary to increase student tuition. Construction and/or renovation plans must also consider what is reasonable and essential in terms of financial constraints and national manpower and development needs.

Final conclusions emerge from an analysis of constraints and issues for higher education in general: 1) funding sources must be established; 2) national manpower needs must be considered in planning programs; 3) increases in enrollment must be considered in terms of manpower needs and the capacity to produce qualified graduates; 4) coordination among higher education institutions is needed to increase articulation, ensure

quality, and reduce duplication efforts; and 5) long-range plans must be reviewed and modified.

Recommendations for higher education are grouped in three areas in order of priority--costs and financing, external efficiency, and internal efficiency. Briefly stated, the recommendations are as follows. The first priority is to increase student fees. Within the second area of priority--external efficiency--institutions must: 1) match programs to manpower needs, 2) coordinate higher education programs, 3) increase outreach programs, and 4) increase leadership in national development. Within the third area of priority--internal efficiency--institutions should: 1) conduct self-studies, 2) control student enrollment, 3) reduce student wastage 4) construct and/or renovate essential facilities, 5) secure instructional support materials, 6) supervise and evaluate staff, 7) conduct on-campus staff development, and 8) increase Liberianization of faculty.

1.8.4 Teacher Education

Four institutions offer programs in teacher education. Two of these offer four-year degree programs mainly to prepare secondary school teachers: the University of Liberia's W.V.S. Tubman Teachers College and Cuttington University College. The two others offer two-year certificate programs mainly to prepare primary school teachers: Kakata Rural Teacher Training Institute (KRTTI) and Zorzor Rural Teacher Training Institute (ZRTTI). KRTTI tends to train more pre-service teachers, while ZRTTI tends to train more in-service teachers. The current annual output of the teacher training programs is roughly 250 at the primary level, 50 at lower secondary, and 30 at upper secondary. This production level falls short of demand. The cost of producing each graduate is high--from KRTTI, about $3,400, and from ZRTTI, about $8,800, primarily because in-service teachers remain on full salary while at the RTTIs. The vast majority of the enrollees and graduates of the teacher education programs are males.

As priority objectives, government seeks to increase both the quality and the number of trained teachers since only about 30 percent have received formal pedagogical training.

Plans, for which funding is available on a temporary basis, call for upgrading about 2,250 primary school teachers using facilities at the four existing teacher-training institutions. The Board for Professional Certification of Teachers will develop a certification plan and review conditions of service.

Four major conclusions are reached concerning teacher education. First, coordination of all teacher education institutions and programs should be given highest priority with particular attention to staff development, certification, incentives, lowered per-graduate training costs, instructional quality within institutions, and credit transfer among them. Emphasis also should be placed on long-term planning sensitive to financial, personnel, and institutional constraints and on increasing the number of qualified women in the teaching force. Second, more efficient use should be made of existing personnel and physical resources for teacher education, with a focus on improved selection procedures, more efficient student/teacher ratios, and better use of available training funds. Third, the use of externally administered and competency-based examinations would raise the quality of instructional programs for teachers. Fourth, costs are a constraining factor for any new or modified programs in teacher education. Any changes requiring incremental recurrent costs over the next several years will not be feasible unless they are accompanied by an equivalent reduction in other programs or recovered from program beneficiaries.

The specific recommendations for teacher education address two principal needs. First and most importantly, to improve the administration and supervision of teacher education, the recommendation is to establish a Council for Teacher Education to coordinate all teacher education activity and to establish a certification scheme and mechanisms for quality control. The Council should prepare a long-range plan for

teacher education, based on minimal incremental costs for the next decade, and address such topics as more efficient use of existing resources, staff development, curriculum coordination, salaries, program costs, and female representation in the training institutes. Second, to strengthen the internal efficiency of the teacher education system, the recommendations are to improve the teacher education stipend program and to use competency-based external examinations for certification of teachers.

1.8.5 Vocational/Technical Education

There are more than 35 institutions, most of these in the Monrovia area, offering vocational/technical programs to nearly 6,000 participants. A summary overview of these institutions reveals that the vast majority of students are in public-sector institutions; numbers of programs outside the formal schooling system predominate over school programs; the programs tend to be of relatively long duration; the market orientation tends more often to be the urban industrial or small enterprise sectors rather than the rural sector; few institutions have a direct link with concurrent or post-training employment; most have no direct employer involvement in the design, implementation, and assessment of the training; and staff, in most cases, have insufficient training to be effective vocational education teachers. Few assessments are available on how well trainees master the intended skills, and no comparative studies of the programs exist regarding student retention, program costs, post-training employability, and job performance.

The principal challenge is job creation as well as job skills training, although the assessment deals only with the latter. The greatest needs are for data on Liberian manpower demand and supply, comprehensive linking of training to manpower demands, and better responsiveness of training programs to the nature and quality of occupational skills required.

The National Council for Vocational/Technical Education and Training has been reconstituted to promote, monitor, and coordinate vocational programs, with the Agricultural and Industrial Training Bureau (AITB) serving as its technical and administrative secretariat. Further donor

assistance is planned through the Fourth Education Project to enable AITB to begin implementing its tasks.

The following are major conclusions concerning vocational/technical education. First, strengthening the external efficiencies of vocational/technical education and training is of greatest importance, with specific emphasis on greater employer involvement in program formulation, implementation, and assessment. Second, improvement of the internal efficiencies of vocational/technical programs should be achieved by establishing performance-oriented training standards and through monitoring of trainee and program performance. Third, the focus of programs which are oriented to skills training for particular occupations should be handled increasingly by out-of-school institutions and by employers, and costs increasingly borne by trainees or sponsoring institutions in proportion to returns anticipated.

Specific recommendations are to: (1) increase the on-going involvement of employers and employing organizations in the identification of performance objectives, design of learning strategies, and evaluation of outcomes; (2) establish occupational performance standards; (3) design training formats based on occupational performance standards; (4) monitor and provide advisory assistance to vocational/technical programs to ensure quality; (5) strengthen the capacity of AITB to effectively coordinate these recommendations and to carry out their mandate; (6) develop pilot, cost-effective instructional methodologies yielding quality outputs; and (7) use existing public funds for vocational/technical training more effectively and efficiently.

1.8.6 Health Education

Only one-third of Liberia's population has access to any form of modern health care services. These services are concentrated in urban, semi-urban, and concession areas. There is a medical college at the University of Liberia, a 650-bed hospital (JFK) in Monrovia, a total of 30 government and private hospitals, approximately 40 health centers, and 250 local health posts which are often poorly equipped and staffed. A major center, Tubman National Institute for Medical Arts, and several

smaller centers have been established for the training of mid-level health workers (physician assistants, registered and practical nurses, certified mid-wives). Health education in the existing system may be delivered by mid-level workers at health posts, but there are not adequate health education materials or equipment to support an organized education effort. The curricula of the training institutions presently provide little if any attention to health education at the village level.

The government's principal objective is to establish a Primary Health Care Program which will begin expanding coverage to 90 percent of the population by the year 2000. This will require training several thousand people as village health workers and traditional birth attendants, and hundreds more as health post personnel over the next 15 years. The new government program has a well-defined process and a strategy for providing expanded health services. A proposed donor-assisted Primary Health Care Project would strengthen the training, managerial, and supervisory components of the program.

The three conclusions concerning health education focus on administration, internal efficiency, and external efficiency. First, improvement of staff capability to manage and implement the nationwide Primary Health Care Program merits greatest attention. This includes better supervision of, and support to, mid-level workers. Second, improvement of internal efficiencies of the health education delivery system is the next priority. Special attention should focus on careful assessment of needs and on the development of instructional methods, materials, and media. The training curricula for mid-level health workers need to become more oriented to village health needs. Third, strengthening collaboration among the various groups and donor agencies capable of assisting the national health education effort is the remaining priority.

The specific recommendations for health education address the principal areas of need. To strengthen administrative capability, project-oriented management training should be provided to senior central staff and regional coordinators of the Primary Health Care Program to ensure successful implementation. To strengthen internal efficiencies of

the program, (a) revised curricula should be developed to emphasize village-oriented health needs; (b) the revised curricula should be incorporated into the training schemes for all health workers, particularly those in mid-level roles; (c) health instructors at the training institutes should be provided short workshops to learn how to implement the revised curricula; and (d) materials and media should be developed to support village-level health education. Finally, to improve external efficiencies, an assessment should be made of the various private and public groups already engaged in health education in order to build upon their local efforts and to benefit from their experience.

1.8.7 Agriculture Education

Nearly 80 percent of the nation's population is involved in agriculture, and 60 percent in traditional subsistence agriculture. Although the country is endowed with resources which enable it to grow enough food for all, food is the major category of consumer goods, with rice accounting for 45 percent of food imports in 1980. Liberian farmers meet less than 75 percent of the need for rice, and demand is growing. In addition, several other crops could easily be grown by subsistence farmers to improve their diets. Liberian women are the primary producers of rice, provide the majority of labor, and make most of the decisions regarding food production.

Four types of farming systems characterize Liberian agriculture: (1) concession farms--largely foreign owned, few in number, and engaged in the production of rubber and oil palm; (2) corporation-managed farms--publicly owned and growing oil palm, coconut, coffee, and sugar cane; (3) Liberian-owned commercial farms--privately owned, ranging from less than 5, to over 100 acres per farm, and growing export products, irrigated rice, and vegetables; and (4) traditional farms--comprising the greatest number of farms, about 160,000 units with an average of 2.5 acres per farm. On traditional farms, soils tend to be poor and farm technology primitive.

Over 600 extension personnel are employed by the Ministry of Agriculture. At present they are hampered in their work by a lack of

deliverables (instructional packages and agricultural inputs) and by inadequate supervision.

The government's goals for agriculture are to: (1) achieve self-sufficiency in food production; (2) increase the participation of subsistence farm families in the development of the agriculture sector; (3) develop programs to stimulate productivity, employment, and income of small farmers; (4) diversify production; and (5) expand agriculture as the principal base for self-sustained economic development. Specifically for agricultural education, the government's goal is to develop a decentralized nationwide extension service to reach small subsistence farmers as well as those who are more advanced and already use improved agricultural technologies.

Related to government plans are greater local control and supervision, assumption of a larger operational role by the model Agricultural Development Projects (ADPs), an expanded program of agricultural research, a more efficient extension system, an expanded training role for the Rural Development Institute, and eventual agricultural programming and other educational dissemination systems through a new radio network being built with donor assistance.

Several conclusions are reached concerning agricultural education. First, the external efficiencies of the agricultural extension program need to be strengthened, focusing initially on the building of a relevant knowledge base and then on development of appropriate delivery packages of information, inputs, and services. Second, internal efficiencies of the program should be given attention, with a particular view to replicable features of the Agricultural Development Projects. Third, administrative and management capability needs to be enhanced at central and regional levels of government, with improved supervision of present extension personnel.

Specific recommendations to improve external efficiencies are to: (1) further support applied research programs to build a knowledge base for extension to small farmers, and (2) develop instructional delivery packages and methodologies focused on particular problems encountered by male and female farmers. To improve internal efficiencies,

the first recommendation is to identify and adopt successful features of the ADP training and extension programs which can be replicated at reasonable cost or adapted for the regular national extension scheme. The second recommendation is to establish agriculture extension assistants in the villages. To strengthen administrative and management capability, the recommendations are to: (1) involve the Rural Development Institute in the provision of short-cycle workshops; (2) proceed with decentralization of extension programs' administration and supervision; (3) coordinate extension efforts with other agencies; and (4) support and supervise extension agents.

1.8.8 Adult Basic Education

While the adult literacy rate for Liberia is 25 percent nationally, the rate rises to 40 percent in the more urban county of Montserrado and falls to 11 percent in rural Lofa County. The literacy rate for women is lower--about 10 percent for women over 20 years of age, and only five percent in rural areas. Despite large increases in absolute numbers of children enrolled in primary school, at least two-thirds leave before completing the four to six grades generally regarded as necessary to acquire and maintain literacy. For this reason especially, nonformal adult education remains an important and necessary means through which to reach the masses of adults who have not shared in the benefits of formal schooling and who seek more active participation in national life.

The government's goal in this regard is to increase the literacy rate to enable greater popular participation, at village, town, chiefdom, and district levels, and to plan and implement the nation's development. The major program to address this goal is that of the Division of Adult Education within the Ministry of Education. The Division is attempting to implement a nationwide English-language literacy program with a small central staff, 13 county-level supervisors, and a cadre of part-time literacy instructors. However, the budget, staff, and materials of the Division are insufficient at this time to implement a large program.

The conclusions regarding adult basic education are that implementation of a nationwide adult literacy program will depend on (1) a strong

degree of village desire and support, (2) cooperation with small private groups and with other projects already engaged in adult education, and (3) more effective use of existing staff.

There are five specific recommendations. First, the Division of Adult Education should conduct a needs assessment to identify not only what rural people want but also what education efforts they are willing to support. Second, the Division should conduct a nonformal education assessment to see what resources already exist to support the delivery of services outlined by the needs assessment. Third, the Division should coordinate with existing groups and projects involved in adult nonformal education to share resources and more efficiently render services to the target populations. Fourth, the Division should consider moving away from direct instruction to becoming a service agency that supplies resources, training materials, and technical assistance to groups involved in nonformal education. Fifth, programs for rural people and women should be emphasized.

1.8.9 Management

The attainment of national development goals depends on the managerial capacity of public and private institutions. Currently, Liberia's administrative capacity is seriously constrained in the areas of (1) recruitment, promotion, and incentive systems; (2) state of applied information technology; (3) explicitness of goal definitions; and (4) personal and organizational accountability.

Government goals related to management development are to: (1) improve the effectiveness of management in the public sector, and (2) Liberianize managerial posts, replacing expatriates primarily working in the private sector.

The major agencies for the developement of managerial talent are the Liberian Institute of Public Administration (LIPA), the Civil Service Agency (CSA), the Agricultural and Industrial Training Bureau (AITB), and the University of Liberia's programs in the College of Business and Public Administration and the Division of Continuing Education.

Each of these agencies works under very serious constraints, primarily those of insufficient funding and shortage of qualified staff. Additionally, there are logistical constraints that range from transportation difficulties to inadequate supplies of tests and relevant training materials.

Overriding these constraints is the national climate in which management takes place. Past traditions and attitudes have sometimes tended to favor family, ethnic, and political loyalties over qualifications, merits, and performance.

Improvement of management requires, first, a climate emphasizing qualifications and performance and, second, a strengthening of management eduation and training agencies.

Three major conclusions are reached concerning management development. First, the problems of managerial capacity and management development are systemic and can effecively be tackled only on a systemic basis. Second, the systemic changes needed will require explicit and visible commitment from the highest national and organizational levels, and can best be initiated by identifying suitable organizations with committed leadership which can serve as demonstration models. Third, the existing agencies concerned with management development should be strengthened.

Eleven specific recommendations are grouped within two areas. Within the first priority area of creating a new work climate, there are five recommendations: (1) initiate a dialogue on management development, (2) create demonstration models, (3) develop a social-institutional profile for management development, (4) strengthen the Civil Service Agency, and (5) optimize the size of the civil service establishment. Recommendations six through eleven address the second priority area of strengthening the management and training institutions. They are as follows: (6) strengthen the relation between LIPA and CSA by instituting an explicit policy for career development in Civil Service, (7) strengthen the College of Business and Public Administration at the University of

Liberia by paying the faculty salaries at a level competitive with other public agencies, (8) strengthen the Division of Continuing Eduation at the University of Liberia by adding one or two more full-time staff, (9) expand AITB's supervisory training program by adding staff, (10) appoint staff development officers for each public agency, and (11) improve the relevancy of management textbooks and training materials.

The remainder of this report provides a more detailed discussion of each topic treated in this brief summary.

2.0 ECONOMIC AND FINANCIAL ANALYSIS OF LIBERIAN HUMAN RESOURCE DEVELOPMENT

2.1 INTRODUCTION

The discussion of economic and financial issues is divided into three main parts: fiscal capacity analysis, manpower supply and demand analysis, and the analysis of program costs and rates of return.

In the fiscal capacity section the purpose is to analyze the present condition and future expectations for the Liberian economy. The next step in fiscal analysis is to study the pattern and trends of resources and expenditures for the aggregate government budget. Finally, the analysis concentrates on the budget expectations of the Ministry of Education and the other ministries that have major human resource development programs. A critical issue for Liberia is the ability of the Ministry of Education, specifically, and the government budget, generally, to absorb new recurrent costs resulting from the normal growth of existing programs or from the additional costs for new programs.

The analysis of manpower supply and demand provides an indication of how well the products of the educational system match the emerging demands of the modern sector of the Liberian economy. Because providing manpower is a major justification for public investment in education, supply/demand of manpower is an appropriate evaluative tool. Although both data limitations and methodological problems prevent a detailed study of supply and demand by specific occupations or skill levels, it is possible to combine data on school leavers, by educational qualification, with aggregate demand estimates. The result of such analysis can be used to identify areas of gross supply/demand imbalances and to specify areas where more detailed study is needed.

Analysis of costs and rates of return is used to identify areas of potential internal or external inefficiency in education. It is expected, of course, that unit costs will vary across programs and levels of education. Cost analysis, however, defines the amount of variation so that an exploration of why costs vary and whether the variation is justified can be carried out on a selective basis. Rates of return to education are a crude but useful tool to analyze the differential private incentives among levels of education. Even more importantly, by studying rates of return with and without inclusion of government subsidy costs, it is possible to indicate where a divergence exists between private and total (private plus government) returns.

The economic and financial analysis concludes with summary recommendations. These are preceded by a discussion of the fiscal, personnel, and administrative constraints that exist within the system and of the opportunities for change that have been identified within the various levels and types of education and training. The recommendations presented are of an aggregate nature and prepare the way for more specific discussions of policy options that appear elsewhere in this report.

2.2 FISCAL CAPACITY ANALYSIS

A crucial factor in any education sector assessment is the fiscal ability of the nation to absorb new recurrent costs which will result from proposed educational initiatives. To ignore these restraints will, at best, lead to only transitory improvements in the educational system and will, at worst, severely limit the future ability of the educational system and the government, generally, to respond to emerging needs.

The problem of the absorptive capacity of the government was addressed in the report of the Harvard Team in 1976 (New Directions for Education and Training in Liberia) and in the Dougharty report in 1981 (Alternative Education Futures for Liberia). The necessity to review the recurrent cost implications of new or expanded educational projects or

programs has been stressed repeatedly. The purpose here is to review the effect of recent economic changes in Liberia on this issue, to analyze the implications of present and future budgetary plans (in the National Budget and in the budgets of those ministries that engage in human resource development), and to provide recommendations for the nature of external assistance and of educational activity that is best suited to Liberian needs and resources.

2.2.1 The Liberian Economy[1]

From fiscal year[2] (FY) 1980 to 1981 the Liberian economy, in terms of Gross Domestic Product (GDP) measured at 1980-1981 factor costs,[3] declined by 10.7 percent from $800.8 million to $715.0 million. When combined with the estimates of a stable non-monetary economy and a 3.3 percent overall annual population growth rate (with an 8.0 percent growth rate in urban areas), this decline has had a serious effect on the Liberian government and its people. The FY 1980 - FY 1981 decline follows a smaller decline (4.7%) in the previous year and presages a FY 1982 period when the economy will be termed successful if there is no further loss in real GDP.

The sources of these declines are easy to identify but difficult to remedy. A major factor is the dependence of the economy upon export commodities (rubber, iron ore, coffee, and timber) which have been subject to depressed world prices. Export prices dropped by 12.3 percent in 1981 alone. The result is that the real value of exports (in 1971 dollars)

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[1] A comprehensive review of the Liberian economy may be found in C. Wolters, Macro Analysis of the Liberian Economy, USAID/Liberia.

[2] The Liberian fiscal year operates on a July 1 to June 30 calendar.

[3] "1980-1981 factor costs" means that the GDP is stated in terms of the FY 1981 purchasing power of the dollar as indexed by the costs of input to production.

grew only from $236.0 million in 1979 to $237.4 million in 1981 even though increases in export quantities were achieved. This exposure of the economy to international forces is a major restraint on unilateral corrective measures to deal with the depressed GDP in the short or middle run.

While export prices declined, estimates of the Monrovia Consumer Price Index (an admittedly flawed, but still useful directional indicator) increased by 8.6 percent in 1981. Fortunately, this indicated a slowing of inflation from the 14.7 percent rate in 1980. Nevertheless, local inflation combined with reduced GDP can only result in more serious strains on the nation's economy to support its public programs and private enterprises.

Between 1976 and 1981 the major changes in the structure of the export sector have been the relative decline in the importance of iron ore and forestry products and the relative increase in importance of rubber. The study of these data, year by year, reveals a more irregular pattern. Most noteworthy is the recent decline in rubber and forestry products from their 1980 levels.

Table 2-1 presents the sectoral origin of GDP at 1971 prices for the FY 1976 - FY 1981 period. The 1981 constant factor cost GDP figure is the lowest for the six years depicted. Agriculture, forestry, and fishing have declined in the FY 1980 - FY 1981 period from $63.0 million to $49.4 million, despite a small increase in the real value of rubber production. Similarly, mining and quarrying have declined during the same period from $110.6 million to $104.3 million, despite a small increase in the non-iron sector. All other modern sector activities (for which a breakdown is not yet available) recorded a small increase from $192.6 to $194.3 million. This last statistic could be especially encouraging given the other depressive economic trends in the Liberian economy. The hardiness of this part of the modern sector is misleading, however, since removal of the direct effect of government services production reveals a real decline of the remaining modern sector activities from $147.6 to $146.3 million.

TABLE 2-1

SECTORAL ORIGIN OF GROSS DOMESTIC PRODUCT
AT CONSTANT (1971) FACTOR COST 1976-1981
MONETARY ECONOMY - (IN $ MILLION)

ECONOMIC ACTIVITY	1976	1977	1978	1979	1980	1981 1/
Agriculture, Forestry & Fishing	55.3	54.9	59.9	62.8	63.0	49.4
Rubber	(24.9)	(23.1)	(21.9)	(20.2)	(21.0)	(21.3)
Forestry	(16.4)	(16.4)	(21.2)	(23.3)	(23.0)	(12.3)
Other	(14.0)	(15.4)	(16.8)	(19.3)	(19.0)	(15.8)
Mining & Quarrying	108.4	94.3	93.3	99.1	110.6	104.3
Iron Ore	(103.9)	(89.7)	(88.3)	(94.2)	(106.0)	(98.6)
Other	(4.5)	(4.6)	(5.0)	(4.9)	(5.0)	(5.7)
Manufacturing	28.0	29.2	30.7	33.0	25.0	*
Electricity and Water	8.5	7.7	7.9	8.4	8.3	7.9
Construction	17.7	19.2	22.0	20.0	14.0	*
Trade, Hotels & Restaurants	27.6	29.5	30.2	31.0	24.0	*
Transport, Storage & Communications	40.1	41.0	43.0	44.0	34.0	*
Financial Institutions and Real Estate	26.2	27.2	28.0	30.0	29.0	*
Other Services	19.3	20.0	20.0	21.0	17.0	*
Producers of Government Services	31.0	35.1	36.9	39.6	45.0	48.0
Imputed Bank Charges	-3.7	-3.9	-4.0	-4.5	-3.7	*
GDP at Constant Factor Cost	357.2	354.2	368.2	384.4	366.2	348.0
Annual Rate of Change (%)	+4.0	-0.7	+3.9	+4.4	-4.7	-5.0

1/ Preliminary

* Breakdown not available.

Source: Economic Survey of Liberia, 1981, Ministry of Planning and Economic Affairs.

Table 2-2 presents the expenditures on GDP at 1971 prices for 1976-1981 within the monetary economy. During that period the percentage of all consumption represented by government consumption has increased from 21.3 percent to 25.9 percent. Fixed investment has declined from $118.2 million (33.1% of GDP) to $73.6 million (21.1% of GDP) between 1976 and 1981. This decline has serious implications for the condition of the future stock of capital goods in the economy. As the table indicates, expenditures on GDP in 1971 prices were lower in 1981 than for any of the preceding five years.

Table 2-3 presents estimates of the Liberian balance of payments by fiscal year for FY 1981, FY 1982, and a projection for FY 1983. While the current account trade balance has remained positive--one of the few encouraging notes in the Liberian national accounts--the "net services" figure (including debt interest and freight and travel expenditures) has remained high and results in a continuing aggregate current account deficit. This is so even though unrequited transfers (those not requiring repayment), which includes United States Government Economic Support Funds (ESF), have increased significantly through FY 1982.

The remainder of the balance of payments data highlights the dependence of the economy on long- and short-term capital support. The result is that, even with a projected recovery in the trade balance in FY 1983, the expectation is for an overall deficit of $73.4 million (in current terms) for FY 1983; this would represent an increase of almost $20 million over the present estimate for FY 1982.

Fortunately, the performance of the non-monetary sector of the economy appears to have been more stable over the past two years. The national account statistics are unable to include much of the subsistence agriculture, personal housing construction, fishing, hunting, crafts, or even the street marketing which provides livelihood for a significant portion (estimated at over 60 percent) of the urban population. The contribution to measured GDP from these activities is stated as only about 15 percent of the total. Non-modern agriculture is estimated by the Ministry of Planning and Economic Affairs to account for 463,000 workers

TABLE 2-2

EXPENDITURE ON GDP AT CONSTANT (1971) PRICES
1976 - 1981
MONETARY ECONOMY - (IN $ MILLION)

Expenditure	1976	1977	1978	1979	1980	1981 1/
Consumption	242.6	275.7	277.0	266.0	232.0	225.9
Government	(51.8)	(57.3)	(60.0)	(64.0)	(61.0)	(58.5)
Private	(190.8)	(218.4)	(217.0)	(202.0)	(171.0)	(167.4)
Fixed Investment	118.2	107.8	125.3	127.2	95.2	73.6
Change in Iron Ore Stocks	-2.1	-3.7	-24.1	-11.3	21.7	-8.0
Exports of Goods and NFS	228.8	204.1	239.1	236.0	237.0	237.4
Total Uses	587.6	591.3	617.3	617.9	585.9	528.9
Less Imports of Goods & NFS	-221.0	-219.2	-223.6	-207.0	-187.0	-157.0
Statistical Discrepancy 2/	26.0	24.1	25.3	23.5	12.5	25.8
GDP at Market Prices	392.5	396.2	419.0	434.0	411.4	397.7
Less Indirect Taxes, Net	-35.3	-42.2	-50.8	-50.0	-45.2	-49.7
GDP at Constant Factor Cost	357.2	354.0	368.2	384.4	366.2	348.0

1/ Preliminary

2/ Represents mostly changes in stocks other than iron ore stocks.

Source: Economic Survey of Liberia, 1981, Ministry of Planning and Economic Affairs.

TABLE 2-3

BALANCE OF PAYMENTS BY FISCAL YEAR
($ MILLION)

	1980/81 est.	1981/82 est.	1982/83 proj.
A. Current Account	-71.5	-64.9	-64.6
Trade Balance	66.0	31.9	41.0
Exports f.o.b.	(488.4)	(467.5)	(501.6)
Imports c.i.f.	(-422.4)	(-435.6)	(-460.6)
Services (net)	-152.9	-135.3	-140.8
Unrequited Transfers	15.4	38.5	35.2
B. Long-term Capital	39.6	34.1	2.2
Official	52.8	38.5	23.1
Drawings	(71.5)	(62.7)	(68.2)
Repayments	(-18.7)	(-24.2)	(-45.1)
Private	-13.2	-4.4	-20.9
C. Short-term Capital	-20.9	-23.1	-11.0
Commercial banks (net)	8.8	34.1	-
Other private	-29.7	-57.2	-
D. Other	8.8	-	-
Allocations of Special Training Rights	4.4	-	-
Trust Fund Loans	4.4	-	-
E. Overall deficit (A + B + C + D)	-44.0	-53.9	-73.4

Source: Ministry of Planning and Economic Affairs, 1982.

out of a total measured workforce of 649,000. Confidence concerning the strength of the non-monetary sector in general is based on casual rather than statistical observation, but with the generally pessimistic situation elsewhere in the economy, such confidence should not be unduly discounted.

Before proceeding to a discussion of government revenues and expenditures, a comment should be made on the unusual role of the monetary system in the problems of the Liberian economy. Because of the use of the U.S. dollar as the medium of currency (with the exception of local coins in denominations of five dollars and less), the government cannot use monetary policy as a means of resolving its current financial problems. While a long-run blessing (the stability of the currency is the most attractive lure for external investment), in the short run it means that the government cannot inflate the economy as a means of reducing the real cost of its internal obligations. Specifically, this means the government cannot reduce the real effect of the wage and employment policies instituted over the last two years. The recent delays in salary payments to government personnel are a more overt--and, politically, more disturbing--means of achieving the same end.

Without the "assistance" of inflation, the government is forced to depend on fiscal policies as a means of rectifying the present economic problems. To understand the limits on this alternative, it is necessary to turn to the national budget.

2.2.2 The National Economy

The first point to consider in studying government budget figures is that actual expenditures in recent years have deviated significantly from the planned amounts in ways that are not systematic across budget categories. Some items, such as automobile purchases and gasoline expenses, have been significantly higher. Others, such as supplies and materials, have been signficantly lower. Since expenditure data, unfortunately, are available only after a significant delay in time, this analysis is based on the preliminary estimates for FY 1981 and FY 1982.

Table 2-4 presents the summary of government revenues for FY 1976 to FY 1982 at current prices.[1] Quite obviously, both domestic and total revenue have been held in check (especially in terms of purchasing power) since FY 1979. The $237.9 million expected for total revenue in FY 1982, of which $213.8 million is from domestic sources, would still not cover anticipated increases in the recurrent budget alone. It is significant that the revenue as a percent of GDP is expected to decline from $24.1 to $19.4 million in FY 1982. This figure supports the opinion of government and foreign experts who believe the revenue system is inelastic to growth in the monetary economy and inadequately enforced in terms of identification and collection procedures.

In Table 2-5 the data on major expenditure categories for the government are presented for FY 1976 - FY 1982. The budget is divisible into three major categories. The recurrent budget includes all expenses which occur in the referenced year related to activities expected to continue into future years. The development budget includes special projects and activities which, while possibly extending beyond a single fiscal year, are not expected to become part of the permanent operations of the government. Debt amortization, the third major budget category, includes both debt service (interest and other charges on domestic and foreign loans and credits) and debt repayment.

Because of the service nature of government, the largest single recurrent budget item is wages and salaries. This accounts for $157.2 million in FY 1982 (53.5% of the recurrent expenditure and 39.5% of total budgetary expenditures). The corresponding figures for FY 1981 were $152.7 million (63.4% and 50.4%). This apparent "success" in salary restraint (if actually realized in the final statistics) will have been obtained at the expense of continuing the relative salary disincentives in public service for more highly qualified workers.

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[1]"Current prices" means the actual prices which existed in each year. Thus the change from year to year reflects, in part, the effect of inflation.

TABLE 2-4

SUMMARY OF GOVERNMENT REVENUE

(1976 - 1982)
($ MILLION)

Revenue Item	1976	1977	1978	1979	1980	1981[1]	1982[2]
Domestic Revenue	133.5	159.9	177.0	192.4	202.8	202.9	213.8
(As % of monetary GDP at Current Market Prices)	21.1%	22.3	22.9	21.9	22.1	24.1	19.4
Taxes on Income and Profits	64.1	62.9	60.1	71.1	72.4	73.5	84.0
Iron Ore Profit Sharing	(28.3)	(19.5)	(11.2)	(10.4)	(8.3)	(5.6)	(3.3)
Corporations	(14.1)	(16.8)	(16.6)	(23.9)	(20.0)	(11.8)	(15.0)
Individuals	(8.3)	(15.6)	(26.5)	(31.5)	(38.6)	(53.6)	(48.5)
Austerity/National Reconstruction	(7.8)	(4.3)	(-)	(-)	(-)	(-)	(12.0)
Other	(5.6)	(6.7)	(6.3)	(5.3)	(5.5)	(2.5)	(5.2)
Taxes on Property	2.4	2.5	2.8	3.0	3.1	2.8	2.0
Taxes on Domestic Transactions	12.0	13.6	17.7	20.2	28.7	24.4	22.4
Taxes on Foreign Trade	41.4	59.6	73.0	78.6	69.1	79.7	74.1
Other Taxes	7.2	9.0	10.2	12.4	14.6	19.5	23.4
Non-Tax Revenue	6.4	12.3	13.6	7.1	23.5	3.0	7.9
Maritime Revenue	16.3	12.8	13.6	11.7	10.7	20.1	24.1
Total Revenue	$149.8	172.7	190.6	204.2	222.4	223.0	$237.9

[1] Preliminary

[2] Estimated

Source: Economic Survey of Liberia, 1981, Ministry of Planning and Economic Affairs and Ministry of Finance Revenue Account Division.

TABLE 2-5

ECONOMIC CLASSIFICATION OF BUDGETARY EXPENDITURE (1976 - 1982)

($ MILLION)

Classification	1976	1977	1978	1979	1980	1981	1 1982
Recurrent Budget	$87.6	117.7	137.2	156.5	196.8	241.0	293.9
Wages and Salaries	47.4	66.3	73.4	85.1	116.8	152.7	157.7
Goods and Services	19.5	24.1	31.5	39.2	33.9	42.3	56.9
Capital Formation	1.7	2.1	3.5	3.4	3.2	3.0	7.8
Interest	4.6	7.8	12.0	13.7	23.9	20.2	39.2
Transfers	6.6	11.3	12.1	13.2	15.7	19.5	19.7
Public Corporations	(0.6)	(1.0)	(0.7)	(-)	(-)	(-)	(-)
Other Transfers	(6.0)	(10.3)	(11.4)	(13.2)	(15.7)	(19.5)	(-)
Unallocatable	7.8	6.1	4.9	1.9	3.3	3.3	12.5
Development Budget	29.9	35.5	77.7	82.5	57.8	57.1	97.1
Non-Capital	8.7	11.2	11.6	19.4	18.0	10.2	*
Wages and Salaries	(3.7)	(4.3)	(8.5)	(9.5)	(6.8)	(3.1)	*
Goods and Services	(4.8)	(5.2)	(2.0)	(6.3)	(8.1)	(6.1)	*
Current Transfer	(0.2)	(1.7)	(0.5)	(3.6)	(3.1)	(1.0)	*
Capital	17.2	20.5	54.1	47.4	25.3	27.6	*
Direct Expenditure	(16.5)	(20.0)	(50.7)	(47.4)	(25.3)	(27.6)	*
Transfers to Public Corporations	4.0	3.8	12.0	15.7	14.5	19.3	
Debt Amortization	18.5	25.5	21.4	36.8	24.7	4.9	6.7
Foreign Loans	(15.3)	(22.3)	(18.5)	(34.4)	(23.9)	(4.4)	(6.5)
Internal Debt	(3.2)	(3.0)	(2.9)	(2.4)	(0.8)	(0.5)	(0.2)
Total Budgetary Expenditure	$136.0	178.5	236.3	275.8	279.3	303.0	$397.5
As % of GDP at Current Market Prices	21.3	24.9	30.5	31.3	30.5	36.0	36.0

* Breakdown not available

[1]Preliminary
[2]Estimated.

Source: Economic Survey of Liberia, 1981, Ministry of Planning and Economic Affairs.

As noted earlier, the government revenue for the last two fiscal years has not covered the recurrent budget costs. It is therefore not surprising that the development budget is at its lowest level since 1977. In addition, the reduced ability of the government to service its internal and external debt poses two problems with regard to economic recovery. First, the recycling of debt increases the eventual interest obligations and thus reduces future discretionary funds. Second, the repayment failure reflects on the credit worthiness of the government. This can dissuade external private and government investments and encourage the flight of internal private investment funds.

Over the last two fiscal years, trade deficits have been financed by means of asset reductions in the National Bank, the accumulation of debt arrears, and via Special Drawing Rights (SDR)[1] used as part of the government's existing agreement with the International Monetary Fund (IMF). There has been an increased dependence on the use of SDR financing in the last fiscal year. The fragility of the government's position is indicated by the fact that, as of June 1982, sufficient foreign reserves existed to finance only one week of imports.

The reduced trade balance has aggravated the general government budget situation. The long-term solution will have to involve the following steps:

(1) restimulation of the domestic economy to produce real growth in per capita GDP;

(2) a stabilization of net foreign exchange demand through increase in the trade balance and reduction of the offsets in the current balance accounts;

(3) a priority movement to balance the government budget through expenditure control and increased revenue (improved collection of existing revenue sources and/or new taxes or new tax rates);

(4) increasing concern for government liquidity through more responsible budgeting and expenditure administration policies; and

(5) encouragement of increased domestic and external investment through political stability and general fiscal restraint.

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*Special Drawing Rights represent credit amounts granted by the IMF to member nations requiring assistance in meeting short-term credit and expenditure obligations.

Liberia has several longer-term strengths which, once the current crisis is past, will aid in restoring economic growth. The agricultural resources of the nation are such that domestic production to meet basic needs is a realistic expectation, even though current world rice prices are so low as to provide little incentive for domestic production beyond that for personal subsistence. Cash crop production, even at the currently reduced world market prices, is still the preferable alternative for most non-subsistence small farmers. The major constraint on the strength of the agricultural sector is the declining transportation infrastructure throughout rural Liberia.

A second asset for long-term development is the relatively small size of the population. This asset may disappear, however, if the annual growth rate in excess of three percent continues. Also, the continuing concentration of population in the urban areas reduces labor available in the agricultural sector without a concomitant increase (because of lack of employment demand) in the urban sector.[1]

Energy costs in Liberia may become less of a long-run problem than current difficulties would suggest. Improved exploitation of hydroelectric sources is being studied as a possibly less expensive alternative for the future. Even without a successful outcome for current oil exploration activities, Liberia has the potential to insulate itself more effectively from its current foreign energy dependence.

Finally, the informal market system of Liberia's villages, towns, and cities will continue to aid in the distribution of a variety of goods and services. Simultaneously, it provides extensive transitory as well as permanent employment opportunities for a large part of the labor force.

Given this attempt to balance the favorable and unfavorable views of the economy and national budget, it is necessary to turn to the ministry budgets to identify the major expenditures on education and other human resource activities.

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[1]Urban migration has created the peculiar situation wherein Guinean migrants enter Liberia to work in rural areas where shortages of available labor have occurred. Current estimates are that up to 20,000 such "unregistered" workers are now in Liberia.

2.2.3 Budget Expenditures on Education and Human Resources Development

The largest share of expenditures on education and training is in the Ministry of Education. The Ministry's programs may be divided into primary, secondary, tertiary (including the foreign scholarship program), and nonformal education programs (here this variously defined term is used to identify all organized educational activities which take place outside a school credit-earning program).

The other ministries which are responsible for significant contributions to general human resource development and training activities are the Ministry of Agriculture (extension agent training), the Ministry of Health and Social Welfare (nurses, medical technicians, and paramedical training), and the Ministry of Youth and Sports (training of unemployed youth). Because of its crucial role, the discussion of recurrent cost problems for human resource development will concentrate on the Ministry of Education. Following that discussion, more general reference will be made to the concomitant recurrent cost problems in the other ministries.

Table 2-6 presents the detailed Ministry of Education budgets for FY 1982 (revised estimate) and FY 1983 (estimate) including external assistance funds but not locally financed development. These figures are more inclusive than those used in the recurrent costs estimates that follow. Worth noting is the substantial size of the budgets for two programs which serve a relatively small number of persons--subsidies and scholarships (in excess of 10% of the total), and the University of Liberia (in excess of 15%). In fact, for FY 1983, the University budget will increase to 20 percent of the total and, with scholarship and subsidies, will represent over 30 percent of the total budget costs. To the extent that these budget allocations reflect government priorities, the issue of their appropriateness and effects must be taken into account in planning additional foreign assistance for Ministry of Education projects.

Estimated amounts are used here because they represent the best available current information. Because of the degree of economic

TABLE 2-6

MINISTRY OF EDUCATION BUDGET, BY PROGRAM[1]
FY 1982 - FY 1983
($000)

PROGRAM	FY 1982 REVISED ESTIMATE	FY 1983 ESTIMATE
Administration and Management	2,197.2	1,846.3
Instructional Services		
Direction & Management	25,286.7	18,438.6
Booker Washington Institute	2,816.6	1,850.1
LS/VTC	266.7	226.0
Robertsport Merger School	260.4	221.4
Voinjama Multilateral High School	745.5	630.2
Zwedru Multilateral High School	536.4	436.4
KRTTI	614.8	522.6
ZRTTI	569.6	484.2
I.E.L. Project	2,885.8	2,323.0
MCSS	4,748.8	4,400.2
Community School	650.5	552.9
Adult Education	178.1	151.4
In-Service Teacher Training	64.3	54.6
T O T A L	39,624.2	30,291.6
Planning and Development		
Direction & Management	384.4	296.1
Project Implementation Unit	212.4	180.6
Educational Planning Unit	89.8	76.8
Education Facilities Unit	130.8	145.9
T O T A L	817.4	699.4
Subsidies and Scholarships	6,184.8	5,257.1
University of Liberia	9,222.4	10,096.5
WVS Tubman College of Technology	1,258.4	1,309.1
MINISTRY TOTAL	59,304.4	49,500.0

[1]Includes external assistance but not locally financed development expenditures.

Source: Current Budget, FY 1983, Ministry of Education.

uncertainty faced for the future and the current imperfections of the budget monitoring process, it is possible for substantial deviations to occur in the actual expenditures versus the estimated expenditures.

The 1981 report, Alternative Education Futures for Liberia by Lawrence Dougharty, presented estimates of twelve alternative Ministry of Education budgets and two alternative revenue estimates for the government. Dougharty concluded that "... revenue limitations over the next decade will most likely constrain the government to making only marginal improvements in the quality and quantity of education." While the Dougharty estimates provide excellent baseline detail on the Ministry of Education budget, the dramatic changes in the economy in the last eighteen months require that the Dougharty figures be revised. Table 2-7 presents the FY 1981 - FY 1983 estimates of Ministry of Education expenditures (from the Base Case Alternative of the Dougharty study[1])

TABLE 2-7

ESTIMATED RECURRENT EXPENDITURES, MINISTRY OF EDUCATION BY PROGRAM, FY 1981 - FY 1983 ($ MILLION)

PROGRAM	FY 1981	FY 1982 original	FY 1982 revised	FY 1983 original	FY 1983 revised
Primary Education	18.9	19.4	21.7	20.1	20.5
Secondary Education	15.0	15.5	17.2	15.7	16.2
Tertiary Education	10.2	10.2	11.7	10.2	11.0
Out-of-School Education	.8	.8	.9	.8	.9
TOTAL	44.9	45.9	51.5	46.8	48.6

Source: Dougharty, Alternative Education Futures for Liberia, and calculations derived from the 1982/83 Liberian National Budget.

[1]The Base Case Alternative assumes that there will be no major educational policy changes; that enrollments will increase proportionately with the increase in the school-age population; and that no new salary increases or nonpublic subsidies will be instituted. The data in Table 2-7 do not include foreign assistance or nonrecurrent costs which appear in Table 2-6.

and revised values for FY 1982 and FY 1983. These latter amounts were derived by assuming a proportionality among program types and applying the Dougharty percentages to the official budget projection totals for FY 1982 and FY 1983.

The expected reductions for 1983 may not be realistic since the 1982 budget bases these on proposed staffing reductions. Regardless, the expenditure levels will still be approximately 10 percent above FY 1981 levels, and the current figures already show a significant deviation from those Dougharty calculated in June of 1981.

The interest here is in future levels of expected Ministry of Education costs versus receipts. Of the twelve alternatives reviewed by Dougharty, the most conservative projection that can be used is that of the Base Case Alternative inclusive of the recurrent cost impact of the World Bank Fourth Education loan portfolio of projects. Because the cost effects of the Fourth Education Project will not be incurred until FY 1983, the original Ministry of Education recurrent budget estimates have been revised. Table 2-8 presents the original Dougharty estimate of the Base Case Alternative (identified here as Alternative I) as well as four additional projections of recurrent costs. Alternative I already includes the aforementioned revision for the Fourth Education Project implementation. The time period used for Table 2-8 begins with FY 1984 because the initiation of any new human resource development programs based on this sector assessment would take place, at the earliest, during that fiscal year.

In Alternative II, adjustments were made to reflect the fact that recurrent costs for FY 1982 and estimates for FY 1983 already exceed those levels projected by Dougharty. In Alternative II, the relatively conservative assumption has been made that the proportional under-estimation of Dougharty's figures to actual levels of recurrent costs will not increase over time. The remaining three alternatives are based on Alternative II, but involve the following additional assumptions:

TABLE 2-8

PROJECTED RECURRENT COSTS OF MINISTRY OF EDUCATION BUDGET ALTERNATIVES

FY 1984 - FY 1993

($ Million)

Budget Alternatives	FY 1984	FY 1985	FY 1986	FY 1987	FY 1988	FY 1984-FY 1988	FY 1989	FY 1990	FY 1991*	FY 1992*	FY 1993*	FY 1984-FY 1993* Total
Alternative I	57.4	55.6	56.6	57.0	58.3	284.9	59.7	61.0	62.6	64.4	66.1	598.7
Alternative II	57.8	56.0	57.0	57.4	58.8	287.0	60.2	61.6	63.2	65.1	66.9	604.0
Alternative IV	60.4	59.8	62.3	63.7	66.2	312.4	68.7	71.4	74.6	78.1	82.1	687.3
Alternative III	65.3	64.3	65.6	66.5	68.6	330.3	70.3	72.2	74.1	76.2	78.3	701.4
Alternative V	68.8	69.0	72.2	74.1	77.5	361.6	80.6	84.1	88.0	92.1	96.4	802.8

Source: Adjustments of data from Dougharty, Alternative Education Futures for Liberia.

*FY 1991 and beyond are extrapolated from original Dougharty calculations.

Alternative III includes the original Dougharty assumption of an increase in the educational participation rate but of no salary level increase for teachers and no increase in subsidies for nonpublic schools;

Alternative IV includes assumptions of salary increases for teachers and increases in the subsidies of nonpublic schools but for enrollment growth only in proportion to increases in the school age cohort; and

Alternative V assumes both salary and subsidy increases (as in Alternative IV) and increases in the educational participation rate (as in Alternative III).

Table 2-8 contains the recurrent cost amounts estimated for the Ministry of Education for each fiscal year as well as summary totals for the five-year (FY 1984 - FY 1988) and ten-year (FY 1984 - FY 1993) periods. The differences between Alternatives II and I are due to the adjustment for Dougharty's initial underestimation of Ministry of Education recurrent costs. Alternatives III and IV reflect the differential impacts of the quantity increase only (Alternative III) and quality increase only (Alternative IV). Finally, Alternative V indicates the recurrent cost effects of the interaction of the assumption of both quantity and quality increases.

Projected recurrent costs are only one-half of the data needed to assess the absorptive capacity of the Ministry of Education budget. The second half requires the estimation of Ministry of Education receipts. Since these receipts depend on the overall receipts of the government, it is necessary to project, for the same period as for recurrent costs, the expected revenues for the government.

Just as with the estimates for recurrent costs, adjustments will have to be made to the figures used by Dougharty. Table 2-9 indicates the divergence for the FYs 1981 to 1983 of the Dougharty estimates and the current projections of the Ministry of Planning and Economic Affairs (MPEA). As indicated therein, the difference between the original "Most Likely" and "Optimistic" estimates and actual figures for FY 1982 already exceeded by $28.2 and $43.9 million, respectively, the current MPEA figures. In FY 1983 this discrepancy will be reduced to $21.8 million for the "Most Likely" estimate, but will grow to $46.1 million for the "Optimistic" estimate.

TABLE 2-9

DIVERGENCE OF DOUGHARTY

AND MPEA ESTIMATES OF GOVERNMENT OF LIBERIA REVENUE

FY 1981 - FY 1983 ($ MILLION)

	FY 1981	FY 1982	FY 1983
Dougherty "Most Likely" Estimate[1]	256.8	261.9	267.2
Dougharty "Optimistic" Estimate[2]	264.4	277.6	291.5
MPEA Estimates	223.0	233.7	245.4
Divergence from "Most Likely" Estimate	-33.8	-28.2	-21.8
Divergence from "Optimistic" Estimate	-41.4	-43.9	-46.1

[1]"Most likely" estimate assumes 2 percent annual growth in revenues.
[2]"Optimistic" estimate assumes 5 percent annual growth in revenues.

Source: Dougharty, Alternative Education Futures for Liberia and Ministry of Planning and Economic Affairs.

The problem with these comparisons is that MPEA figures for FY 1982 and FY 1983 may be overestimated themselves. If so, the actual deviations from the original Dougharty figures will be even larger than these present comparisons indicate. Using the current figures for FY 1983, further projections can be made which parallel the original Dougharty assumptions. As shown in Table 2-10, four sets of government revenue projections have been presented. The first two are a replication and extersion (from FY 1991 to FY 1993) of the original Dougharty figures. The "Revised" projections take the MPEA estimate of revenue in FY 1983 as a base and assume alternative annual growth rates of government revenue of 2 percent (for the Revised "Most Likely" estimates) and 5 percent (for the Revised "Optimistic" estimates). Annual amounts as well as totals for FY 1984 - FY 1988 and for FY 1984 - FY 1993 are given.

TABLE 2-10

REVENUE PROJECTIONS

GOVERNMENT OF LIBERIA and MINISTRY OF EDUCATION

FY 1984 - FY 1993

($ MILLION)

	Fiscal Year											
	1984	1985	1986	1987	1988	1984-1988	1989	1990	1991	1992	1993	1984-1993
Government of Liberia												
Dougharty "Most Likely"[2]	272.6	278.0	283.6	289.2	295.0	1418.4	300.9	306.9	313.0[1]	319.3	325.6	2984.[4]
Dougharty "Optimistic"	306.1	321.4	337.4	354.3	372.0	1691.2	390.6	410.1	430.6[1]	452.2	474.8	3849.
Revised "Most Likely"	243.1	248.0	253.0	258.0	263.2	1265.3	268.4	273.8	279.3	284.9	290.6	2662.
Revised "Optimistic"[3]	257.7	270.6	284.1	298.3	313.2	1423.9	328.9	345.3	362.6	380.7	399.8	3241.
Ministry of Education												
Dougharty "Most Likely"	48.5	49.4	50.5	51.5	52.5	252.5	53.6	54.6	55.7[1]	56.8	58.0	531
Dougharty "Optimistic"	61.2	64.3	67.5	70.9	74.4	338.2	78.1	82.0	86.1[1]	90.4	95.0	769
Revised "Most Likely"	43.3	44.1	45.0	45.9	46.8	225.2	47.8	48.7	49.7	50.7	51.7	473
Revised "Optimistic"	51.5	54.1	56.8	59.7	62.6	284.8	65.8	69.1	72.5	76.1	80.0	648

[1] FY 1991 and beyond are extrapolated from original Dougharty calculations.
[2] "Most Likely" assumes 2 percent annual growth rate in revenue; MOE budget equals 17.8 percent of total revenue.
[3] "Optimistic" assumes 5 percent annual growth rate in revenue; MOE budget equals 20 percent of total revenue.
[4] Totals may not equal sums because of rounding error.

To calculate the "Most Likely" estimate for the Ministry of Education share of total government revenues, Dougharty assumed that the FY 1980 percentage of 17.8 percent would continue. The "Optimistic" estimates of the Ministry of Education budget assume that the Ministry share will increase to 20 percent of the the government revenue. The lower part of Table 2-10 presents the projections given by Dougharty (with extrapolations) and the revised Ministry of Education budget figures adjusted for the 17.8 percent assumption (the Revised "Most Likely" estimate) and the 20 percent assumption (the Revised "Optimistic" estimate).

By combining the information in the latter part of Table 2-10 with the recurrent cost figures in Table 2-8, a summary estimate can be provided of the realistic ability of the Ministry of Education budget to absorb new recurrent costs. Figures 2-1 and 2-2 provide, respectively, a five-year and ten-year comparison of current revenue and recurrent cost estimates for the Ministry of Education. The revenue estimates are presented as horizontal lines representing the aggregate five- and ten-year Ministry of Education receipts. The bar graphs represent the expected five- and ten-year totals of recurrent costs for the five alternative cost projections discussed earlier.

Figure 2-1 indicates that even the most conservative estimates of recurrent costs (Alternatives I and II) equal or exceed all but the most optimistic of the revenue forecasts. Realizing that even the revised "Optimistic" forecast represents an unlikely level of revenue expectation, it is obvious that the Ministry of Education budget will not be able to absorb the projected level of its present recurrent costs. Any recommendations for new education programs should take this situation into account.

For the ten-year period depicted in Figure 2-2, the situation is a bit more complex. Because of the compounding effects of the growth rate differential between the "Most Likely" and the "Optimistic" forecasts, the revenue cost situation appears relatively better for the Revised "Optimistic" revenue expectation and relatively worse for the "Most

FIGURE 2-1

COMPARISON OF MINISTRY OF EDUCATION PROJECTED BUDGET RECEIPTS AND RECURRENT COSTS FY 1984 - FY 1988 TOTALS ($ MILLION)

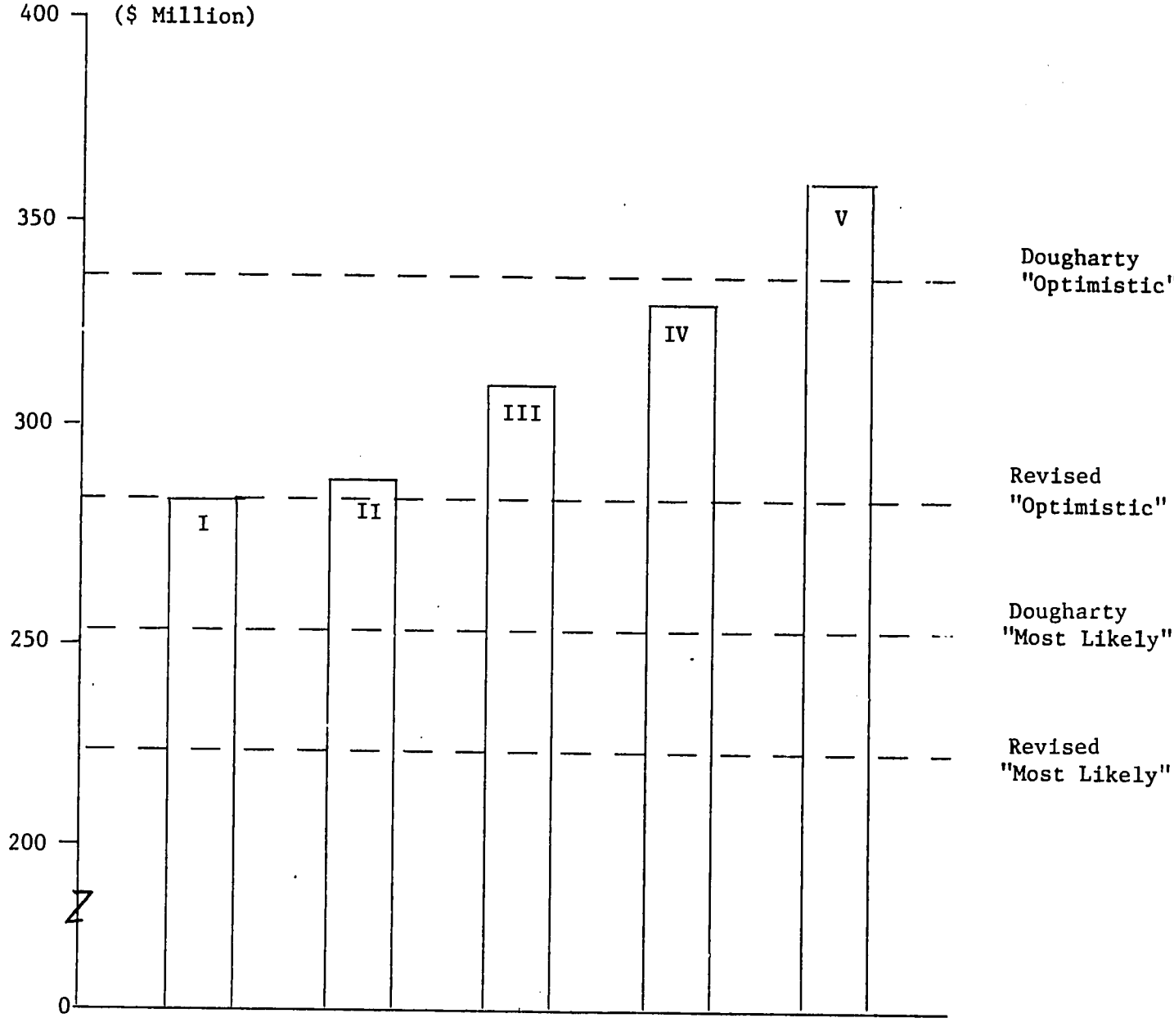
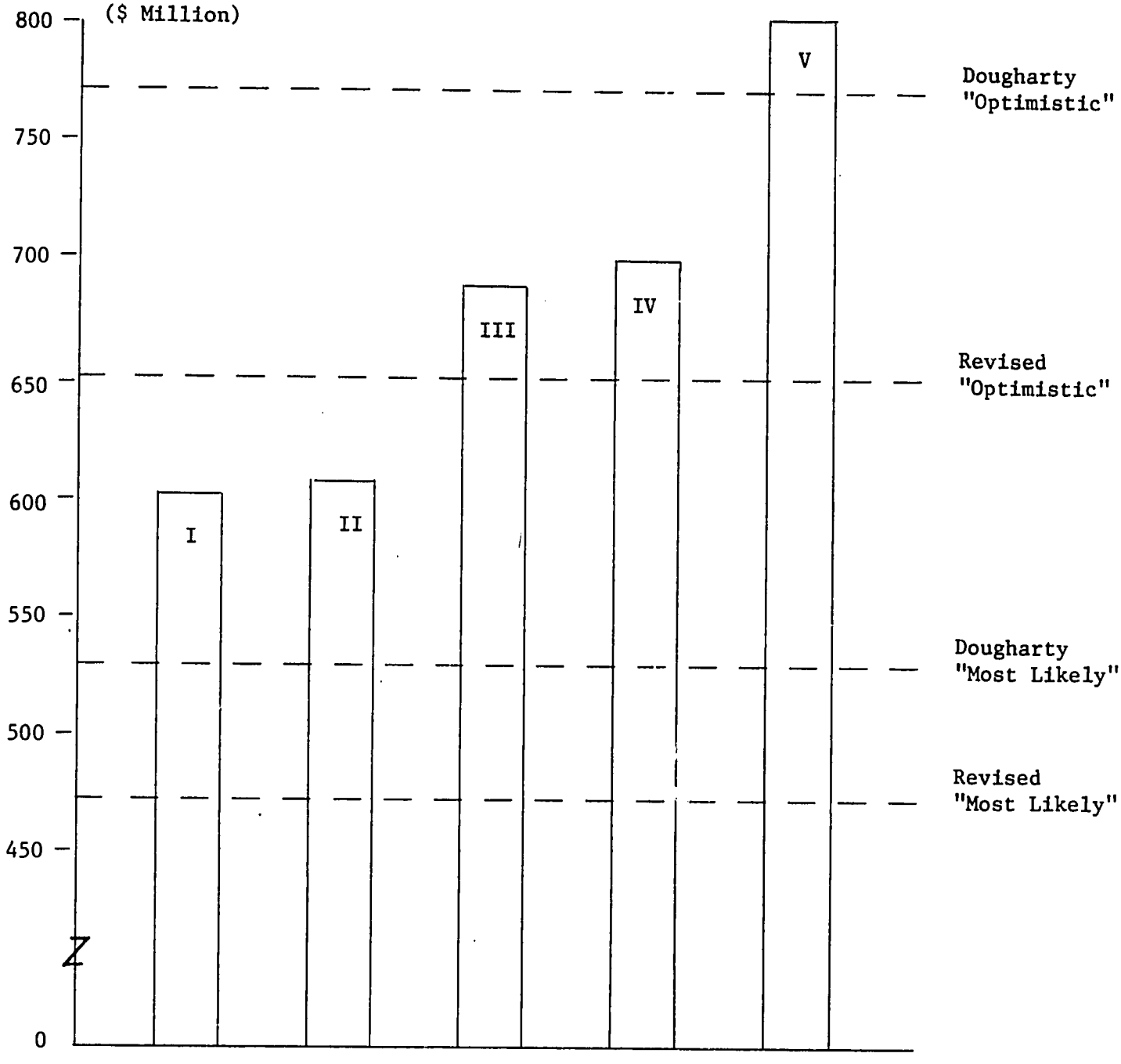


FIGURE 2-2

COMPARISON OF MINISTRY OF EDUCATION PROJECTED
BUDGET RECEIPTS AND RECURRENT COSTS
FY 1984 - 1993 TOTALS
($ MILLION)



Likely" projections. This does provide some grounds for optimism, however. If the economy can recover the earlier rates of growth in GDP and revenue, there is the possibility that the revenue-recurrent cost problem will be resolved in five to ten years. If this does not occur, the government may be faced with the revenue alternatives of improved tax collection effort and the program alternatives of a continued employment and salary freeze for the civil service.

2.2.4 Other Human Resource Development Current Expenditures

Human resource development activity takes place in every ministry of the government. This section will concentrate on the four lead ministries --Agriculture, Health and Social Welfare, Labor, and Youth and Sports-- working in the education and training fields, plus the Liberian Institute for Public Administration (LIPA) which has a major responsibility for middle-level administration and management training. The individual activities of these ministries and of LIPA are detailed elsewhere in this report. The purpose here is to identify the aggregate level of expenditure, the major program activities, and the probable impact of these programs on the target population.

Table 2-11 summarizes the expenditures on human resource development from agencies other than the Ministry of Education. Within the Ministry of Agriculture, the Department of Regional Development and Extension (DRDE) has the important "educational" function of production and dissemination of appropriate agricultural information for farmers. Even though the recurrent costs for the DRDE are already substantial ($2.5 million), no functioning extension system is yet in place. Thus, these expenditures, which represent almost five percent of the total MOE budget, are a high price to pay for a potential rather than realized human development program. The full implementation of the agricultural extension program, combined with a program of rural adult education, would represent a great advancement in meeting a priority need of the economy.

The Ministry of Health and Social Welfare has a variety of programs which relate to health education and training in both formal and informal ways. The activities included in the Ministry budget are the following:

TABLE 2-11

HUMAN RESOURCE DEVELOPMENT RECURRENT EXPENDITURES
BY TYPE AND AGENCY OF ORIGIN
(EXCLUSIVE OF MINISTRY OF EDUCATION)
FY 1982 - FY 1983
($000)

Agency of Origin and Type of Expenditure		FY 1982 (Revised Estimate)	FY 1983 (Estimate)
Ministry of Agriculture:			
Personnel Services		2,388.0	2,352.8
Other Services		24.0	- 0 -
Materials and Supplies		93.1	43.2
Subsidies		40.0	- 0 -
	TOTAL	2,545.1	2,396.0
Ministry of Health & Social Welfare:			
Personnel Services		771.3	722.6
Other Services		64.3	44.9
Materials and Supplies		187.4	136.7
Subsidies		- 0 -	- 0 -
	TOTAL	1,022.9	904.3
Ministry of Labor:			
Personnel Services		162.7	139.8
Other Services		6.7	13.4
Materials and Supplies		5.5	10.0
Subsidies		- 0 -	- 0 -
	TOTAL	174.9	163.2
Ministry of Youth and Sports:			
Personnel Services		1,311.5	1,267.0
Other Services		251.4	126.5
Materials and Supplies		219.4	136.0
Subsidies		96.9	80.4
	TOTAL	1,879.2	1,609.4
Liberian Institute for Public Administration:			
Personnel Services		160.6[1]	160.6[2]
Other Services		188.7	188.7
Materials and Supplies		14.6	14.6
Subsidies		- 0 -	- 0 -
	TOTAL	363.9	363.9
SUMMARY TOTAL		5,986.0	5,436.8

Source: Individual Ministry Budgets and National Budget, FY 1982 and FY 1983
[1]Estimate ONLY
[2]Assumes stable funding from FY 1982

- Midwifery Training Program
- In-Service Health Education Program
- JFK Post-Graduate Program
- Tubman National Institute of Medical Arts (TNIMA)
- Division of Health Education
- Rural Health Training Center

By far the largest of these programs is the TNIMA. Costs from the TNIMA programs represent more than one-half of the total expenditures of the MHSW on education and training. The second largest program is the Division of Health Education.

The Ministry of Labor programs which relate to the education and training sector are those from the Planning and Human Resources Program. These include vocational guidance and counseling, planning, and the Division of Employment. This last program has the task of developing a job registration and matching system, but present funding levels do not allow for much activity. Ultimately, a strong job-matching system would be a crucial part of Liberia's human resource development system because it would facilitate the linkage of school and training program graduates to the employment system.

The new Ministry of Youth and Sports now encompasses all the training responsibilities once part of the Ministry of Labor. The budget figures represented in Table 2-11 include all recurrent expenditures of the Ministry of Youth and Sports except those allocated to the Sports Services Program. The remaining expenditures are allocatable to general administration, youth training, and vocational and technical training services.

The LIPA program has been in a period of fiscal decline in recent years, and the future of the program is uncertain. The decision by the Ministry of Education to use the University of Liberia rather than LIPA for provision of middle-level management training under the new Fourth Education Project has implications for LIPA's future role. The past and potential work of LIPA is discussed in more detail in the section of this report dealing with management training (Section 11.0).

The most disturbing aspect of this review of non-Ministry of Education expenditures by the government on education and training is that so little of the expenditure is having a current impact. With the exception of the programs in Health and Social Welfare and in Youth and Sports, the other expenditures represent areas of potential rather than realized benefit. For them, the questions of both internal efficiency and external relevance would apply. The efforts of these ministries appear to need greater focus and coordination. Given the significant dollar amounts involved, an inter-ministerial advisory or coordinating panel on human resource investments should be considered.

2.3 MANPOWER SUPPLY AND DEMAND

2.3.1 Data Availability

The degree of confidence which can be given to the analysis of manpower supply and demand depends primarily upon the quality of the data base and the logic of the assumptions by which the data are adjusted. There are no current data on manpower demand or supply, classified by educational levels or types, available for the Liberian economy. The Ministry of Planning and Economic Affairs' Social Planning Division has recently completed a Manpower Survey of Liberia. This study, which will present data on the present and projected (to 1985) demand for workers by industrial sector and occupational classification, will greatly advance the state of demand-side data. Unfortunately, the results from this survey will not be available in time to be included in this assessment.

On the supply side, the data limitations are equally severe. The most recent National Census (1974) is the basis for most estimates of current population statistics, including those of the size and age distribution of the potential labor force. While the original 1974 census data appear to be of good quality, the projections, which must be based on the age structure of the 1974 population brought forward to current date, could be considerably off in estimating the populations in specific age

groups or for single years. However, this will not affect projections of upper level supply for limited periods (five years), since these are derived from flow rates and graduation and transition rates of cohorts already in school. The Second Four-Year National Socio-Economic Development Plan contains the most recent (1981) analysis of aggregate manpower supply. The data from the Second Plan document will be used here as the basis of aggregate supply projections. Data from the ministries and individual educational institutions will be used to produce more detailed data on educational supply by educational qualifications (level and type).

In addition to these data issues, three major methodological considerations should be kept in mind in reading this section. First, manpower analysis is, at best, useful as an indicator of areas of relative shortages and surpluses of certain types of workers. The error of prediction in the actual size of particular job or educational categories is inherently so great that, when combined with the data limitations faced in the present context, the final estimates will have little use other than as indicators of possible demand/supply imbalances. Second, one must remember that traditional manpower analysis assumes a rigidity between educational qualifications and job requirements. In Liberia, as elsewhere, this rigidity is not apparent in the actual employment market with the exception of the medical arts and certain high technology fields. Elsewhere, the employers may be expected to adapt job requirements to available supply through apprenticeship or other on-the-job or pre-service training. The third consideration in regard to the current analysis is that it soon will be supplanted by far superior data as the Manpower Survey results are analyzed. The current recalculation of demand structure will be the "state of the art" for Liberia, but it will be a very transitory state. Thus, all conclusions and recommendations should be interpreted as being even more provisional than the data and analytical limits would normally dictate.

2.3.2 Manpower Supply

The Second Plan population projections estimate a total population of 2,103,658 for FY 1984; 49.6 percent of that total is female and 61.0 percent is rural. Of urban residents, 50.2 percent are expected to be female which may be considered an overestimate given the casual data on high male migration to urban areas in the last two years. The estimate of the potential labor force for FY 1984 is 1,055,401 (including 532,658 males); this amount represents approximately 50 percent of the total population.

The primary interest here is in the supply of educated and trained manpower. To analyze this, one must turn from general demographic data to specific education and training program data. Table 2-12 presents the current educational statistics for grades 1-12 plus kindergarten and pre-school. For the present analysis, the interest is in the total number of graduates or leavers at the end of the primary and upper-secondary cycles.

Approximately 53,000 students were registered in pre-grade programs in 1982. The age five cohort for this same year was about 63,000. These data do not suggest that the nation is approaching universal pre-primary attendance, however. The pattern in both rural and urban schools is for students to enter at a variety of ages and for a certain proportion to remain at introductory levels for more than one year. The 1978 National Education Survey found an enrollment rate for the total primary and secondary system of 32 percent of the school age (6-18) population. The enrollment rate level at the first grade excluding repeaters is less than two-thirds of the age six population. The current data indicate that slightly more than one-third of the students who reach first grade will graduate from sixth grade (this rate of attainment is less for the public than for the nonpublic schools). Approximately 23 percent of any age six cohort will eventually graduate from primary school.

The statistics for 1981 indicate that a relatively high number of primary school graduates go on to secondary school and within secondary

TABLE 2-12

EDUCATION STATISTICS FOR LIBERIA - 1981
NUMBER OF PUPILS BY GRADE, TYPE OF SCHOOL, AND SEX

GRADE	PUBLIC		MISSION		OTHER		TOTAL	
	Total	Girls	Total	Girls	Total	Girls	Total	Girls
Kindergarten	25,968	11,366	5,831	2,762	6,512	2,846	38,311	16,974
Pre-Grade	34,491	14,612	7,084	3,170	11,508	4,896	53,083	22,678
Total Pre-Elementary	60,459	25,978	12,915	5,932	18,020	7,742	91,394	39,652
1	29,067	11,543	6,235	2,789	6,814	2,675	42,116	17,007
2	21,144	7,789	5,137	2,341	5,270	1,966	31,551	12,096
3	17,710	6,023	4,360	2,010	4,249	1,553	26,319	9,586
4	14,383	4,667	4,056	1,728	3,404	1,232	21,843	7,627
5	12,060	3,786	3,570	1,491	2,510	880	18,140	6,157
6	9,865	2,733	3,342	1,417	1,990	652	15,197	4,802
Total Elementary (1-6)	104,229	36,541	26,700	11,776	24,237	8,958	155,166	57,275
7	8,410	2,257	3,136	1,312	1,542	512	13,088	4,081
8	6,894	1,732	2,845	1,158	1,235	388	10,974	3,278
9	6,379	1,591	2,822	1,081	1,102	382	10,303	3,054
Total Junior High (7-9)	21,683	5,580	8,803	3,551	3,879	1,282	34,365	10,413
10	5,421	1,193	2,604	966	936	271	8,961	2,430
11	4,435	929	2,072	846	834	265	7,341	2,040
12	3,301	747	1,781	681	859	277	5,941	1,705
Total Senior High (10-12)	13,157	2,869	6,457	2,493	2,629	813	22,243	6,175
GRAND TOTAL	199,528	70,968	54,875	23,752	48,765	18,795	303,168	113,515

Source: Ministry of Education.

school remain at least until ninth grade. Using the data in Table 2-12 for longitudinal rather than cross-sectional purposes,[1] the following probable pattern of educational attainment can be derived for the group of 15,197 sixth grade students in 1981:

2,109 terminal primary school graduates

2,785 some lower secondary school

1,342 terminal ninth grade graduates

3,020 some upper secondary school

5,941 high school graduates.

For the purposes of manpower supply, all of those with education less than that of a secondary school graduate would be grouped in the primary education category. Thus, there are approximately 9,256 students a year who leave the school system without having graduated from the secondary school level.

Of the secondary school graduates, a certain proportion are identifiable as vocational/technical graduates. The graduates from the Booker Washington Institute and the vocationally certified graduates of W.V.S. Tubman Senior High School number approximately 275 per year. These numbers should expand in the future. The present number of annual vocational graduates from Tubman High School is only 17.

Table 2-13 presents a projection of the anticipated educational flow in 1984 based on an original age five cohort size of 65,000. The data are presented separately for both public and nonpublic schools. The latter include the categories of mission and "other" schools. For 1981, mission schools represented 53 percent of all nonpublic schools with a slightly lower percentage (52.4) at the primary school level. The nonpublic

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[1]The use of the rates for one year to predict the movement of a cohort of students through the system tends to underestimate the number of graduates and school leavers at upper levels of the system. This is partially offset here by the concomitant assumption that all sixth and twelfth grade students will graduate. The net effect is, however, to produce supply projections that have a bias toward underestimation.

TABLE 2-13

EDUCATIONAL FLOW MODEL FOR PRIMARY AND SECONDARY EDUCATION IN LIBERIA FY 1984 ESTIMATES

PART A

SCHOOL PARTICIPATION BY LEVEL AND CONTROL OF 65,000 IN AGE 5 COHORT

Public Sector		Non-Public Sector	Total
25,900	Enter primary school	11,600	37,500
9,350	Graduate primary school	5,100	14,450
8,000	Enter secondary school	4,450	12,450
3,300	Graduate secondary school	2,650	5,950

PART B

FINAL SCHOOL CREDENTIAL (BY LEVEL) OF 65,000 IN AGE 5 COHORT

- 27,500 have no Primary Education
- 23,050 have some Primary Education
- 2,000 have terminal level of Primary School Graduate
- 6,500 have some Secondary Education
- 5,950 are Secondary School Graduates

schools serve 34.2 percent of all primary and secondary school students with the percentage served by the nonpublic schools being slightly higher at the secondary level (38.5).

Note that the completion rates (the percentage of entrants to a cycle who eventually graduate) for the nonpublic sector, versus the public sector, are significantly higher at both primary (44.0 versus 36.1) and secondary levels (59.6 versus 41.0). Also, the transition rate from primary to secondary school appears slightly higher for nonpublic schools (87.3 versus 86.0), although this is harder to analyze given the possibility of shifts in transition to secondary school of public school graduates to a nonpublic secondary school and vice-versa. These data have relevance for concerns of internal efficiency and will be addressed in section 2.4 as well as in Sections 3.0 and 4.0 of this report.

Table 2-13 is estimated so as to allow for a comparison with the FY 1984 demand data by educational level which will be devised in a subsequent section. The data in Table 2-13 are subject to adjustment from year to year if any change should occur at any grade level in rates of educational participation, retention, or graduation. However, present economic and social conditions and current government plans are such that the figures in Table 2-13 represent reasonable estimates of formal educational outputs through the secondary level in FY 1984.

Table 2-14 carries the educational flow analysis to the level of post-secondary education. The major post-secondary institutions included in the analysis are:

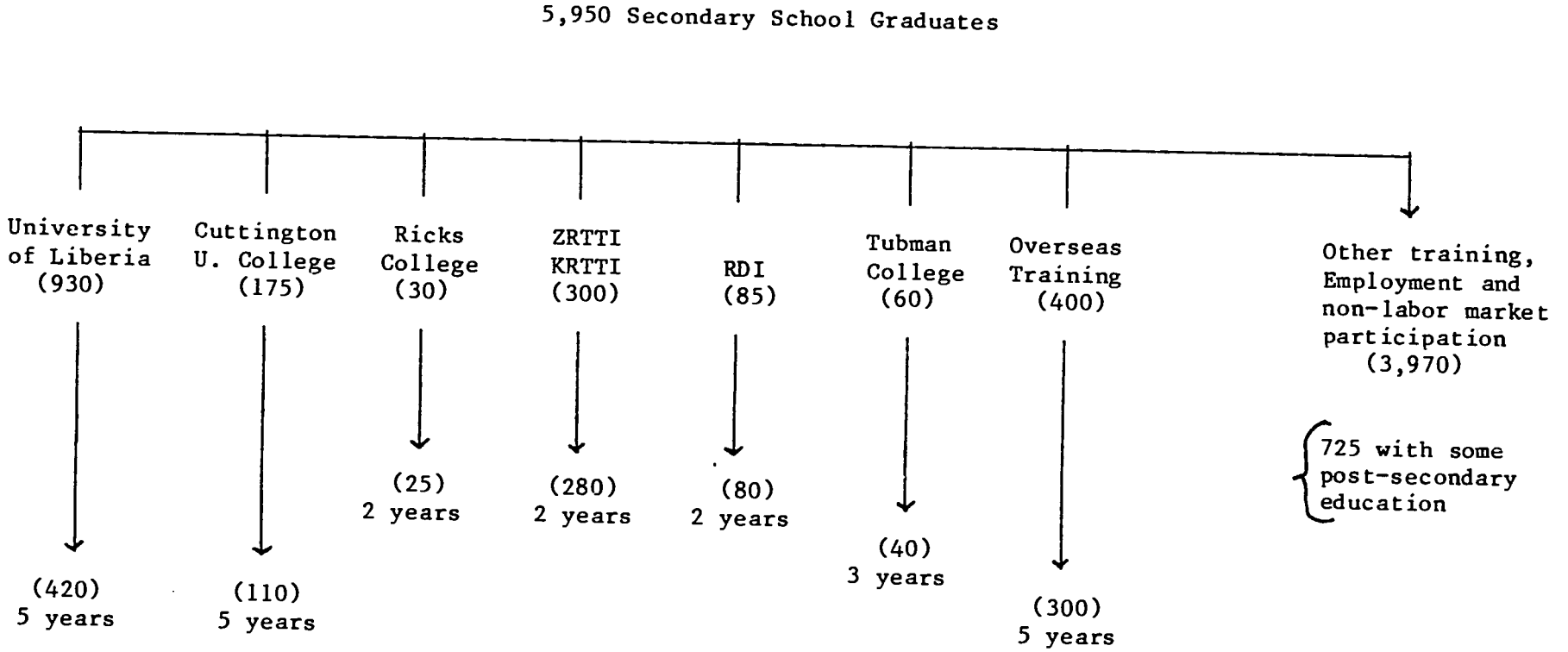
1) The University of Liberia - four-or five-year undergraduate programs in Agriculture, Business and Public Administration, Social Sciences and Humanities (Liberia College), Science and Technology, and Education plus a six-year program in Law and a seven-year program in Medicine;

2) Cuttington University College - four-year programs in Science, Social Sciences, Humanities, Education, Nursing, and Theology;

3) Ricks Institute - a two-year Associate of Arts program;

TABLE 2-14

PROJECTED EDUCATIONAL FLOW FOR POST-SECONDARY EDUCATION IN LIBERIA
FY 1984



4) Kakata and Zorzor Rural Teacher Training Institutes - two-year, pre-service and in-service teacher training programs;

5) Rural Development Institute - a two-year program designed to prepare graduates for rural development management roles; and

6) Tubman College of Science and Technology - a three-year senior vocational/technical program.

As the table indicates, the formal post-secondary system is expected to produce 875 graduates per year (with a wide variation in program specialization, length of study, and need for further training) with an additional 645 persons a year leaving the formal post-secondary institutions without a terminal degree.

Two post-secondary programs deserve special attention: the foreign scholarship program and the pre-service teacher-training program. For the three fiscal years ending in FY 1983, the amounts allocated to the foreign scholarship program for Liberian students have been $1.5, $1.4, and $1.2 million respectively. For the most recent calendar year, 1981, there were 2,444 students located in 65 different schools in 9 different countries. There are additional students being educated outside Liberia at both the graduate and undergraduate levels with either their own, or company-, or external-donor assistance. No single agency monitors either the aggregate amount or nature of training, so these individuals are not included in the statistics presented here except through a slight inflation in the estimates of repatriated graduates.

The production of potential new teachers from pre-service programs theoretically includes, in addition to graduates of the Kakata and Zorzor Rural Teacher Training Institutes, graduates of the education programs at the University of Liberia and Cuttington University College. However, most graduates of the latter two programs become teacher trainers or enter administration rather than engage in classroom teaching. Thus, they do not contribute directly to the alleviation of any teacher shortage. The effect of the current wage structure on incentives for teachers, as well

as the cost analysis of teacher training, will be discussed in a later section.

The overall trend of the data presented here indicates that the education and training system is characterized by limited access at the primary cycle, high attrition through the lower secondary school cycle, and an exceedingly diverse post-secondary sector with high attrition costs in the University of Liberia and, to a lesser extent, in Cuttington University College. Before proceeding to issues of costs and effectiveness to which these characteristics give rise, it is useful to turn first to the manpower demand requirements of the economy. With demand information estimated, it will then be possible to discuss the conditions of potential shortages and surpluses at different levels of educational qualfications.

2.3.3 Manpower Demand

The basis for any discussion of manpower demand should be a detailed understanding of the current employment structure. As was noted earlier, however, until completion of analysis of the MPEA's Manpower Survey, the best existing data on employment are those contained in the Second Four-Year Development Plan. These estimates are based on the 1974 Census data on employment which had been projectd to 1979 by assuming that increases in employment are equal to increases in GDP for all sectors except agriculture. For agriculture, employment was assumed to constitute 64 percent of the rural working-age population (10 years and above). For 1980, it was assumed that employment in all sectors except subsistence agriculture declined or remained unchanged (because of the declines in GDP in all economic sectors during this period).

These calculations assume that there has been no significant change in labor productivity from 1974 to 1980. Given the lack of evidence of any exploitation of technological innovations during the period, the assumption appears justified. Table 2-15 presents the levels of employment for FY 1981 in each of the ten major industrial catgories. The dominance of agriculture is obvious. If one excludes the non-monetary

TABLE 2-15

EMPLOYMENT STRUCTURE, FY 1981
TOTAL AND MONETARY

Industrial Category	Number Employed	Percent of Total Employment	Percent of Monetary Employment
Agriculture and Related Activities (Total)	538,000	79.6%	-- %
Agriculture and Related Activities (Monetary)	(60,000)	(8.9)	30.3
Mining and Quarrying	17,500	2.6	8.8
Manufacturing	11,000	1.6	5.6
Electricity, Gas and Water	1,450	0.2	0.7
Construction	8,000	1.2	4.0
Wholesale/Retail Trade, Restaurant and Hotels	32,000	4.7	16.2
Transport, Storage, and Communications	15,600	2.3	7.9
Finance, Insurance, and Business Services	1,650	0.2	0.8
Government Services	32,000	4.7	16.2
Other Services	18,800	2.8	9.5
TOTAL	676,000	100.0	100.0

Source: Calculations from data presented in Second Four-Year National Socio-Economic Development Plan, Ministry of Planning and Economic Affairs.

agricultural employment (estimated at 478,000 for 1980), there are still 260,000 employees left to be classified within the monetary sector's total employment of 198,000. The monetary sector of agriculture encompasses the concessions as well as commercial farming, forestry, and fishing activities.

The last two columns of Table 2-15 present the number employed and percent of total employment for the monetary sector. While agriculture still dominates all sectors with 30.3 percent of the total, the importance of wholesale/retail trade (16.2%) and government service (also 16.2%) is clearly indicated. With information on monetary employment and, from the fiscal analysis, the sectoral origin of GDP, it is possible to create an approximation of a sectoral index of labor productivity. Such an index indicates the ratio of employment levels to GDP level (in 1971 dollars) for each sector. For example, an index of 1.05 for agriculture means that each agricultural worker produced an average contribution to GDP of $1,050 (in 1971 prices) in FY 1981.

Table 2-16 presents these indices for FY 1981. Because the detailed FY 1981 sectoral shares of GDP were not available, it was necessary to use the FY 1980 levels. Normally this would create a downward bias to the index levels, but because the economy declined between FY 1980 and FY 1981, it creates the opposite bias. The interest here, however, is not in the absolute sizes of the sectoral indices, but in their relative sizes.

One would expect those sectors which are most capital intensive in production (that is, use most equipment) to have the highest levels of labor productivity. Also, any sector which employs primarily highly trained manpower should have a relatively high index level. Table 2-16 reflects this. The mining/quarrying and electricity/water/gas sectors are capital intensive and have high levels of GDP relative to employment. The highest index is for the finance/insurance/business services sector where there is a concentration of highly educated employees.

TABLE 2-16

INDEX OF SECTORAL LABOR PRODUCTIVITY
FY 1981

Industrial Sector	Monetary Employment	Sectoral G.D.P. ($ Million)	Percent of Productivity Index*
Agriculture and Related Industries	60,000	63.0	1.05
Mining and Quarrying	17,500	110.6	6.32
Manufacturing	11,000	25.0	2.27
Electricity, Gas and Water	1,450	8.3	5.72
Construction	8,000	14.0	1.75
Wholesale/Retail Trade, Restaurant and Hotels	32,000	24.0	0.75
Transport, Storage, and Communications	15,600	34.0	2.18
Finance, Insurance, and Business Services	1,650	29.0	17.58
Government Services	32,000	45.0	1.41
Other Services	18,000	17.0	0.90
TOTAL	198,000	366.2	1.85

*1.0 = $1,000 in 1971 factor costs.

Source: See discussion in text.

Returning to the immediate issue of manpower demand, the indices indicate, partially because of their reflection of the industrial sectors' ability to pay workers, which sectors primarily will absorb highly educated or trained workers and which primarily will absorb the unskilled and less educated. It is important to understand the implication of having low indices in the high-employment sectors and high indices in the low-employment sectors. Unless there is a major change in the structure or level of industrial production, the demand for highly trained manpower will remain low. The data here indicate a continued concentration of job opportunities in the least-skilled or least educationally demanding occupations. The intermediate sectors--manufacturing, construction, transport, and government--offer the best opportunities for absorption of the more highly educated graduates over the next decade.

Another way to approach this same question is through projections of manpower demand. The second Four-Year Plan includes projections of demand to 1985. To test the sensitivity of these projections to the change in economic expectations since 1980, an alternative set of sectoral projections has been made. The primary differences in assumptions are for a slower growth in monetary agriculture, but continued growth in traditional agriculture; generally slower rates of growth in other areas of the monetary economy; no growth in mining and quarrying employment; and recognition of the increase in government sector employment which has already occurred. In regard to the last, even though the civil service is operating under an employment freeze, current levels are already above those expected by the Plan, and short of firm sanctions by the government, there is little that could check the continued growth of civil service employment.

Table 2-17 indicates the differences between the Second Four Year Plan projections and the revised ones. In terms of the percentage distribution of employment by sector with respect to absolute levels of increase, the alternative assumptions do not make a significant difference in the final figures. Given the degree of error associated with the underlying data, there seems to be no reason for not continuing to use the Plan data whenever appropriate.

TABLE 2-17

ESTIMATED EMPLOYMENT STRUCTURE BY MAJOR INDUSTRY
FY 1985 (Second Four-Year Plan and Revised Estimates)

	Second Four-Year Plan			Revised Estimate		
Industrial Category	Number Employed	Percent of Total	Change from FY'81	Number Employed	Percent of Total	Change from FY'81
Agriculture and Related Activities	576,000	79.8%	38,000	570,500	79.7%	32,500
Mining and Quarrying	19,100	2.6	1,600	17,500	1.6	---
Manufacturing	12,00	1.7	1,000	11,500	1.6	500
Electricity, Gas and Water	1,600	0.2	150	1,550	0.2	100
Construction	8,800	1.2	800	8,400	1.2	400
Wholesale/Retail Trade, Restaurant and Hotels	35,000	4.8	3,000	33,300	4.6	1,300
Transport, Storage, and Communications	17,000	2.3	1,400	16,200	2.3	600
Finance, Insurance, and Business Services	1,800	0.2	150	1,700	0.2	50
Government Services	32,000	4.4	---	36,000	5.0	4,000
Other Services	20,700	2.9	1,900	19,500	2.7	700
TOTAL	724,000	100.0	48,000	716,150	100.0	40,150

Source: Second Four-Year Socio-Economic Development Plan

Table 2-18 presents the Plan estimates of the occupational distribution of labor demand for FY 1981 and FY 1985. In this table, employment is presented by occupational rather than industrial sector classification of the total 676,000 estimated employment in December 1980 (FY 1981). A total of 529,300 (78%) are agricultural workers. The second largest occupational classification consists of the 61,500 workers in production and related activities who constitute 9.1 percent of the total work force. The Plan document assumes the same distribution of workers by occupational division in FY 1985 as FY 1981.

Again, the Plan data support the idea suggested earlier that the greatest increases in employment will come in those occupational classifications which require the least education. What is needed next is a scheme whereby job demands by occupational classification can be converted into job demands by educational qualification. With such a scheme for conversion, the supply and demand figures for jobs will be measured in terms of a common determinant: educational qualifications.

The problem in developing a scheme for conversion is threefold. First, there are a variety of occupations within each classification that may vary in terms of the minimum education required. Second, the very definition of a minimum educational requirement is arbitrary. With proper on-the-job and other training a person with less education can be prepared to do a job that would normally require a much higher level of formal education. Third, such an analysis often fails to capture or recognize non-economic values which a society may place on education for its own sake.

The approach here will be to present a pair of schemes for linking educational qualifications to job classifications. The first scheme--the "original estimate"--will involve use of the coefficients derived in the 1976 educational assessment. Normally one would assume these would underestimate demand for the higher level of education. However, the slow- or no-growth pattern of development in technology in Liberia since 1976 suggests that the educational qualifications for most jobs have remained the same.

TABLE 2-18

OCCUPATIONAL DISTRIBUTION OF LABOR DEMAND
FY 1981 and FY 1985

Occupational Division	FY 1981	FY 1985	Increase
A - Professional, Technical and Kindred Workers	16,900	18,100	1,200
B - Administrative and Managerial Workers	2,700	2,900	200
C - Clerical and Related Workers	13,500	14,500	1,000
D - Sales Workers	34,500	36,900	2,400
E - Service Workers	17,600	18,800	1,200
F - Agricultural, Animal Husbandry, Forestry and Fishing Workers	529,300	566,900	37,600
G - Production and Related Workers, Transport Equipment Operators, and Laborers	61,500	65,900	4,400
TOTALS	676,000	724,000	48,000

Source: Second Four-Year Socio-Economic Development Plan, Ministry of Planning and Economic Affairs.

However, because the scheme for conversion from occupation to education is inexact, a "revised estimate" has been prepared which assumes a different pattern of linkage. The major effect is to increase the relative demand for the higher levels of education. Figure 2-3 presents the different educational requirements under the two schemes for the various occupational classifications.

Table 2-18 presents the data on the expected increase in the distribution of labor demand between FY 1981 and FY 1985. By combining the information in Table 2-18 with the schemes developed in Figure 2-3, it is possible to derive the estimates for additional demand per year, by educational level, for the Liberian economy. The annual demand, under the assumptions of the original and revised schemes, is as follows:

Educational Qualification	Original Estimate	Revised Estimate
Primary education	10,000	8,880
Secondary academic education	550	1,500
Vocational and technical education ..... (Secondary and Post-Secondary)	1,100	1,160
Post-Secondary education ..... (Excluding vocational/technical and teacher training)	350	460

In the next section, these data will be combined with the figures on manpower supply for a calculation of net demand for labor by level of educational qualification. The manpower analysis section will conclude with recommendations for human resource development research and policy.

2.3.4 Manpower Supply and Demand Analysis

In this section, a comparison of supply and demand of manpower, by major educational levels and types, will be presented. The purpose is to identify which areas of the schooling system are currently producing more graduates than the economy requires and which areas are not producing as many graduates as the economy requires.

FIGURE 2-3

SCHEMES FOR CONVERSION OF OCCUPATIONAL CLASSIFICATION INTO EDUCATIONAL ATTAINMENT REQUIREMENT

	Educational Requirements	
Occupational Classification	Original Estimate	Revised Estimate
A. Professional, Technical, and Related Workers	A. Baccalaureate degree level education	A. Same
B. Administrative and Managerial Workers	B. Baccalaureate degree level education	B. Same
C. Clerical and Related Workers	C. Secondary education	C. .80 Secondary academic education .20 Post-secondary education
D. Sales Workers	D. Primary education	D. .70 Primary education .25 Secondary academic education .05 Post-secondary education
E. Service Workers	E. Secondary education	E. .70 Secondary academic education .20 Vocational/technical education .10 Post-secondary education
F. Agriculture and Related Industries	F. Primary education	F. .90 Primary education .10 Secondary academic education
G. Production and Related Workers, et. al.	G. Secondary	G. Same

Table 2-19 presents the summary supply and demand information for FY 1984. It is necessary to re-emphasize the meaning of the supply and demand data for each category. For the level of no educational qualifications, there is no "demand" listed. Because of the admittedly controversial assertion that new agricultural demand (in subsistence and monetary agriculture) should be classified as being for literate/numerate people, the full 50,550 people who will enter the economy each year with no schooling experience or without having completed primary school will represent underqualified workers. Also, current statistics suggest that approximately one-half of this group will not be actively engaged in the labor force. While the assumption of fifty percent labor participation fails to account properly for rural family participation in agriculture, the fact is that the full 50,550 will not be added to the pool of unemployed or underqualified workers.

The opposite effect of the agriculture/education assumption is seen in terms of the primary education demand and supply. Here, the 8,500 supply figure represents both terminal primary school graduates and those who have more than a primary education but not a complete secondary education.

Neither of the schemes used in linking occupational demand to educational qualifications assigns great value to a secondary academic education as a primary job requirement. Thus, in Table 2-19, there is only a demand for 550 (or 1,500 in the revised estimate) of the 4,450 graduates each year. The aggregate fit of secondary and post-secondary vocational/technical education supply and demand appears much better but with some residual need. However, as is shown in Section 7.0 of this report, the complexity and diversity of the vocational/technical training sector is such that even if the net figures presented in Table 2-19 are largely correct, they do not reflect a subset of manpower imbalances in specific fields of training. For example, there may be an oversupply of auto mechanics and an undersupply of electricians, but these would be offsetting to one another in the aggregate amounts for total vocational education.

TABLE 2-19

ANNUAL SUPPLY AND DEMAND OF GRADUATES BY EDUCATIONAL QUALIFICATION

Level and Type of Education	Projected Demand		Projected Supply	Net Need or Surplus	
	Original Estimate	Revised Estimate		Original Estimate	Revised Estimate
No educational qualifications	-0-	-0-	50,550	50,550 (surplus)	50,550 (surplus)
Primary Education	10,000	8,880	8,500	1,500 (need)	380 (need)
Secondary Academic Education	550	1,500	4,450	3,900 (surplus)	2,950 (surplus)
Secondary Vocational and Post-Secondary Vocational/ Technical Education	1,100	1,160	650	450 (need)	510 (need)
Post-Secondary Education (Excluding Teacher-Training)	350	460	650	300 (surplus)	190 (surplus)

SOURCE: See detail in text.

Similarly, the supply/demand data for post-secondary education suggest a significant annual oversupply of graduates even if one accepts the revised estimate as correct. In some fields, e.g., medicine and science/technology, demand may still exceed supply on a current annual basis. It is probable that the heaviest potential employment problem will fall on those in the general studies programs of Liberia College at the University of Liberia and in similar programs at Cuttington University College.

An area of manpower balance not dealt with in Table 2-19 is that of teacher training. The pre-service, teacher-training program presently is not meeting even replacement demand for the primary and secondary educational system. There is no margin of new teacher production which would allow for quality improvement in the system. That activity will continue to be dependent upon the existing programs as well as the new activities in the Fourth Education Project.

The interpretation of aggregate manpower supply and demand data of the type presented here is subject to debate. Obviously, all of the school leavers representing oversupply will not end up as unemployed workers. Both school leavers and employers adapt themselves to what exists on the opposite side of the labor market. The data suggest that the agricultural sector, especially the subsistence part, will continue to be dominated by workers with less than a primary education. The excess secondary school academic graduates will move in two directions in the labor market. Some will drop down to occupy the places in the employment system which require only a primary education. Others will enter training outside the formal system and seek employment in competition with graduates of the formal vocational education system.

The excessively aggregated nature of the manpower analysis for the secondary/post-secondary vocational sector, as well as for the traditional post-secondary system, has already been discussed. It is sufficient to repeat the fact that underlying the estimate of aggregate oversupply in the two areas are continuing imbalances. A need for a greater supply of graduates in certain specializations certainly exists. Given the desire of government to develop the modern sector, the fields of greatest

shortage are likely to be in science and technology, including engineering. However, given the lack of manpower demand details currently available for these fields, there is no firm basis for policy action in regard to these hypothesized shortfalls.

A special manpower analysis issue is the question of the replacement of expatriate workers. Of the estimated 676,000 people employed in December 31, 1980, in the monetary economy, 6,012 are identified as expatriates by the Ministry of Planning and Economic Affairs. The largest occupational classification of expatriates is in sales (2,264), with professional, technical, and kindred workers (1,616), and production workers (965), the next two largest. Only in the areas of professional, technical, and kindred workers (and in certain high-skill production worker positions) should educational qualifications be a barrier to greater Liberianization.

In terms of the non-Liberians who operate in the private sector, a major barrier to their replacement by Liberians is the lack of venture capital available to finance new business initiatives. In fact, the existence of a successful business or businesses in a particular market sector is itself a barrier to new market penetration by Liberian entrepreneurs. In summary, whatever the eventual plan for Liberianization, the educational system's output should not prove a serious bottleneck except for those positions requiring graduate or advanced professional training.

The major policy conclusion to be drawn from this analysis of aggregate manpower demand and supply is that the two priorities for the educational system should be expanded production of primary school leavers (or adult literates via alternative nonformal programs) and a better articulation of the needs, by specialization, at the secondary/post-secondary levels. This articulation, which could be achieved through tracer studies of graduates, is a difficult exercise and will require new data and research approaches to the planning problem. Even the results of the new Manpower Survey will not remove the need for a greater research/planning emphasis on vocational/technical and higher education. Greater accountability and efficiency in these areas would

facilitate the primary education and literacy goals by mediating the drain on resources potentially available to the primary and secondary education levels. These topics will be returned to in Section 2.5.

2.4 COST ANALYSIS

2.4.1 Introduction

In this section a variety of analyses of costs will be applied. Primarily, the function of these will be to aid in the identification of internal efficiencies within programs or, as is more likely given the current data limitations, the result of the analyses will be to point toward areas of potential internal inefficiencies. More detailed and specifically targeted cost analysis would be required to confirm these more general results and to reveal the alternatives available to improve of the internal efficiencies.

The presentation of this section is divided into five major headings:

- Primary and Secondary Academic Education
- Vocational In-School Education
- Higher Education
- Teacher Training
- Unit Costs and the Returns to Education

2.4.2 Primary and Secondary Academic Education

Extended discussions of the public and nonpublic programs for this area are presented in Sections 3.0 and 4.0 of this report. Here, the focus is on the relative cost, by level and control, of the primary and secondary non-vocational programs. The major component of the budget for these levels of education is teachers' salaries, comprising about 90 percent. Salary levels for teachers are currently depressed relative to the general civil service. Data from the 1982/83 Ministry of Education budget allow for a calculation of average annual teacher pay (for salaries before the recent general increase in levels to a $250 minimum), by

country, for FY 1982. These amounts, for primary and secondary teachers combined, are:

- Cape Mount County	$2,594
- Montserrado County	2,692
- Grand Bassa County	2,476
- Sinoe County	2,501
- Maryland County	2,651
- Grand Gedeh County	2,425
- Bong County	2,544
- Nimba County	2,473
- Lofa County	2,477
- Kru Coast Territory	2,393
- Sasstown Territory	2,409

Current salary figures would average about twenty percent higher, depending on the distribution of teachers by qualification.

The reason for pay variations would be the variations by location in the percent of primary school teachers (usually the less qualified and therefore lower paid) and in qualification standards by education level. Thus, Montserrado County teachers have the highest average salary both because of a larger percentage of secondary school teachers and, within each educational level, more qualified teachers. Given the old minimum annual salary of $1,978 and a salary ceiling of $7,800, these figures suggest that the number of teachers with above-minimal qualification remains low. The Second-Four-Year Socio-Economic Development Plan cites 29 percent as the proportion of all teachers in the national system who are qualified according to current government standards. Qualified teachers for secondary school subject specializations in science and mathematics are in especially short supply.

Using the World Bank estimates of current student/teacher ratios of 31:1, 21:1, and 11:1 for the primary, lower secondary, and upper secondary levels, respectively, and approximate current teacher salary averages of $3,000, $3,600, and $4,000 for each level, respectively, it is possible to calculate a per-student instructional cost for the three major levels of education. These are $85.71 for primary education, $171.43 for

lower secondary education, and $235.29 for higher secondary education. The existing student/teacher ratios are significantly below those of the 1978 National Education Survey (51:1 for primary and 31:1 for both levels of secondary school). The effect of implementing the Plan's standards, which is, of course, restrained by the geographical distribution of students, would be to reduce the per-student costs at these three levels of education to $60.00, $102.86 and $114.29,* respectively.

A striking characteristic of the primary and secondary educational system is the high degree of repetition within grades and attrition between grades. From the earlier Table 2-12 it is possible to calculate the average number of student years necessary to complete a cycle of education. Table 2-20 presents these data for 1982 for primary, lower secondary, upper secondary, and total, by auspices of control and for females as well as for all students.

Because of the higher rates of repetition and attrition at the primary level, the average number of student years required to produce a graduate is very high except at the mission schools. The lowest number of student years per cycle in each school control category is the lower secondary where the three-year cycle takes from 3.12 to 3.52 years. The upper secondary level reflects a resurgence of retention/attrition effects. Interestingly, it is only at this level that the "other non-public" category schools have the lowest average rates.

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*Normally, teachers' salaries will make up an average of 90 percent of total unit costs with the percentage of costs represented by teachers being highest at the lower grades. The units costs here are, thus, slightly low with the greatest underestimation at the secondary school level.

TABLE 2-20

AVERAGE STUDENT YEARS AND AVERAGE STUDENT COST PER EDUCATIONAL CYCLE: PRIMARY AND SECONDARY EDUCATION, 1982

A. AVERAGE STUDENT YEARS

	PUBLIC		MISSION		OTHER NONPUBLIC	
	Total	Female	Total	Female	Total	Female
Primary	10.56	13.37	7.99	8.31	12.17	13.73
Lower Secondary	3.40	3.51	3.12	3.28	3.52	3.36
Upper Secondary	3.99	3.84	3.63	3.66	3.06	3.00
Total	17.95	20.72	14.74	15.25	18.75	20.09

B. AVERAGE STUDENT COST PER CYCLE

	PUBLIC		MISSION		OTHER NONPUBLIC	
	Total	Female	Total	Female	Total	Female
Primary	$905.10	$1,145.94	$684.82	$712.25	$1,043.09	$1,176.80
Lower Secondary	582.86	601.72	534.86	562.29	603.43	576.00
Upper Secondary	938.80	903.51	854.10	861.16	720.00	705.88
Total	$2,426.76	$2,651.17	$2,073.78	$2,135.70	$2,366.52	$2,458.68

These figures are especially difficult to analyze in that lack of retention or attrition does not necessarily mean that a system is more efficient in producing graduates. However, the lower rates in each cycle probably are reflective of a combination of superior instructional success and a higher selectivity in terms of initial entrants to the program. It should be remembered, of course, that each of the three sectors--public, mission, and other--are characterized by great internal diversity. It is likely that the range of internal variation exceeds the variation in means among the three groups. Because of this fact, care should be used to avoid the fallacy of assuming that the data presented here are representative of all, or even typical, schools within each type of control.

From the earlier average cost data by level, it is possible to convert the figures in section A of Table 2-20 into average costs per cycle. The results are presented in section B of Table 2-20. The effect of the higher repetition rates at the primary level is to reduce the relatively low costs usually associated with primary education. The non-public school figures are calculated from the salary rates for public schools. The diversity of salaries in the Mission and Other Nonpublic sector is great, and no current data exist on differences in the means of teacher salaries here and in the public sector.

A potential policy issue is whether the retention process is justified through gains in learning. It would require a study using experimental design to assess the relative cost effectiveness of a range of retention alternatives. Given the retention issue, any program which reduces attrition will reduce the cost figures in Table 2-20.

Two special programs exist at the primary and secondary levels which reflect important cost issues: the Improved Efficiency of Learning (IEL) Project at the primary level and the subsidy program for nonpublic primary and secondary schools. The IEL Project attempts to use potential internal economies in primary education and is discussed in detail in Section 3.0. The budget for FY 1983 has allocated $2.3 million for IEL of which $1.9 million is from external assistance funds. The project will soon undergo an analysis of cost effectiveness with the aim of reducing the cost of

materials development, duplication, and distribution. The cost-effectiveness analysis will be coupled with a study of the cost implications of dissemination of IEL to new schools.

The subsidy program has existed in Liberia since the late 1940s. It is designed to extend educational opportunities to a larger proportion of the school-age population than can be served by the public school system by allocating government support to cover part of the costs for nonpublic schools. The program has expanded so that, by FY 1979, the total budget was $3.8 million with the largest single recipient being Cuttington University College (17%). The majority of funds (62%) was allocated to elementary and secondary schools.

During the Ministry of Education reorganization in 1978, the subsidy program was moved from the Department of Instruction to the Department of Planning and Development as a means of stressing greater concern with accountability. In 1978 a report entitled An Evaluative Study of the Subsidy Program for Non-Public Schools Provided by the Government of Liberia was published. The study included 232 institutions of which 156 were considered mission schools. A major conclusion which may be derived from this study is that no clear rationale exists for the amount of funds received by the individual schools. Some schools received subsidy amounts in excess of the proportional government levels of support at fully public schools.

For FY 1983 a set of four criteria has been established to rationalize the subsidy process. While these criteria identify which schools qualify, in terms of government approval and enrollment, they do not deal with the amount of subsidy to be allocated. For FY 1982 a total of $4.2 million was granted in subsidies, with Cuttington University College alone receiving $1.3 million. The subsidy to elementary and secondary schools is now $2.5 million.

These budget allocations are noteworthy because of the share of the Ministry of Education budget they represent. The total of $4.2 million for FY 1982 is seven percent of the total budget, and the $2.5 million for primary and secondary education is almost ten percent of the instructional services budget for direction and management (where salary of teachers is included).

This is such a substantial program, with high opportunity costs for public education, that it deserves continued attention. By combining public funds with those from the private and mission sectors, government has the possibility of promoting educational opportunity at reduced cost. Unfortunately, it is currently impossible to judge if this is the actual effect of the program as well as whether the funds are being distributed in an equitable manner.

2.4.3 Vocational In-School Education

In-school programs for vocational secondary education are conducted at Booker Washington Institute (BWI) and W.V.S. Tubman High School. Although the available budget details for the latter do not permit the calculation of a unit cost for the vocational part of the school's curriculum, it is possible to do so for BWI. The FY 1983 budget for vocational education at BWI is expected to be $1,850,136. With an enrollment of 912 regular secondary students and 224 accelerated program students, the average participant cost is $1,628 per year.

There are eleven separate vocational programs at BWI, so the above figure represents only an overall mean. In Liberia, as elsewhere, the costs of vocational secondary programs greatly exceed those of academic secondary programs. It is simple to note the need for vocational training; it is much more difficult to discover the type and amount of training needed and to design a cost-effective means of delivering it. With a cost factor seven times larger than that for academic education at the same level, BWI would have to show a great advantage in its graduates' preparation for the labor market as compared with that of the normal secondary school graduates. Current perceptions of BWI among Liberian educators suggest this advantage is minor if it exists at all.

The alternatives for dealing with this problem are basically two: (1) to improve in-school academic programs and shift vocational training to either public out-of-school programs or directly to employers, or (2) to engage in a detailed employment analysis and curriculum development process, commented on in Section 7.0 of this report. Given the poor record of success for in-school vocational education throughout the

developing world, equal attention should be directed to the out-of-school and private enterprise alternatives.

2.4.4 Higher Education

The cost-analysis discussion for higher education will concentrate on the two major institutions of higher education: the University of Liberia and Cuttington University College. The current operating budget of the Ministry of Education for FY 1983 indicates that the University of Liberia will receive $10.1 million (20.4% of the total) and Cuttington will receive $1.3 million (2.6%). These are obviously institutions whose budgets have major opportunity costs in terms of expenditures foregone in other educational programs.

Table 2-21 presents the University of Liberia's operating budget detail for FY 1981 and FY 1982 for four types of expenditures (personnel services, other services, materials and supplies, and subsidies) in the two categories of administration and management and of instruction. A major change which occurred in the interim between these two fiscal years was an increase in staffing and in the pay scale. Thirty-six new faculty, seven new technical assistants, and 73 new general service employees joined the staff for increases within these job categories of 13 percent, 54 percent, and 9 percent respectively. The continued effect of new staffing and pay has been to increase the budget for instructional personnel from $3.7 million to $6.2 million. Personnel costs have increased from 75.5 percent to 81.3 percent of the instructional budget and from 59.0 percent to 69.9 percent of the total operating budget.

The FY 1982 budget for the seven instructional programs at the University of Liberia is presented in Table 2-22. The data are presented for personnel and other instructional related costs. The figures do not include any prorated allocation of other instructional costs (e.g., library or research expense) because no criteria exist for such allocation. Also, the figures in Table 2-22 are exclusive of the management and administration budget. Therefore, in aggregate, these figures are approximately one-half the actual cost. Unfortunately, the lack of a program-specific budget for the University makes it

TABLE 2-21

UNIVERSITY OF LIBERIA OPERATING BUDGET BY TYPE AND ACTIVITY FY 1981/FY 1982

ACTIVITY

EXPENDITURE	ADMINISTRATION AND MANAGEMENT		INSTRUCTION		TOTAL	
	FY 1981	FY 1982	FY 1981	FY 1982	FY 1981	FY 1982
Personnel Services	$911,864	$1,150,000	$3,700,000	$6,068,552	$4,611,864	$7,218,552
Other Services	1,511,927	1,122,942	118,697	171,997	1,630,624	1,294,939
Materials & Supplies	114,170	150,000	950,000	1,087,800	1,064,170	1,237,800
Subsidies	342,823	373,000	159,927	169,550	502,750	542,550
Total	$2,880,784	$2,795,942	$4,928,624	$7,497,899	$7,809,408	$10,293,841

TABLE 2-22

INSTRUCTIONAL PROGRAM COSTS AT THE UNIVERSITY OF LIBERIA BY TYPE OF PROGRAM, PER STUDENT, AND PER GRADUATE, 1982

PROGRAM	COSTS			TOTAL ENROLLMENT	NO. OF GRADUATES	AVE. COST PER STUDENT (Annual)	AVE. COST PER GRADUATE (Annual)	PERSONNEL COST PER STUDENT	PERSONNEL COST PER GRADUATE
	PERSONNEL	OTHER	TOTAL						
Liberia College	$741,000	$24,000	$765,008	389	76	$1,976	$10,066	1,905	$9,750
W.V.S. Tubman Teachers' College	177,994	31,085	209,079	260	23	804	9,090	685	7,739
College of Agriculture & Forestry	977,070	101,780	1,078,850	343	55	3,145	19,615	2,849	17,765
College of Business and Public Administration	252,808	15,328	268,136	1,152	184	233	1,457	219	1,374
College of Science and Technology	601,592	29,000	630,592	736	45	857	14,013	817	13,368
L.A. Grimes School of Law	162,748	169,648	332,396	85	12	3,911	27,700	1,915	13,562
A.M. Dogliotti College of Medicine	357,240	53,200	410,440	78	19	5,262	21,602	4,580	18,802
TOTAL	$3,270,460	$424,041	$3,694,501	3,043	414	$1,214	$ 8,924	$1,075	$ 7,900

inappropriate to allocate the non-personnel costs to specific instructional programs. The inclusion of data on current enrollments and graduates allows for a calculation of average cost per student and per graduate for each program as well as for the total University. Because of the need for remedial instruction and the high attrition rate in certain departments, the cost per graduate is relatively high at $8,924. The cost per student, $1,214, is high, but not unusual for similar institutions elsewhere in Africa or the developing world generally. The programs of the Teachers College, Business and Public Administration, and the College of Science and Technology have the lowest per-student costs. However, the cost per graduate in Science and Technology is in a much higher range because of the low number of current graduates.

These figures are very sensitive to changes in current rates of enrollment and graduation. However, the scale of differences presented in Table 2-22 is indicative of real cost variations among programs. Some programs, for example that of the College of Agriculture and Forestry, have inflated instructional costs because these programs conduct extensive research activities which are not budgetarily distinct from the direct instructional program. Other programs, such as those in Law and Medicine, require more expensive faculty and/or support resources. The point is that it may be proper for the variations to exist, but it is a responsibility of the authorities to assess the justification for program cost differences.

Table 2-23 presents a similar cost analysis for the six instructional programs at Cuttington University College. Again, the calculations of per-student and per-graduate costs for a single year are subject to special situations at the College. In studying the cost differences at Cuttington, it is obvious that the Humanities and Technology teachers serve primarily as support faculty to students in other programs. The high cost per student in these programs is, therefore, exaggerated and should not be considered, by itself, as evidence of internal inefficiency. The other programs' unit costs are consistently lower than those for comparable programs at the University of Liberia.

TABLE 2-23

PERSONNEL COSTS FOR INSTRUCTIONAL PROGRAMS AT CUTTINGTON UNIVERSITY COLLEGE

BY PROGRAM, PER-STUDENT, AND PER-GRADUATE

1982

PROGRAM	Personnel Costs	Total Enrollment	Number of Graduates	Average Cost Per Student	Average Cost Per Graduate	GOL Cost Per Student	GOL Cost Per Graduate
Humanities	$98,830	13	-	$7,602	$ -	$5,086	$ -
Education	40,860	91	23	449	1,777	300	1,189
Science	121,924	121	16	1,008	7,620	674	5,098
Social Science	108,030	202	53	535	2,038	358	1,363
Nursing	34,432	101	17	341	2,025	228	1,355
Theology	25,717	1	-	25,717	-	17,204	-
TOTAL	$ 429,793	529	109	$ 812	$ 3,943	$ 543	$ 2,638

The current (FY 1983) share of the Cuttington budget financed by the government is 66.9 percent. Applying this factor to the costs per student and per graduate for each program, it is possible to calculate statistics more directly comparable to those of the University of Liberia, where the government pays 94 percent of the cost. It is important to note that the student's share of the total cost varies dramatically between these two institutions. The University of Liberia tuition ($75 per year) provides only 2.6 percent of the total current budget, while the Cuttington College tuition ($1,000 per year) provides for 26.1 percent of that institution's recurrent budget.

These figures suggest that there is need for a higher rate of tuition at the University of Liberia. Section 5.0 deals with this concept further. There is disparity also in that boarding students at the University of Liberia receive an estimated net subsidy of $2,250 more per year than is received by non-boarding students. This subsidy exists because it costs the University $2,400 per year to feed and lodge boarding students, and yet, such students pay only $150 more per year in fees than do non-boarding students. As resident students constitute only 16 percent of the total student population, this support assists a minority while doing nothing to aid the vast majority of students.

This equity problem could be remedied through wider subsidization of all students' costs of food and lodging, but that would aggravate the University's internal efficiency problem and is unrealistic in the current fiscal environment. A preferable strategy is to shift greater if not total responsibility for these costs to students via a need-based formula for aid or through the provision of loan funds.

In summary, the cost issues paramount in higher education are the following. First, can enrollment, retention, and graduation rates be expanded in those programs where extensive economics of scale (excess capacity) appear to exist? This would have the effect of lowering both per-student and per-graduate costs. Second, can program cost differencies unrelated to enrollment be justified or, if not, reduced to a reasonable level? Third, can tuition levels be established so that the direct users and primary beneficiaries of higher education pay a higher

share of instructional costs? And fourth, can funding variances peculiar to specific institutions, such as that noted for boarding students at the Universisty of Liberia, be identified and remedied? These questions need to be answered and appropriate remedial steps need to be taken by the institutions prior to implementation of new programs of assistance by government or external donors. Liberia can afford quality higher education, but not unnecessarily expensive higher education. The two need not be the same.

2.4.5 Teacher Training

While both the University of Liberia and Cuttington University College have education programs, the graduates from these two institutions go almost exclusively into non-classroom teaching careers (administration and training of teachers). Thus, the education system depends almost exclusively on the Rural Teacher Training Institutes at Kakata and Zorzor to supply qualified teachers. Section 6.0, Teacher Education, deals with the status, needs, and plans of these institutions. The interest here is on the unit costs of the programs.

Both the Kakata and Zorzor programs require students to have completed a secondary school education. Originally, the Kakata program was only for individuals starting a teaching career, while the Zorzor program was for experienced teachers. Now both institutions have in-service teachers (the Ministry of Education has identified 45 in-service teachers at Kakata and 126 at Zorzor) as well as pre-service teacher candidates.

The budgets for FY 1982 and FY 1983 are presented in Table 2-24. The costs per student and per graduate are based on current enrollment estimates of 338 and 189 and graduation estimates of 194 and 98 for Kakata and Zorzor respectively. Conflicting estimates of both enrollment and graduates have been offered for these two institutions, and so those offered here may not be considered as final. The calculations assume that Zorzor, currently closed by student disruption, will reopen by the end of December 1982.

An additional cost of teacher training is the full salary (a minimum of $3,000 per year) paid to in-service teachers while at the RTTIs. This

TABLE 2-24

OPERATING BUDGETS FOR RURAL TEACHER TRAINING INSTITUTIONS - FY 1982 AND FY 1983

	FY 1982 (Estimate)	FY 1983 (Estimate)
Kakata RTTI		
Personnel Services	$331,393	$304,993
Other Services	46,518	27,000
Materials & Supplies	208,900	162,602
Subsidies	27,966	27,966
TOTAL	$614,777	$522,561
Zorzor RTTI		
Personnel Services	$338,817	$301,015
Other Services	24,248	8,636
Materials & Supplies	186,525	154,501
Subsidies	20,000	20,000
TOTAL	$569,590	$484,152

Cost per student (FY 1983): Kakata = $1,546
Zorzor = $2,562

Cost per annual graduate (FY 1983): Kakata = $2,693
Zorzor = $4,940

means that in addition to the costs shown in Table 2-24, Kakata has "scholarship" costs for these in-service students of $135,000 per year, and Zorzor has similar costs of $378,000. Adding these expenses to the program budget raises the estimates of per-student and per-graduate costs respectively to $1,945 and $3,389 for Kakata and $4,562 and $8,797 for Zorzor. These amounts are obviously excessive and exceed even the levels found in certain parts of Francophonic West Africa where teacher trainees are placed on the Ministry of Education payroll immediately upon the commencement of their studies. There should be a reconsideration of the cost effectiveness of the Zorzor model of training and consideration of alternative part-time in-service programs and/or a conversion of the Kakata and Zorzor programs to a pre-service format exclusively.

2.4.6 Unit Costs and the Returns to Education

Table 2-25 presents a summary of the unit cost data presented in this section. Because of variations in the quality of data, definitions of operating costs among levels and types of institutions, and the sensitivity of certain of the data to transient changes in enrollments, one must use care in drawing conclusions from the relative, as well as the absolute, levels of unit costs. It is important to understand that the education/training sector is subject to wide variations in unit costs. Decisions to expand or contract a particular level or type of education carry with them cost implications which cannot be ignored in planning.

There is a need to develop a strong capacity for cost analysis as part of the ongoing research and planning responsibility. Whether or not plans for greater use of program budgeting are instituted as part of the development of the National Budget, individual ministries and institutions should pay closer attention to unit costs of programs. These cost data represent the single best signal of potential internal economies. Given the general fiscal expectations in the short run, the emphasis in the education/training sector should be on serving more clients with the same resources.

To calculate gross rates of return to educational levels and types is difficult, given the present state of data. Nevertheless, an attempt has

TABLE 2-25

UNIT COSTS* FOR SELECTED EDUCATIONAL LEVELS AND PROGRAMS
FY 1983

Primary Education	$ 86
Lower Secondary Academic Education	171
Upper Secondary Academic Education	235
Secondary Vocational Education (BWI)	1,628
University of Liberia	
Liberia College	1,967
Teachers College	804
Agriculture	3,145
Business and Public Administration	233
Technology	857
Law	3,951
Medicine	5,262
Total	1,214
Cuttington University College	
Humanities	7,602
Education	449
Science	1,008
Social Science	535
Nursing	341
Theology	**
Total	812
Kakata RTTI	1,546
Zorzor RTTI	2,562

* Operating costs per student per year, as defined in text for each level and type.

** Omitted because of special nature of program as discussed in text.

been made to calculate some indicative rates, private as well as total, for public primary education, public secondary academic and vocational education, and the University of Liberia. While the actual rates are not exact, the relative size of the rates permits useful interpretation.

The rates have been calculated by identifying the average direct costs (tuition, books, etc.) and earnings foregone by students for each level. The foregone earnings concept relates to the fact that students, while engaged in education, are forced to relinquish employment opportunities. While a minor factor for primary education, foregone earnings are a major part of private educational costs at the higher levels of education. The rates of return calculated here are keyed to the time of graduation or to age 16, whichever is later. Thus, the educational costs must be converted via compounding to equivalent dollar values in terms of purchasing power. The rate of interest used for compounding of costs in these examples is ten percent.

These total private costs (direct plus foregone earnings) are then compared to the expected increase in lifetime earnings which results from education. For example, primary school graduates were assumed to average $2,400 per year in real earnings over their working life. Without such education, it was assumed they would earn $500 (approximately the national average of money income) per year. Thus, the average annual earnings of primary school graduates over their lifetime is expected to be $1,900 more than for those with no primary education. A further discount is then applied to this expected salary to reflect the combined probability effects of unemployment and mortality. A figure of .75 was used to reduce the $1,900 figure to an adjusted expected income average of $1,425 per year. The working life of a primary graduate is assumed to be 45 years, but the calculations are not sensitive to this assumption because of the effect of compounding of the interest rate beyond the first 15 to 20 years.

Table 2-26 summarizes the factors used in calculating the rate of return for private (individual) investment in education. It is important to remember that all costs values shown in the table were inflated to equivalent dollars at the time of graduation (or to age 16, whichever was

TABLE 2-26

RATE OF RETURN ESTIMATES

PROGRAM LEVEL	Direct Private Costs	Foregone Earnings	Total Private Costs	Government Subsidy	Total Costs	Average Increased Earnings	Discount Factor for Unemploy't & Mortality	Private Rate of Return	Total Rate of Return
Primary Education	$360	$240 *	$600	$516	$1,116	$1,900	.75	100%	41%
Secondary Academic Education	600	3,000*	3,600	1,218	4,818	1,500	.85	27	20
Secondary Vocational Education (BWI)	600	3,000 *	3,600	5,397	8,997	1,800	.90	34	14
Higher Education (U.L.)									
Boarding	2,625	11,000	13,625	15,250	28,875	3,100	.95	17	8
Non-Boarding	12,875	11,000	23,875	5,000	28,875	3,100	.95	9	8

* These amounts are excessive but the purpose is to introduce a conservative bias into the calculations for the lower educational level. Thus the comparison with the higher education rates is biased in favor of higher education.

later) before the rate of return calculation was made. The detail of the table allows for the calculation of alternative rates if one wishes to make new assumptions about costs or incomes.

For private (individual) investments in primary education, the rate of return was in excess of 100 percent. Such high rates of return are not unusual for primary education because of the low opportunity costs while in school and the dramatic expectations of earnings gain as a result of primary school graduation. However, even if one reduces the income expectation by one-half, the private return would remain in excess of 50 percent per year over the graduate's lifetime.

The public subsidy of elementary education (estimated earlier at $68 per year) can be included in the cost side of the equation to create a total cost-of-education figure. The return to the private-plus-government investment in primary education (given all other assumptions remaining the same) is 41 percent. While less than the private return, this is still a substantial earnings gain from the joint private and public investment. The returns to nonpublic schools would vary from these levels depending on the level of private costs in the particular school and whether the nonpublic elementary school graduate had different earnings expectations. Normally, the private rate of return to nonpublic education which ends at the primary level would be slightly less and the total return (which includes church or other private subsidies) slightly more than for the public school.

One of the major benefits of primary school graduation is access to secondary education. To calculate the returns to secondary education, one must count the earnings foregone as a primary school graduate as a cost of education. Also the benefits of secondary school graduation are equal to the graduates' earning minus what could have been earned as a primary school graduate. For these estimates, the figure used for direct cost was $600 ($100 a year average for fees, books, etc.) and for foregone earnings $3,000 (the $500 approximate national average times six years). The graduate was expected to earn a constant purchasing power earnings average of $3,900. Net of the $2,400 used for the earnings of primary school graduates and discounted for unemployment and mortality at a factor of .85, the annual expected net earnings amounted to $1,275.

The private rate of return to secondary academic education is calculated to be 27 percent per year while the total rate of return (assuming a government subsidy of $203 per year) was 20 percent per year. While one should consider these as gross approximations, they do indicate a dramatic decline in scale from those returns found for the primary level.

While these rates are approximations, there are two reasons why these estimates should have some value for current policy analysis. First is the technical point that any change in the assumption of costs or earnings at a particular educational level has an automatic effect on all educational levels above it. For example, if one assumes a higher earnings level for primary school graduates, that affects the foregone earnings and net earnings at the secondary level which may be expected to affect higher education costs and earnings, and so on. Thus, any dramatic change will affect that particular level of education's return, but should not dramatically affect the original ranking of other levels in terms of rates of return.

The second point is that two major assumptions used here are offsetting. The use of constant purchasing power levels of earnings for all graduates means that the rates of return are not of an inflationary component one normally finds in interest rates. Thus, the rates cited are lower than they should be. However, the rate of return calculations assumed horizontal income profiles (the same earnings for every year of working life). Actually, to receive the average earnings cited here, the average graduates would begin at lower earnings and end their careers with higher earnings. Because of the compound discounting effect of the rate of return calculation, distant earnings (the higher levels) are less important than immediate earnings (the lower levels). Thus, the rates here are slightly higher than they should be. The net effect of the two offsetting assumptions is unlikely to be zero, but it is reassuring in terms of the use of these figures to know that major over- or underestimation has been controlled in this way.

Returning to the estimates themselves, one should note that while the private rate of return to vocational secondary education is higher than for academic, the total rate is lower. These rates are based on earnings

alone and do not include any valuation for social benefits in regard to, for example, Liberianization of the labor force or increased labor force attractiveness for foreign investment. Both of these goals may be promoted by production of vocational graduates. However, the lower total rate does suggest that this more expensive form of vocational education should be provided only if planners and policymakers are assured that the programs are internally efficient and externally relevant to the labor market demands.

The higher education rates are based on costs for a five-year program at the University of Liberia and are given separately for boarding and non-boarding students. The direct private cost figure for non-boarding students assumes board and lodging equivalent to that provided by the University. Most non-boarding students, of course, cannot afford to live at that level, and so their actual expenditure will be considerably less. Also, the average government subsidy level for these students is less because of their non-boarding status. The result is that the difference between private and total rates of return is large for boarding students (17% to 8%) but is almost identical for non-boarding students. If one reduced the direct private cost of non-boarding living styles, both the private and total returns would increase. The privileged nature of boarding students is indicated by the fact that they live better at less cost while in school and then also have higher private returns after they leave school.

The examples given here are extreme because it is assumed that students have a constant boarding status while at the University. While still both inequitable and inefficient in total, the adverse effects of the program are reduced to the extent that turnover exists in the boarding student population each year. Rates of return to Law and Medicine graduates are probably higher than those given here, but calculation of rates for these programs would require more detailed data than are presently available.

From the consideration of the unit costs the manpower supply and demand data presented earlier, and the rate of return estimates presented here, there emerges a clear picture of certain policy issues. There is a strong justification for policy focus on primary education, for example.

There is considerable opportunity for exploitation of existing internal efficiency potential (via IEL or more traditional means of alleviating retention and attrition). Low unit costs mean more students can be assisted for any given sum of money. The production of more workers with literacy and numeracy skills will help both the traditional agricultural and modern sectors of the economy.

A less certain picture emerges elsewhere in the education/training system. The demand for skilled manpower can be met, in part, by vocational secondary education (of an appropriate type), but it is still uncertain whether the formal secondary system is the proper setting for such preparation. In higher education, the need is for graduates of specific types and not for more graduates, per se. Present financing does not provide incentives for graduates to select those specializations most needed by government and by the private sector. A better quality academic secondary education system would have the joint effect of providing better workers to the labor force and reducing the higher education institutions' responsibilities for costly remedial instruction. These and other points, as well as ones related to training outside the formal system, will be addressed again in Section 2.5. While individual pieces of data presented here are not definitive, the pattern of results from the preceding sections do allow for certain conclusions to be drawn in terms of the major areas of existing constraints, opportunities for change, and recommendations for action.

2.5 SUMMARY ANALYSIS AND RECOMMENDATIONS

In this section an attempt will be made to draw together the diverse and detailed material presented earlier. The presentation will focus on three major products of the earlier analysis. First, what are the important constraints on human resource development in terms of fiscal capacity, personnel, and administrative capacity? Second, where in the human resource development system do opportunities exist for significant change; more specifically, where can change be achieved within the constraints noted? Finally, the third product of this analysis will be to determine what recommendations can be made for future government action

and for external donor assistance in terms of research/planning needs, fiscal/financial reform, and program expansion or development. Recommendations for specific program components will appear in the subsequent parts of the report. The goal here is to provide an aggregate viewpoint by which programs of the specific education and training subsectors may be evaluated.

2.5.1 Constraints on Change

Reform within the human resource development system must be couched in terms of the fiscal realities of the moment as well as expectations for the future. The data presented here suggest a two-phase approach to the educational and training problems.

In the short run (up to FY 1988), planning should focus on the achievement of internal economies throughout the system. Cost containment, program rationalization, and reduction of excess training capacity within programs should have the net effect of allowing more students to be served with the same funds. Expensive components of the system such as the vocational secondary sector, higher education, and the foreign scholarship program should be subjected to detailed cost analysis. Where program justification is insufficient to rationalize cost levels, reduced costs or general program reforms should result.

Beyond FY 1988, it is reasonable to consider a more expansionary program of human resource development given that revised estimates of revenue and costs at that time are more encouraging. For the present, it would be improper to let the current fiscal situation curtail unduly the plans of government to implement programs designed to meet the long-term goals of greater access and quality. All program design should incorporate the concept of contingency phasing for implementation. A conservative implementation plan would be followed if resource availability remains a problem, and a more ambitious plan could be substituted if and when this problem is alleviated.

External assistance during the period to FY 1988 should be inclusive of all recurrent costs. The project plans also should be designed so as to minimize the recurrent cost requirements for government subsequent to FY 1988. Just as for the Liberian government, external donors should

incorporate contingency-project phasing into all planning. Alternatively, projects should be redesigned and recosted at no longer than two-year intervals.

The fiscal constraints which exist are not a barrier to reform. Through cost containment and efficiencies, more can be done within the present programs. Through similar cost-reduction measures elsewhere in government, it may be possible to raise the proportion of the National Budget going to education, assuming this sector remains a high national priority. Constraints must not be ignored, but neither should they postpone the needed investments required for Liberian education and training systems to become both more efficient in their operation and more relevant in their effects.

One reason for the fiscal constraint which presently exists is the inflated size of civil service employment. There are few programs which lack staffing; what programs do lack, however, is staffing of the type and with the motivation necessary to achieve program objectives. Precedent conditions for future foreign assistance may increasingly be expected to insist that the government stabilize personnel figures both in the number of individuals and the size of the salary base. A strict hiring freeze is unlikely for Liberia, but an important personnel consideration is that short-run planning should not be predicated upon an assumption of major new staffing.

New programs will have to devise means for upgrading and increasing the productivity of existing staff. A greater sense of responsibility and accountability must be incorporated into the civil service in every ministry. This new perspective on the responsibilities of civil servants must come from the highest levels of government service. It is improper to expect reform to occur at the level of deputy or assistant ministers without strong backing from the executive officers of the government. Middle-level management training is a necessary, but far from sufficient, step to remedy the problem of administrative capacity within the ministries involved with human resource development.

The existing wage structures are themselves one of the constraints within the system. While salaries are generally high for a nation with Liberia's economic and fiscal condition and low worker productivity, the

newly-instituted minimum wages for civil servants ($2,400 per year) and teachers ($3,000 per year) have had a distorting effect within the public employment system and between public and private employment. Because the minimum is so high, there is a reduced salary differential between those jobs requiring little or no education (messengers and clerks) and those for which skills and training are required (stenographers, key punch operators, and supervisors). This internal inequity affects morale and reduces the motivation of the more skilled workers. The high minimum wage for civil service also attracts workers from other employers and creates an especially high demand among the least skilled for placement in public employment.

The revised minimum salary level for teachers was necessary to redress the inequity between teachers and other civil servants. The proposed teacher salary plan, while commendable in purpose, appears unrealistic at this time in terms of the available financial resources.

A more subtle effect of the increases in personnel levels and wages concerns the opportunities which the government will have to forego in the future because of the financial impact of these decisions. The only reasonable course of action for the immediate future is one of increased restraint in hiring, the facilitation of staff reassignment within and among ministries to meet priority project needs, and a freeze on new salary increases for at least 24 months. In the long term, the problems of internal inequities and external imbalance can be resolved through a continued freeze on the minimum wage levels and a slow upward adjustment in the pay of skilled personnel.

The problem of general administrative capacity can be further reduced through two additional steps. First, a greater use of a program approach to planning would allow the ministries to focus resources on more detailed objectives. This approach also allows for greater accountability in evaluation. Rather than general increases in the budgets of all or most programs, the ministries should identify from one to three activities upon which they wish to concentrate. Examples of program goals would be increased efficiency in primary education and greater access to literacy for adults for the Ministry of Education, mobilization of the extension service for the Ministry of Agriculture, increased production of

paraprofessional medical personnel for the Ministry of Health and Social Welfare, and creation of a job service system for the Ministry of Labor.

Second, once a program focus is defined, the ministries must improve their internal administrative linkages to promote program goals and create and/or improve linkages with other ministries, parastatal organizations, or private sector institutions that can assist them in reaching their goals. Both technical assistance and management training will be required to help implement these steps to alleviate the administrative capacity problem.

2.5.2 Opportunities for Change

Given the various constraints noted above, there are still opportunities to generate program improvements in education and training. Beginning at the primary and secondary level of the formal education system, the IEL experiment offers an opportunity for a major reform in the technology by which knowledge and skills are imparted to students by instructors with minimum formal teacher training. Increased rationalization of the subsidy program to nonpublic schools could be achieved through creation of an aid formula keyed to enrollment levels, graduation rates, a cost-sharing standard, or some other objectively measurable guideline. A formula for determining the amount of aid granted, combined with the current conditions established for qualifying for participation in the program, will reduce the apparent program inequities while maintaining the government's support of a strong private education sector.

The government should continue its efforts to supply low-cost learning materials (possibly via marketing or loan systems) for the primary and secondary system. Such efforts are adaptable to either textbooks or modularized learning materials (like those of the IEL project) and thus can be modified to meet changing system needs.

A major policy issue exists with regard to in-school vocational education at the secondary level. Because of its high relative cost, a burden of proof should be placed upon the vocational programs to justify their support levels. This burden should involve both the ability to show

that the program is efficient in its internal use of resources and effective in terms of the demand for and use of its graduates.

The same cost problem applies to out-of-school vocational education although there is no simple standard against which program costs may be compared in this area. Coordination of programs, increased internal efficiency, and better information collection on graduate success are obvious needs for the evaluation of out-of-school training programs.

Liberia would benefit from a more integrated system of higher education as well as from a closer integration of higher education with the other levels of the educational system. Models exist elsewhere (with New York State as one prototype) of how such an integrated system may be designed and operated. In the short run, improved efficiencies in operation and a greater dependence on user financing would reduce the relative burden of the higher education system on government's fiscal resources. In the long run, the University of Liberia and Cuttington University College should forge an even more collaborative role with the ministries in an overall plan for more rapid development of Liberia's population into a modern labor force.

Activities beyond the formal education system and the out-of-school vocational programs which merit most attention as opportunities for change are those in the Ministries of Agriculture (agriculture extension), Health and Social Welfare (medical training and rural health assistance), and Labor (job service activities). The first two are dealt with elsewhere, but the job-service function may require clarification. There is no existing agency responsible for matching worker skills to job openings. At the present, the job-search process outside the civil service is extremely haphazard and inefficient. Employers expend unnecessary resources to identify the workers they need, and job seekers have no means of knowing what jobs are available or where they are. As a result, employers accept some workers who are less qualified than is necessary, and many workers abandon the job-search process prematurely.

A job service system, where all employers would be required to list their job openings, would also be a major means of advancing the Liberianization of the work force. At present no one can assess the justification for new or continued employment of an expatriate employee because no data

or listing exist of available Liberian job seekers by qualification and experience. The net effect of an efficient labor exchange is to lower employer costs, increase efficiency in production through a better match of worker to job, and provide better statistical information on job needs by educational qualification. This last item is an integral part of an educational planning system. While periodic manpower surveys, of the type currently being conducted by the Ministry of Planning and Economic Affairs, are important for benchmark data, current data on job placements available on a quarterly or annual basis allow for an ongoing evaluation of the "fit" of the educational system to labor market needs.

It requires resources--physical and human--to convert opportunities of the type noted here into actual program improvements. Equal in importance to the availability of resources, however, is the commitment of the government and the personnel of the human resource development programs to a plan for change. If approached in a haphazard manner, these opportunities still can be exploited to promote improvements, but not nearly as efficiently as through a planned effort which integrates a variety of efforts in a complementary manner.

2.5.3 Summary Recommendations

Throughout the discussion of economic and financial analysis, suggestions have been made for dealing with certain perceived problems. In this section these recommendations will be reorganized and presented as parts of a plan for human resource development. The recommendations will be divided into those dealing with research/planning needs, fiscal/financial issues, and program expansion and development.

For research and planning purposes, the government needs to create an ongoing capacity for cost analysis as a part of the responsibility of the program of planning and development within each ministry or within the Ministry of Planning and Economic Affairs. Similar responsibility should be vested in the offices responsible for institutional research at the two universities. Each major training institution should, as a requirement of continued funding, conduct periodic tracer studies of graduates so as to assess employment success and the relevance of education or training received. Other institutions should be studied if they represent an

important program component or if they are conducting education or training in an experimental or innovative manner.

The implementation of a program-based budget to the extent practical would greatly advance the ability to identify and analyze program costs and effects. The Ministry of Planning and Economic Affairs should coordinate and liaise with the planning offices in the other ministries so that current data for planning are supplied to MPEA on a regular basis.

In the fiscal and financial sphere, government should institute a program to increase revenue and reduce expenditure. In addition to the internal difficulties resulting from a failure to do this, the external credibility of government would be damaged.

While zero-base budgeting is meaningless in a personnel-based bureaucracy with little accountability, a zero-marginal expectation for new funds in budgeting could be implemented. All new funding should be justified on an annual basis in terms of program or project relevance. By linking program budgeting to a system of zero-marginal expectations, some progress could be made in reshaping the budget toward a higher performance standard.

All new projects and programs should be reviewed and costs analyzed by the Ministry of Planning and Economic Affairs and the Ministry of Finance before implementation. The analysis of a ten-year projection of ministry revenues and recurrent costs should be a required part of every project or program review.

The above suggestions extend well beyond the domain of human resource development. However, general fiscal and financial improvements will enhance the opportunity for future funding of human resource investments.

Under program reform, three major recommendations can be made. The first is that the Ministry of Education should concentrate its attention on cost containment and quality improvement in primary and secondary education with an emphasis on the former. It must be remembered that the demand for education is a derived demand; it is derived from economic as well as from political, social, and cultural needs. Education is a "right" only to the extent that an individual or nation can afford to make it one. Increased access to inadequate education is neither equitable nor efficient. The priority emphasis should be to make the existing

educational system a more important asset for development rather than allowing it to continue as a drain on public resources.

A second priority recommendation is to exploit the private sector resources (including church-related, proprietary, and private industrial entities) to aid in the human resource development process. The formal educational system, including publicly-financed vocational/technical education, serves social, political, and development objectives. Its present structure and operation would suggest that development is not a priority among these objectives. Misinvestments of capital funds and recurrent costs are occurring both within the ministries and in the schools and colleges. Given the present economic situation, there is little possibility of obtaining new public or private funds for any major educational innovation. The question is whether to create or encourage structures competitive to the public sector or help to rationalize the already substantial government investment in public education. The limitation on resources is such that it is doubtful whether an immediately successful private-sector strategy could be mounted except on a limited basis in Monrovia. The public system presently is so well insulated from competitive pressures that it would, in any case, carry on its business as before. The immediate priority in education should be to promote greater internal and external efficiency in the present system. This will improve the quality of education available to students and rationalize the present excessive expenditures in this sector.

However, vocational/technical training is a special area for the justification of private involvement. The problem is, at least partly, one of fragmentation of control over diverse programs and lack of cost- and training-effectiveness data. The involvement of employers in the identification of training needs is obviously justified, but a more basic issue exists. Vocational/technical education and training will be successful only <u>if</u> specific demand areas can be identified, <u>if</u> quality training can be provided, and <u>if</u> a well-articulated job-matching system exists. None of these conditions presently is obtainable in Liberia. The best course of action is to recognize these limitations and concentrate on providing a greater emphasis on basic general skills with a shift in responsibility for specific skill training to employers. This change

would improve the literacy and numeracy of formal education graduates a reduce the governmental responsibility for expensive teaching personnel and equipment.

Because of the small private sector which exists, most trained graduates face a limited market for their skills. In such a situation, employers are more willing to provide training at their own expense. Facilitation of such training through creation of a service agency or, even better, adaptation of one of the existing government or cooperative institutions to this role, is especially justified for Liberia. The government should not, however, subsidize the actual training processes private firms. These costs are legitimate costs of the enterprise, and subsidization will not lead to other than transitory employment gains.

The final program recommendation is for government to institute an integrated planning structure for education and training in the areas of teacher training, health professions, agriculture education and extensio and vocational/technical education and training. Presently the multiple agency involvement in these activities has led to redundancies in some areas and no activity in others.

The recommendations listed here are both short and long term. They are short term in that immediate actions need to be taken to implement them if accepted and in that some immediate benefits should be generated They are long term as well, however, in that each recommendation will produce its greatest benefits only after full implementation of the revised program of emphasis. None of these recommendations violates the concept of phased planning advocated earlier, and all emphasize cost containment, use of existing personnel, and avoidance of recurrent costs There is an obvious role for external assistance in each case. The primary costs are transition costs which fall within the appropriate domain of donor support.

The subsequent parts of this report will provide greater detail on programs and policy options within the context of the economic and financial issues and recommendations discussed in this section.

3.0 PRIMARY EDUCATION

The major challenge facing the government in primary education is how to strengthen the administrative and supervisory capabilities of the Ministry of Education, improve the quality and efficiency of instruction, and expand access while reducing regional imbalances--all within severe financial constraints in the immediate future and limited resources in the long term. Section 3.1 describes the current status of primary education and components of a recently negotiated $25 million Fourth Education Project which address some of its basic problems.[1] Several outstanding issues are then discussed, and eleven recommendations made for additional activities in response to current needs and in harmony with all components of the Fourth Education Project. These recommendations focus on better use of existing resources, continued staff development for the Ministry of Education, reduction of regional and male/female imbalances in access, and the construction of a demonstration low-cost school model.

3.1 STATUS

This section on the status of primary education begins with government's goals and strategies in primary education. This is followed by a description of structure and organization of the primary system and of the Ministry of Education. The current status, with funded plans, is then presented for the areas of administration and supervision, access, equity, internal efficiency, external efficiency, and costs and financing.

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[1]An International Development Association credit of $13.5 million in Special Drawing Rights and an African Development Bank grant of $9.8 million will finance the project in parallel, with $1.8 million provided by the Government of Liberia.

3.1.1 Goals and Strategies

The three equally important goals for primary education are to improve the quality of instruction, to expand access in a way that addresses regional and male/female equity, and to enhance the administrative and supervisory capabilities of the Ministry of Education. These goals are stated in the First National Development Plan (1976) and the National Education Plan (1978-1990).

Several approaches will be used to reach these goals. Quality of instruction will be improved through programs to make the school inspectorate more fully operational, to furnish and equip 30 schools in rural areas, to improve the teaching skills of 2,250 underqualified teachers currently employed, and to make low-cost textbooks available for the first time throughout the country. Access will be expanded by the construction, furnishing, and equipping of 24 primary schools in rural areas. Improvement of administrative and supervisory capabilities within the Ministry of Education will be achieved by a staff development program to strengthen project management, general administration, and educational planning.

3.1.2 Structure

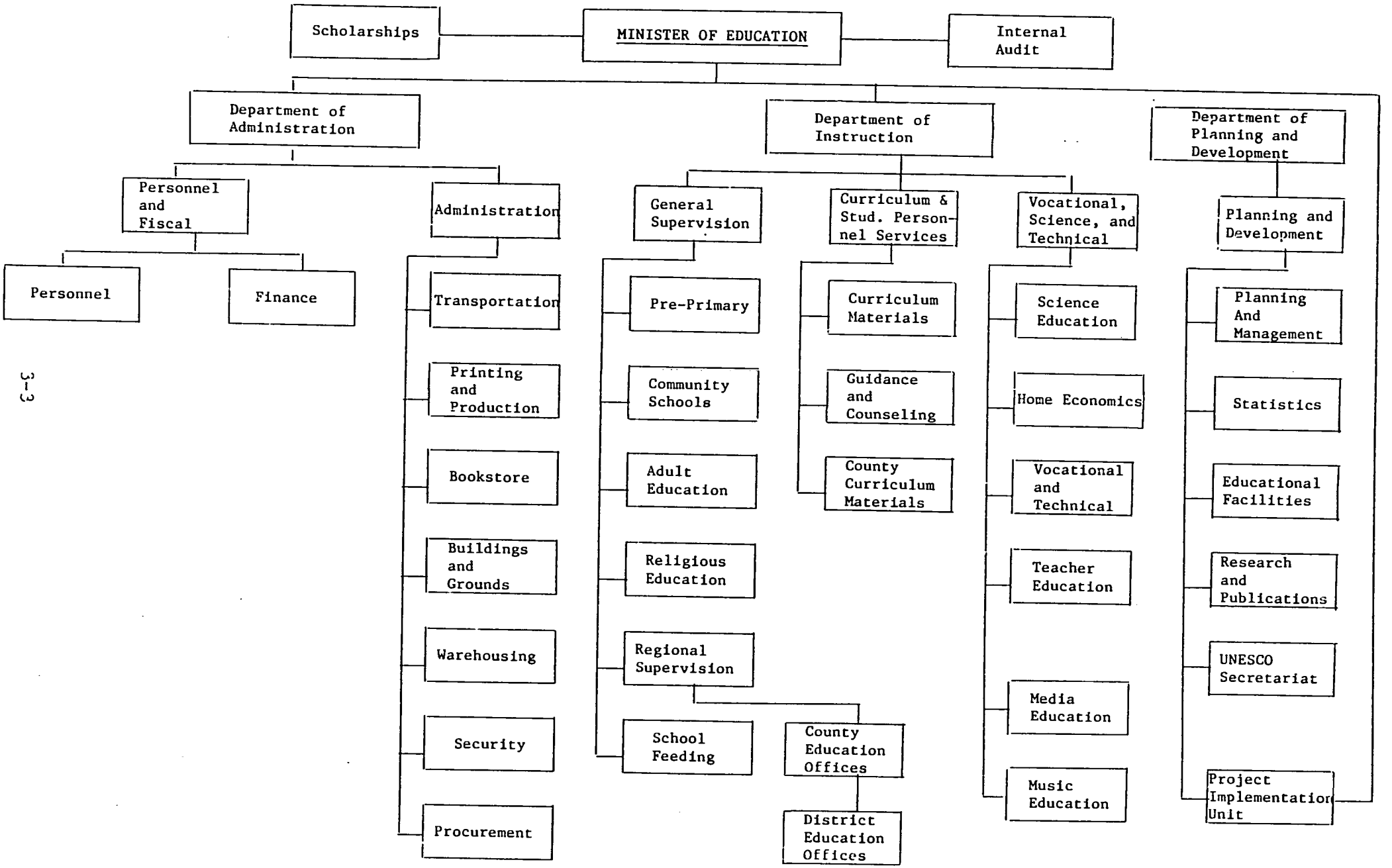
The primary school system consists of one or two years of pre-primary followed by six years of primary education, all under the responsibility of the Ministry of Education. About 35 percent of the primary school places are privately managed by missions and other non-governmental agencies operating under the authority of the Ministry of Education.

An organization chart for the Ministry of Education is given in Figure 3-1. Reporting directly to the minister are three Deputy Ministers, each responsible for a department. The three departments are the Department of Administration, the Department of Instruction, and the Department of Planning and Development.

3.1.3 Fourth Education Project

The recently negotiated Fourth Education Project addresses many of the current needs in primary education. This project is described fully in the

FIGURE 3-1. ORGANIZATION CHART OF THE MINISTRY OF EDUCATION



Staff Appraisal Report of the World Bank (No. 4010-LBR), and portions related to primary education are extracted below.[1]

The proposed project aims at consolidating the outcomes of the three previous Bank Group assisted education projects and helping the government implement the next phase of a sound development program for education and training. The main objectives of the project would be to assist in strengthening the administration of education, improving the quality and efficiency of primary education, and making key parts of the publicly-supported skill training network fully operational.

To accomplish these objectives the project would finance:

Educational planning and administration and preparation of future projects. Technical assistance, auditing services, followships, equipment, vehicles, and operating costs to strengthen the MOE's capacity for educational planning, administration, project preparation and project management;...

Textbook procurement and distribution. Technical assistance, fellowships, office equipment and furniture, and the purchase of textbooks and transporation services to execute a textbook program for the primary level;

Teacher training and upgrading. Technical services provided by the two universities in Liberia to upgrade about 2,250 primary school teachers;...

Education supervision. Technical assistance and fellowships to strengthen the school inspectorate. The project would also finance the construction, furnishing and equipping of three regional educational centers and related costs and construction supervision; and

School construction, furnishing and equipping. Construction, furnishing, and equipping of about 24 new primary schools in rural areas and the related costs of construction supervision. The project would also finance the furnishing and equipping of about 30 existing primary schools which are now without adequate furniture or equipment.

3.1.4 Administration and Supervision

Over the past several years, the Ministry of Education has significantly improved its organization, operating procedures, and staff skills. The educational planning unit, for example, was established and

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[1]References to the World Bank apply to the International Bank for Reconstruction and Development (IBRD) and the International Development Association (IDA).

strengthened under an earlier World Bank project. In addition, staff training was provided in technical areas and administration.

There are still opportunities for improvement in staff training and utilization, management information and planning, and administrative outreach to the rural areas. Ministry staff are underutilized at all levels, partly because of a lack of managerial skills among supervisors and partly due to the need for more specialized technical skills among operational personnel.

A related and serious problem in staff utilization is the absence of a performance accountability system. Neither increments nor initial salaries for equivalent positions are determined on a consistently applied basis. Since remuneration is not related to performance, supervisors have no salary-related incentives for stimulating quality performance.

Planning could be made more effective if supported by more current and readily available data. All records are now kept by manual systems that respond slowly to routine information requests. Administrative and supervisory functions of the Ministry operate almost exclusively in the Monrovia area, due to a number of structural, historical, and logistical factors.

Many of the staff utilization, management information, and outreach needs of the Ministry are addressed by the Fourth Education Project. Staff utilization will be increased through certificate and graduate training in personnel administration, accounting, business administration, computer science, and related areas. The availability of management and planning information will be improved through the acquisition of accounting equipment and a minicomputer. A computer applications specialist will work with the Ministry of Education staff for three years and will help to implement this system, and six years of related fellowship training will assure its continued operation.

To bring Ministry services closer to the rural areas, three regional education centers will be established. One center will be constructed in each three-county region. Specialist services and fellowships are funded in fields which will strengthen the school inspectorate, making the educational system more effective in remote areas. Each center will have a Regional Chief Supervisor, a District Officer, a County Officer, and support staff.

Existing Regional Materials Centers, which receive assistance from the U.S. Peace Corps and UNICEF, will be accommodated at each location.

3.1.5 Access

Enrollments have consistently increased over the past several years, from 120,000 in 1968 to 247,000 in 1981 for primary and pre-primary levels combined. This annual growth of six percent compares favorably with a rate of three percent for the general population during the same period.

School facilities are in generally poor condition. Instruction is hampered by its having to take place in buildings not originally designed as schools. Of the 827 schools covered by the 1978 survey, for example, only 57 percent were built as schools. Of the remaining 43 percent, 17 percent were built as churches, 11 percent as private houses, 5 percent as town halls, and 10 percent to serve miscellaneous other purposes. Insufficient funds are available for maintenance, and many schools need repairs. There also is a serious shortage of chairs, desks, and other furnishings. In a recent survey of the 28,000 primary school students in a single Liberian rural county, for example, only 35 percent of the students had chairs and only 14 percent had tables or desks. Further information on school facilities is given in The National Education Survey 1978.

The student/teacher ratio for pre-primary and primary is 35:1. Access cannot significantly be extended simply by increasing this ratio. In many urban areas, and especially in Monrovia, all classes are already filled. In most rural areas, according to a Ministry source, schools already are serving all school-age children within walking distance. Given these constraints, plans to extend access based on wide spread increases in the student/teacher ratio may not be feasible in many areas.

Multiple shifts already are used to extend access within the limitations of present facilities. Most primary schools in Monrovia, for example, are used for two day shifts and one night shift. Most schools in the county seats are used for two shifts, and rural schools generally serve all nearby students with a single shift. The 1,088 primary schools studied for the 1978 survey were then offering an average of 1.4 shifts per school.

The Fourth Education Project will expand access by providing 24 new primary schools over the next six years. The 6,624 additional places will

increase the total primary capacity by less than one percent each year, which is not enough to keep the enrollment ratio constant with the expected increase in enrollments based on past growth.

3.1.6 Equity

About one-half of the school-age population has no access to primary education. Only 52 percent of all children of primary school age are enrolled in school, which is below the average for West Africa.

There are regional imbalances as well as urban/rural disparities with respect to access. Many of the rural poor, for example, have no access to primary education. Enrollment ratios vary widely among counties, from 30 percent for Bong County to 73 percent for Sinoe County. A disproportionate share of the qualifed teachers, according to the Second National Development Plan, are located in the coastal counties of Grand Cape Mount, Montserrado, and Grand Bassa. As in most developing countries, the quality and availability of education is higher in the urban areas. The 1982-1983 budget for the Ministry of Education, for example, reflects significant variations in average teacher salaries for the nine counties. The highest average salaries are in Montserrado County (including Monrovia).

Fewer girls than boys attend primary school throughout the country. On a county basis, the percentage of enrolled students who are female varied from a low of 24 percent in Lofa to a high of 41 percent in Montserrado, according to The National Education Survey 1978. Enrollments for girls are generally known to be less for the remote rural areas, but exact data are not now available. The countrywide female enrollment was 36 percent in 1978 and 39 percent in 1981. Female enrollments by county are not yet available for the 1981 survey.

The selection of sites for the 24 schools to be built under the Fourth Education Project has been made to reduce regional imbalances in access. Sites have been selected in rural areas of each county in relation to the county's need. Those counties with the lower enrollment ratios, in other words, will receive a greater share of the new schools. While this selection of sites has addressed the problem of regional imbalances in access, it only goes a small part of the way needed to redress them fully.

In addition, there will remain many imbalances with regard to quality of teaching and access by girls.

3.1.7 Internal Efficiency

The internal efficiency of the primary school system offers many opportunities for improvement. Evidence presented in section 2.4.2 indicates a high degree of repetition within grades and attrition between grades, which severely reduces internal efficiency. The average number of student years required to produce a primary graduate is very high for public schools (10.56), although lower for mission schools (7.99). These data are shown in Table 2-20. Major causes of this low efficiency are the shortage of textbooks and related instructional materials and the large proportion of untrained teachers.

The shortage of textbooks and educational materials in most of the primary schools is a barrier to improving the quality of education. Although many students in the more affluent Monrovia area have adequate materials, the majority of the primary school population attend classes where there are very few textbooks.

Shortages of educational materials are especially acute in the rural areas. Although no statistics are available on the numbers of textbooks available in these areas, informed opinion of many educators and visits to almost any rural school indicate that there is probably less than one book per twenty students. Most textbooks on the Ministry's list of approved books are imported, often expensively bound and elaborately illustrated, and far beyond the means of a rural family with one or more children in school. Costs for book sets on the 1981 approved list, for example, range from about $27 to $37 for the primary grades.

This shortage is especially serious because textbooks are the single most cost-effective means currently available for increasing educational achievement in systems where teacher qualifications are low. Textbooks can carry amounts of information to remote locations, be designed to minimize dependence on highly trained teachers, be used without electricity or consummable supplies, and be studied at a pace to suit each student's individual ability to learn.

The large numbers of untrained teachers comprise another factor contributing to the low internal efficiency of the school system. According to the National Education Survey 1978, about 70 percent of the primary school teachers have completed secondary school. About 30 percent have had formal training in teaching techniques. Absenteeism among teachers is regarded as a serious problem, although documentation on its extent is not available.

Teacher training in sufficient numbers to meet government's projected annual growth rate of five percent in primary school enrollments cannot be provided within the present framework. The annual output of Kakata Rural Teacher Training Institute (KRTTI) and Zorzor Rural Teacher Training Institute (ZRTTI) is considerably less than the number required. Both of these training institutes are underutilized, partly because of policies which set training stipends lower than those for other government-sponsored, post-secondary training programs. A second reason for the underutilization is the relatively low salary level for trained teachers as compared with opportunities in the public and private sectors for persons with similar qualifications.

The inefficiencies related to the lack of instructional materials and qualified teachers are further compounded by an almost total absence of educational supervision. The three Regional Supervisors, each responsible for three counties, are assigned to the Ministry offices in Monrovia. There is insufficient logistical support, such as vehicles and operational funds, and no trained inspectorate staff capable of managing a full program of field supervision.

Another symptom of inefficiency is the pre-primary program, which adds one or two years to the six-year primary cycle for many students. Many students repeat the pre-primary content during their first year of the primary cycle, further reducing efficiency.

The primary school system has large numbers of repeaters and dropouts, as shown in the National Education Survey 1978, which results in an average of over ten student years required to produce a single primary school graduate. Pre-grade enrollments in 1981 were 53,000 of the age five cohort of 63,000. Because of the range of entry ages, these data do not imply near-universal enrollment at this level. Only about 23 percent of any

entering cohort, for example, complete primary school. More information on this flow is given in Section 2.3.2 and in Table 2-12.

The Ministry of Education has funded plans to address many of the problems of internal efficiency cited above. Plans within the Fourth Education Project focus on providing low-cost instructional materials, improving in-service teacher training, making the school inspectorate more effective, and making furniture available to schools. An innovative research and development plan, funded by USAID and the Government of Liberia, is based on the design of a management system and specialized curriculum materials for primary education. This system, called the Improved Efficiency of Learning Project (IEL), uses programmed instruction with simplified materials and directions for teachers which require no formal pedagogical training. These plans to improve the internal efficiency of the primary school system are discussed below in more detail.

Through the Fourth Education Project over the next six years, the Ministry of Education will establish a program for the identification, procurement, distribution, and sale of low-cost textbooks and accompanying teachers' editions. A pilot program early in 1983 will test the system components and determine an affordable price for the materials. The implementation phase will provide one book per subject every year for about two-thirds of all primary school students. A used book market is expected to provide the remaining students with books.

These books will be manufactured with whatever cost-reducing features are required to make them affordable to the majority of the students without government subsidy. The program will be self-financing so that no incremental recurrent costs will be added to the Ministry's budget to continue the operations.

The teaching skills of about 2,250 teachers will be improved, also through the Fourth Education Project. This is about one-third of the entire teaching force at the primary level. An institutional capability will be provided for a continuation of this in-service training program, managed by the Ministry of Education. The training is planned to utilize existing facilities at the University of Liberia, Cuttington University College, KRTTI, and ZRTTI. Funding for this institutionalized capability on a continuing basis has not yet been identified. If it is found effective as a

substitute for in-service teacher training, funds now used for that purpose could be reallocated to the new program.

Operations of the school inspectorate will be made more effective by the three regional education centers to be constructed, as mentioned in Section 3.1.4. To assist with staff development in the inspectorate, the Fourth Education Project will provide a specialist to review the organization and operations of the inspectorate and will provide several fellowships in educational supervision.

The Improved Efficiency of Learning Project (IEL) has as its basic technology the separation of the design and planning function from the implementing function of teaching. Its immediate technological antecedent is Project IMPACT in the Philippines, but it has also adopted techniques and approaches from related projects in Indonesia, Thailand, and the United States. The design functions in the IEL project are performed by the instructional technologists who are preparing teaching materials and instructions for teachers. The teaching functions can be performed by teachers with little formal training in pedagogy--perhaps only a month or two of workshop training.

A carefully designed independent evaluation of the instructional effectiveness of these techniques and materials is being conducted, and initial results are expected to be available in April of 1983. The Ministry of Education plans to conduct a study before then, with the assistance of specialists provided under the Fourth Education Project, to determine the costs of implementing the IEL system on a large scale. If the results of these studies indicate that the IEL system is potentially more cost-effective than conventional primary education, the Ministry intends to begin an incremental implementation of IEL on a large scale.

The systems of textbook procurement and in-service teacher training being developed under the Fourth Education Project can be used with a variety of instructional materials and teaching techniques, including IEL if the Ministry would so wish.

3.1.8 External Efficiency

The external efficiency, relevance, and orientation of the primary school curriculum was improved under the Second Education project. With

funding assistance from the World Bank, the Ministry of Education developed and implemented a revised primary school curriculum which reflects the literacy, numeracy, environmental, and practical skills relevant to rural living. The nationwide primary school leaving examination was discontinued in 1973, so this criterion is no longer available to assess instructional goals.

3.1.9 Costs and Financing

A detailed analysis of costs per graduate and the returns for major levels of the educational system is given in Section 2.4 of this assessment. Based on the unit costs per graduate for primary education, related manpower supply-and-demand data, and the rate of return estimates, there is a strong justification for a policy emphasis on primary education. The economic analysis points to considerable opportunity for improving internal efficiency. The low costs per graduate imply that more students can be helped with a fixed expenditure, and providing more citizens with basic skills in literacy and numeracy will benefit the traditional as well as the monetary sectors of the economy. The present section contains an overview of the cost and financing data for primary schools.

Forty-two percent of the recurrent expenditures of the Ministry of Education for fiscal years 1981 through 1983 have been allocated to primary education, with 33 percent for secondary education and 23 percent for tertiary education. This gives some indication of government's relative education priorities, based on recurrent expenditures.

Overall expenditures for combined levels of education are favorable when compared with similar expenditures for other West African countries given in the Staff Appraisal Report of the Fourth Education Project (World Bank Report No. 4010-LBR, p. 35). With respect to percentage of GNP devoted to education, Liberia is above the median. For the twelve countries for which data are available, compared on the basis of percentage of educational recurrent expenditures allocated to the three levels of education, Liberia is above the median for primary education, below the median for secondary education, and tied at the top (with the Ivory Coast) for higher education.

There is considerable private expenditure on primary education, although precise estimates of the extent of this support are not available. Forty-four percent of the enrollments at pre-primary grades and 41 percent at primary grades are in nonpublic schools. Most of the teachers at these private and mission schools are paid by the government, however.

The long history of nonpublic participation in primary education began with the mission schools. These schools, which for many years were concentrated in the coastal areas, originally were fully supported by the missions. This support has gradually decreased as government has assumed an increasingly greater share of the recurrent costs of primary education. An extensive subsidy program for the nonpublic schools, including the present-day mission schools, has in recent years grown to provide a large share of their operational costs. It is the government's intention to retain this subsidy program for the immediate future and later convert the schools to government schools when funds became available. For the next several years, however, the financial contribution of mission and other private schools will continue to be an important part of the primary education system.

External assistance to primary education at present consists of two major efforts, the Fourth Education Project and the IEL project, both described earlier in this section. Additionally, CARE has made financial contributions and, under the Second Education Project financed by the World Bank, CARE supervised construction teams in the building of 38 rural primary schools.

3.2 NEEDS

This section compares the government's three goals for primary education with current strategies and plans. On the basis of this comparison, three outstanding areas of need are identified and then discussed. The section closes with eleven recommendations for activities in this subsector, ranked in priority order.

3.2.1 Internal Efficiency

A major government goal in primary education is to improve the quality of instruction. This is addressed by components of the Fourth Education

Project which will improve pedagogical skills of teachers through an in-service program, make the now-dormant school inspectorate more functional, provide low-cost instructional materials to all primary students, make furnishings and equipment available to 30 existing primary schools, and perform a recently commissioned cost-effectiveness study of the IEL instructional system.

There are three outstanding needs, two in the area of evaluation and one in operations. A continuing program of evaluation should be established to monitor the effectiveness and institutionalization of the in-service teacher-training programs being prepared under the auspices of the University of Liberia and Cuttington University College. Special attention should be directed to having these programs follow the curriculum for in-service training prepared by the Ministry of Education in 1980, having them focus attention on the textbooks to be used in the schools, and having educational supervisors participate in the courses to enhance their relevance and bring the inspectorate closer to the teaching force. This evaluation program may be established under the Fourth Education Project, but there are no specific plans at present for this to be done.

A second needed evaluation should examine the effectiveness of changes in the school subsidy program which were instituted on the basis of an evaluation of this program in 1979. This evaluation identified 232 institutions which received subsidies, 156 of them mission schools. Changes introduced as a result of this study are directed at rationalizing the program. These changes identify criteria for participation in the subsidy program, but do not address the basic issue of the amount of subsidy that institutions may receive. The size of this program is considerable, with $2.5 million (7%) of the Ministry of Education's 1982-83 recurrent budget expended for primary and secondary education subsidies. Opportunities for improvement of this program are considerable, as discussed in Section 2.4.2. The amount of subsidy received by some schools, for example, exceeds the average unit costs paid by the Ministry of Education for instruction at government schools.

In the operational area, there may be significant efficiencies to be gained through implementation of the IEL system. If the results of the

planned cost-effectiveness study are promising, this system could be installed in schools beyond those of the pilot program.

3.2.2 Administration and Supervision

A second government goal in primary education is to enhance the administrative and supervisory capabilities of the Ministry of Education. Components of the Fourth Education Project which focus on this goal will strengthen project management, general administration, and educational planning. The Ministry of Education believes there are areas of professional expertise where staff training still will be lacking. These areas include subject-matter specialists for curriculum development and monitoring instructional programs; advanced training in statistics, educational planning, and educational economics; and evaluation of vocational training programs. A suitable training program should be established to remove these deficiencies. Also, the design and implementation of the planned management information system should be monitored carefully to be sure that the data placed within this system and the reports generated are in the form required for effective administrative decision making and planning.

3.2.3 Access and Equity

The expansion of access which addresses regional and sexual equity is a third government goal. Regional imbalances will be addressed on a small scale, in the Fourth Education Project, by locating 24 new schools in areas where access currently is most restricted. Since this new construction will increase school places by less than one percent per year over the six-year term of the project, most of the current regional imbalances will remain substantially unaffected. There are no current plans in the Ministry of Education to reduce the gender imbalances which favor male students throughout the country.

3.2.4 Costs and Financing

An implied government goal in education, given the plans for the gradual expansion of the primary system within the severe financial constraints anticipated over the next several years, is to reduce per-pupil

cost to the government. This could be done in three ways. The first is through the continued rationalization of the subsidy program, as mentioned above. The second is through a program to mobilize community support for the construction and maintenance of school facilities. The third possibility would be through improvement of the present physical design being used for primary schools. These three possibilities are discussed more fully in the following sections.

3.3 PLANS

This section describes government's plans for primary education for which no funding has so far been identified. As described in the preceding sections of this assessment, considerable effort over the past few years has gone into plans for the Fourth Education Project and the USAID-sponsored IEL project. These two projects jointly form the major thrust of the government's primary education development efforts over the next several years.

Although no specific plans now exist for which funding is actively being sought, there are several general objectives likely to be adressed by Ministry of Education plans. These are outlined in the First National Development Plan and the National Education Plan (1978-1990).

The internal efficiency of the system will be increased through continued efforts to improve the quality of primary education. As an example, government will begin to eliminate publicly supported pre-primary education during the coming school year. This will result in considerable savings; 60,000 students were enrolled at public pre-primary schools in 1982.

Plans to expand access to primary education will be based on an anticipated annual growth rate in enrollments of about five percent. To meet this demand, government plans a modest school construction program within the limits of available resources. Private school building efforts will continue to be encouraged.

Problems of equity associated with regional imbalances in access to education will continue to be addressed by expanding the present system in areas least well served. There are no plans to redress the present gender imbalances, although this is a matter of concern to the Ministry of Education.

With respect to the costs and financing of education, government plans to have specific programs to address the needs in this area mentioned in Section 3.2.4 above. The subsidy program will be further rationalized, community participation will be encouraged in school construction and maintenance, and school design alternatives will be explored with a view to lowering the unit cost of facilities.

3.4 ANALYSIS

This section begins with a statement of the overall constraints within which the primary school system must operate over the next several years. This is followed by a discussion of several critical issues in the domain of primary education. The section closes with conclusions based on these constraints and issues.

3.4.1 Constraints

Financial considerations are the major constraints affecting primary education over the next several years. The economic restrictions facing government are described fully in Section 2.0. The basis of the economic analysis is a projection of revenue over the coming ten-year period compared with a projection of recurrent costs for existing programs. Even the most conservative estimates of projected recurrent costs, according to the analysis, will equal or exceed all but the most optimistic of the revenue forecasts. Unless additional sources of revenue become available, the Ministry of Education will not be able to meet its recurrent costs over the next ten years. Thus, any recommendations for new programs should be made with this serious constraint in mind.

An alternative for primary education would be some reallocation of funds from secondary or tertiary education, with projected recurrent cost budgets, although this does not appear to be likely. Therefore, any new programs based on internal funding should focus on a better use of

existing resources with no incremental recurrent costs. Any new programs based on external assistance should include all incremental recurrent costs as well as all capital costs. Such new programs should be examined carefully with respect to their long-range impact on recurrent costs, and priority should be given to those which improve the efficiency with which present resources are used.

3.4.2 Issues

The following discussion of issues is focused on internal efficiency, administration and supervision, access and equity, and cost and financing.

3.4.2.1 Internal Efficiency

The four major problems related to internal efficiency concern redundancy associated with pre-primary education, training and salary costs for a fully qualified teaching force, risks associated with the new instructional materials program, and potential difficulties with a large-scale implementation of the IEL system.

The first problem is the unnecessary and costly prolonging of the primary cycle stemming from duplication of pre-primary content in early primary schooling. For the most part, public pre-primary programs are inadequate and staff untrained. In a country where primary schooling is not yet available for all school-age children, the expense of prolonged primary schooling, particularly when it is inadequate, seems unwarranted.

The second problem concerns the lack of training in the teaching force. Of the total of 7,182 primary and secondary school teachers in 1978, only 29 percent were fully trained. The percent is about the same for schools managed by government, by missions, and by private agencies. Separate data for primary school teachers are not given in the National Education Survey 1978.

The Fourth Education Project will finance the upgrading of about 2,250 primary school teachers, which constitutes 35 percent of the current teaching force. The in-service training program for this upgrading may be institutionalized and, if this occurs, it may be possible to continue to upgrade additional members of the teaching force. Issues related to this

approach are the following. First, will the two vacation periods proposed for each cycle be sufficient to substantially improve the teaching skills of untrained teachers? Second, will the granting of a "B" Certificate create a demand for increased salary levels that the recurrent budget will not be able to accommodate? The first issue can be addressed by a careful evaluation of the in-service program, and the second should be studied carefully by the Ministry before continuing the program beyond its initial phases.

The third internal efficiency problem concerns the instructional materials program. The Staff Appraisal Report for the Fourth Education Project regards this as the main technical risk of the project. These risks are thought to be associated with the lack of experience in using textbooks, and the possibility that the educational supervision and teacher-training components may not be sufficiently coordinated with the textbook component. These factors have been dealt with in the project design, but as with the implementation of any new large scale program, difficulties may arise. Related problems may occur with the systems for procurement and distribution and with the collection of fees. There are a number of sensitive issues associated with this program. An education materials specialist has already begun a two-year assignment in the Ministry of Education to assist with the implementation.

The fourth major question concerning internal efficiency relates to three potential problems with the IEL system. Even if the recently commissioned cost-effectiveness study produces favorable results, there still remain a number of potential areas of difficulty in the phased implementation which would follow. The first is the degree of supervision required for the management system, which requires the placement and utilization of a large number of modular units of printed materials, blackboards, individual slates, chalk, and pencils. Improvements planned for the inspectorate within the Fourth Education Project address supervisory capabilities within the traditional instructional framework. The level of supervisory skills required by the IEL system, however, may be significantly more sophisticated. Estimates of the requisite number of supervisors may be low, as the high quality of project supervision may not be equivalent to the level of the inspectorate staff skills expected to be developed.

The second potential difficulty with IEL concerns converting existing teacher-training institutions to provide the one-month specialized training required by the IEL system or identifying some other institutional location for this training. Related to this is the possibility that initial training for the many unqualified teachers in the system may require more than the single one-month training workshop. This latter problem, however, should largely be resolved by the completion of the IEL development phase.

The third potential problem concerning IEL is that of teachers' salaries. An expected cost saving in the IEL system, which is designed to use teachers with no formal pedagogical training beyond the one-month workshop, is the reduction in aggregate teachers' salaries. It may, in fact, prove very difficult to staff the entire teaching force with teachers at the minimum wage. Teachers in the pilot schools for the IEL system, for example, are already asking for supplemental payments because they are working harder than their counterparts in control schools under the conventional system.

There has been some discussion of a horizontal versus vertical expansion of the IEL model, if implementation on a large scale is decided on the basis of positive results from the cost-effectiveness study. The Ministry of Education favors a vertical expansion (i.e., six grades simultaneously rather than an initial wide implementation of the first three grades). This is because six grades of instruction probably are required for sustained functional literacy, continuity in the replacement system, and full effectiveness of the IEL technology. Some others regard the small numbers of students now continuing to sixth grade as a reason for large-scale expansion of the model at the lower grades where it has been found particularly effective.

3.4.2.2 Administration and Supervision

The first issue in the area of administration and supervision relates to difficulties anticipated with implementing and managing a number of new programs under the Fourth Education Project, while simultaneously developing staff capabilities required for these programs. These difficulties will be alleviated partly by the use of several specialists assigned to

the Ministry of Education during the term of the project. The second issue concerns the school inspectorate, whose operations depend jointly upon the successful institution of the three regional education centers and the implementation of the training program in educational supervison. Because of the time required for construction of the centers and for completion of the training program, no significant effect of the improved inspectorate will be realized at the classroom level for the next few years. Related to the efficient functioning of the inspectorate is the problem of costs for the purchase, maintenance, and operation of vehicles required for supervision in rural areas. This last consideration is especially critical in the light of long-term restrictions on recurrent expenditures.

3.4.2.3 Access and Equity

The major issue with respect to redressing imbalances in access and equity is that it is difficult to make significant advances in these areas without at least a modest program to increase the number of new school places. Even the planned annual growth rate of five percent, if accommodated entirely through new school construction, would not permit a rapid reduction in the existing imbalances. Further, given the financial constraints facing the government, it is not even very likely that this moderate increase in enrollment can be accommodated by government-sponsored new construction. A second issue concerns imbalances in male/female enrollments, especially in the rural areas. Although there are no formal barriers to enrollment of girls, there are no planned government programs to encourage increased participation by girls in the education opportunities provided by the government.

3.4.2.4 Costs and Financing

The first issue concerning costs and finances relates to the conventional Western model of education which is the basis for all primary level education. This model was introduced into the country to serve an urban elite population. Given that no additional recurrent costs are likely to be available for the next several years, the linear expansion of this model to serve the 48 percent of the primary school-age children not now enrolled is not a financially viable option.

This situation is found in many developing countries, but it is rarely addressed openly. The Western model is so deeply incorporated into the beliefs of most educators that alternatives are rarely considered. The government, however, is seriously considering such an option through its IEL pilot program. If successful, this system could make mass primary education a financially realistic alternative.

A second issue in the area of costs and finances is the unusually high price for new school construction. Each of the 24 schools under the Fourth Education Project will cost about $159,000, for a total cost of $3.8 million excluding physical contingencies and price contingencies. This per-school cost consists of $143,000 for construction and $16,000 for furniture and equipment. Each school will have six classrooms with 46 places (a total of 276 places), a storage room, a principal's office, an outdoor kitchen, and two outdoor toilets. The proposed construction is highly similar in quality to that of earlier World Bank-sponsored projects.

The allocation of such a large sum for such a small increment in access seems inconsistent with the more urgent needs in the area of internal efficiency. With low-cost construction techniques, it may be possible to reduce these costs to one-half or possibly even one-third of the $159,000 proposed for each of the 24 new units. Also, the placement of expensive new schools throughout the country may create expectations in the nearby areas for a type of school that for many years will remain far beyond government's means to provide. The fact that these new schools are being paid for by external funds, in this case the World Bank, is not a relevant argument in their favor. A significant loss to government is the opportunity to use these same funds in a more effective and efficient manner.

3.4.3 Conclusions

Five major conclusions emerge from the above analysis of constraints and issues. In the last section, these conclusions are used to form specific program recommendations.

Conclusion 1. The improvement of internal efficiency should have highest priority, with special emphasis on the elimination of public

support of pre-primary education, more effective utilization of the subsidy program, and implications of the cost-effectiveness study being conducted for the IEL pilot project.

Conclusion 2. Qualitative improvements in instruction, with the goal of functional literacy, should have a higher priority than expanded access, with consideration given to reducing regional and male/female enrollment imbalances within a modest expansion program.

Conclusion 3. Programs in the immediate future should be monitored carefully by the Department of Planning and Development of the Ministry of Education and with the assistance of the specialist staff provided under the Fourth Education Project, as the present Ministry staff have marginal capabilities to manage these programs with present levels of training and utilization.

Conclusion 4. Access and equity can be addressed over the next few years only if based on external assistance for both capital and recurrent costs, and any additional construction should use an appropriate low-cost model.

Conclusion 5. The institutional development of the primary education system will require long-term assistance, given its present status.

3.5 RECOMMENDATIONS

Recommendations are grouped in order of priority according to their emphasis on internal efficiency, administration and supervision, equity, and access. These programs were selected to have minimum recurrent costs, and any such costs should be provided by external assistance. A few of them are intended to reduce unit or recurrent costs.

3.5.1 First Priority - Internal Efficiency: Recommendations 1-4.

Four recommendations are made to improve the internal efficiency of the primary school system. The first will reduce costs and allow funds to be shifted to other programming. The second helps to reduce the unit cost paid by government for primary education with no increase in recurrent costs. The third and fourth will reduce recurrent costs after an initial investment for installation for which external funding tentatively has been identified.

Recommendation 1: Eliminate the Public Pre-Primary Program. Elimination of the costly and inadequate pre-primary program will release funds for use in the primary system.

Recommendation 2: Improve the Subsidy Program. Several changes were made in the administration of the subsidy program following an evaluation conducted in 1979. The effects of these changes should be studied and further refinements made in the program to ensure a more rational basis for allocating funds, thereby getting more educational coverage for less public outlay.

Government education policy and priorities should determine how much each institution receives in public money. Specific attention should be given to reducing the apparently disproportionate share of the total subsidy given to a very small number of institutions and schools historically favored by this program, and to extending the program to include a larger number of schools. A variety of formulas, from basic aid to percentage equalizing grants, are possible, and the formula can be shaped to encourage increased equity in educating rural and female students.

The Ministry of Education is planning a conference for early 1983, to be attended by representatives of all agencies who participate in the subsidy program, to discuss ways to improve the program's usefulness.

Recommendation 3: Initiate IEL Implementation. Begin a phased implementation of the IEL system with an emphasis on rural areas having the most need, contingent on a favorable outcome from the recently-commissioned cost-effectiveness study whose preliminary results are expected to be available in May 1983. Funding for a Phase II (i.e., Implementation Phase) of the IEL project is now in the planning stage within USAID. This will constitute the beginning of a program which will reduce recurrent costs for primary education. Plans for Phase II of IEL should include a careful review of the capabilities of the inspectorate to provide the supervision required for the system.

Recommendation 4: Expand IEL Implementation. During the phased implementation of the IEL system, it is expected that improvements will be made in the management system and the teacher-training procedures. Depending on experience with the system, there also may be some improvements in the instructional materials. Once such changes are made, the

system will be ready for an expanded implementation. It is at this stage that the greatest benefits can be realized in the reduction of recurrent costs, as the fixed costs of materials modification, administration, and materials production can be spread over a large number of schools and students. Following the Phase II funding anticipated from USAID, the Ministry of Education may be able to continue the expanded implementation at a unit cost lower than that required for the conventional system. The large-scale production of materials required during this phase can be supplied by the educational materials acquisition and distribution capabilities which will be institutionalized within the Ministry of Education.

3.5.2 Second Priority - Administration and Supervision: Recommendations 5-6.

Recommendation 5: Continue Staff Development. External funding should be identified for training additional staff as subject matter specialists for curriculum development and for monitoring instructional programs; for advanced training in statistics, educational planning, and educational economics; and for evaluation of vocational training programs.

Recommendation 6: Monitor Current Programs. A monitoring system should be designed and implemented for all current programs affecting primary education. This should be done with the assistance of specialists provided under the Fourth Education Project and should include a monthly progress report submitted to the Deputy Minister for Planning and Development.

3.5.3 Third Priority - Equity: Recommendations 7-8.

These two recommendations focus on reducing regional, urban/rural, and male/female enrollment imbalances in access to primary education. The effects of these recommendations will be modest without a program of expanded access.

Recommendation 7: Emphasize School Location Planning. The current emphasis on school location planning should be continued. New schools and replacement schools should be located in rural areas having sufficient concentrations of school-age populations to allow access as well as

regional imbalance to be addressed, and emphasis should be given to the placement of trained teachers in these schools.

Recommendation 8: Encourage Female Enrollments. Consideration should be given to ways by which female enrollments can be encouraged, such as the selective use of scholarships or subsidies, especially in rural areas. A campaign might be implemented, for example, to utilize the government and USAID-sponsored Liberian Rural Communications Network. Messages on this radio network, having county stations reaching remote areas of the country with local language programming, could be very effective in sensitizing the rural population to the benefits of primary schooling for girls. These messages could emphasize the returns to basic education for females, such as economic productivity, improved family planning, maternal care, and health benefits.

3.5.4 Fourth Priority - Access: Recommendations 9-12.

The remaining four recommendations pertain to development of an appropriate model for low-cost school construction, involving local initiative for construction and maintenance, and the application of this model for replacement schools and new schools.

Recommendation 9: Develop Appropriate-Cost School Model. A model for school construction should be developed based on low-cost construction techniques found useful in other developing countries. This model should use locally available materials, where appropriate, and be planned so that members of the recipient community can contribute to the labor and material requirements. Maintenance needs should be minimal, and the model should be designed so that most maintenance can be done with community-provided labor and materials.

Recommendation 10: Construct Appropriate-Cost Demonstration Models. Demonstration models should be constructed with external financing in rural areas throughout the country. A single demonstration model in each county may suffice to demonstrate the feasibility of this program on a nationwide basis, given sufficient publicity and a strong endorsement by government. It may be possible to capitalize on current economic difficulties by using them to initiate a self-help campaign for new schools. By using the Liberian Rural Communications Network to publicize

the self-help aspects of the demonstration model, these more modest but appropriate schools may become acceptable and even politically desirable.

Recommendation 11: Construct Replacement Schools. A program of replacement school construction, with a focus on rural areas, should be implemented with external financing. This program, which will not involve any incremental recurrent costs, should be made available only to those communities that agree to participate in the construction and maintenance of the replacement schools. As with the construction of the demonstration models, this program can be made more effective through publicity in the mass media.

Recommendation 12: Construct New Schools. This final recommendation to expand access cannot be implemented prior to a substantial economic recovery. Following this recovery, which is not anticipated for the next several years, a program of new school construction should be started. This program could begin with external financing, as long as internal financing can accommodate the increased recurrent costs. The new schools should be located to redress regional, urban/rural, and sexual imbalances. Given an economic recovery and the success of the IEL pilot program, it may be possible to extend primary educational opportunities to a large majority of the population in the near future.

4.0 SECONDARY EDUCATION

Government's goals for secondary education are to be achieved within a program for limited expansion of enrollments. The four goals are to (1) improve internal efficiency with an emphasis on instructional quality, (2) reduce wastage within the lower secondary cycle, (3) make instructional program content more relevant to post-secondary education and employment requirements, and (4) address regional imbalances in access and equity. These goals will be pursued within the financial constraints anticipated for the next several years.

The current status of secondary education is reviewed at the beginning of this section, including a description of currently-funded plans directed at some of the outstanding needs. Basic issues in secondary education are then presented and discussed, followed by recommendations which focus on several basic areas of need not fully covered by present development plans. These recommendations principally aim toward improving the efficiency and relevance of the instructional program, with some emphasis on redressing regional imbalances in access and equity.

4.1 STATUS

The government's goals for secondary education are presented in this section, followed by a description of the structure and organization of the secondary system. This is followed by a description of the current status and present funded plans of the Ministry of Education in the areas of administration and supervision, access, equity, internal efficiency, external efficiency, and costs and financing.

4.1.1 Goals and Strategies

There are four goals for secondary education: an improvement of the internal efficiency of the instructional program with an emphasis on

reducing wastage at the lower secondary cycle, a revised curriculum which will be more relevant to post-secondary opportunities for continued education and especially for employment, a selective increase in the number of adequate facilities through replacement and upgrading of existing schools, and a reduction of regional imbalances in access and equity. These goals are evident in the secondary education strategies and plans described in the National Socio-Economic Development Plan (1976) and in the National Education Plan (1978-1990).

Several of the strategies to attain these goals are included in those components of the Fourth Education Project, described more fully in the primary education section of this assessment, which focus on staff development within the Ministry of Education to improve capabilities of project management, general administration, and educational planning. The Fourth Education Project also will help the University of Liberia plan the next development phase of its teacher education program.

During the preparation phase for the Fourth Education Project, considerable time was devoted to planning a secondary education development project coordinated with anticipated achievements at the primary level. Much of the Ministry of Education's present strategic thinking on secondary education is based on having a program closely coordinated with currently funded activities at the primary level. Such a program should emphasize strategies to strengthen the existing instructional program, improve program relevance through curriculum reform, replace or upgrade existing facilities, and redress regional imbalances in access and equity. Specific strategies to achieve these objectives are discussed more fully below.

There is a single overriding consideration which gives cohesiveness to the Ministry of Education's strategies and plans for secondary education and makes this program central to the country's goals for economic recovery. In addition to the policy reforms which will be required for economic recovery, there needs to be an increase in the availability and utilization of human resources in technical areas, middle management, and for both social and political leadership. Post-secondary education and training programs are the source of trained nationals in all of these areas, and the secondary programs providing students to these programs are

not now graduating individuals with the appropriate skill levels required for entry. As a consequence, many of the post-secondary education and training institutions devote much of their staff and financial resources to remedial programs--teaching, in effect, what should have been taught in the secondary schools. This is most evident at the University of Liberia, but similar problems are encountered at vocational and technical institutes, commercial schools, and out-of-country undergraduate programs.

It is important to keep in mind that the quality of performance in post-secondary programs and technical fields vital for Liberia's development depends upon high quality preparation in secondary schools.

4.1.2 Structure

After completing the primary school cycle through grade six, students enter the secondary cycle. This cycle is composed of three years of lower secondary and three years of upper secondary, all under the management of the Ministry of Education. About 37 percent of the lower secondary places and 41 percent of the upper secondary places are operated by missions and other non-government entities acting under the authority of the Ministry of Education.

Many schools do not provide the full range of secondary grades. The 1978 survey, for example, reported 358 schools that offered some secondary level classes: 36 of these schools (10%) offered no classes beyond seventh grade, 37 (10%) offered none beyond eighth grade, 170 (47%) none beyond ninth grade, 15 (4%) had no classes beyond tenth grade, 7 (2%) had no classes beyond eleventh, and only 93 (36%) had classes through twelfth grade.

Two schools within the secondary system, referred to as multilateral schools, were established to have a diversified curriculum with streams for academic programs as well as vocational and agricultural programs. These two schools were constructed, furnished, and equipped under the First World Bank Education Project. They are located at Voinjama and Zwedru. An analysis of their effectiveness is given below in Section 4.1.6 (Internal Efficiency).

4.1.3 Administration and Supervision

Over the next few years the Ministry of Education will strengthen its institutional capabilities in administration, planning, and educational supervision. Plans to accomplish this will be funded within the Fourth Education Project, which is described fully in the primary education portion of this assessment (Section 3.1.3).

Staff skills will be strengthened by certificate and graduate training in administration, accounting, business administration, and related areas. Planning will be made more effective by the establishment of a microcomputer-based management information system. In addition, three regional education centers will be established to make the full range of administrative services, including an improved inspectorate, more effective throughout the country.

4.1.4 Access

There has been a consistent high annual increase in secondary enrollments over the past several years. Enrollments have increased from 13,000 in 1963 to about 56,600 in 1981, representing an annual growth of 12 percent. This indicates significantly increased access to secondary education. The annual growth of primary enrollments was six percent. Despite a larger population base (3% average annual growth rate), the increase indicates the relative emphasis given to secondary education during the years 1968 to 1981.

There is a need to improve the physical facilities available to support the instructional program. A total of 614 (43%) of the 1,441 public and private schools included in The National Education Survey 1978, for example, were not originally designed as school buildings. The 614 schools were built as churches (242), private houses (156), town halls (73), or to serve other purposes not specified in the survey (143). Of the 1,441 schools, only 478 (33%) were owned by government, and 356 (25%) were owned by a nonpublic institution. Of the remaining institutions, 177 (12%) are leased by government, 48 (3%) are leased by a nonpublic institution, and 382 are classfied as "other." Although the survey data are not reported separately for primary and secondary schools, Ministry of Education sources report a general need for more adequate physical facilities at all levels of the system.

The 1978 survey does report data for about 300 junior and senior secondary schools regarding libraries, science laboratories, and workshops. These results indicate a critical need for improvement in these facilities. For this group of 300 schools, eight percent had libraries in the same building where instruction took place, and 45 percent had libraries in a separate building. Twenty percent of the schools had science laboratories used once a week or more often. Workshops for technical and vocational courses were reported as being in the school building for seven percent of the schools and in separate buildings for 31 percent. Workshops for industrial arts were found in school buildings for four percent of the schools, and in separate buildings for 19 percent.

These percentages must be understood in light of the quality of the facilities. The survey reports, for example, that "a simple analysis of the existing library stocks reveals that almost 60 percent of the children have no individual textbooks in most of the subject areas...[and]...while there are some books on social studies and language arts, there is a dire shortage of mathematics and science books in all schools." As there have been no substantive efforts to upgrade these facilities over the past few years, the 1978 data accurately reflect the 1982 condition of school facilities throughout the country.

Student/teacher ratios are 21:1 for the 34,400 enrollees at lower secondary, and 17:1 for the 22,200 at upper secondary. The ratio of 20:1 for the full secondary cycle is among the three lowest reported for 17 other West African countries (Staff Appraisal Report, World Bank, Report No. 4010-LBR, p. 35).

Multiple shifts are being used in many schools to extend access with present facilities. The approximately 300 junior and senior secondary schools studied for the 1978 survey, for example, were then offering an average of 1.6 daily sessions per school. This reflects a relatively high rate of utilization, and there is less opportunity here for expanding access than might be inferred from these figures: many of these schools are already serving all students within their areas, schools in most rural areas and even county seats are restricted from evening sessions because of a nonexistent or unreliable electricity supply, and most of the schools in Monrovia are already operating at full capacity.

4.1.5 Equity

Since there are secondary places for only 86 percent of the students who complete sixth grade, a backlog builds year by year. The enrollment ratios, which indicate the number of school age children attending school, are 26 percent for lower secondary and 17 percent for upper secondary. Although these ratios are among the highest in West Africa, opportunity for secondary education is not available to a majority of the school-age population.

There are wide variations--geographical as well as urban/rural differences--with respect to access and the quality of instruction. Educational development began in the coastal areas, and many signs of this formative emphasis remain. Forty-seven percent of all lower secondary enrollments, and 61 percent of those at the upper level, are in Montserrado County (incuding Monrovia) which has about 29 percent of the total population. At the other extreme, only two percent of lower secondary places and one percent of upper secondary places are in Grand Cape Mount County, which has four percent of the total population. This variation is reported in The National Education Survey 1978, but very likely has not changed substantially over the past few years. Compounding these imbalances in access, according to the Second National Development Plan and as reflected by regional variations in teachers' salaries in the Ministry of Education's 1982-83 budget, is a concentration of more highly qualified teachers in the coastal areas.

Information on teachers' salaries, as reported in Section 2.4.2 of this assessment, indicates significant variation in teachers' salaries by county. The reason is likely to derive from differences in the proportions of primary to secondary school teachers by county, the primary teachers usually being less qualified and thus less paid, and from between-county differences in qualification standards. Thus, Montserrado County teachers have the highest average salary because of a larger proportion of secondary teachers and, within each educational level, more qualified teachers.

Girls are significantly under-represented at the secondary level. Girls account for an overall enrollment of 26 percent at the lower secondary level and 22 percent at the upper level. There also are variations

among the counties. At the lower secondary level, enrollments vary from a low of 20 percent for Lofa County and Sinoe County to a high of 34 percent for Montserrado County. At the upper secondary level, enrollments vary from a low of 17 percent for Grand Cape Gedeh County to a high of 36 percent for Grand Cape Mount County. The above data on overall enrollments are based on a 1982 survey, and the county data are from the 1978 survey. Overall enrollments for girls were slightly higher in 1978 than reported for the 1982 data: 30 percent versus 26 percent at lower secondary, and 28 percent versus 22 percent at upper secondary.

There are no formal barriers restricting female enrollments, and the above disparities reflect social, economic, and cultural factors. Data on percentages of female enrollees show a progressive decline in female participation in formal education: 43 percent at pre-primary, 35 percent at primary, 26 percent at lower secondary, and 22 percent at upper secondary. The government wishes to redress these imbalances, as well as those related to access, and will examine ways to do so within the financial constraints it will face over the next several years.

4.1.6 Internal Efficiency

The number of graduates leaving the secondary system each year appears adequate to satisfy post-secondary education and training requirements for the most immediate future, as Section 2.3 of this assessment documents. Also, the number more than fills the job openings for which secondary education is required. The quality of these graduates, however, could be improved significantly by increasing the internal efficiency of the secondary system. School buildings alone, in other words, do not make an effective educational system. They are only one component. It is the learning that takes place in the system that constitutes the essential criterion for education.

The most promising opportunities for improving the internal efficiency are in the following areas: increasing the supply and quality of the teaching force, developing the school inspectorate, enhancing instruction in science and mathematics, making basic science laboratories available to more students, improving language skills, and implementing a revised curriculum closely aligned with the national examinations.

The production of trained secondary teachers will not meet projected demands over the next several years. Compounding this shortage of newly trained teachers is the large number of untrained teachers in the classrooms. About 30 percent of all teachers already in the country at the time of the 1978 survey had no pedagogical training, with no significant differences for government and non-government schools. The need for improvement in the numbers and quality of trained teachers is further underscored by the dependence on expatriate teachers. Roughly 20 percent of the lower secondary teachers and 30 percent of the upper secondary teachers are non-Liberians, and many of these are in the critical development fields of science and mathematics.

A related problem is the lack of a suitable program of incentives for teachers. The terms and conditions of employment for teachers are not sufficient to attract adequate numbers of suitably qualified and motivated individuals to this profession. The topic of teacher education is treated more fully in Section 6.0 of this assessment.

The effectiveness of teachers would be improved by a more functional school inspectorate. The educational supervisory system is highly centralized with insufficient numbers of trained supervisors and inadequate logistical support for effective supervision outside of Monrovia.

Textbooks and related instructional materials are in short supply throughout the country, especially in the rural areas. Survey data on textbook use are not available, but experienced educators assert that the problem is even more serious than at the primary level. One reason is the cost of textbooks on the Ministry of Education's approved list, which ranged from $47 to $76 per set in 1981. Even in cases where parents can afford to purchase the books, availability is often a problem. The book distribution system, for example, only extends to the Monrovia area. There is a single government bookstore, located in the Ministry of Education. There are some private outlets for new and used books, but these serve mostly the Monrovia area.

Instruction is particularly weak in the areas of science, mathematics, and language skills, important subjects for many post-secondary pursuits related to economic development. The shortage of science

laboratories, libraries, and workshops will have to be addressed in order to improve instruction in these areas.

The curriculum is not used as an instructional guide in most schools. Copies of the official syllabus were found only in about 41 percent of the schools covered by the 1978 survey. The national examinations, given at the end of lower and upper secondary, can serve as a quality control indicator for the instructional programs in the schools only if the majority of these schools base their teaching on the official syllabus.

Funding is available for two of the several strategies which the Ministry of Education has identified for secondary education. Both of these will be financed under the Fourth Education Project described earlier (Section 3.1.3). These two strategies focus on making the inspectorate more effective, for both primary and secondary education, and on improving teacher education.

Both of these plans address very important and basic areas in primary and secondary education, and their long-term effects on the efficiency of instruction at both levels are potentially dramatic. Details of plans for improving the inspectorate have been covered in the portion of this assessment dealing with primary education.

The capabilities of the University of Liberia for traditional pre-service and in-service teacher education will be increased for both the primary and secondary levels. The assistance in this area will comprise technical assistance to the University's W.V.S. Tubman Teachers College and several fellowships. This program will allow the education faculty to be increased from 15 to 20 and the number of students taught to be increased from 300 to 400.

4.1.7 External Efficiency

The manpower supply and demand analysis in Section 2.3 of this assessment indicates a currently adequate number of secondary school graduates and suggests that development strategies in this area emphasize instructional quality rather than expansion of enrollments. This is, in fact, the policy endorsed by the Ministry of Education as the theme for all planning in secondary education.

Most secondary schools offer general academic curricula, and these probably are suitable to the majority of post-secondary pursuits. Development strategies will focus on improving the quality of instruction within these programs. These should promote economic growth by contributing to the pool of manpower available for further academic training or job-related training.

Two diversified (multilateral) secondary schools were established under the First World Bank Education Project, one at Voinjama and the other at Zwedru. Vocational and agricultural programs were planned for these two schools in addition to the general academic stream. The non-academic streams of these schools have never become fully operational. Major problems have been insufficient planning and lack of funds to support this ambitious undertaking. Qualified teachers in the technical areas were not hired, specialized curricula were not fully developed, consummable materials for the shops were in short supply, and much of the originally specified equipment never arrived at the schools.

4.1.8 Costs and Financing

An analysis of the costs and benefits for all levels of the formal educational system is given in Section 2.4 of this assessment. The present section gives an overview of the costs and finances for secondary schools only.

The Ministry of Education has allocated 33 percent of its recurrent costs to secondary education for the past three fiscal years. When compared with other West African countries, as indicated by data cited in Section 3.1.9 above, this level of expenditure is below the median. With respect to rate of progression from primary to secondary, however, Liberia is among the highest in West Africa.

Unit costs and rate of return calculations for different levels of education are given in Section 2.4.6. Indicative rates were calculated for public primary education, public secondary academic education, public secondary vocational education, and higher education. These rates were calculated by estimating the average direct costs (e.g., tuition, books, etc.) and relinquished earnings which were then compared to the estimated increase in lifetime earnings attributed to education.

The return to private investment plus government investment in public primary education was estimated to be 41 percent per year. Returns to nonpublic schools would vary from this estimated level, depending on the private costs in the schools and on whether nonpublic primary school graduates would be expected to have different earnings. In other situations, the private rates have been found to be slightly less, and the total returns slightly more, than for public schools.

In calculating the returns to secondary academic education, the earnings relinquished as a primary school graduate were regarded as a cost for secondary education. Also, the benefits of secondary education were assumed to be equal to the graduate's estimated earnings less what they could have earned as a primary school graduate. Based on these assumptions, the total rate of return was estimated to be 20 percent per year. Table 2-6 summarizes the assumptions upon which these rates of return were based.

Certain policy guidelines may be inferred from the manpower supply and demand data reported in Section 2.3.4, the unit costs in Section 2.4.2, and the estimated rates of return. There is, for example, justification for a major policy focus on primary education if lifetime earnings are used as the single criterion to evaluate returns on investments in education.

The data also suggest that some emphasis be given to secondary academic education, where the rate of return (20%) is higher than for either secondary vocational education (14%) or higher education (8%). Another consideration is that improvi g the quality of the secondary academic education system would provide more productive workers to the labor force and reduce the expenses now incurred by the higher education institutions for costly remedial instruction of beginning students.

External assistance consists of those components of the Fourth Education Project, as described in Section 3.1.3, related to staff development in the Ministry of Education, assistance with the school inspectorate, and teacher education. In addition, the African Development Bank is financing a project to develop lower secondary education in the southwestern rural areas.

4.2 NEEDS

Four areas of outstanding needs are set forth in this section, based on a comparison of the government's current plans and strategies with the four goals described above in Section 4.1.1 This is followed by an analysis of constraints and issues. This portion of the assessment concludes with nine priority-ordered recommendations for activities to improve secondary education.

4.2.1 Internal Efficiency

There are four apparent needs with respect to improving the quality of the instructional program, three in the area of operations and one in evaluation research. The operational needs relate to a curriculum review, the provision of instructional materials, and the increased availability of basic science laboratories. The research need, described below, is to explore alternate and more efficient delivery systems.

The recently revised curriculum should be reviewed in the light of the overall instructional goals for secondary education. A syllabus should be prepared with a detailed scope and sequence of instructional objectives for each level to insure an effective and uniform coverage of the curriculum. It is especially important that the syllabus be suitable as an instructional guide since not all teachers are fully trained. A related need is for the national examinations to be explicitly keyed to the instructional objectives of the syllabus, and for the role of these examinations to be supported as a measure of quality control for individual schools and for the Ministry of Education.

The second operational need is for improved availability of instructional materials. This need might be met by an educational materials identification, acquisition, and distribution project similar to the one for primary schools. Once the latter program has begun to operate successfully, which could occur in about two years, it could be extended to include instructional materials at the secondary level. The need for suitable instructional materials to improve language skills is particularly acute.

The limited availability of science laboratories is the basis for the third operational need. An increase in laboratories and supplies is

mandatory for a meaningful basic education incorporating a solid foundation in scientific principles.

The evaluation research need is to examine alternate instructional systems, such as those which were technological predecessors to the Improved Efficiency of Learning Project (IEL), which might be applicable at the secondary level. If the IEL system is found cost effective at the primary level, the materials and management system of that project could be examined to determine if they might be extended to a higher level of the system.

4.2.2 Access and Equity

Access and equity improvements are not currently reflected in government's strategies for secondary education. Social needs in these two areas could be met by a program to replace and/or upgrade existing schools, with target areas selected on the basis of current regional imbalances.

4.2.3 Costs and Financing

Needs in this area are related to reducing the unit costs of the secondary instructional program. There are three prominent needs, one relating to the subsidy program, a second to the possibility of increasing student/teacher ratios, and the third to reallocation of funds within the Ministry of Education.

The background on current operations of the subsidy program is reviewed in Section 2.4.2. There is a need for this program to be rationalized further, beyond the present guidelines which specify criteria for program inclusion but not for level of subsidy, to ensure a more effective allocation of public funds.

The student/teacher ratios of about 21:1 for lower and 17:1 for upper secondary allow opportunity for increasing access with no increase in salaries simply by increasing the ratios. In the absence of research indicating any detrimental effects on learning associated with larger classes, this should be considered wherever possible to reduce unit costs of instruction.

The third need is for an evaluation of the multilateral schools to determine whether the current levels of financial support are justified for schools not serving their planned functions as diversified training institutions. For fiscal year 1983, the Ministry of Education has budgeted $630,200 for the multilateral school at Voinjama and $436,400 for the one at Zwedru, as shown in Table 2-6. To the extent that budgetary allocations reflect priorities, these amounts are unsually high compared with amounts for teacher training at KRTTI ($552,600) and ZRTTI ($484,200), for adult education ($151,400), and for in-service teacher training ($54,600).

4.3 PLANS

Government has formulated plans for secondary education for which funding has not yet been identified, and they are described in this section. Development of most of these plans, as mentioned above, was collateral to preparation of the working papers for the Fourth Education Project. The plans are based on goals identified in the National Socio-Economic Development Plan and the National Education Plan (1978-1990).

The internal efficiency of the secondary system will be increased through improvement of the programs for in-service and pre-service teacher education at the University of Liberia, and a strengthening of the instructional programs at existing schools in selected areas.

Access will be addressed by a program of construction and replacement which will redress regional imbalances in the current distribution of schools. An improved incentive program is planned to make rural areas more attractive to qualified teachers. These latter two programs, both of which will incur considerable costs, are not planned for internal funding in the immediate future.

4.4 ANALYSIS

The constraints which affect all proposed activities in secondary education are given in the following section. This is follwed by a discussion of several critical issues, and the analysis section closes with several conclusions based on the constraints and issues.

4.4.1 Constraints

The dominant constraint for all activities in secondary education is the scarcity of additional internal funds for existing as well as proposed programs. The severity of this restriction is documented in Section 2.0 of this assessment, and its effect on primary education is presented in Section 3.4.1 above. The most important point of the economic analysis is that even a conservative projection of recurrent costs over the next ten years equals or exceeds an optimistic expectation for revenue.

The implication of this constraint is the same as for primary education: new programs based on internal funds should represent a more effective use of available resources with no recurrent cost increment, and any programs sponsored by external sources must include recurrent as well as capital costs. Any new programs, in addition, should be designed to have a minimal impact on postprogram incremental recurrent costs and to focus on making more efficient use of available resources.

4.4.2 Issues

The following discussion of issues in secondary education covers topics on administration and supervision, internal efficiency, access and equity, and costs and financing.

4.4.2.1 Administration and Supervision

The issues related to administration and supervision are basically the same as those for primary education, related as they are to the managerial effectiveness of the Ministry of Education. Over the past few years the government has made significant improvements in the administrative and planning capabilities of the Ministry of Education. Furthermore, significant new programs have recently been initiated to improve the structural outreach of the Ministry through three regional education centers, to develop staff capabilities in several critical areas, and to introduce a microcomputer-based management information system.

The first issue in this area is whether these new programs can become fully operational in the next two or three years, that is, in enough time to have a short-term impact on secondary education. These programs are

presently scheduled for implementation over six years, and it would be desirable to have some improvements in secondary education much earlier.

The second issue concerns the fiscal and managerial feasibility of the program to improve the school inspectorate through the three new regional education centers. The Ministry of Education has a history of weak management of staff under direct control in Monrovia. This control may be even less effective for operational staff in centers that are further removed from the Ministry's direction. Related to this issue of staff control and effectiveness is the problem of recurrent costs for proposed operations of the inspectorate. Transportation costs are the major barrier to an effective inspectorate. Recurrent costs will be very high for the acquisition, maintenance, and operation of the many vehicles required for supervision in the rural areas. Maintenance is poor and operational funds are scarce for the Ministry's vehicle fleet in Monrovia, and these difficulties are likely to be even more severe in the regional centers.

4.4.2.2 Internal Efficiency

Six issues concerning internal efficiency are discussed below. These relate to problems with teacher education, availability of materials and teachers for science and mathematics subjects, the relevance and utilization of the curriculum, the lack of instructional materials and facilities maintenance, the low quality of graduates supplied to post-secondary training programs, and development or adaptation of an alternative instructional model for secondary level instruction.

There are two aspects to the issue of teacher education. The first is whether the University of Liberia, with assistance it will receive within the Fourth Education Project, will be able to improve the quality and quantity of trained teachers in time to meet the pressing need for more and better teachers. Related to this is the overemphasis on academic credentials in teacher education in lieu of an incentive program to attract better qualified and more highly motivated individuals to the teaching profession.

The program to improve teacher education at the University of Liberia, described above in Section 4.1.6, will provide fellowships to increase the education faculty from 15 to 20. It may be several years before the impact of this increase is realized in terms of an increase in the annual production of trained secondary teachers. Since most of the education graduates go into teacher training or administration, the program at the University does not directly contribute to the alleviation of the shortage of teachers.

The second aspect concerning teacher education is the current emphasis on improving training which focuses on course-based certification rather than the attainment of particular teaching skills. In other words, the training programs are input-oriented rather than output-oriented. Having taken a prescribed set of pre-service or in-service courses is assumed equivalent to having acquired specified teaching skills, and salaries are adjusted accordingly. There is considerable opportunity for improving the internal efficiency of the secondary system by the design and implementation of a certification program based on demonstrated teaching skills.

The second issue concerning internal efficiency is how to improve the instructional programs in science and mathematics. These important areas are weak, not only because of the lack of fully qualified teachers but also because of the shortage of science laboratories, libraries, and related instructional materials. Initial and recurrent costs for improvement in this area are high, although very effective with respect to results. This is a serious issue because of the importance of these subjects for development-related post-secondary pursuits and because of the barrier to implementation associated with the high costs.

The suitability and availability of the recently revised curriculum and its derivative syllabus constitutes the third issue. A related concern is the potential role of external examinations for instructional quality control at the secondary level. These three aspects of this third issue are closely related and should be examined together.

It is important that the revised curriculum reflects clearly the government's policies for secondary education. This requires an examination of government's position on academic versus diversified

secondary education and on the role of external examinations for instructional quality control. The Liberian National Office of the West African Examinations Council (WAEC), for example, now develops and administers national examinations at the conclusion of lower and upper secondary education cycles. These examinations could perform an effective role in improving instructional quality if several conditions are met: a responsive syllabus with an instructional objectives format would have to be available to every teacher, the present national examinations would have to be improved and linked closely to these objectives, and the results of the examinations would have to made public so that private and public supporters of the schools would be aware of the instructional effectiveness of individual schools. External examinations at the conclusion of secondary schools are used throughout the other member countries of WAEC--Nigeria, Ghana, Sierra Leone, and the Gambia, and these external examinations have served an important role in maintaining standards of secondary education.

The lack of sufficient instructional materials and the absence of a well-functioning facilities maintenance program comprise the fourth issue concerning internal efficiency. The severe lack of textbooks and other materials, except for the Monrovia area, has been cited above in Section 4.1.6. Shortages of chairs, desks, and furniture also contribute to a lowering of instructional effectiveness. This is an especially acute issue because of the very basic role of textbooks in instruction. The high cost of books on the Ministry's prescribed list, as noted previously, makes it practically impossible for parents of students to obtain them. A subsidy for the textbooks, in light of restrictions on the Ministry's budget, is not a viable option. What remains is for some strategy to reduce the cost of these textbooks or to supply them to students with external funds. The latter approach has been taken with donor funds in several countries with fairly consistent results. Modern textbooks are available for the first time nationwide during the time when funds are available; following the project there are no more textbooks. The only effective strategy to address this isue is one which institutionalizes a program that continues to make textbooks and related instructional materials available after the project is completed.

The fifth issue bridges internal and external efficiency and relates to the low quality output of the secondary school system and its effects on post-secondary education and training. Improving the quality of the secondary education system would contribute to economic productivity directly by upgrading the work force, and indirectly by improving the skills of persons entering formal post-secondary training programs as well as on-the-job training in the public and private sectors.

The sixth and final issue concerns the possibility of developing or adapting an alternative instructional system for the secondary level. Such an approach for primary school is now being explored on an experimental basis through the USAID-sponsored IEL project at Gbarnga. This approach is adapted from similar technologies for instruction at the primary level developed in the Philippines, Indonesia, Malaysia, Thailand, and Jamaica.

There are analogous models for alternative instructional systems at the secondary level, however, and these could be explored to determine whether they might be adapted for Liberian use. Two possible models for study are Project SAGE, developed at INRS (Institute National de la Recherche Scientifique) in Quebec, Canada, and Project PLAN, developed at The American Institutes for Research in the United States. Project PLAN, a program of individualized instruction which has been developed for both primary and secondary schools, seeks to have students participate more fully in the planning and management of their classroom activities. It might be feasible to utilize experience with the IEL technology in Liberia to adapt appropriate aspects of such models to improve portions of the instructional system in Liberian secondary schools.

4.4.2.3 Access and Equity

The single compelling issue with regard to access and equity is the same as reported earlier for primary education: it is not possible to make any significant advances in access, or major reductions in regional and male/female enrollment imbalances, without an expansion program. Given that expansion of secondary level enrollments is not a current priority goal of government, and that the manpowr supply and demand analysis of this assessment indicates an adequate number of secondary

level graduates, it is not likely that government will be able to make any meaningful reduction in these imbalances in the immediate future.

Imbalances in access could be reduced in a minor way through construction of replacement schools with extended capacity and through upgrading schools in rural areas, but these modest efforts would not make a significant reduction in present discrepancies. Some reduction of imbalances in enrollments for girls could be achieved by a campaign emphasizing the social benefits of increased participation by females in education.

4.4.2.4 Costs and Financing

The major issue concerning finances is how to fund any changes at all in secondary education. Since additional gross recurrent costs of government will not increase over the next few years, there are really only two possibilities for new projects or programs. The first is to design programs which require no incremental recurrent costs, and the second is to design ones whose incremental recurrent costs come from reductions in other projects or programs.

The first possibility should be given priority, and efforts should be made to pursue this approach wherever possible. The second should only be used when reallocations do not have adverse affects on other educational activities. Reallocations from budget assignments outside the Ministry of Education seem unlikely, given the recent cutbacks for all ministries and agencies. Reallocations within the Ministry of Education are a possibility, but the rate of return data from Section 2.0 of this assessment indicate that reallocation to the primary level would be more reasonable than to the secondary level. Shifting the funds within categories of secondary education, however, might be possible.

Given the unusually high costs of instruction in the diversified schools at Voinjama and Zwedru, cited in Section 4.2.3, it might be possible to make more effective use of the $1.07 million spent annually for their operations. This concern is particularly compelling because neither of these schools is offering the diversified instruction for which they were designed, and which might possibly justify such a high recurrent investment.

4.4.3 Conclusions

The constraints and issues discussed above have led to the following six conclusions. In the next section, these conclusions form the basis for specific program recommendations to improve secondary education.

Conclusion 1. Improvement of instructional quality should be given the highest priority, with particular emphasis on the areas of science, mathematics, and language skills.

Conclusion 2. As a prerequisite to improving instructional quality, textbooks and related instructional materials must be made available, as well as such support facilities as libraries, science laboratories, and workshops for technical and pre-vocational courses.

Conclusion 3. The curriculum should be reviewed with a view to its detail and relevance for post-secondary academic and employment pursuits, revised if found deficient, and copies made available to every secondary teacher.

Conclusion 4. The present system of external examinations at the end of lower and upper secondary school should be improved, closely aligned with instructional objectives which are clearly stated in the syllabus, and used as a means for quality control of the instructional program.

Conclusion 5. Imbalances in access and equity are seriously constrained without a program to expand enrollments, but these inequities should be addressed to the greatest extent possible within the limits of present resources.

Conclusion 6. The reallocation of funds should be examined closely as a means of making more effective use of existing resources with a special focus on reducing or eliminating low-priority programs.

4.5 RECOMMENDATIONS

These recommendations are grouped in order of their priority, according to their emphasis on internal efficiency as a first priority, access as a second priority, and equity as a third priority. As with primary education, these programs were selected to have a minimum impact on recurrent costs, and any such costs should be provided by external assistance.

4.5.1 First Priority - Internal Efficiency: Recommendations 1-5.

These recommendations all focus on improving the internal efficiency of the instructional system. All have modest design, planning, or installation costs for which external funds should be sought. None would require any incremental recurrent costs, and two (Recommendations 1 and 5) offer the possibility of reducing unit costs per graduate.

Recommendation 1. Use Existing Funds More Effectively and Efficiently. The Ministry of Education should conduct a study of the use of funds by type of program to improve the relevance and effectiveness of the entire scope of educational activities. All programs should be reviewed with respect to educational goals of the government. Programs not contributing to these goals should be reduced or eliminated. If government does not endorse diversified education at the secondary level, for example, the unusually high expenditures for the multilateral schools should be reduced and reallocated to higher priority areas. The role of all current programs should be examined in a similar manner. Ways should also be explored for the more efficient use of available funds. The subsidy program is a prime target for further improvement in this regard, as has been discussed in Sections 2.4.2 and 3.5.1.

Recommendation 2. Provide Affordable Instructional Materials. A program should be institutionalized to provide low-cost and affordable instructional materials, including textbooks, on a self-financing basis. If the recently initiated program to provide such materials at the primary level is found workable, the program should be extended to cover secondary schools. The pilot test for the primary program, to take place early in 1983, will give some indication of the feasibility of this approach.

Recommendation 3. Develop and Install Appropriate-Cost, Basic Science Laboratories. A model basic science laboratory should be designed using local materials and consummable supplies. The design of this laboratory should be based on science and mathematics instructional objectives of the secondary school curriculum, and components should be designed to serve multiple purposes to minimize the total amount of equipment required. The studies done by the Science Education Program for Africa (SEPA) would probably provide useful guidelines for the preparation of this design. To the greatest extent possible, construction should be

provided which permits the demonstration of basic scientific and mathematical principles using locally available materials and substances. These laboratories should be installed throughout the country in all secondary schools having adequate support facilities, with costs borne by external sources. Given the design, the recurrent costs should be low.

Recommendation 4. Effectively Implement the Revised Curriculum. The recently revised curriculum should be evaluated to determine its relevance to government's educational goals. An appropriate curriculum should be used to derive a syllabus containing instructional objectives with the appropriate scope and sequence necessary to form the basis of a systematic approach to teaching. The national examinations, given at the end of lower and upper secondary, should be improved, closely tied to instructional objectives of the syllabus, and used as a means of quality control for individual schools.

Recommendation 5. Explore Alternate Instructional Systems. Alternate instructional models for the secondary level, such as derivatives of Project PLAN and Project SAGE, mentioned at the end of Section 4.4.2.2, should be investigated as ways to reduce costs or increase effectiveness of instruction at the secondary level.

4.5.2 Second Priority - Access: Recommendations 6-7. These two recommendations focus on modest improvements in access. Neither would require any significant increase in recurrent costs as they rely on the replacement or upgrading of existing schools. Because the replacement or upgrading can involve moderate expansion of the capacity of the schools, a small increase in school places will result.

Recommendation 6. Construct Replacement Schools. Selected schools in rural areas, which are of inadequate size and design and in extremely poor condition, should be replaced with schools designed to incorporate low-cost techniques and locally available materials found to be cost effective. The design also should allow for local maintenance.

Recommendation 7. Upgrade Existing Schools. Existing schools in selected areas should be upgraded using the same principles set forth in Recommendation 6.

4.5.3 Third Priority - Equity: Recommendations 8-9.

These last two recommendations concern improvements in equity to the extent that this important goal can be addressed in the immediate future without a program of expanded access.

Recommendation 8. Emphasize School Location Planning. As recommended for primary schools, the ongoing principles for school location planning should continue to be applied to selected schools for replacement or upgrading as covered in Recommendations 6 and 7. Rural areas should be given priority for replacement and upgrading of schools.

Recommendation 9. Encourage Female Enrollments. Female enrollments should be encouraged throughout the country with a special emphasis on rural areas. The Liberian Rural Communications Network, which will be able to deliver local language radio messages throughout the country, should be used for a major campaign. This should be done in conjunction with a similar campaign to encourage female enrollments at the primary level.

Note: The portion of this chapter which assesses the University of Liberia has not been agreed upon or accepted by the University of Liberia officials.

5.0 HIGHER EDUCATION

Higher education has an essential role in national development. When it is functioning at its optimum, university leadership is a source of vitality and strength for the nation. This leadership is provided through research into issues of national importance to assist government in establishing national priorities, and through the development of manpower to direct the implementation of these priorities.

This section focuses on the two institutions which will continue to be the primary institutions of higher education in Liberia: the University of Liberia and Cuttington University College. There are, in addition, four other institutions of higher education in Liberia, and these are briefly noted in Appendix 5-1.

As shown by the high level of government funding--23 percent of the Ministry of Education budget--higher education is valued by the people and government of Liberia. In addition, dedicated administrators, faculty, and staff are pursuing a vision of fully functioning centers of learning for national leadership. Nevertheless, the level of funding as utilized has not been sufficient to provide higher education institutions with adequate facilities and resources.

This section begins with separate presentations on the University of Liberia and Cuttington University College in five areas: 5.1 Status, 5.2 Needs, 5.3 Plans, 5.4 Analysis, and 5.5 Recommendations. Sections noted as "a" refer to the University of Liberia, and those noted as "b" refer to Cuttington University College. The section closes with an analysis and recommendations for higher education in Liberia.

5.1a STATUS: UNIVERSITY OF LIBERIA

The University of Liberia, with an enrollment of almost 3,400 students, is the largest institution of higher education in Liberia. From its beginning in 1862 as a liberal arts college, the University has

evolved into a major institution offering degrees in a wide range of programs, including the only programs in Law, Medicine, and Engineering available in Liberia. Although limited dormitory space is available for students, the University of Liberia is primarily a commuter school located on two campuses: the main campus on Capitol Hill in Monrovia and the new Fendell Campus situated 17 miles from Monrovia.

The following discussion on the status of the University of Liberia is based on documents prepared by the University in 1974 and 1975 as a result of an extensive institutional self-study. The issues raised and the plans set are still current. These documents, Background Information for University Planning, College Long-Range Plan, 1976-1987, and The University of Liberia Long-Range Plan, represent the most comprehensive evaluation data available at the University. As stated in the plans, these documents were prepared with the technical assistance of the World Bank and UNESCO for the ultimate objective of relocating the undergraduate programs to the Fendell Campus.

5.1a.1 Goals and Strategies

As indicated in the University's Charter and The University of Liberia Long-Range Plan, the University has five major goals: (1) to provide a center of learning; (2) to provide personnel to meet leadership and middle-level manpower needs with an emphasis on national education and rural development; (3) to undertake research with an emphasis on the needs of national development; (4) to provide intellectual leadership, and (5) to contribute to national efforts at modernization, democratization, national integration, intracontinental unity, and international understanding.

The University is in the midst of a major program to move all but the Law School and the Medical College to the Fendell Campus by the end of the decade. In addition to the stated purposes for the move--the need for more space and better facilities--the move, as approved seven years ago, reflects a philosophical decision as well. Although it was not explicitly stated as such, the location and inclusion of large areas for student housing and dining facilities, a campus center, an athletic center, and a

health care facility indicate that the University intended to become primarily a residential rather than a commuter school.

This decision was supported by the results of a University planning background study in 1974 which concluded that Cuttington University College's residential program was more efficient in producing graduates than the University of Liberia. However, the president's report to the government on September 8, 1982, which suggests that residential students could be required to bear the full cost of food and lodging (currently $2,400 per year) as a means of reducing the University's expenses, indicates that the residential aspect of the Long-Range Plan may require modification.

5.1a.2 Structure

The Charter of the University of Liberia established a Board of Trustees as the major governing body of the University. However, the board has been suspended since the change in government in April 1980. Therefore, the administration acts on recommendations from two bodies--the University Council, which advises the president on administrative and financial policies, and the University Senate, which advises the president on academic and related affairs.

Although funded under the Ministry of Education budget, the University is an autonomous institution which negotiates its budget directly with the government of Liberia. The president of the University of Liberia operates with a status equal to that of a minister.

The administration of the University includes the President; Vice Presidents for Administration and Academic Affairs; Comptroller; Deans of each school or college, as well as Deans of Students, Admissions and Records, and University Libraries; Directors of Planning, Continuing Education, and Public Relations; Department Chairpersons; administrators for the various service functions; and special assistants.

5.1a.3 Programs

The University of Liberia has 3,372 students registered in seven colleges and schools. The seven include the College of Agriculture and Forestry, the College of Business and Public Administration, Liberia

College (liberal arts), William V.S. Tubman Teachers College, the College of Science and Technology, and the Louis Arthur Grimes School of Law. All offer the bachelor's degree. In addition, the A.M. Dogliotti College of Medicine offers the degree of Doctor of Medicine. There is also a Division of Continuing Education, replacing the previous Division of Intra-Mural Studies, which began a revitalized program in August 1982.

The University offers a bachelor's degree in 26 major areas. Following is a list of Colleges with the percent of total University students enrolled in that College in parentheses to give an idea of concentration. The number of enrollees for 1981 is indicated after the major.

- College of Business and Public Administration (36.9 percent): Accounting (425), Economics (346), Management (309), Public Administration (64), Business Administration (8).

- Liberia College (12.7 percent): Sociology (183), Political Science (83), English (55), Geography (50), History (16), French (12).

- College of Science and Technology (23 percent): Civil Engineering (171), Chemistry (110), Electrical Engineering (85), Biology (62), Mathematics (60), Geology (49), Zoology (16), Mining Engineering (28), Physics (24).

- College of Agriculture and Forestry (10.2 percent): Agriculture (233), Forestry (100), Wood Science (10).

- William V.S. Tubman Teachers College (7.7 percent): Secondary Education (230), Elementary Education (30).

- Louis Arthur Grimes School of Law (3.1 percent): 85 students.

- A.M. Dogliotti College of Medicine (2.3 percent): 78 students.

- Continuing Education (4.1 percent): 149 students.

5.1a.4 Administration and Supervision

As the University continues to expand, management is hampered by a lack of current data for planning purposes, the dispersed location of programs, and the lack of a formal evaluation procedure for faculty and staff.

The planning document of 1974 stresses that insufficient collection of basic data and absence of a systematic periodic reporting process limit

administration's ability to plan. This lack of information persists to the present. (However, current annual reports were available from the President, Admissions and Records, and College of Agriculture and Forestry. In addition, the College of Business and Public Administration prepared a report entitled Mid-Term Evaluation of Performance Under the Long-Range Plan in August 1982.) Insufficient numbers of staff to collect, process and analyze the data, as well as lack of storage space for the data, contribute to this continuing problem. In the case of Admissions and Records, the 1981 annual report states that staff numbers have actually decreased, and the low salary scale inhibits the attraction of qualified persons.

The dispersal of University programs among various facilities on two major campuses seventeen miles apart, with additional buildings in various locations in Monrovia, makes communication with faculty and staff difficult. There is no weekly or monthly publication circulated to faculty and students to keep them apprised of current activities. This lack of information hampers a sense of unity and common purpose among staff, a problem also identified in the 1974 study.

Formal procedures have not yet been developed for evaluating the performance of staff and upgrading that performance if found inadequate. The various problems related to staff discussed in 5.1a.6 of this section suggest that a monitoring and supervising process is needed to improve internal efficiency.

5.1a.5 Access and Equity

Access to the University of Liberia is enhanced by the low cost to students and hampered by the poor academic preparation of the majority of Liberians. Equity gains have been made by the increased enrollment of females. Additionally, all regions of Liberia are represented in the student body.

The costs to students enrolled at the Univesity of Liberia are minimal. Tuition and fees are $150 per year for Liberians and $300 a year for non-Liberians. All Liberians receive a 50 percent subsidy from the government; thus, enrollment for a commuter student is $75 per annum. Textbooks are no longer subsidized by the government; students must pay

full cost, which usually amounts to as much or more than the yearly tuition. The cost of dormitory accommodation is $350 per year for Liberians and $700 per year for foreign students.

In addition to low costs, the University has a financial aid program for academically-able students. Full scholarship grants are available to students in need who maintain a 3.0 average. Financial-aid grants, usually sufficient to cover the cost of tuition and books for one academic year, are offered to students in need who have a 2.5 grade-point average. In practice, financial need does not have to be demonstrated, only the required GPA. The government is enforcing the academic requirements for the programs more stringently due to financial constraints. Thus, although the University may not be accessible to the very poor without financial aid, the University of Liberia tuition is within reach of most academically qualified Liberians. (This does not take into account housing and food costs.)

Applicants to the University must take an entrance examination in English and mathematics, although passage of the examination has not been enforced as a prerequisite for enrollment. The examination does, nevertheless, screen out the most unqualified applicants, and probably discourages many others from applying at all.

From 1970-1974, the University offered places to 68 percent of all applicants, although only 19 percent passed both subjects in the examination, and 15 percent of those offered places failed both sections. Only 55 percent of the total applicants actually enrolled. One of the recommendations in the Long-Range Plan was for the tightening of admission procedures to insure a more able student body. This has not been done. In fact, the trend is the reverse.

Data since 1974 indicate that fewer applicants are able to qualify for entrance into the University, and more are admitted via the remedial route. In 1979, 2,919 students took the entrance examination: 107 (3.6%) passed both English and math. Of the 692 freshmen (33% of total taking the exam) enrolled in 1980, 541 (78%) were accepted to study remedial English and math. The results were even lower in 1981. Of the 3,577 students who took the exam, only 66 (1.8%) passed. Of the 648 freshman (18% of total taking the exam) enrolled in 1981, 547 (84.4%) were

accepted into remedial programs for both subjects. Students passing the remedial courses are not required to retake and pass the entrance examination.

Gains have been made in equity in terms of female enrollment at the University. Females comprised 18 percent of the students in 1964, 21 percent in 1974, and 26.5 percent in 1981. Considering that females comprise only 22 percent of enrollments in the upper secondary schools, it is unlikely that female participation will increase greatly until the inequity is addressed at the lower levels.

All regions of Liberia are represented in the student body at the University of Liberia. Graduation figures for 1981 indicate that of the 414 graduates, 351 were from the nine counties, 26 from the six territories, and 37 from foreign countries. Fewer than 23 percent of the 1981 graduates were residents of Montserrado County where Monrovia is located.

5.1a.6 Internal Efficiency

The University's Long-Range Plan adopted in 1975 indentifies five major problem areas which relate to internal efficiency: (1) increase in costs per student; (2) student wastage in terms of attrition, repetition, and failure rates because of the admission of inadequately prepared students; (3) inability to attract and retain qualified faculty; (4) lack of research for self-improvement of the institution and for contribution to national development efforts; and (5) inadequate facilities and equipment. The current status of these areas will be discussed in that order.

Costs per student at the University of Liberia have increased steadily over the years. Dividing the recurrent expenditure costs by the number of students, the cost per student (377 enrolled) was $1,498 in 1969, $1,600 per student in 1974 (1,480 enrolled), and $2,005 per student in 1981 (3,321 enrolled). Inflation is the principal factor in this cost increase. Nevertheless, the University has not reaped economic efficiencies as a result of increases in enrollment. More importantly,

tuition and fees come nowhere near meeting the actual cost per student. Figuring the percent of student contribution roughly, on the basis of $150 paid per student, the payment would be 7.5 percent of the actual cost. When the 50 percent government subsidy is included, the contribution drops to half of that small amount.

As might be expected from the high number of remedial students admitted (see Section 5.1a.5, Access and Equity), student wastage is high due to attrition, repetition of courses, and failure. In analyzing internal efficiency in producing graduates, the 1974 background study reported that "taking the undergraduate colleges together, they need only 44.3 percent of the resources they actually use to produce the number of graduates they actually produce. [This means that] 55.6 percent [of the resources] are wasted, 11.2 percent by repetition of courses by those who actually graduate, and 44.2 percent by dropouts" (p.149). No recent comparable calculations are available. However, a September 1982 report by the president of the University indicates that there has been a decline in the number of students on academic probation from 813 (32.6%) at the end of the first semester of 1977 to 788 (20.7%) at the end of the first semester of 1981. For the same period, the number of students temporarily suspended declined from 144 (4.6%) to 76 (2.2%). The number of students permanently dropped was 67 (2.7%) for the first semester of 1981. Thus, of 3,321 students enrolled in 1981, 831 (25%) were in academic difficulty. In addition, 281 (8.5%) were readmissions.

Two encouraging shifts are noted. The number of students on the honor roll increased from 125 (5%) in 1977, to 299 (9%) in 1981. An increase was also noted in graduates over the past few years: 7.8 percent in 1979, 9.3 percent in 1980, and 12.4 percent of the total enrollment in 1981. Thus, there would seem to be a general trend towards improvement in the return for the cost invested to produce graduates. However, there is still general agreement that the poor skill entry levels of students result in a significant number of course repetitions and dropouts.

Gains have been made in increasing the number of Liberians on the University of Liberia faculty. In 1973, non-Liberians comprised 31 percent of the academic and administrative staff, 48 percent of the

faculty, and 68 percent of the highest rank faculty--professors and associate professors. In 1981, non-Liberians comprised 40 percent of the faculty and 18 percent of the highest rank faculty. Thus, important gains have been made in increasing Liberian participation, and particularly in moving Liberians into the higher ranks of faculty.

As suggested by the 1974 report, the problem may not be an absence of qualified Liberian staff, but an inability to attract and retain faculty because of less-than-desirable terms of service. Recently, delays in salary payments, which have been a recurring problem for ministry employees, have also reached the University. Although specific data are not available, it is generally recognized that a number of undergraduate faculty have second jobs. In addition, many part-time faculty are employed because qualified full-time faculty cannot be recruited.

The University sponsors a staff development program in which Liberian faculty are sent abroad to obtain advanced degrees. In 1981, thirty faculty members (over 10%) were studying abroad. Staff development efforts have not been fully satisfactory in that some faculty require more than the expected time to complete their degrees, some do not take their degrees in areas of greatest need to the University, and a few do not return to the University. In addition, there is no monitoring of returned faculty to see if their training results in improved practices in the classroom.

The staff development effort on campus consists of occasional seminars and conferences. As noted earlier, there is no formal process for monitoring and evaluating faculty performance. In the 1974 study, faculty members, themselves, noted that inadequate teaching, insufficient preparation of lectures, and absence from classes were partially responsible for poor student performance.

The average student/faculty ratio at the University of Liberia has remained fairly low over the years. In 1974, the average student/instructional staff ratio was 10:1, figuring part-time staff as 1/3 of a full-time equivalent. Dividing the 1981 enrollment by the total faculty number of 249 results in an average ratio of 13:1. Adjustments were not made for part-time staff in computing this figure, so the ratio is somewhat higher than 13:1. Whatever the actual figure, that ratio is not

representative of all classes because many of the foundation courses have a much higher number of students enrolled. Freshmen and sophomore English courses often enroll 35 to 45 students. Basic science courses may enroll over 150 students in the lecture sections.

The University's ability to promote institutional research activities is currently constrained by the need for additional highly trained faculty, more effective faculty supervision, better terms of service, and increased support funds. As a result, there are insufficient research data for use in improvement of University programs and for contributing to national development efforts. The University Research Institute has a limited staff. One issue of the research periodical, University of Liberia Journal, was published in 1981 and another in 1982. Individual faculty members are involved in research, but financial support for such activites is minimal.

Based upon the condition of facilities and the need for expansion, the government decided in 1970 that it would move the greater part of the University to the Fendell Campus. The Long-Range Plan for moving all programs except Medicine and Law to Fendell grew out of this decision. Progress, however, has been slow. To date, only one facility (funded by the government at nearly $4 million) has been completed--the modern, well-equipped Science Complex which opened in March 1982. Approximately 30 faculty housing units have also been completed. Two other projects complementary to the Long-Range Plan were also completed recently--construction of a coeducational dormitory for the College of Medicine, and expansion and renovation of the dormitory for the College of Agriculture and Forestry, located on the Fendell site since 1967. Several other less extensive projects were also completed between 1978 and 1982.

The University intends to continue the relocation of all undergraduate programs to Fendell although the schedule for completion of the move has not been specified. Construction has recently begun on the Engineering Complex. The library may be the next major facility to be constructed, but no new funds have been allocated as yet. Other planned facilities include an administration and a classroom building, a Continuing Education Center, a Cultural Center, a Campus Center, an

Athletic Center, a Health Center, and student housing and dining facilities.

It is generally recognized that textbooks, library holdings, and classroom supplies are inadequate for most departments. Except for the new, very well equipped Science Complex, furniture and equipment are inadequate. Because of outstanding debts, the University Bookstore cannot stock some required textbooks at all, and others are stocked only in limited numbers, which means that some students must share texts or do without them.

5.1a.7 External Efficiency

The external efficiency of the University of Liberia in meeting the nation's manpower needs varies by program. Considering the supply and demand data for post-secondary education outlined in Section 2.0 of this assessment, programs in agriculture, education, medicine, and the sciences would appear to have the greatest validity in terms of meeting development needs and manpower requirements.

The Division of Continuing Education, reorganized as of August 1982, has the potential to address the manpower needs for the country through short-term workshops and certificate or associate degree programs. The Division conducts most classes in the evening to accommodate working adults at least 28 years of age. Enrollees must have three consecutive years of work experience, take a high school equivalency examination, and be interviewed by a special University committee. Current offerings include the general courses required for degrees in the five undergraduate colleges.

University linkages with other institutions of society tend to be informal. For instance, there is no articulation (a formal process for coordinating the program content and recognizing the work of graduates) between the Rural Teacher Training Institutes and the University. Currently, graduates of the RTTIs must enter the University as freshmen to earn a degree in education. This year Ricks Institute did succeed in entering nine graduates as juniors at the University, with each applicant evaluated and admitted on an individual basis. Faculty members forge

informal linkages by participating as resource persons in a variety of community and ministry workshops and in special programs.

5.1a.8 Costs and Financing

With modest income from student tuition and fees and no source of major private or international donor support, the University of Liberia is almost totally funded by the government of Liberia. Government support actually declined between 1979 and 1981, even as enrollment increased. However, the level of support, which is expected to be about 30 percent of the Ministry of Education's estimated budget for FY 1983, indicates the high importance government assigns to the University.

The opening of the Science Complex at Fendell resulted in unbudgeted expenditures for transport of students and faculty between the new facility and the Monrovia Campus. The lack of buses contributed to a six-week closure and a study of University finances. Although buses have since been presented to the University, the issue of funding for drivers, fuel, and maintenance remains, as does the issue of adequate funding to continue the move to Fendell.

5.2a NEEDS

This section examines the University of Liberia's needs in view of its current status in terms of meeting stated goals.

5.2a.1 Administration and Supervision

In order to provide an excellent center of learning and undertake research, the University administration needs adequate institutional data and effective communication with, and supervision of, staff. There is a need to collect current data on the University itself to facilitate further planning. In order to collect and process these data, sufficient staff and an adequate facility must be allocated for this purpose. Institutional self-study should take equal, if not greater, priority with other research activities. Existing departmental faculty members could be utilized in this effort since many full-time faculty members are not engaged in research as called for by their terms of service with the University.

Results of data gathering, as well as other activities and special events, need to be communicated to staff on a regular basis. The administration might consider setting regular all-faculty meetings followed by a social function to strengthen staff unity and morale.

A procedure for monitoring and evaluating staff performance needs to be established. To be effective, evaluators should be trained in supervision techniques, and staff development programs should be organized on campus to provide training in areas of identified need.

5.2a.2 Access and Equity

There is a need both for more qualified applicants and for increased enrollment of females at the University. However, these areas cannot be substantially affected until quality and equity improvements are made at primary and secondary levels, thereby increasing the pool of men and women qualified to enter the University.

5.2a.3. Internal Efficiency

To improve internal efficiency, there are five areas of outstanding need at the University of Liberia: (1) controlled enrollment and expansion, (2) increased Liberianization of faculty, (3) increased efficiency in faculty utilization, (4) improved facilities and equipment, and 5) increased availability of instructional support materials.

There is a need to control the quality and number of students enrolled at the University to reduce wastage. The University's admission procedures appear in need of tightening, as indicated in the Long-Range Plan. The percentage of underqualified students who are admitted has not decreased. Expansion of enrollment has exceeded projections without effecting economies of scale and with the result of increased strain on current facilities.

There is a need to increase further the number of Liberian faculty members at the University and to consider ways to improve faculty terms of service and enhance their professional environment.

There are four areas of faculty utilization which need to be addressed to increase efficiency. First, the student/faculty ratio, particularly in the heavily enrolled foundation courses, may need to be

adjusted to provide improved opportunity for faculty to bring students to mastery of the course content. This should be done through a reallocation of faculty positions, not through hiring additional faculty. Second, supervision of faculty needs to be improved through a system which assesses fulfillment of responsibilities and evaluates classroom performance. Third, staff development activities to redress deficiencies identified through the evaluations need to be instituted on campus. Fourth, following from the improvement of course loads, evaluation. and staff upgrading, the requirement of faculty to participate in research or other activities to improve the institution can be enforced.

There is a need for improved facilities and equipment in all undergraduate colleges, except Science and Technology. The main library, classrooms, offices, laboratories, furniture, and equipment require renovation or replacement. Other needs are for more instructional support materials, the availability of textbooks for all courses, and additional library holdings to assist students and faculty.

5.2a.4 External Efficiency

The Long-Range Plan for the University of Liberia was based upon manpower estimates supplied by the Manpower Planning Division for 1972-1982 that are no longer accurate, as discussed in Section 2.3. The estimate projected a need for 6,267 persons in engineering and related fields; 2,077 in science areas; 1,748 in medical areas; 1,755 in legal professions; 2,233 economists/ accountants; 1,331 teachers; 275 social anthropologists/social workers; 481 literary, artistic, and related specialists; 527 personnel and occupational specialists; and 5,281 government/industrial administrators. At the same time the plan cautioned against oversupply in certain areas and stated: "There is a danger that saturation points may be reached before long. This fact, in addition to the scarcity of resources, would call for substantially lowering the rate of expansion in these areas and the shifting of emphasis to the improvement of the quality of graduates, the introduction of graduate programs, and research."

In view of enrollment increases beyond those estimated in the Long-Range Plan, which estimated 1982 enrollment at 2,617 students as opposed to the actual enrollment of 3,372, improved linkages need to be established between the University and other institutions of society. The need for articulation with other educational institutions is the most obvious of these. The University and Cuttington University College should work together to avoid unnecessary duplication of efforts. Articulation between the Rural Teacher Training Institutes and the University is needed to ensure the quality of training and facilitate transfers to University programs.

The University could also provide leadership in knowledge building to serve the country in a wide variety of fields. Research to provide direction for and/or solutions to issues of national importance could be of great assistance to national development. Some colleges are conducting such research, but on a limited basis due to a shortage of qualified staff and resources to conduct such research.

5.2a.5 Costs and Financing

Because of the serious economic problems facing the country and the fact that the Long-Range Plan was devised when national growth averaged seven percent, there is a need to review all aspects of University financing, particularly in respect to the Long-Range Plan and the move to Fendell Campus.

As pointed out in the President's September 1982 report to the government, income from tuition and fees is minimal. In addition, boarding students pay only $350 a year, while the actual costs are calculated at $2,400. Government subsidies do not cover the full costs of tuition, boarding, or books and supplies. The University estimates that a deficit of $1,366 per student currently exists.

In view of these budget deficits, it is important to reassess the Long-Range Plan to provide 60 percent of Monrovia students and 80 percent of Fendell students with full board. Transport for faculty and students to Fendell needs to be budgeted, and review of all financial implications of the move to Fendell requires urgent attention.

5.3a PLANS

In addition to moving the undergraduate colleges to Fendell, requiring extensive construction of new facilities and renovation of the old facilities to service the colleges and schools remaining on the Monrovia Campus, the University has extensive plans for program changes. The Long-Range Plan calls for increased enrollment to 4,131 students in 1987, increased faculty, the addition of new undergraduate programs, and the initiation of graduate programs beginning with master's degrees in education and English.

The Plan anticipates providing food and housing for the majority of students and housing for faculty at the new campus. Development of a new town near Fendell supported from the economic activity of University families is also envisioned in the Plan.

Plans of the individual colleges were not reviewed in detail for this assessment. However, the plan of Teachers College to participate in the training of teachers under the Fourth Education Project is noted in Sections 3.0, 4.0, and 6.0 of this assessment.

5.4a ANALYSIS

This section begins with a brief statement of the major constraints affecting the University of Liberia. This is followed by a discussion of several critical issues which should be resolved before future plans are finalized and implemented. The section closes with a set of conclusions following from these constraints and issues. The analysis in this section will be brief and combined with the analysis of Cuttington University College in the concluding section which analyzes constraints, major issues, and conclusions for higher education in Liberia.

5.4a.1 Constraints

Funding for operational and development costs is the major constraint affecting the University of Liberia over the next several years. It is particularly acute in view of the ambitious construction and relocation plan now in progress. The University must resolve the funding issues which are discussed below before realistic planning can take place.

5.4a.2 Issues

The following discussion of issues at the University of Liberia focuses on internal efficiency, external efficien and costs and financing.

5.4a.2.1 Internal Efficiency

The major issues related to internal efficiency result from the University of Liberia's Long-Range Plan.

The first issue to be resolved is the number of students to admit based upon realistic projections of national goals, manpower needs, and operational capacity. Faculty numbers and areas of specialization will follow from this decision.

The second issue concerns the quality of students to be admitted. The current practice of enrolling large numbers of remedial students is not efficient. If student enrollment is controlled and only qualified or nearly qualified applicants are admitted, the University's capability to reduce wastage and produce graduates meeting national needs would be enhanced.

As a result of determining the size and program needs of the student body, the third issue of providing needed facilities can be addressed. Construction and renovation plans should be adjusted accordingly.

5.4a.2.2 External Efficiency

The major issue in external efficiency is matching the programs of the University of Liberia to the manpower needs of the country. The decision to initiate new programs at the graduate, undergraduate, and outreach levels should be determined from manpower needs. The extent of proficiency required in new and existing programs must also be determined. For instance, is there a need for a master's-level program for a select audience in education or is certification of large numbers of qualified teachers through an outreach program a greater need? If both are valid needs, which should be addressed first?

A second area of external efficiency concerns the need to coordinate with other institutions of the society to provide national leadership. In particular, the University should coordinate with other higher education

institutions to improve articulation, ensure the quality of those programs, and reduce duplication of efforts.

5.4a.2.3 Costs and Financing

There are four specific issues in financing which could drastically alter the funding pattern at the University of Liberia. All four revolve around the general theme of shifting costs increasingly to the beneficiaries.

The first to be addressed is the rate of tuition. Current fees barely begin to approach the actual costs. What is a reasonable rate of tuition for the institution as well as the student?

The second issue concerns the practice of providing a government tuition subsidy to all students and providing scholarships and financial aid to many students based on grades without adequately assessing individual needs for these forms of assistance. If, indeed, there is no way to determine legitimate need, then a process for repayment in kind or service could be considered.

The third issue concerns subsidizing dormitory and food costs for residential students. In addition, this raises the issue of whether to go ahead with plans for additional dormitories, which in essence would convert the University of Liberia into a predominantly residential program. As the President of the University suggested last September, resident students could be required to bear the full cost for food and lodging. If this is unrealistic for many students, then the creation of more dormitories may not be an efficient plan.

A fourth issue concerns the subsidizing of faculty study abroad. If a restructuring of the program cannot be instituted to ensure greater return for the University, the continuation of staff development abroad at current levels should be reassessed.

5.4a.3 Conclusions

Five major conclusions emerge from the analysis of constraints and issues.

Conclusion 1. Student tuition and boarding costs should be reevaluated with emphasis on the beneficiaries bearing a greater share of cost or repaying costs in kind or service.

Conclusion 2. Student enrollment should be controlled and take into consideration national goals and manpower needs.

Conclusion 3. Only adequately qualified applicants should be admitted to the University.

Conclusion 4. New and continuing programs should be evaluated and implemented in concert with manpower needs and revised enrollments.

Conclusion 5. Construction and renovation of facilities should continue with due consideration given to size and use as modified by a re-evaluation of needs.

5.5a RECOMMENDATIONS

The recommendations for the University of Liberia are grouped according to area and in order of priority. They are stated briefly because a more complete analysis and discussion of recommendations for higher education in Liberia follows this section.

5.5a.1 First Priority - Costs and Financing: Recommendations 1-3.

Recommendation 1. Adjust tuition and boarding costs to more nearly represent the actual costs of education.

Recommendation 2. Require students to bear a greater share of the costs through direct payment or repayment in kind or service.

Recommendation 3. Reconsider the plan to greatly increase dormitory facilities unless they can be supported by students paying the principal cost for food and lodging.

5.5a.2 Second Priority - External Efficiency: Recommendations 4-7.

Recommendation 4. Evaluate proposed and continuing programs in concert with national manpower needs and encourage expansion only in areas warranted by manpower needs.

Recommendation 5. Continue and expand outreach programs in areas of national need.

Recommendation 6. Initiate linkages with other Liberian post-secondary institutions to coordinate efforts and reduce duplication of programs in areas of minimal need.

Recommendation 7. Initiate articulation with other institutions, particularly the Rural Teacher Training Institutes, to ensure the quality of those programs and facilitate transfer of student credit into University of Liberia programs.

5.5a.3 Third Priority - Internal Efficiency: Recommendations 8-11.

Recommendation 8. Control student enrollment.

Recommendation 9. Establish and enforce student admission policies so that only adequately qualified applicants are admitted.

Recommendation 10. Pursue construction and renovation of facilities contingent on reevaluation of needs and anticipated use.

Recommendation 11. Increase efforts to attract and retain qualified Liberian faculty.

5.5a.4 Fourth Priority - Administration and Supervision: Recommendations 12-16.

Recommendation 12. Initiate a formal procedure for monitoring and evaluating faculty performance by persons trained in supervision techniques.

Recommendation 13. Organize a program of staff development on campus to provide training in areas of need identified through faculty evaluation.

Recommendation 14. Establish procedures for regular data collection and analysis.

Recommendation 15. Establish regular communication channels between administration and staff.

Recommendation 16. Promote institutional and national research efforts.

5.1b STATUS: CUTTINGTON UNIVERSITY COLLEGE

Cuttington University College (CUC) was founded by the Episcopal Church in Harper, Maryland County, in 1889 as an all-male school with

programs in agriculture, theology, and liberal arts. Cuttington closed in 1929, mainly for financial reasons. In 1949, the College reopened at its present 1,500 acre site in Suacoco, more than 100 miles inland from Monrovia. Since that time, the College has become a coeducational institution granting bachelor's degrees in a variety of fields. Cuttington University College today is a residential school of over 700 students, providing campus housing for almost all senior administrators, faculty, and students.

5.1b.1 Goals and Strategies

Cuttington has four principal goals as expressed in the most recent college catalogue and by the president: (1) to provide a quality liberal education with concentrated study in a given field, (2) to provide qualified and trained people for leadership in Liberia and Africa, (3) to maintain a small school with personal association between students and faculty, and (4) to promote moral and academic excellence. The college is embarking on an ambitious program of building construction and expansion of programs to include master's degree programs and two-year associate degree and certificate programs.

5.1b.2 Structure

Cuttington University College retains its affiliation with the Episcopal Church of Liberia, whose Bishop serves as chairman of the Board of Trustees. The Board makes all major policies of the College and elects the President of the College who supervises all employees of CUC through the offices of the Dean of Administration, Dean of Academic Affairs, and the Comptroller.

There are seven academic divisions of the college--Education, Humanities, Nursing, Science, Social Sciences, Theology, and the Rural Development Institute (RDI). (RDI is presently funded by USAID and operates separately from CUC, except for student participation in campus social activities.) Each division is headed by a Division Chairperson who has a minimum academic qualification of a master's degree in his or her area of specialty.

5.1b.3 Programs

CUC offers a bachelor's degree in fifteen areas: Elementary Education, Secondary Education, Educational Administration, Economics, Business, Political Science, History, English Language and Literature, French, Nursing, Biology, Chemistry, General Science, Mathematics, and Theology with an emphasis on religious education or pastoral counseling. The Rural Development Institute offers a two-year Associate Degree in Agriculture.

The Nursing Division enrolls two categories of students: basic and post-basic. (Explanation is expanded for Nursing because of the model it offers for articulation with other programs.) Basic students are admitted as freshmen and must comply with all the College's requirements for matriculation. Post-basic students have completed a basic nursing program and are licensed as Registered Nurses in Liberia. Usually they are graduates of Tubman National Institute of Medical Arts (TNIMA), described in Section 8.0 (Health Education), or from another country. Post-basic students are granted exemption with credit for three courses (9 credit hours) and may write challenge examinations in six other courses. It is possible for a post-basic student to need only two and one-half additional years of training to receive a Bachelor of Science in Nursing.

The Nursing Division also has a mandate to train leaders in nursing. Funded by USAID and World Health Organization (WHO), participants in the Strengthening Health Delivery Project (SHDP) receive full scholarships and salary.

In addition to the formal degree programs, the Nursing Division offers workshops for other nursing schools, and nursing students are required to teach a community health course in elementary or junior high schools.

5.1b.4 Administration and Supervision

Because of the small size and residential nature of CUC, administration and supervision of faculty and staff can be conducted on an immediate personal level. This results in a unified faculty with a common understanding of the goals and plans for the College. Communication problems appear to be minimal. For the most part, faculty do not have other salaried commitments outside of CUC, so their loyalties are not

divided. Administration and faculty members know each other's schedules and usually can contact each other quickly.

5.1b.5 Access and Equity

Even though fees are high, academically qualified Liberians from low income families can attend Cuttington University College. Records show that most students are from low income families, but have some form of financial aid which enables them to attend. Tuition and fees including room and board are $2,266 annually for foreign students and $1,200 for Liberians. The 1982 government subsidy is $344 annually for each Liberian student; thus the net annual cost for the subsidized Liberian student is $857. The actual cost for educating a student at CUC could, however, be a limiting factor to students without financial support.

In addition, student admission policies are restrictive due to the capacity and standards of the college. Foreign students are admitted on the basis of school records and external examinations. All Liberian enrollees must take an entrance exam and pass with a score of 50 percent or above with no distinction made between English and mathematics. Students admitted may be placed in remedial courses based upon review of their performance in subsections of examination. Of the 1,391 applicants taking the entrance examination in 1982, 215 (15.5%) passed, and 112 (8%) actually enrolled at CUC.

Because CUC is primarily a boarding school, access is not limited in terms of the geographical home location of students. However, admission is limited due to insufficient and/or inadequate dormitories and classroom facilities.

Females comprise approximately a third of the student body at CUC. During the second semester of 1982, enrollment on the Cuttington Campus totaled 704, including 419 Liberian and 39 foreign CUC resident students, 71 CUC commuting students, 11 special students, and 164 RDI resident students. Total female enrollment numbered 206, or 29 percent of the student body. Distinguishing between CUC and RDI, females made up 32 percent and 21 percent of the student population, respectively. According to the University of Liberia document, Background Information for University Planning, 1974, females in 1974 comprised 35 percent of the

population at CUC. Thus, no gains have been made in equity for women; in fact, there has been a slight drop in the percentage of female enrollment over the years. However, this figure is higher than the percent of females enrolled in secondary school.

5.1b.6 Internal Efficiency

Four areas related to internal efficiency will be discussed in this section: (1) costs per student, (2) student wastage, (3) faculty composition and utilization, and (4) facilities, supplies, and equipment.

Because there is no other yardstick for measurement in Liberia, certain areas of internal efficiency are discussed in relation to the University of Liberia for comparison purposes.

Cuttington University College appears to be more efficient in its use of the instructional budget than the University of Liberia. Comparing the 1981 cost per student (computed by dividing the instructional budget by the number of students), the per student cost for CUC was $648 compared to $1,277 per student at the University of Liberia. When the total operational costs in the 1981 budget are divided by the number of students, the figures shift to $2,005 per student at the University of Liberia, and $3,371 per student at Cuttington (deducting RDI students and support costs). Thus, computing total costs, the Cuttington figure is much higher; however, costs include board for the majority of students and housing for most faculty, as well as the additional costs the College incurs because it must maintain its own community utilities, roads, and the like.

The College does not keep specific records on student wastage due to attrition and repetition of classes. The registrar reports that eight persons were dropped by the College during the first semester of 1982 because of poor academic performance.

Cuttington University College has been less effective in attracting Liberian faculty than the University of Liberia. Of 62 instructional faculty in 1982, 28 (45%) were Liberian. The College has a staff development program which places Liberian faculty abroad for advanced preparation. In 1981, eight persons were involved in the staff development program. In addition, possible linkages have been discussed

with four American higher education institutions which may involve staff development opportunities for additional Liberian faculty. (See Section 5.3b.2.)

According to the 1981 annual report, Cuttington faculty turnover has been reduced. Except for one expatriate faculty member who left for further study, the other eight faculty members, whose contracts had terminated, requested and were granted renewal.

According to two October 1982 reports, Factors Affecting Faculty to Student Ratio at Cuttington and Use of Faculty at Cuttington University College, the student/faculty ratio at the College, including RDI staff and students, is 14:1. This is computed on the basis of 39 full-time faculty and 11 full-time equivalents contributed by part-time faculty for a total of 50 full-time instructors for 704 students. This would seem to be very favorable. However, a comparison of the ratio of students majoring in a department with the ratio of full-time faculty in that department ranges from 1:1 in History and 2:1 in English to 46:1 in Business and 46:1 in Economics.

The discrepancies in these student/faculty ratios point out a major problem in an institution of Cuttington's size offering a broad instructional program. Foundation courses required for all students, such as history and English, are usually overcrowded, while enrollment for advanced courses in specialty areas is very low. In addition, departments comprised of as few as four full-time faculty members, such as Education, may have to teach 42 separate courses in one academic year. This means that faculty must carry an overload and prepare for as many as ten different courses in a year. This limits their efficiency in any one course and makes ongoing research activities very nearly impossible.

Although some facilities have been improved recently, Cuttington facilities are lacking in almost all areas. There is a need for more classroom space and laboratories, dormitories, faculty offices, and faculty housing. In addition, the College library reading room area is insufficient. Expansion of the student cafeteria was completed this year, and the facility is large enough to serve a student body of approximately 1,200 students. Water, electrical, and sewage facilities were improved. Two faculty housing units are under construction.

Phase I of the Science and Technology Center has begun and should be completed in December of 1983. This will provide classrooms, laboratories, and some faculty offices for Chemistry and Mathematics, as well as an amphitheater. A Phase II is planned to add Biology and Physics facilities to the Center by 1985. Funds are needed to renovate spaces that will be vacated by the Science faculty when it moves to the new Science and Technology Center.

Textbooks, library holdings, and classroom supplies and equipment are inadequate in most departments. Because of the delays in payment, due to various factors, textbook bills remain outstanding. As a result, many textbook orders are not honored, and students go without texts. The library has not added to its periodical section in the last two years; the only new book acquisitions have come as a result of donations.

Although the curricula were not evaluated, the lack of adequate facilities, books, supplies, and equipment and, in the case of foundation courses, overcrowded classes indicate that curricula instruction is not functioning at maximum efficiency.

5.1b.7 External Efficiency

Given the supply and demand data for post-secondary education as outlined in Section 2.0 of this assessment, the external efficiency of Cuttington in terms of meeting the manpower needs of Liberia varies by program. Certainly, the Rural Development Institute, Nursing, and Education departments provide graduates in areas of great need in Liberia. Need for graduates trained in specific areas of science and technology is also indicated. The outreach programs providing short-term, certificate, and associate degree programs offer potential to further address the nation's manpower needs.

Linkages with other institutions have been formed through the Nursing and Education Divisions. Further efforts of this nature are needed to ensure quality programs and reduce duplication of efforts.

5.1b.8 Costs and Financing

Government support for Cuttington has increased greatly over the years. In 1981 the opening of the College was delayed by six weeks due to problems requiring additional funds for solution. As a result of an appeal by the College administration, the government of Liberia increased the promised subsidy to the College from $727,000 to $1.5 million. The sum of $200,000 was provided immediately to permit the College to open.

Because the government fiscal year and the College year do not coincide, some difficulties have resulted. The College based its 1982 planning figure at $1.5 million a year, which the government budget division reduced to $1.3 million because of the earlier $200,000 payment. In addition, the $1.3 million was subject to the 15 percent cut affecting all budgets. Thus, the actual budget figure was reduced to $1,105,000, almost $400,000 less than expected.

Income for the 1982 academic year, as of September 1982, included receipt of $382,749 of $500,000 budgeted in student tuition and fees; $1,051,278 from the government of Liberia; $31,065 of $50,000 budgeted from the Episcopal Church; $20,000 of the $275,000 budgeted for support for RDI students; and $4,262 of the $20,000 budgeted from gifts and donations. Thus, income totals as of September were $1,489,355 of the budgeted $2,467,945.

As a result of insufficient income, Cuttington may be forced to eliminate the tuition subsidy provided to students and raise fees in order to meet yearly operating costs. In order to freeze tuition rates, College officials would like the government to subsidize CUC students equivalent to the amount paid for each student at the University of Liberia.

Cuttington's finances are further complicated by overhead costs due to its location and residential nature. Because public utilities such as electricity and water are unavailable or inconsistently available, provision of electricity, water, food, and housing must often take priority over instructional materials and equipment.

5.2b NEEDS

This section examines Cuttington's needs considering its current status in meeting two of the institution's goals--providing a liberal

education with concentrated study in a given field, and providing qualified and trained people for leadership in Liberia and Africa.

Two areas are not addressed specifically: (1) administration and supervision, and (2) access and equity. No needs were identified in the area of administration and supervision. Given the current poor quality of primary and secondary education and the sexual imbalances in enrollment, more qualified applicants and increased female enrollment at the College cannot be substantially affected until improvements are made at primary and secondary levels.

5.2b.1 Internal Efficiency

There are four areas of outstanding need at Cuttington: increased Liberianization of faculty, increased efficiency in faculty utilization, improved facilities, and increased availability of instructional support materials and equipment.

There is a need to increase the number of Liberian faculty at Cuttington beyond the present 28 members. A major factor may be that many educated Liberians prefer to live in Monrovia for both social and economic reasons. (Faculty course loads may also be a factor as discussed below.) Because of the location and residential nature of the College, faculty cannot easily take on other paid commitments. This is an advantage for the College, but not necessarily for faculty members who may be evaluating earning potential at Cuttington in comparison with wider earning opportunities in Monrovia. To compensate for this loss, salary, office, and housing facilities at the College may have to be more attractive. This is difficult given the current economic situation. In fact, faculty increments were not paid in 1982 and probably will not be paid in 1983.

There is a need to increase faculty efficiency by relieving course overloads and reducing the number of different course preparations required. Fifteen different bachelor's degree programs and one associate of arts program are offered at Cuttington. Because of the small size of each department, faculty members must teach a range of courses each year, resulting in a variety of course preparations. In addition, many faculty are carrying course overloads, but not necessarily an overload in student contact numbers. However, instructors in the foundation courses required

for all students may be carrying student contact overloads. These imbalances are a result of the small size of the College and the large number of offerings. Solutions to this problem include hiring more staff while maintaining present enrollment, which is economically not feasible; reducing course offerings, which may be unacceptable to College officials; or increasing CUC's enrollment and hiring additional faculty. The CUC administration is looking to the latter solution (See 5.3b. PLANS).

There is a need for more facilities and equipment in almost all areas: classrooms, dormitories, faculty offices, and faculty housing. The College currently has 71 commuter students because dormitory facilities are inadequate. This number of commuter students is limited because of lack of classroom space. Faculty must share makeshift offices with inadequate furniture and storage space. Because of insufficient housing, some faculty members must live off campus, reducing their accessibility to students.

There is a need for more instructional support materials and equipment. Textbooks need to be available for all courses. Library holdings should be current to support faculty and student reference and research needs. Equipment, materials, and supplies are needed to support instruction.

According to the Proposal for Reorganization of Cuttington University College, submitted by the administration and faculty to the Board in April 1982, the total cost for meeting the four areas of need--staff development, additional faculty, improved facilities, and increased instructional support materials--is estimated at $10,326,000 (excluding the $5 million expected over four years from USAID for RDI).

Cuttington would welcome expert assistance in project oversight, fund raising and alumni relations, long range planning, and in an institutional self study with a view to strengthening the College as it moves toward university status.

5.2b.2 External Efficiency

Improving the internal efficiency of Cuttington should ensure that the College will continue to provide qualified and trained people. The question remains as to whether these qualified and trained people will be

employed. Considering the manpower projections in Section 2.0 of this assessment, there is a need for CUC policy makers to review manpower needs prior to making further decisions on programs. This is particularly crucial in view of the administration's proposal to greatly expand enrollment and facilities by 1989.

In addition, further efforts are needed to establish linkages with other institutions in the society. Articulation with the RTTIs and coordination with the University of Liberia are needed to avoid duplication of efforts. CUC's role in research on issues of national development should also be expanded.

5.2b.3 Costs and Financing

Cuttington University College's primary need is assurance of regular government budgetary assistance to meet yearly operational costs at a level consistent with its student body. These dollars are the critical link in the College's financial stability. If the government subsidy is not sufficient or forthcoming, the College may have to eliminate the student tuition subsidy (See 5.1b.5) and raise student fees.

Financing for CUC and RDI development projects have been, and will continue to be, solicited from international donors, the Episcopal Church, endowments, alumni, and other contributors.

5.3b PLANS

College plans are discussed in two sections--the April 1982 Proposed Reorganization and Expansion Plan and Other Plans.

5.3b.1 Proposed Reorganization and Expansion

This section describes CUC's proposed plan for reorganization and expansion submitted to the Board of Trustees in April 1982. Although donors have been approached for support for some aspect of the plan, funding has not been finalized for any portion. In addition, the Board of Trustees has not officially adopted the proposal. However, the administration is proceeding on the basis that approval and funding will be forthcoming. Further, this section does not describe the proposed

$5 million, Phase II program for RDI expected to be funded by USAID for 1983-1987.

The plan to reorganize Cuttington proposes to change the college to an institution of university status. The change of status is expected to increase donor support, facilitate an increase in enrollment from 700 to 1,500 students, and enable the development of new programs and the employment of more faculty.

The proposal would change the organizational structure of Cuttington. The Deans of Academic Affairs and Administration would become Vice Presidents of their respective areas with the addition of a Vice President for Planning and Development. The present academic divisions would be transformed into colleges and institutes with the appropriate deans and directors. This reorganization is expected to evolve by 1989, the centennial year of the college.

The proposal envisions a doubling of faculty to approximately 150 members by 1989. Staff development plans include having at least each Dean of a College prepared at the doctoral level, and other faculty members, particularly a Liberian core of 50 percent of the faculty, prepared to at least the master's level.

The reorganization also proposes increases in program offerings. The Education Division would add a certificate program in Agriculture for RDI students who may wish to obtain an Associate Degree in Agriculture and a Certificate in Agricultural Education, as well as a secondary education French major. It would also add a Certificate Program in School Administration and a Master of Arts/Sciences Degree in Education. The Division of Social Science would be split into the Faculty of Social Science and the School of Administration. The latter would offer bachelor's degrees in Accounting, Management, and Public Administration as well as certificate programs in Accounting and Public Administration. Agriculture Economics would be a new degree program in Social Science. Philosophy and Geography would be added to the Faculty of Arts. The College of Theology would offer a Christian Education major in conjunction with the College of Education, a program for counseling, a post-basic degree in Theology (comparable to the program option in Nursing), and the Master's Degree in Theology. The College of Science and Technology would

add a Physics degree, and degrees in Laboratory Technology and Pharmacy in conjunction with Phebe Hospital and the College of Nursing. The College of Nursing would add specialization areas and eventually a master's degree program.

Major construction and renovations are included in the reorganization proposal. Following the completion of the College of Science now under construction, the old science complex would be renovated and used by the College of Social Science. The College of Nursing would be the second college to build a new facility. The Humanities building presently used heavily by Science, Nursing, and Social Science would be renovated and used by the Faculty of Arts. The old Library, now used as offices, would be renovated and used by the College of Education. Other proposed developments include improvement of site utilities and construction of faculty houses, a sports complex, and student dormitories.

The total estimated cost for new construction, renovations of old buildings, equipment, staff development, and improvement of site utilities is $10,326,000. This figure excludes the operational cost of the College from 1982-1989, which would be expected to double by 1989.

Funding for the proposed reorganization and development project would be sought from donors. Operational funds would continue from the present funding sources: tuition and fees, the church, gifts and donations, and, most importantly, support from the government.

Realizing the ambitious nature of this reorganization plan, College officials are emphasizing establishment of a well-equipped science project. When this is accomplished, improvement in other instructional areas will take priority over expansion in those areas. Also taking priority over expansion will be construction of dormitories, faculty housing, and instructional support facilities such as the library and materials center.

5.3b.2 Other Plans

Cuttington University College plans to broaden its offerings by expanding programs vertically to include master's degree programs as described above and certificate programs in mid-level manpower training

and in teacher education. Specific proposals for master's-level programs and mid-level manpower training have not been approved as yet.

The Education Division has specific plans to be involved in one main outreach program in 1983: the Upgrading of Unqualified Teachers funded within the Fourth Education Project, as described in Section 3.0. If they can be implemented in 1983, the certificate programs in agriculture and administration would provide additional outreach.

The linkage with Zorzor Rural Teacher Training Institute, proposed in the upgrading teacher certification program, could lead to further association with ZRTTI. Discussion has included the possibility of CUC eventually supervising the ZRTTI program and providing articulation into the College bachelor's degree program in a form similar to the Nursing Division's post-basic student entry process.

Possible linkages have been discussed with several American higher education institutions: Tuskegee Institute, Louisiana State University, Cornell University, Western Michigan University, and University of California, Los Angeles. Plans for these linkages include technical assistance to CUC, exchange and awards of fellowships to CUC staff, and the possibility of visiting lecturers for the College.

Effective 1983, the Episcopal Center in New York will serve as a clearinghouse for textbooks. This should eliminate the lack of delivery or delay in delivery of textbooks due to payment requirements which the College can meet but not according to some publishers' time lines. If this is successful, it would address the textbook need identified earlier.

Cuttington has the best Africana Museum in Liberia. The College would like to build an African Cultural Institute with the museum as the core, expanding the facility and providing a place for African and non-African researchers. Proposals have been submitted to the College for response, but no decisions have been made as yet.

The College would also like to construct a Faculty and Alumni Center, including guest facilities. Such a facility would, the College administration believes, attract faculty, encourage alumni donations, and encourage visits by short-term lecturers and other contributing guests.

5.4b ANALYSIS

This section begins with a statement of the overall constraint within which CUC must operate, followed by a discussion of several critical issues to be considered in the College's planning over the next several years. The section closes with a set of conclusions based upon analysis of these constraints and issues. The analysis in this section will be brief, and then combined in Section 5.6 with the analysis of the University of Liberia to provide a more complete discussion of constraints, major issues, and conclusions in the domain of higher education in Liberia.

5.4b.1 Constraints

The major constraint affecting Cuttington University College over the next several years is funding for operational costs. The College must be assured of increasing support from the government or restructure the use of funding from other sources. Capital costs for construction and expansion are anticipated from donors.

5.4b.2 Issues

The following discussion of issues in higher education at Cuttington focuses on concerns about internal efficiency, external efficiency, and costs and financing.

5.4b.2.1 Internal Efficiency

The major issues related to internal efficiency evolve from Cuttington's plans for growth and its effects on students, faculty, and programs. Although there is no question that certain facilities require replacement or renovation, the extent of the reorganization plans should be studied carefully by the Board and the administration before continuing beyond the present phase.

The doubling of the student body and the faculty would bring with it a challenge to maintain the personal nature of the College manifest in the personal association between students and faculty. The increased numbers also would increase administrative and supervisory demands and require special efforts to preserve faculty unity.

Instead of providing greater efficiency in faculty utilization, the addition of more faculty along with the addition of more than a dozen new programs under the proposed reorganization could result in the same overcrowding of foundation courses and inefficiently small classes in advanced courses. Adding majors in areas of minimal enrollment should be questioned. Further, consideration might be given to eliminating majors which are available at the University of Liberia and enroll only a few students each year. However, some of these majors, such as English, history and theology, may not be inefficient because faculty are in areas which serve to fulfill college requirements compulsory for all or most students.

5.4b.2.2 External Efficiency

The major issue in external efficiency concerns the relationship of Cuttington University College's programs to the manpower needs of Liberia. Careful study of manpower needs should be undertaken for the following purposes: to determine if new programs are desirable, to determine whether certain existing programs are warranted, and to determine the number of new students to admit into programs which most address the country's manpower needs. A second area of external efficiency concerns the need for coordination with other institutions of higher education to improve articulation and reduce duplication of programs. A third issue concerns the expansion of CUC's leadership role in national development, particularly through research and outreach programs.

5.4b.2.3 Costs and Financing

Given the present and projected financial situation of Liberia and the high cost of higher education, every effort must be made to use College funds in the most effective and efficient manner possible. While recognizing the private nature and religious mission of the College, plans for expansion of facilities and programs should address the nation's manpower needs to the maximum extent feasible.

5.4b.3 Conclusions

Four major conclusions emerge from the analysis of constraints and issues.

Conclusion 1. Financing sources for operational costs must be better secured.

Conclusion 2. Program modifications should follow from an examination of manpower needs and the mission of the College. In addition, comparable offerings at the University of Liberia should be considered to avoid unnecessary duplication of programs.

Conclusion 3. Plans to increase enrollment and faculty should be carefully considered in view of the College's goals and national needs.

Conclusion 4. Construction and renovation of facilities should continue with due consideration being given to size and use as modified by evaluation of needs.

5.5b RECOMMENDATIONS

Recommendations for Cuttington University College are organized in order of priority. They are stated briefly because a more complete discussion follows in Section 5.6, Analysis and Recommendations for Higher Education in Liberia. Many recommendations involve institutional self-study and long-range planning requiring expert assistance which should be funded by a donor agency.

5.5b.1 First Priority - Costs and Financing: Recommendation 1.

Strengthen funding sources for operational costs through increased government subsidy, increased student tuition, or other sources of additional funds.

5.5b.2 Second Priority - External Efficiency: Recommendations 2-5.

Recommendation 2: Modify degree program offerings based upon manpower needs.

Recommendation 3. Continue and expand outreach efforts in areas of national needs: agriculture, nursing, teacher and principal training, and mid-level manpower training.

Recommendation 4. Continue and expand linkages with other Liberian post-secondary institutions such as ZRTTI.

Recommendation 5. Continue and expand articulation efforts with other programs modeled, for example, on the post-basic nursing entrance program with TNIMA.

5.5b.3 Third Priority - Internal Efficiency: Recommendations 6-8.

Recommendation 6. Modify degree offerings by adding programs relating to national and College needs. Consider discontinuing those majors with minimal enrollment and low employment potential, and which are available at other institutions in Liberia.

Recommendation 7. Review and modify the proposed reorganization in view of manpower needs, desire to reduce duplication of programs offered elsewhere in Liberia, and effects of enrollment increases on students and faculty.

Recommendation 8. Maximize efforts to increase the number of Liberian faculty. Consider strengthening linkages with foreign institutions for professional exchanges and staff development.

5.6 ANALYSIS AND RECOMMENDATIONS FOR HIGHER EDUCATION IN LIBERIA

Having considered the University of Liberia and Cuttington University College separately within the limits of the assessment and data available, this section focuses on higher education more generally. The section begins with identification of the major constraint affecting higher education over the next several years, followed by a discussion of critical issues to be considered in planning. It then closes with a series of recommendations for higher education.

5.6.1 Constraints

The major constraint facing higher education is funding. Institutions must be assured of increased support from the government, which is unlikely given the current economic situation, or else restructure operations to reduce projected costs and generate more funds.

5.6.2 Issues

The following discussion of issues in higher education focuses on concerns regarding internal efficiency, external efficiency, and costs and financing.

5.6.2.1 Internal Efficiency

Both the University of Liberia and Cuttington University College have ambitious expansion plans involving the construction and renovation of facilities, increased enrollment, new program offerings, and additional faculty. Given the financial constraints and the limited ability of the economy to absorb large numbers of graduates in certain professional areas (teaching and nursing being notable exceptions), both institutions need to carefully review their long-range plans before continuing beyond present phases. The following questions must be addressed:

How many students can be adequately served by each institution?

Should efforts be made to increase enrollment or to control enrollment and maximize efforts to ensure that those who enroll graduate with a minimal amount of wastage?

What adjustments should be made to ensure a higher percentage of qualified graduates?

What programs should be emphasized and at what level--graduate, undergraduate, or certificate?

Should both institutions provide programs in the same majors? If not, which majors should be eliminated at what institution?

How can the number of qualified Liberian faculty be increased?

How can faculty be utilized more effectively?

5.6.2.2 External Efficiency

The major issue in external efficiency for higher education is matching programs to the manpower needs of Liberia. What are the areas of

need? How many graduates can be expected to be employed? What major areas result in unemployment or underemployment of graduates? What needs should be given priority?

A second issue concerns the need for coordination among institutions of higher education including the two-year institutions. How can articulation among institutions be accomplished? How can the quality of equivalent courses be ensured? How can duplication of efforts be reduced? The creation of a Board (see Section 6.0, Teacher Education) may facilitate this coordination.

A third issue concerns increasing higher education's role in national development through leadership in research and cooperation with various institutions of society. How can higher education faculty and facilities better serve the country's development needs? How can research be expanded?

5.6.2.3 Costs and Financing

Higher education at the University of Liberia and Cuttington University College already consumes approximately 23 percent of the Ministry of Education budget. As detailed in Section 2.0 of this assessment, projections for future funding indicate that government is unlikely to be able to provide more funds for this level. Other means must be sought to finance increased costs.

Both the University of Liberia and Cuttington University College are considering reducing the amount of government subsidy provided to students by requiring students to pay a greater share of expenses. Although such a move would be unpopular, it raises the issue of the extent to which the beneficiaries of higher education should be expected to bear the costs. This critical issue must be addressed before further expansion plans are implemented.

Costs and financing decisions also rest on the resolution of issues raised under internal and external efficiency. Consideration of those issues could result in the reduction of projected expenditures and assist higher education in functioning within the bounds of available funds.

5.6.3 Conclusions

Five major conclusions emerge from the analysis of constraints and issues in higher education.

Conclusion 1. Funding sources for higher education must be expanded and better secured.

Conclusion 2. National manpower needs must be increasingly considered in planning higher education programs.

Conclusion 3. Increases in enrollment must flow from manpower needs and higher education's improved capability to produce qualified graduates.

Conclusion 4. Coordination among higher education institutions is needed to increase articulation, ensure quality, and reduce duplication of efforts.

Conclusion 5. Long-range plans for higher education institutions must be reviewed and modified as necessary before proceeding beyond current phases.

5.6.4 Recommendations

The recommendations for higher education are grouped according to emphasis, in order of priority, on costs and financing, external efficiency, and internal efficiency. The recommendations are designed to minimize recurrent costs.

5.6.4.1 First Priority - Costs and Financing: Recommendation 1.

Recommendation 1. Increase Student Fees. Students must assume a larger share of the costs of higher education. Tuition, books, and dormitory fees charged to students should more closely approximate actual costs. The funds made available from reduced student subsidies should be allocated to other areas of the institution's budget. Institutional scholarships and financial aid should be awarded on the basis of demonstrated need as well as grade point average. If there is no efficient way to determine need, then financial aid should be repaid in kind upon graduation, in service during studies, or in service after graduation. Such an obligation should discourage those capable of paying from requesting assistance.

5.6.4.2 Second Priority - External Efficiency: Recommendations 2-5.

Recommendation 2. Match Programs to Manpower Needs. Programs should be selected and expanded on the basis of national manpower needs to avoid unemployment or underemployment of graduates as well as to provide qualified graduates to meet Liberia's needs.

Recommendation 3. Coordinate Higher Education Programs. An organization and process needs to be established to coordinate higher education efforts in order to promote articulation between programs, ensure quality of equivalent course programs, and reduce inefficient duplication of programs. Such coordination is greatly needed between the Rural Teacher Training Institutes and the higher education institutions. Additionally, the University of Liberia and Cuttington University College should review their programs to eliminate any inefficient areas of program duplication. Neither institution can afford to fund staff and expend efforts on majors where only a few students are enrolled. Providing majors in areas of lesser demand or relevance to national needs should be considered for discontinuation or centered in only one institution.

Recommendation 4. Increase Outreach Programs. Given the need for well-qualified mid-level manpower, the University and Cuttington should increase outreach programs offering certificates. Flexible scheduling of meeting times can permit enrollees to continue their jobs while learning. Facility use is also maximized with minimal cost. In addition, such programs are usually organized on a self-support basis and may even contribute to the institution's funds.

Recommendation 5. Increase Leadership in National Development. Effective linkages with other institutions in society are needed to assist national development. Institutions of higher education should take the leadership in applied research to provide solutions to significant development problems.

5.6.4.3 Third Priority - Internal Efficiency: Recommendations 6-13.

Recommendation 6. Conduct Institutional Self-Studies. A self-study similar to an accreditation review should be conducted at both the University of Liberia and Cuttington University College. The studies would assess all areas of each institution to assist their development and

provide current data to guide long-term planning. The mechanism and process created to collect data might form the core of an ongoing data-collection system for the institutions. External funding and technical assistance should be sought for the self-studies.

Recommendation 7. Control Student Enrollment. Both institutions plan to expand enrollment by the end of the decade, increasing yearly enrollment from the present 4,200 to over 6,500 students. Rather than across-the-board expansion, higher education enrollment should be controlled to ensure maximum benefit for the nation and the graduates. If necessary, enrollment should be temporarily decreased while efforts are made to curb student wastage and increase the percentage of graduates.

Recommendation 8. Reduce Student Wastage. Indications are that student wastage has decreased over the years. However, the amount of wastage due to attrition, repetition, and failure is still enormously high in terms of cost per graduate. Decisions should be made in terms of the best use of resources to produce the highest percentage of graduates. Setting and enforcing admissions policies and controlling enrollment so that institutional resources can be applied to the best candidates in areas of greatest national need are essential steps in the reduction of student wastage.

Recommendation 9. Construct and/or Renovate Essential Facilities. Both institutions must replace and/or renovate inadequate facilities. However, the size and use of new facilities must be reevaluated with a view to the best use of limited economic resources to meet the manpower needs of the country. Plans should be reviewed so that unnecessary duplication of programs and facilities is avoided.

Recommendation 10. Secure Instructional Support Materials. The availability of adequate instructional materials is recognized as a major factor in student success. Government or donor support may be necessary to ensure that essential textbooks are available for higher education coursework. A national program of low-cost book procurement for all institutions of higher education similar to that planned for primary education (see Section 3.0.) may be in order. At the same time,

institutions can establish a process for recycling used books, possibly through existing school bookstores.

Recommendation 11: Supervise and Evaluate Staff. Personnel costs consume the largest share of recurrent costs in higher education. Thus, a system of staff supervision and evaluation should be implemented to maximize return for the high investment. In order to supervise instructional staff effectively, the "supervisor" must be knowledgeable in the areas of teaching/learning theory and techniques of instruction as well as skilled in conferencing techniques. Supervision of instructional staff will be meaningful to the extent that it is conducted in an organized fashion by qualified individuals.

Recommendation 12: Conduct On-Campus Staff Development. Evaluation of staff is helpful, but does not ensure that deficiencies will or can be rectified without assistance. Nor can all faculty be sent abroad for expensive education to meet the need for improved instruction in specific higher education classrooms in Liberia. On-campus staff development programs geared to specific needs and held at regularly scheduled, convenient times for faculty should be established as an essential part of supervision, evaluation, and retention of effective staff. This may require diverting funds from staff development efforts abroad, or seeking further donor assistance. All faculty should benefit from staff development activities to increase their job effectiveness and job satisfaction.

Recommendation 13: Increase Liberianization of Faculty. Efforts should be strengthened to secure and retain qualified Liberian faculty. In addition to continuing to provide scholarships for advanced study with effective monitoring of that process, consideration should be given to improving the terms of service to attract qualified Liberians already in the country.

Appendix 5-1

Other Institutions of Higher Education in Liberia

In addition to the University of Liberia and Cuttington College, there are four other institutions of higher education in Liberia--Zorzor Rural Teacher Training Institute (ZRTTI), Kakata Rural Teacher Training Institute (KRTTI), William V.S. Tubman College of Technology, and Ricks Institute.

ZRTTI and KRTTI are detailed in Section 6.0, Teacher Education. The graduates of these institutions do not receive credit that is recognized or transferable to other higher education institutions.

William V.S. Tubman College of Technology in Harper, Maryland County, first enrolled students in 1978. Lack of equipment has limited the effectiveness of the program, and only six students have graduated to date. Although the institution grants an A.A. Degree in Engineering Technology, the degree is not recognized by the University of Liberia, and graduates cannot enter the University of Liberia as juniors. Tubman College of Technology is discussed briefly in Section 7.0, Vocational/ Technical Education.

Ricks Institute, a Baptist Missionary program, began a kindergarten through twelfth grade program in 1962. In 1978, a two-year Junior College program was initiated. This year Ricks expects to graduate 24 students with an A.A. Degree. In September 1982, nine Ricks' graduates were admitted to the University of Liberia as juniors. Although the Government of Liberia subsidized Ricks heavily in the past ($272,000 in FY 1980), the current subsidy is only $5,000. The Institute is not considered in further detail in this assessment.

6.0 TEACHER EDUCATION

Government plans for teacher education will improve instruction in all primary and secondary schools. Priority objectives are to increase the quality and number of teachers. Fewer than a third of the teachers have had formal teacher training and, in some cases, this preparation has not been of acceptable quality. These objectives will be addressed partly by a Board for the Professional Certification of Teachers, which will advise government on implementation of a new certification-based salary structure. Establishment of a Council for Teacher Education (or Higher Education), which is now under consideration, will facilitate coordination of all teacher education.

This section of the assessment reviews the current status of teacher education, including plans for improvements in this area. Basic issues are then discussed, followed by recommendations based on needs not fully covered by current plans. These recommendations focus on better coordination of teacher education activities, an increased internal efficiency through training incentives, and the use of external examinations for certification as a means of quality control.

6.1 STATUS

This section first presents government's goals and strategies for teacher education, followed by a description of the structure and organization of the teacher education system. The current status of teacher education is then described with respect to administration and supervision, access and equity, internal efficiency, external efficiency, and costs and financing.

6.1.1 Goals and Strategies

The goal of government for teacher education is ultimately to improve the quality of instruction in all primary and secondary schools throughout the country. A major obstacle to effective instruction in the schools is the lack of training for the majority of the teaching force.

Strategies to achieve this goal of quality instruction are given in the Second National Development Plan, with respect to primary and secondary education, as follows:

> The objectives...will be to increase the number and improve the quality of teachers at all levels.
>
> In-service teacher education will be geared to achieving a drastic reduction in and eventually phasing out of the high proportion of unqualified and underqualified teachers...
>
> A new salary structure for teachers will be implemented on the basis of certification.
>
> The Board for the Professional Certification of Teachers has been reconstituted by the Minister of Education and empowered to advise on all matters pertaining to the formulation and implementation of a certification scheme. Two important responsibilities of the Board, inter alia, are to establish policies and procedures for the certification of educational personnel and to review conditions of service for teacher/educators and develop criteria, rules and procedures for equitable provision of incentives to educators...
>
> ...existing institutes and colleges will be encouraged to serve as centers of in-service teacher education.
>
> Consideration will be given to the setting up of a Council for Teacher Education (or Higher Education) to which should be given the task, among other functions, to facilitate the rationalization, harmonization and synchronization of existing programs... (242-243)

6.1.2 Structure

There are four institutions which offer programs in teacher education: The William V.S. Tubman Teachers College, University of Liberia; the Department of Education, Cuttington University College; the Kakata Rural Teacher Training Institute (KRTTI); and the Zorzor Rural Teacher Training Institute (ZRTTI). The University of Liberia and Cuttington University College mainly offer four-year degree programs for

secondary school teachers, and the two RTTIs offer two-year programs leading to the Professional Teaching Certificate (PTC) Grade B.

An extension program to upgrade the skills of primary school teachers was planned to begin operations in 1976, but it is not now operational. As stated in the Second National Development Plan, these extension centers had difficulties with dropouts as well as problems finding suitable staff. This program is excluded from the scope of this assessment because the assessment deals only with existing programs.

Pre-service and in-service training of teachers for primary schools is done mainly at KRTTI and ZRTTI. The University of Liberia and Cuttington University College also train primary teachers, but not in any significant numbers (e.g., three by U.L. in 1978).

Secondary school teachers are trained at the University of Liberia and Cuttington University College, and programs for lower secondary have recently been instituted at KRTTI and ZRTTI.

6.1.3 Administration and Supervision

The Ministry of Education is responsible for the planning, development, and management of teacher education. Although the Ministry of Education has made significant improvments in its organizational capabilities over the past few years, operations in the area of teacher education offer considerable opportunities for innovation and change.

Difficulties with coordination have been due partly to the independence of the institutions involved. The University of Liberia has traditionally, and perhaps necessarily, been relatively independent of government intervention. Cuttington University College is managed by a religious denomination and, although receiving substantial financial support from government, has retained a high degree of autonomy.

The most significant impediment to coordination, however, has been the lack of a Board or Council having this responsibility and being relatively independent of the Ministry of Education. As indicated in the Second National Development Plan, this soon may be changed, as government is considering the establishment of a Council for Teacher Education (or Higher Education) to provide the needed coordination. The final decision on establishing the Council has not been made, nor have the terms of

reference been prepared. It might be expected, however, that the structure and functions would resemble those of the Agricultural and Industrial Training Bureau (AITB). The AITB, which is described in Section 7.0 of this assessment, coordinates all agricultural and vocational training in both the private and public sectors.

6.1.4 Access and Equity

The vast majority of the enrollees and graduates of the teacher education programs are male. Data on teachers in The National Education Survey 1978 are not given separately for males and females, but it is very likely that the teaching force is predominatly male based on data from the training institutions. Informed opinion of educators confirms this, although precise figures are not available.

Teachers completing the primary education program in 1982 consist of approximately 78 percent males at KRTTI and 89 percent males at ZRTTI. Those completing lower secondary programs constitute 89 percent males at KRTTI and 97 percent males at ZRTTI.

There are regional imbalances with respect to representation at the RTTIs. Ministry of Education sources indicate that these differences relate to the poor quality of high schools in some counties, which result in candidates from these counties not doing well on the selection examinations.

6.1.5 Internal Efficiency

The capacity of the teacher education system is not fully utilized. The number of places at KRTTI and ZRTTI, for example, was increased from 410 to 630 during the 1976-1980 period. The number of graduates, however, has not matched this increased capacity. Graduates numbered 100 in 1974, 310 in 1978, 249 in 1981, and are expected to be 328 in 1982.

The Second National Development Plan cites the lack of qualified staff as a problem with teacher education. The staff at the RTTIs, moreover, are not being used most effectively. The student/teacher ratio at KRTTI, for example, is 18:1 and could be raised slightly. Although data from ZRTTI are not available, the situation there is likely to be about the same. This is further complicated by the fact that most teachers have

little formal training in teacher education and very little classroom teaching experience. Also, staff turnover is very high.

The general quality of instruction at the teacher training institutions, as stated in the Second National Development Plan, is a major problem. This is related to the need for a higher quality teaching staff at the RTTIs and improved course content at the universities. At the university level, according to the Plan, there is an over-concentration on professional and related courses to the detriment of preparation in the major academic subject areas.

The use of selection examinations to screen candidates, which is often done to improve the quality of trainees entering a system, is not possible within the teacher education program. Because incentives to enter the teaching profession are low, as discussed later, there are not usually enough candidates to fill available vacancies. The selection examination administered for the RTTIs by the Liberian National Office of the West African Examinations Council (WAEC), therefore, is used only to exclude the most extremely unqualified applicants.

The lack of a suitable incentive system for the teaching profession is a major impediment to improving the quality of students attracted to the teacher education institutions. The major shortcoming is that salaries paid to qualified teachers are not competitive with respect to jobs in the public and private sectors requiring similar preparation. A new salary scale has been prepared, but financial limitations will prevent it from being implemented within the next several years. A related shortcoming in the incentive system is the stipend paid to pre-service trainees at the RTTIs, which is $10 per month. Because this does not compare favorably with government stipends paid for competing post-secondary training opportunities, the RTTIs do not attract the most qualified applicants in most cases.

The teacher education institutions do not have adequate physical facilities to support their instructional programs, according to the Second National Development Plan. The quality of instruction is further impeded, at some locations, by a shortage of teaching materials and library resources. A laboratory school, which can be an important

component of teacher education, is not available at any of the four institutions.

6.1.6 External Efficiency

The four teacher training institutions, based on growth projections for enrollments at different rates but with constant student/teacher ratios, do not have the capacity to prepare the increased number of teachers required over the next ten years. Even if existing institutions were utilized at their increased capacity, according to the Second National Development Plan, they would not be likely to cover attrition due to resignations, deaths, or dismissals.

Teacher training needs over the next ten years (1982-1991) are given in Table 6-1 for teachers at the primary, lower secondary, and upper secondary levels. These are estimates of new teachers needed in the system, assuming no attrition and constant student/teacher ratios, and thus are very conservative. Actual requirements are likely to be much higher.

Projections are made for three possible levels of annual growth in school populations: 3 percent, 5.5 percent, and 8 percent. The three percent level was selected to illustrate requirements for growth in school population matching the expected growth in the general population, meaning no effective change in enrollment ratios. The eight percent level was selected to show requirements if the same rate of expansion over the past several years is continued. Finally, the 5.5 percent level was selected to show requirements midway between the other two.

The implications of the data in Table 6-1 are apparent: the present system for teacher education can meet only the most conservative projection for new teachers over the next ten years--one based on no increase in the enrollment ratios with constant student/teacher ratios. If allowances are made for attrition, the present system might not even be able to meet this conservative projection of a three percent growth.

The projections for 5.5 percent and eight percent growth are striking. For a 5.5 percent growth over the next ten years, the system must produce 3,695 primary teachers, 1,746 lower secondary teachers, and 824 upper secondary teachers. For a growth rate of eight percent, which

TABLE 6-1

TEN-YEAR TEACHER TRAINING NEEDS[1], [2]

GROWTH	3%			5.5%			8%		
Level	Prim.	Lo. Sec.	Up. Sec.	Prim.	Lo. Sec.	Up. Sec.	Prim.	Lo. Sec.	Up. Sec.
1982	157	74	35	287	136	64	417	197	93
1983	161	76	36	303	143	68	451	213	101
1984	166	79	37	319	151	71	487	230	109
1985	171	81	38	337	159	75	526	249	118
1986	176	83	39	356	168	79	568	269	127
1987	181	86	41	375	177	84	613	290	137
1988	187	88	42	396	187	88	662	313	148
1989	193	91	43	417	197	93	745	338	160
1990	198	94	44	440	208	98	773	365	173
1991	204	97	46	465	220	104	834	395	186
TOTAL	1,794	849	401	3,695	1,746	824	6,046	2,859	1,352

[1]No allowances for attrition; constant student/teacher ratios of 30:1 at primary, 14:1 at lower secondary, and 19:1 at upper secondary; base 1981 teachers projected from 1978 survey at 8 percent per year, giving 5,218 at primary, 2,468 at lower secondary, and 1,166 at upper secondary.

[2]Annual output of teacher training institutions roughly 250 at the primary level, 50 at lower secondary, and 30 at upper secondary. (Source: MPEA Working Papers).

has been sustained over the past several years, the corresponding numbers of teachers required are 6,046, 2,859, and 1,352, respectively.

Even if trained teachers were to somehow become available, the cost for linear expansion of the present system with constant student/teacher ratios would be prohibitive, as indicated in the following section. It is apparent that more efficient use will have to be made of existing resources if growth is to be accommodated with available funds.

6.1.7 Costs and Financing

The costs of teacher education are given in Section 2.4.5 of this assessment, based on an analysis of budgets from the RTTIs. The cost for producing each graduate from KRTTI is about $3,400, and from ZRTTI is about $8,800. This is relatively high, especially considering the quality of the instruction received. A major cost of this teacher training is the fact that in-service teachers remain on full salary while at the RTTIs, receiving a minimum of $3,000 annually. The cost per graduate is higher at ZRTTI because of the higher proportion of in-service students there and because the salaries of the teaching staff are higher than at KRTTI.

The incremental costs of providing the additional teachers estimated in Table 6-1 would be very high. Assuming a minimum annual salary of $3,000, the cumulative incremental salary costs per year would be $9,132,000 for the three percent growth rate, $18,795,000 for the 5.5 percent rate, and $30,771,000 for the eight percent rate. The current annual budget for the Ministry of Education is $49,500,000.

6.2 NEEDS

Based on a comparison of the goals for teacher education with the current status of the system, four areas of needs are identified and discussed below.

6.2.1 Administration and Supervision

The overriding need, already recognized in the Second National Development Plan, is for the full coordination of resources in the area of teacher education. This is a priority need and should be addressed as soon as possible. Such coordination is required to establish long-term goals and to identify immediate activities consistent with these goals.

The following problem areas should be given early attention by whatever coordinating group is established: staff development, facilities utilization, incentives, certification, lowering per-graduate training costs, instructional quality within training institutions, credit transfer among institutions, and the underutilization of females in the teaching force.

6.2.2 Internal Efficiency

The internal efficiency of the teacher education system must be improved, including program quality, if the benefits of basic education are ever to become widely available. This should be emphasized when coordinating a program to improve the entire teacher education system. There are needs for improving the conditions of service for the teaching staff at the RTTIs, as well as the incentives for the trainees at these institutions. There also is a need to evaluate staff salary differences among KRTTI (about $315/mo.), ZRTTI (about $450/mo.), and the nearby vocational training institution (about $580/mo).

6.2.3 External Efficiency

The major need with regard to external efficiency is to have the existing teacher education institutions provide qualified teachers in sufficient numbers for the country's primary and secondary schools. At present, both the quantity and quality of the graduates of these institutions should be improved.

6.2.4 Costs and Financing

There is a need for the unit costs of teacher education to be lowered, as discussed in Section 6.1.7. Costs for in-service teacher education are prohibitively high, considering that the trainees are kept on full salary for the two-year training period. The student/teacher ratios at the RTTIs are low at about 18:1 and contribute to the high unit costs of training.

6.3 PLANS

Government has developed plans for upgrading primary school teachers, and institutionalizing the program within existing teacher education

entities. These plans will be implemented and funded on a trial basis within the Fourth Education Project. They are described more fully in section 3.0 of this assessment, but basically the plans focus on upgrading about 2,250 primary school teachers using the facilities of the four teacher training institutions. Funds for the continued operation of this program are not yet identified.

The Board for the Professional Certification of Teachers has been reconstituted. The Board will advise the minister of education on the development and implementation of a certification plan as well as conduct a review of the conditions of service for teachers.

The Improved Efficiency of Learning Project (IEL), which has been described more fully in Section 3.1.7, has implications for the more effective use of existing resources at the primary level. A cost-effectiveness study of the IEL model will be completed in early 1983, and if the results are positive, they may lead to a partial solution for the high unit costs of teacher education. The training costs for teachers within the IEL system would be lower than the costs per graduate for ZRTTI and KRTTI because the IEL teacher training workshops are expected to last approximately one month versus two years for the RTTIs.

6.4 ANALYSIS

This section gives the constraints affecting any developments in teacher education over the next several years. This is followed by a presentation of several issues affecting teacher education, and the section closes with a set of conclusions based on a consideration of these constraints and issues.

6.4.1 Constraints

Three constraints must be recognized as affecting all issues and plans in teacher education: financial, personnel, and institutional. The financial constraints are basically the same as have been discussed in all preceding sections of this assessment related to the Ministry of Education programs: even the most cautious projections of recurrent costs equal or exceed all but the most optimistic of revenue forecasts. All but the most modest increases in recurrent costs must be avoided in new programs, and

in most cases, these should be sought from external sources. If at all possible, incremental recurrent costs should be accommodated by reallocation of costs from less effective current programs.

Personnel limitations constitute the second constraint. There are not enough trained teacher educators to handle a linear expansion of the programs as presently structured. As there are neither funds nor time to train large numbers of additional teacher educators, plans should be designed to make the most effective use of the available pool or to recruit from external sources while local staff are being trained.

The third constraint is institutional. The four institutions engaged in teacher education do not have a history of cooperation, having evolved to achieve different goals and serve separate constituencies. Even where they have parallel programs, they have not developed a common curriculum. For example, students from ZRTTI and KRTTI who later enroll in a four-year course in education at the University Liberia or Cuttington University College can transfer no credits. They begin with the same courses as a high school graduate. Any plan for transfer of credits from one institution to another, of course, must be based on a common curriculum as well as comparable standards.

6.4.2 Issues

The issues discussed below address concerns in the areas of administration and supervision, internal efficiency, external efficiency, and costs and financing.

6.4.2.1 Administration and Supervision

The central issue in the administration and supervison of teacher education concerns the feasibility, terms of reference, staffing, and funding for the infrastructure to coordinate activities in this area. Both the recently reconstituted Board for the Professional Certification of Teachers and the proposed Council for Teacher Education (or Higher Education) have been cited above, with reference to their inclusion in the Second National Development Plan. For both of these bodies to become effective they will have to focus realistically on the basic problems of teacher education. Any plans should be developed in close coordination

with the Ministry of Education so that cost considerations are reflected in their design. Long-term plans must reflect sensitivity to current and anticipated fiscal constraints.

6.4.2.2 Internal Efficiency

The two most prominent internal efficiency issues relate to making more efficient use of existing resources for teacher education. The first concerns the stipends for pre-service teacher trainees at KRTTI and ZRTTI. As discussed above in Section 6.1.5, the monthly stipend of $10 is not sufficient to attract and motivate highly qualified students for these programs. Pre-service teacher education is often the second choice for the better students, who enter alternate post-secondary programs whenever possible. The second issue is related to the first: because there are usually more training places than there are qualified applicants, the selection tests administered by the West African Examinations Council cannot be used effectively. Unless the incentive program is improved so that there are significantly more applicants than training places, the administration of the selection examinations will continue to be an academic exercise.

6.4.2.3 External Efficiency

The major issue for external efficiency is the impossibility of meeting the projected demand for new teachers with present training facilities, given the current teacher education programs. Related to this issue, as illustrated in Section 6.1.7, is the fact that salary costs for new teachers would be prohibitive over the next ten years given even a modest expansion of primary and secondary capacity required to keep enrollment ratios constant.

It may be possible to change the system of teacher training so that it is shorter, less costly, and more effective. If a briefer, more focused training design is employed, then the present training facilities may be adequate to handle the projected numbers of new teachers, particularly at the primary level.

6.4.2.4 Costs and Financing

There are two issues related to costs and financing. One of these concerns the full salaries paid to in-service teacher trainees and the other relates to costs for the proposed salary increases.

As stated above, training costs at the two RTTIs are high. A major component of these costs is the full salaries paid to in-service teacher trainees during their two-year program. Some observers note that there is not a clear distinction between the content of the in-service and the pre-service programs and that both programs may be described as initial training. There is no apparent justification for the high costs of the in-service program. Considerable savings might be realized if full-time training at the RTTIs were pre-service only and the staff and facilities served as a resource base for short, intensive workshops available to in-service teachers desiring training.

As pointed out in the Second National Development Plan, timely resolution of the second issue, which concerns costs of implementing the new salary scale for teachers, may not be possible because of present financial constraints. The new scale therefore cannot be considered as a reasonable option for improving the quality of the teaching force.

6.4.3 Conclusions

The following four conclusions are derived from the constraints and issues discussed above. They are the basis for the specific program recommendations in the closing part of this section.

Conclusion 1. Coordination of all teacher education institutions and programs should be given the highest priority, with particular emphasis on long-term planning sensitive to all constraints and needs for staff development, transfer of credits among programs, and the improved utilization of females in the teaching force.

Conclusion 2. More efficient use should be made of existing personnel and physical resources for teacher education, with a focus on the improvement of the selection procedures, better student/teacher

ratios particularly at the upper levels, and a better use of available training funds.

Conclusion 3. A powerful tactic for raising the quality of the instructional programs would be the use of externally administered and competency-based certification examinations.

Conclusion 4. Costs will be a basic limiting factor for any new or modified programs in teacher education, and any changes requiring incremental recurrent costs will probably not be feasible unless these costs are either made available by an equivalent reduction in other programs or recovered as fees paid by program beneficiaries.

6.5 RECOMMENDATIONS

Recommendations 1 and 2 below concern the administration and supervison of teacher education as a first priority, and Recommendations 3 and 4 address internal efficiency of the teacher education system as a second priority. Many activities included in Recommendation 2 also would affect internal efficiency, external efficiency, and costs and financing. These recommendations should be implemented to have only modest effects on incremental recurrent costs, and such costs wherever possible should be obtained by equivalent reductions in less effective programs and/or recovered from program beneficiaries.

6.5.1 First Priority - Administration and Supervision: Recommendations 1-2.

Recommendation 1. Establish a Council for Teacher Education. The establishment of such a Council, or body responsible as well for higher education, is already under consideration within the Second National Development Plan. The Council should be responsible for the coordination of teacher education for all existing and planned institutions. The terms of reference and operating guidelines for the Council should be decided by government in consultation with the Ministry of Education, the University of Liberia, Cuttington University College, KRTTI, and ZRTTI.

Recommendation 2. Coordinate All Teacher Education Activities. The first task given the Council should be the preparation of a long-range plan for teacher education based on minimal incremental costs for the next

decade. This plan should address at least the following topics: more efficient use of existing resources, staff development, curriculum coordination, transfer of credits, salaries and related incentives, high unit costs of the in-service program, and the under-representation of females at teacher training institutions.

6.5.2 Second Priority - Internal Efficiency: Recommendations 3-4.

These two recommendations concern improvement of the internal efficiency of the teacher education system. Neither would require any significant incremental recurrent costs.

Recommendation 3. Improve the Teacher Education Stipend Program. The current stipend of $10 per month for the pre-service teacher education program is lower than the stipend for competing post-secondary training programs and reduces the program's attractiveness for better trainees. The stipend should be increased by transferring funds from less effective programs within the Ministry of Education. Programs which might be examined for possible reductions, and their estimated budgets for fiscal year 1983, are as follows: Voinjama Multilateral High School ($630,000), Zwedru Multilateral High School ($436,400), and Community Schools ($552,900). For every $100,000 so reallocated, the stipends for 278 pre-service trainees could be increased from $10 to $40 per month for one year.

Recommendation 4. Use Competency-Based External Examinations for Certification of Teachers. The certification of teachers is currently based on the measurement of inputs to training rather than outputs. This is a common weakness of educational programs worldwide and can be remedied by the more effective use of external examinations developed by the Liberian National Office of the West African Examinations Council. Such examinations for teacher certification are used in member countries of the Council, and technical assistance for the development of such a program for Liberia can be obtained from the Test Development and Research Office of the Council in Ghana and Nigeria. An immediate and direct effect of such a certification program would be an upgrading of the quality of instruction in the teacher education institutions, as their programs would have to address the approved syllabus used by the Council to prepare the

examinations. Publication of test results obtained from all institutions could help mobilize pressure from teacher trainees, as well as society in general, for effective programs.

7.0 VOCATIONAL/TECHNICAL EDUCATION

This section examines vocational and technical education and training offered through the secondary and post-secondary pre-baccalaureate school system as well as through institutes and training centers outside the formal schooling system. It includes programs managed by both the public and the private sectors.

Vocational education is defined here in accord with The National Education Plan (1978-1990) as an organized program of learning, either in school or other educational institution, designed to prepare generally skilled workers for industry, monetary agriculture, commerce, or semi-professional service. Besides full-time courses in school, vocational education may include guided activities for apprentices and courses to upgrade employees seeking greater proficiency in their skills. Technical education refers to planned sequences of classroom and laboratory experiences, usually at the upper secondary or lower tertiary levels, designed to prepare skilled technicians. For the purposes of this assessment, vocational/technical education and training is used as a comprehensive term.

An overview of vocational/technical education in Liberia reveals that more than 35 institutions offer training programs. Most of these are in the Monrovia area and are of relatively long duration, oriented to the industrial sector, and have little employer involvement. Means for coordinating and establishing quality control of the various vocational efforts are in the early stages of development through the Agricultural and Industrial Training Bureau (AITB).

Principal needs are for evolution of AITB's supervisory capacity and for effective linkage of vocational training programs to national manpower demand. Also needed is the development of training curricula that are standardized to satisfy the skill requirements of particular occupations.

Key issues to be addressed include the relative priority to be given to job creation versus job training; the optimum role for employers in

designing, implementing and assessing vocational training; and responsibility for program costs. Of central importance, also, is the effective development of AITB's capacity to guide and oversee the various training efforts.

The recommendations at the end of this Section focus upon increasing support to AITB to enable the Bureau to accomplish the demanding tasks it has set for itself. Other recommendations are to increase employer involvement in planning and assessing training programs, establish occupational performance standards and tailor training to these, and provide greater rationalization of subsidies to public sector training institutions in light of their public returns and effectiveness. These topics are now treated in greater detail.

7.1 STATUS

This section discusses the condition of employment and vocational education and training in Liberia and identifies related national goals and strategies. It then gives an overview of vocational/technical programs offered by secondary schools, public institutes, proprietary schools, private schools operated by missions, and training centers operated by concessions. Consideration is given to the status of these activities with respect to administration, external and internal efficiency, access and equity, and financing.

7.1.1 Condition of Employment

Discussion of employment and vocational education and training must take place within national and international contexts. Nationally, Liberia is experiencing severe economic difficulties reflected in an urban underemployment and an unemployment rate of approximately 50 percent, a stagnating agriculture sector which employs 70 percent of the workforce, few opportunities for rural off-farm employment, and an economy growing too slowly to absorb the 2.6 percent annual increase in the labor force. Of the approximately 198,000 workers in wage employment or self-employed

other than in the informal sector, a third are in agriculture, forestry, and fishing. Fully 6,100 are registered expatriate workers, 70 percent of whom are in managerial, professional, and technical occupations. These data point to the importance of gearing vocational training to agriculture as well as to industry, increasing the numbers of well-qualified professionals, and upgrading the skills of Liberian workers across all occupational levels.

Internationally, the country currently is suffering the effects of declining world demand and associated low prices for its major exports and costly oil imports. The net result has meant that the country's largest industries--most notably iron ore and rubber--and others dependent upon them have fewer jobs to offer.

Given these constraints, the country's major challenge concerning employment lies as much with job creation through an invigorated private sector as with job skills training linked to actual needs and existing opportunities. Nevertheless, the training of professionals and of skilled middle-level persons in such areas as mechanics, electronics, technical maintenance, and the building trades is critical for Liberians to manage the country's development plans and to assume the positions now held by expatriates.

7.1.2 Goals and Strategies

Government's key policy goals--economic diversification, improved income distribution, and Liberianization of the economy--all have direct implications for the planning and implementation of vocational/technical education and training.

The National Education Plan (1978-1990) sets forth objectives for vocational preparation which remain relevant to these current policy directives:

(a) to develop the manpower base for active participation in, and stimulation of, the economic advancement of the country;

(b) to rapidly produce the number of trained workers needed to reduce the nation's excessive reliance on expatriates in middle-level and skilled occupations; and

(c) to instill in Liberian youth [appreciation for] the dignity of labor and the need to achieve individual self-reliance.

Further addressing employment and vocational/technical training, the government proposes the following long-term objectives in its Second Four-Year National Socio-Economic Development Plan, 1981-1985:

- the promotion and creation of industrial and commercial employment opportunities, with priority given to labor-intensive small-scale enterprises of Liberian nationals...;

- on-the-job training programs for managerial, professional, and technical positions; and

- the strengthening of technical and vocational training, by continuing along the lines begun with the setting up of the National Council for Vocational/Technical Education and Training (NCV/TET) and the Agricultural and Industrial Training Bureau (AITB).

7.1.3 Structure

More than 35 institutions, agencies, and organizations offer vocational and/or technical education in Liberia. These represent both the public and the private sectors, the latter in some cases subsidized by the government, and comprise both in-school and out-of-school programs. With a combined enrollment of nearly 6,000 students, these institutions provide programs covering a variety of areas, most commonly industrial and construction trades and business skills. The largest, Booker Washington Institute (BWI), enrolls 1,084 students, and the smallest, only a dozen or so. The most costly, W.V.S. Tubman College of Science and Technology in Harper, had an operating budget of $1.5 million in 1981-82 with 172 students receiving full room and board (for a per student cost of $8,721), while the least costly, the Eugenia Simpson School of Stenotype, spends only $414 annually per student, most of whom attend on a part-time basis.

The National Council for Vocational/Technical Education and Training (NCV/TET) (hereafter referred to as the Council) was established in 1975

to coordinate all vocational/technical training in the public and private sectors and to ensure that such programs meet essential manpower needs of the country. The Council was reconstituted by PRC Decree No. 56 in 1981, and by the same decree the Agricultural and Industrial Training Bureau (AITB) was designated to serve as the technical and administrative secretariat of the Council. In addition to handling coordination, assessment, and technical assistance functions, AITB has responsibility for advising the Council and enforcing regulations of the Council. Because the mandates of AITB provide a broad agenda for developing and coordinating vocational/technical education in the country, fuller consideration will be given to AITB's plans in Section 7.3.

Within the Ministry of Education, the Bureau of Professional and Technical Education is responsible for vocational programs, as is the Bureau of Vocational and Technical Training within the Ministry of Youth and Sports.

There is no institution in Liberia which provides training for vocational and technical education teachers. A particular shortage of teachers exists in the technologies, engineering, manual arts, agriculture, and household economics.

7.1.4 Programs

This part of the discussion reports on 36 vocational/training institutions, noting the nature of their programs, numbers of students served, and costs. They are considered in five categories according to type of institution and sponsorship:

a. Public school institutions (5). Publicly operated through the formal schooling system, either at the secondary level or at the post-secondary level.

b. Public out-of-school institutions (15). Publicly operated outside the formal schooling system.

c. Proprietary institutions (10). Private, profit making.

d. Private mission institutions (3). Private, church sponsored.

e. Concession institutions (3). Private, company sponsored for company personnel.

Table 7-1b, at the end of this chapter, lists the institutions considered in the review, together with their program offerings, the total number of students served, and costs. Table 7-2b presents a comparative summary of the institutions showing enrollments and completions by occupational areas.

A summary overview of these institutions reveals that:

- Just over half of the institutions are in the public sector.
- By far the most students are in public sector institutions.
- The focus of the training tends to be urban rather than rural.
- The market orientation tends more often to be the industrial or informal sectors rather than the rural sector.
- Numbers of nonschool programs predominate over school programs.
- Programs tend to be of relatively long duration, two to four years.
- About half of the programs cater to out-of-school youth and adults who have not completed secondary school; the others require completion of secondary school.
- Male participants predominate in the industrial and agriculture-oriented programs, females in those oriented to secretarial and business skills.
- Few of the institutions have an income-generating component or a link with concurrent or post-training employment.
- Most institutions have no direct employer involvement in the implementation and assessment of the curriculum or training.
- Virtually no assessments are available on how well the trainees master the intended technical, mechanical, construction, or commercial skills.
- No comparative studies have been made of the programs in terms of student retention, program cost per student and per completer, post-training employability, and job performance.
- Staff, in most cases, have no training in how to be effective teachers or vocational/technical educators.

Descriptions of the 36 vocational/technical institutions follow. The reader not requiring these individual descriptions should proceed to Section 7.1.5.

7.1.4.1 Public School Institutions

Two secondary institutions and three post-secondary institutions providing vocational education are part of the formal system. The two secondary schools, Booker Washington Institute and W.V.S. Tubman High School enrolled 1,432 regular students in 1982, 6.4 percent of the total senior high enrollment of 22,243. The three post-secondary institutions, W.V.S. Tubman College of Science and Technology, the Rural Development Institute, and Tubman National Institute of Medical Arts, enrolled 675 students in 1982.

a. Booker Washington Institute (BWI): BWI, with 878 regularly enrolled students and 206 part-time evening students, is Liberia's largest effort in vocational/technical education. Located in Kakata, it offers four-year programs in eleven fields with most students enrolled in the building trades (30%), followed by business education (20%), the mechanical trades (17%), agriculture (16%), and the electrical trades (15%). Each program is planned for 2,800 hours of instruction. In 1981, 390 students completed the program, when it was only three years in duration, and 256 completers of the present four-year program are anticipated in 1982. The Ministry of Education estimates the FY 1983 cost per student at $1,628. There are boarding facilities and a nominal tuition is charged. The evening students, who must have a high school diploma for entry, participate in a two-year accelerated program.

Background: Most of BWI's existing structures--classroom buildings for the technical trades, the business complex, administrative unit, student center, dormitories, and staff housing--are products of former USAID projects. In 1979 a USAID grant of over $5 million was provided to change Booker Washington Institute from a high school to a vocational training institute. Academic courses were eliminated except for English, mathmatics, and science courses related to vocational study areas. The school program was reduced from four to three years, new curricula were partially developed, facilities built, equipment furnished, administration reorganized, and training determined in accordance with specific needs of the job market. The project was cancelled in 1981 due to implementation difficulties. Within three months the institution had returned to the high school four-year program, lessening emphasis on its vocational training aspects.

Booker Washington Institute is controlled by an essentially autonomous Board of Governors, with the Vice Head of State as its Chairman. As a result, although BWI's operational funds come from the Ministry of Education, the MOE has little or no control of its operations. The result has been operational confusion and professional inconsistency to the detriment of the institution.

The most serious problem is that despite receiving massive assistance to bolster its vocational objectives and programs, BWI maintains primary allegiance to an academic rather than vocational tradition. Another problem has arisen concerning salaries. BWI is located in Kakata, 48 miles from Monrovia, as is one of two teacher-training institutes. The Kakata Rural Teacher Training Institute offers a post-secondary, two-year program. KRTTI pays its instructors a starting salary of $250 a month. Instructors at BWI, a secondary school, begin at $450 per month, but reach an average salary of $624 a month. Furthermore, only about half of the BWI teachers have more than a high school or technical school diploma.

b. W.V.S. Tubman High School: The W.V.S. Tubman High School in Monrovia enrolls 554 regular day students. In 1981 the school enrolled 306 students, and of this number, 14 were awarded certificates in the various industrial arts programs. Although primarily an academic school, it offers vocational training in bookkeeping and accounting to about two-thirds of the students and in secretarial science to another third of the students. In the evening, 246 students are enrolled in the construction trades, auto-mechanics, and home economics.

Background: This school, under the jurisdiction of the Ministry of Education, was an outgrowth of a USAID project in the 1960's. All existing training equipment is what was left from that effort. In comparison with BWI, the W.V.S. Tubman High School receives relatively little support from the government. Most teachers receive salaries of between $250 and $350 a month. There are few maintenance, repair, or upkeep services, and staff turnover is frequent.

c. W.V.S Tubman College of Science and Technology: Tubman College, located in Harper, Maryland County, offers three programs designed to prepare highly qualified technicians. Recently begun, the College offers studies in five fields: civil, electrical, and mechanical engineering, architecture, and mechanics. Enrollment is growing, from 103 students in 1980 to 226 in 1982, and 38 are expected to complete programs in 1982, receiving associate degrees in arts or science. Responsible to the Head of State, the College is coordinated through the Ministry of Planning and Economic Affairs. Operational costs, which include full board, are very high, currently $1.5 million of which $1.25 million is subsidized by the government. Eighty percent of the students are provided full financial support.

d. Rural Development Institute (RDI): RDI, at Cuttington University College in Suacoco, offers a two-year post-secondary program in four agricultural technologies: plant, animal, and soil sciences, and agricultural engineering. The program is designed to prepare agricultural technicians for employment in private agri-business and in the extension services and development projects of the Ministry of Agriculture. In 1982, RDI enrolled 164 students, among them 25 Ministry of Agriculture personnel. Sixty-three completed the program in 1981, including six women, and most of the graduates are known to be employed.

Background: Begun in 1978, RDI is acclaimed for its high quality of instruction, effective linking of agriculture theory with practical work on the Institute's farm, and availability of equipment and other physical resources. Coordinated within the Ministry of Education, RDI has been heavily supported by outside funding, notably USAID, and by an expatriate staff. Students currently pay nominal tuition of $350, but annual costs are expected to be nearer to the Cuttington University College average of $3,500 per student when the institution is through its development period.

e. Tubman National Institute of Medical Arts (TNIMA): TNIMA operates several programs to train paramedical workers to staff the various health delivery units throughout Liberia. The School of Nursing offers training programs in professional nursing (3 years), practical nursing (2 years), and midwifery (2 years). The School of Physician Assistants conducts a three-year program, and the School of Environmental Health a two-year program. There is also a School of Medical Laboratory Technology with a three-year program, but this is presently under a moratorium. Total numbers of students and numbers of completers for each program in 1982 are reported as follows: professional nursing, 91 students with 25 completing; practical nursing, 10 and 6; physician assistant, 103 and 26; environmental health, 17 enrolled--seniors only since the program is being suspended--of whom 16 graduated.

All of the programs require high school completion for entry. Total costs for two or three years of training run between $6,000 and $9,000 per student, all of which is subsidized by the government.

Note: Not discussed here are the teacher-training institutions which are treated, instead, in Section 6.0, Teacher Education. The Multilateral High Schools, Voinjama and Zwedru, are not given special mention because of their essentially academic rather than vocational orientation and curricula.

7.1.4.2 Public Out-of-School Institutions

Fifteen public programs of vocational/technical training outside the formal schooling system are noted. The first two (a-b) are supervised by the Ministry of Education; the next five (c-g) by the Ministry of Youth and Sports; the two following (h-i) by the Liberian Institute of Public Administration; four (j-m) by the Mano River Union enrolling students from Liberia, Guinea, and Sierra Leone; one (n) by the West African Insurance Institute; and one (o) by the Ministry of Public Works.

a. Liberian Swedish Vocational Training Center: Located in Yekepa, Nimba County, the Center provides three-year programs primarily in mechanics and also in woodworking and electricity for persons who have not completed high school. An accelerated program is offered for high school graduates. The total enrollment for the regular program has grown from 126 in 1981 to 184 in 1982, but there were only 28 completers in 1981. The Center, which offers boarding facilities, operates at an average annual cost of approximately $2,100 per student.

b. Home Economics Center: The Home Economics Center of the Ministry of Education offers a one-year program in cosmetology and a two-year program in home economics. The cosmetology school enrolled 35 students in 1982 of whom 20 completed the program. The Maryann Cheeseman School of Home Economics includes courses in such areas as food and nutrition, clothing construction, embroidery, and small-scale industry. The program enrolled 175 students in 1982 of whom 71 completed the training. Liberian students pay from $20 to $60 per year depending on the number of courses taken.

c. National Youth Training Center (NYTC): The NYTC, a boarding facility in Bensonville, provides practical training, primarily in agriculture, for unemployed male and female rural youths. Participants who have completed the sixth grade receive up to 22 months of training, while those with nine grades of schooling receive eight months. Seventy-five percent of the training program concerns agriculture. The male trainees, three-fourths of the 134 students enrolled in 1982, develop complementary skills in blacksmithing, carpentry, and masonry, while the females receive supplementary training in home economics and related skills.

With the premise that students will be returning to their respective rural areas, the programs of instruction are designed to assist them in being more productive. Students sell their crops and other products, and the resulting cash is saved for them until the completion of training. Students pay no tuition, and about 60 percent of the Center's costs are currently subsidized by the German Friedrich Naumann Foundation.

d. The Business and Domestic Occupational Training Center: This non-residential training center in Monrovia caters to out-of-school youth

who have not completed secondary school. Most of the 72 students enrolled in 1982 are in 18-month programs to develop office skills, and a few are in 8-month courses in cooking and stewardship. Men predominate in the bookkeeping/accounting and stewardship programs, while women predominate in the secretarial and cooking programs.

Thirty percent of each program consists of an internship served in the private sector. Approximately 50 percent of the trainees obtain employment stemming from their internship. The Center had a total 1981-82 budget of $49,936. Students pay no tuition.

e. Liberian Opportunities and Industrializatin Center (LOIC): LOIC, at Klay in Bomi Territory, accepts out-of-school male youth who have completed the eighth grade. Training of up to 18 months is offered for entry level employment in auto mechanics, carpentry, masonry, plumbing, electricity, and air conditioning/refrigeration. Instruction is provided with emphasis on the development of job skills. The amount of theory taught is determined by what is needed for the student to develop each of the requisite skills for entering employment. The caliber of instruction and of shop facilities is regarded as high.

The LOIC is conducted under an autonomous Board, bound only by its legal responsibilities under Charter Legislation and by contractual obligations to funding sources (principally the Ministry of Youth and Sports and USAID).

Completion and job placement rates for LOIC tend to be very high. The Center's enrollment for 1982 was 119, during which year 103 persons completed training programs. By the end of August 1982, 47 of the 103 completers had already obtained employment. Cost per trainee is slightly over $4,500 per year, including room, board, and a $10 per month stipend.

A recently awarded USAID grant will enable LOIC to move from the residential campus at Klay to a community-based program in Monrovia. This will reduce the cost per student to less than half. It will also permit an increase in the number of trainees.

f. Monrovia Vocational Training Center (MVTC): In its first year of operation and located at Gardnersville, the Monrovia Vocational Training Center is currently the only program responsible for organized apprenticeship training in Liberia. The Center accepts high school graduates and is housed in a new, non-residential facility adjacent to the new AITB facility. The educational plan calls for one year of vocational instruction at the Center and two years of monitored apprenticeship. Plans are being made to permit students completing approved vocational/technical training in other institutions to enter the two-year monitored apprenticeship phase of the project. The Center has a total enrollment of 99. Estimated cost per trainee is $3,855 for the full program.

g. Youth-on-the-Job Training Program: This is a new non-residential program, based in Monrovia and primarily geared to out-of-school youth between the ages of 14 and 25 with at least six grades of schooling. The 190 students enrolled in 1982, six of them women, received occupational training in general mechanics (24%), general trades (22%), electricity (21%), clerical work (15%), cabinet making (15%), and design (5%).

The training period, averaging about 18 months, depends upon the ability of the trainee to succeed on the job.

The number of trainees in the program for any year is determined by the number of employers who have positions available and are willing to act as trainers and pay a wage during the training. Until recently all wages for the trainees were paid by the sponsoring employer. During the last calendar year, the government provided a small subsidy for each person in the program.

Program activities include: (a) student recruitment, (b) occupational aptitude testing, (c) job counseling, (d) orientation, (e) job development (obtaining training stations), and (f) monitored on-the-job training. On-the-job training for the individual student begins with an employer's agreement to hire the trainee. As of October 1982, there were 208 persons placed with sponsoring employers. Average annual cost per student is $1,072. Students do not pay tuition, and USAID assists in support of the program.

h. Eugenia Simpson Cooper School of Stenotype: Located in Monrovia, the school was established to provide advanced training in secretarial and accounting skills for persons not able to attend regular business schools. Students must be high school graduates, and approximately 75 percent are government employees on scholarships. In 1982, 183 students were enrolled, 58 percent of these in the three-year accounting program and 42 percent in the two-year secretarial program. Passing the Civil Service Exam is required for graduation. Average annual cost per student is about $414.

i. National Clerical Training Center: Established in Monrovia to provide training in commercial skills to high school graduates not able to enter college, the Center offers two-year daytime training in secretarial science and in clerk/typist skills. In 1982, 103 students were enrolled, six of these men, with 75 percent of the total on scholarship. Thirteen students completed their programs in 1981, and 18 did so in 1982.

j. Mano River Union Customs, Excise and Trade Statistics Institute: The Institute, in 1981, provided 184 high school graduates with 90-day programs in customs techniques and procedures (67%), excise tax administration (22%), or trade statistics (11%). Operating with five instructors, the Institute, which is located in Monrovia, reported a 100 percent retention rate in 1981. No students were enrolled in 1982, however, during which time the Institute's charter was being reviewed and operations temporarily ceased.

k. Mano River Union Marine Training Institute: Located in Marshall Territory, the Institute conducts a 10-month program to train secondary school graduates in seamanship with related skills in deck and engine operations, firefighting, and first aid. Forty-two students were enrolled in 1981.

l. Mano River Union Telecommunications and Postal Training Institute: A three-year program is offered by the Institute in telecommunications to high school graduates, and a 4-21 week program in postal servicing is offered to completers of ninth grade. During the period 1978-1981, 24 of 67 participants completed the telecommunications program, while all of the 65 participants in the postal program completed their training.

m. Mano River Union Forestry Training Institute: Located in Bomi Territory, this boarding Institute conducts a two-year program to prepare secondary school graduates to be forest rangers and a 3-12 month program for completers of ninth grade to be forestry workers. During the period 1978-1981, 84 students were enrolled in the two-year program and 39 in the shorter certificate program. Among the total were 19 Liberians.

n. West African Insurance Institute: Created by an agreement among the governments of Liberia, the Gambia, Ghana, Nigeria, and Sierra Leone, the Institute, located in Paynesville, enrolled its first students in 1979. For secondary school graduates with several years of experience in insurance work, or for university graduates with no insurance experience, the residential Institute offers a one-year course for prospective middle-level managers. Short courses also are offered on particular insurance topics. Enrollment in the one-year program is limited to 60 persons, with an annual quota of 10 Liberians who are recruited by the Ministry of Commerce and Industry. Those selected are subsidized by the government according to individual need. Tuition is $6,150 for the year-long course.

o. Public Works Road Maintenance Training Center: Located in Bassa County, this two-year program trains high school graduates to be foremen or heavy-duty mechanics. In 1981, 54 students were enrolled, one-third in the foreman program and two-thirds in the mechanics program, with a 61 percent completion rate for both. In 1982, the Center enrolled 74 trainees, 37 of these Public Works employees upgrading their skills. The operating budget for the Center in 1982 is $950,000.

7.1.4.3 Proprietary Institutions

There are ten private, profit-seeking training institutions in the Monrovia area, all concerned with commercial skills.

a. City Commercial Pennah Memorial Institute of Bookkeeping: In 1982, the Institute enrolled 155 secondary school graduates in two-year evening programs of accounting or bookkeeping. Thirty-six completed the programs in 1981. The tuition charge is about $150 per year.

b. City Commercial Training Center: The Center enrolls mostly secondary school graduates (500 in 1982, 350 in 1981), the majority in a three-year bookkeeping/accounting program and the others in a two-year secretarial program, or in a shorter-term typist course. Ninety completed the programs in 1981. Students pay about $25 per month.

c. College of West Africa: The school offers a commercial associate of arts degree for two-year programs in bookkeeping/accounting and in secretarial science. Most of the 124 students enrolled in 1982 are in the former program, in which males predominate. Fewer than 10 completed the programs in 1981, and 29 completers are anticipated for 1982. Students pay $450 per year.

d. Gar Lour Commercial Institute: Begun in 1982, the Institute plans to offer several commercial programs of two to three years duration. The 13 students now enrolled are in the clerk-typist program and pay $6.00 per month per class.

e. Leigh Sherman Executive Secretarial Training Institute: For secondary school graduates, the Institute has a two-year secretarial science program in which 116 are enrolled, nearly all women, as well as a clerical program. Those who do not satisfy the secretarial requirements get a clerk/typist certificate. Internships are arranged, and many receive jobs as a result of these. Out of an entry class of 50, approximately 15-18 complete the program. Students pay about $1,680 for the two-year program.

f. Lincoln Commercial Institute: Three-year diploma programs are provided for high school graduates in several commercial areas. Special English classes are also offered. The current enrollment (1982) is 350; 54 completed the programs in 1981, and 62 completers are anticipated in 1982. Student tuition ranges from $150 to $300 per year, depending on the program.

g. Modern Commercial Training Center: Established in 1973, the Center caters to high school graduates with mostly three-year diploma programs in bookkeeping/accounting, business administration, and in secretarial science. A certificate is issued to completers of a two-year program for clerk/typists. In 1982, 284 students were enrolled, but only 29 were expected to complete their programs. Students pay up to $450 per year.

h. Morning Star Typing School: An eighteen-month clerk/typist program is offered to secondary school graduates or other out-of-school adults. In 1982, 110 students were enrolled, about evenly divided among males and females. Students pay $60 per year in tuition.

i. National Academic and Vocational Institute: Begun in 1980, the Institute offers programs of two years for secretarial science and of three years for bookkeeping/accounting. Twelve students were enrolled in 1982, paying up to $70 per semester.

j. Opportunity Commercial Center: The Center provides several programs of 18 months to three years duration for out-of-school adults. Eighty students are enrolled, with 20 of those expected to complete their programs in 1982. Students pay $15 per month per course.

7.1.4.4 Private Mission Institutions

Three additional training centers are affiliated with religious institutions and located in Monrovia.

a. Arthur Barclay Technical Institute: Under jurisdiction of the Catholic Diocese of Monrovia, the Institute offers both day and evening classes for high school graduates. Of the 151 students enrolled in 1982, most were in the two-year programs in accounting/bookkeeping (35%) or in secretarial science (38%), with males predominating in the former and women in the latter. Another 27 percent, all men, were enrolled in the three-year programs in masonry or carpentry. Fifty-six were expected to complete their programs in 1982. Students pay a tuition of $260 per year.

b. Monrovia College: Operated by the African Methodist Episcopal Church, the school provides its current (1982) enrollment of 106 students, all high school graduates, with several program options. Two three-year programs involve most of the students: accounting (47%) in which males predominate and secretarial science (46%) in which females predominate. Two-year programs are also offered in bookkeeping and clerk typing.

Twelve completed the programs in 1981, and 12 more are expected to finish in 1982. The school is subsidized by the government.

c. Zion Academy: Beginning operations in 1981 under the direction of the African Methodist Episcopal Church, the Academy offers a two-year program in bookkeeping/accounting and will initiate another in secretarial science in 1983. Sixty students are currently enrolled and pay a tuition of $270 per year.

7.1.4.5 Concession Institutions

Three concession companies offer training related to the needs of their firms.

a. Vocational Training Center of Bong Mining Company: In 1982, the training center of Bong Mine enrolled 43 students from among its 2,314 employees. Included among the students are 32 on-the-job trainees. Information provided by the company indicates that the vocational training center, in operation throughout the year, conducts a three-year training program. Students complete one year of training in basic metals before moving to two-year programs of auto mechanics, electricity, or machinery. All students receive a stipend of $15 a month. The company attempts to employ most of those completing training, although the trainees are not obligated to work for Bong Mine upon completion of their training.

b. Firestone Institute of the Firestone Rubber Company: Located in Harbel, the training institute offers a curriculum related to job needs of the company. Currently, 89 students are engaged in on-the-job training to improve skills in auto maintenance and in the maintenance of large machinery and heavy equipment. The company also offers a basic management skills course for groups of 15 which meets one day weekly for fourteen weeks. The Laubach Basic Literacy Program for adults in Harbel Factory presently has about 20 men participating. Literacy instruction through the sixth grade level is provided along with the necessary books.

In addition, Firestone is providing scholarships, for studies in agriculture, mechanics, business or clerical areas, to 25 individuals who will be employed by the company upon completion of their training. Eight of these persons are expected to receive two additional years of on-the-job training for higher positions in the company.

The company offers a voluntary tuition refund program for job-related training through Booker Washington Institute and through correspondence courses from any institution worldwide chosen by the employee. Ten persons were in the last group of company employees at BWI, and ten more study through correspondence courses.

c. Wallenberg Training Center of the LAMCO JV Operating Company: This company center, located in Buchanan, offers apprenticeship,

technician, and intermediate training to prepare high school graduates to become technical personnel in the fields of electricity, machinery, and mechanics, or to upgrade the skills of existing company personnel. Technician trainees spend about ten weeks in the Center followed by a ten-week period of on-the-job training.

Supervisory courses are also provided for foremen, and secretarial courses are offered to upgrade the skills of the company's clerical personnel.

7.1.5 Administration and Supervision

As earlier noted, several government ministries and agencies are responsible for specific vocational/technical programs, as are various private concerns. Although the administrative and support staffs of the Ministry of Education and the Ministry of Youth and Sports have been adequately responsible for the programs which they manage, no means existed until recently for coordination among the training institutions or sponsoring agencies. Nor were the training programs coordinated in terms of national manpower needs or the skill requirements of specific occupations.

An apparatus now exists to remedy this situation, although in an early stage of development. In October 1981, the National Council for Vocational/Technical Education and Training (NCV/TET) was established by PRC Decree to promote, monitor, and coordinate vocationally-oriented programs and activities. Specific objectives of the Council are to:

- develop guidelines to ensure that training programs are related to the needs of the economy; and

- assess training requirements of the public and private sectors, identify training resources, and recommend national utilization of public training funds.

The NCV/TET exists within the Executive Branch of the government and has members from government, employers/management, and labor. The Agricultural and Industrial Training Bureau (AITB) serves as the technical and administrative secretariat of the Council and is charged with advising the Council and implementing its decisions. More specifically, the Bureau is to:

- promote the development and expansion of vocational/technical education and training consistent with manpower needs and requirements;

- monitor and evaluate training schemes; and

- coordinate the provision of advisory and technical services to technical training institutions.

Plans which AITB has developed to carry out its mandate will be discussed in Section 7.3.

7.1.6 External Efficiency

Up to the present time, vocational/technical education and training in Liberia has not been formally coordinated with national manpower needs. Institutions have developed training programs as they saw fit, without the benefit of a comprehensive national manpower survey to assess labor needs and supply. In the absence of a central coordinating body, program duplication has occurred in some areas (e.g., clerical training), while training has been lacking in others (e.g., agriculture, forestry, and fishing).

Related to this, few institutions base their curricula and training on systematic analyses of the skills required for particular jobs. As a result, there has tended to be more emphasis on numbers of trainees produced rather than on the quality of the training received or the skills mastered.

In general, employers have not been involved in the design, implementation, and evaluation of vocational/technical training schemes. Little follow-up takes place with regard to the employability and the job performance of training program participants.

The training programs of the concessions are exceptions to these patterns, as are several new programs with on-the-job components and direct links to employers (e.g., Monrovia Vocational Training Center and Youth-on-the-Job Training Program).

7.1.7 Internal Efficiency

In most cases, vocational/technical curricula are not developed from detailed analyses of job requirements, nor are they built upon performance mastery of increasingly more complex clusters of skills. While many of the better programs successsfully integrate theory and practice, others rely only on classroom instruction, owing to both the shortage or disrepair of equipment and the lack of pedagogical training of the instructors. Although generally dedicated to their work, in some instances instructors lack mastery of the content or skills they seek to teach. The disrepair of instructional equipment is one instance of this problem.

No institution currently provides training for instructors of vocational education and training, and no formal means exist for certification of teacher qualification. Most training programs are of fairly long duration rather than short-cycle and, hence, have poor capacity to reflect changing needs of the economy and of particular occupations. Considerable wastage is evident in many programs in the form of dropout and repetition.

7.1.8 Access and Equity

Most of the vocational training programs are located in the Monrovia area and oriented to industrial sector occupations. This tends to restrict access for rural people and inadequately address job needs within the rural sector. Female trainees are more likely to be in such gender-focused areas as secretarial science, clerk typing, and home economics rather than in accounting/bookkeeping, agriculture, and production trades in which male trainees predominate.

7.1.9 Costs and Financing

The range of training program costs varies widely as noted in Section 7.1.4 and in Table 7-1. In addition, the cost to produce trainees in particular occupational fields is not uniform across institutions. Boarding facilities greatly increase the total costs of training. Most

importantly, the granting of goverment subsidies to various training programs and their amounts are not presently based on a common set of criteria. Little account is taken of program need, effectiveness, and efficiency.

7.2 NEEDS

This section considers the government's four goals for vocational/technical education and training and examines how they will be addressed by current strategies and plans. Following from this, several areas of need are identified.

7.2.1 External Efficiency

The major government goal regarding vocational/technical education and training is to promote its qualitative development and expansion in tandem with national manpower needs and requirements. As part of this goal, the government aims to diversify the economy, encourage greater income distribution, and Liberianize the work force.

Diversification of the economy and subsequently improved income distribution will be achieved partially by national manpower assessment and planning. Overall responsibility for manpower planning lies with the Ministry of Planning and Economic Affairs which is in the process of developing such a national assessment.

Replacement of expatriate managers and professionals is to take place by preparing increased numbers of Liberian professionals and by producing and upgrading the skills of middle-level workers. Information gleaned from the national manpower survey would serve as the focal point for assessing those occupational areas toward which education and training programs should be directed. An analysis of the appropriateness and effectiveness of training programs vis-a-vis the level and quality of skills developed would help to bring the training more in line with actual job skill requirements.

There are three outstanding needs to effectively link vocational/technical education to national manpower goals. First is the need for

data on Liberian manpower demand and supply, classified by educational levels or types. The Ministry of Planning and Economic Affairs has completed a manpower survey projecting demand for workers through 1985 by industry and occupation. After the results of this survey are available in early 1983, the second need will be to comprehensively link training schemes to manpower demands to ensure that sufficient numbers of persons are prepared for certain types of occupations. An employment exchange system would further help match those trained to existing needs. A third need is to strengthen the responsiveness of training programs to the quality of occupational skills required.

The first need, for data on manpower demand and supply, will soon be met by the Ministry of Planning and Economic Affairs. To respond to the second and third needs, the Agricultural and Industrial Training Bureau has created a series of professional units, one for trade testing and standards and one each for vocational training, commercial training, and agriculture/rural youth training. The responsibilities of the first unit are to:

- define standards of skill performance in accord with industrial practice,
- design tests for occupations to measure skill performance,
- establish and implement a system of occupational trade testing and certification, and
- encourage training for trade-tested advancement of workers.

A principal officer heads this unit and is currently the only staff member assigned to all of the tasks outlined. The role of the last three units is to comprehensively link training schemes to manpower demands to ensure sufficient numbers of supply. This will be done through tracer studies, job analysis, and assessment of training centers. All of these units are not fully functional and need to be made functional as soon as possible.

The agricultural training aspect of the AITB is in the very early stages of development. There is a need to strengthen this function and the relationship with the Ministry of Agriculture.

7.2.2 Internal Efficiency

Another government goal regarding vocational/technical education is to monitor and evaluate training programs to ensure the quality--efficiency and effectiveness--of individual programs, particularly those under public auspices. There are two outstanding needs to meet this goal. Following the development of occupational standards and the design and implementation of a testing scheme (discussed in Section 7.2.1), there is a need to identify guidelines for efficiently and effectively operating individual programs and a need to monitor them.

To help meet the first need--to identify guidelines for efficient operation--AITB has created a Curriculum Development Unit which is responsible for:

- ensuring that curricula of training institutions reflect occupational training standards, and

- providing professional advice on the use of teaching materials and modern training methods.

To help meet the second need--to monitor individual programs--the National Council for Vocational/Technical Education and Training has Standards and Apprenticeship Committees which are to review the curricula of training institutions. The Deputy Director of AITB is presently the only staff person with the Curriculum and Instructional Aids Developm Unit. Since the tasks of this unit are important and demanding, additional well-trained staff are needed to carry them out.

7.2.3 Administration and Supervision

Still another government goal regarding vocational/technical education is to coordinate the provision of services to technical training institutes. There are two outstanding needs to meet this goal: to establish an information center on available services and support materials, and to establish an advisory and technical service capacity.

The first need can be addressed when services and supports are institutionalized through AITB. The second need will be partially addressed through AITB's new unit for Supervisory Training for Industries. This unit is engaged in:

- upgrading the training of supervisors of various kinds of industrial workers, and

- organizing supervisory training courses for industries with technical training programs.

At present, one principal officer heads this unit and serves as the only staff.

7.2.4 Costs and Financing

A final government goal regarding vocational/technical education should be to rationalize public expenditures for training programs in view of both the manpower needs which they serve and their effectiveness and efficiency in meeting these needs. Two outstanding needs exist in this regard, for which no responding mechanism has been established.

First, a central body must weigh comparative program costs of reproducing certain types and levels of human resources, and then make recommendations regarding the disbursement of public funds in support of these. Second, more cost-effective and equitable ways need to be found to produce the manpower required.

7.3 PLANS

AITB is in the process of making its seven provisional units operational. These are:

- Apprenticeship/In-Plant Training Unit
- Trade Testing and Standards
- Vocational Training Centers Monitoring Unit
- Agricultural/Rural Youth Training Unit
- Supervisory Training for Industries
- Commercial Training Centers

Assistance in the establishment of AITB (and in the establishment of Monrovia Vocational Training Center) has been provided through the World Bank's Third Education Project, which continues through December 1983. But as has been noted in the previous section, the number of staff for

AITB's implementation of the many tasks set for itself appears inadequate. The proposed Fourth Education Project would assist in strengthening AITB by financing 36 months of technical assistance. If the project is approved, one specialist in job analysis and trade testing would be provided for one year, as would one specialist in apprenticeship and in-plant training. Additional consultants would assist AITB in evaluating its trade testing and apprenticeship work. Some support would also be provided for AITB's acquisition of technical material. Also, under the Fourth Education Project, the Eugenia Simpson School, the National Clerical Training Center, and the Business and Domestic Training Center will be consolidated to form a 215-place Clerical Business and Domestic Training Center (CBDTC).

7.4 ANALYSIS

This section summarizes the overall constraints within which vocational/technical education and training must take place during the next few years, and then raises several key issues. A set of conclusions completes the discussion.

7.4.1 Constraints

As noted in the introductory part of this chapter, Liberia is challenged by a stagnating economy with diminished capacity to generate new employment. This is due to a declining world demand for the nation's resources and their depressed prices in the world market, together with the increased prices which Liberia must pay for its imports, especially oil.

7.4.2 Issues

Four sets of issues are identified within the context of these macro-constraints.

7.4.2.1 External Efficiency

The main issues concerning external efficiency relate to employment promotion, manpower distribution, utilization, and Liberianization.

The first issue concerns the macro-economic picture and the fact that for the next several years the numbers of persons seeking monetary sector employment will be much greater than the ability of that sector to employ them. This will worsen the employment condition. Unless the economy is stimulated by diversification and the promotion of private sector initiatives, the country's dependence on its few basic industries will leave it beholden to world market fluctuations. At present, the growth or decline of the country's basic industries, iron ore and rubber, can have enormous impact on the availability of jobs and on vocational/technical training related to them. Furthermore, the successful nurturance of new industries within the country could rapidly generate demand for different sets of skills to which the manpower base must quickly respond.

These factors suggest a need for vocational education and training which focuses on sets of foundational skills, in the case of the country's youth, and on short-cycle, highly specific training for particular jobs as persons are ready to assume new employment tasks. They also suggest the need for employers to play a greater role in the articulation of future employment needs, the specification of job skill requirements and desirable methodologies for learning such skills, and the evaluation of training effectiveness.

Greater opportunities for workers to upgrade their skills through special, brief, on-the-job training could help retain capable staff and support a policy of Liberianization. Section 2.0 of this assessment concludes that greater Liberianization of the labor force must be founded not only on increasing numbers of professional, technical, and managerial personnel but also on the upgrading of the skills of middle-level personnel, who in some occupations are being trained in sufficient numbers, but not to an adequate level of quality to meet the demand.

To improve the preparation and distribution of skilled manpower into priority areas, incentives in the form of training subsidies might be considered.

7.4.2.2 Internal Efficiency

In the past, vocational programs have suffered not only from rather weak links to actual employment needs, they have also tended to stress numbers of graduates rather than the quality of their training and their skill mastery. As yet, national standards for particular kinds of jobs do not exist, and quality across various training programs is not monitored. These are two of the challenging tasks that AITB has been assigned.

To establish standards for training and for skill mastery, nationally-approved curricula will have to be developed, together with specifications for proper sequencing of training and mastery. The preparation of such syllabi, instructional methodologies, and materials is a formidable task requiring skilled specialists. The appropriateness of existing training materials, some developed and adapted for use in other countries, might be considered in light of Liberian manpower training needs.

There is no on-going program for training teachers of vocational/technical subjects and skills. Nor is it known what sort of teacher training would be most desirable. Consideration might be given to developing some specialized, short-term training to strengthen the capacity of vocational/technical instructors. Institution of a formal long-term program may not be warranted.

Only a few training programs currently conduct follow-up programs on their participants, so little is known about the effectiveness of the training in regard to employability and on-the-job performance. More needs to be known about which types of vocational training enable more Liberians to assume the high-level and middle-level professional jobs held by expatriates, as well as to improve the quality with which their jobs are performed.

7.4.2.3 Administration and Supervision

The AITB structure and scope of work is well conceived. The tasks which AITB has set for itself are large and important ones. Needed will be a phased plan for the sequencing and implementation of the various tasks, together with staff support through some specialized training or other technical assistance. There may be some difficulties in implementing the range of AITB tasks while simultaneously developing staff capabilities. These difficulties should be overcome through development of a reasonable implementation plan and through the assistance of technical experts through the proposed Fourth Education Project mentioned earlier.

7.4.2.4 Costs and Financing

One central issue presents itself concerning the financing of vocational/technical education: What is the most effective and cost-efficient focus of the training? Much current thinking among manpower planners and vocational specialists tends toward the advisability of using formal secondary schooling institutions primarily for education in broad-based foundational knowledge and skills, rather than for specific occupational preparation. The case against formal vocational schooling at the secondary level continues to be made because of its external inefficiency (such as ineffective articulation with employers, lengthy turn-around time in responding to employment needs) and its internal inefficiency (for example, poorly prepared staff, outmoded equipment, inappropriate curricula or pedagogy). Such external and internal inefficiencies can also be found in out-of-school programs. An additional factor to consider in judging formal vocational education is cost.

The economic analysis presented in Section 2.0 of this report compares the average participant cost at Booker Washington Institute (BWI), the vocational secondary school, with average costs at regular academic high schools in Liberia. The average cost per student at BWI is expected to be $1,628 in FY 1983, a figure seven times higher than that

for other upper secondary schooling ($235 average cost per student). If the public benefits accruing from such large public expenditure could be shown, an argument might be made to justify the cost. However, current assessment of BWI suggests that any comparative benefits are too minor to justify the extraordinary differential investment. A more appropriate strategy for dealing with the locus of responsibility and cost for vocational/technical training may be to:

- use secondary school for education in broad-based foundational knowledge and skills; and

- shift the specific training for particular occupational needs to out-of-school programs or, where possible, directly to employers.

7.4.3 Conclusions

Three major conclusions derive from the foregoing analysis. These conclusions relate to specific recommendations advanced in the final portion of this chapter.

Conclusion 1. Strengthening the external efficiencies of vocational/technical education and training is of paramount importance. Specific emphasis must be on greater employer involvement in program formulation, implementation, and assessment.

Conclusion 2. Improvement of the internal efficiencies of vocational/technical programs should be achieved by establishing performance-oriented training standards, and through monitoring trainee and program performance.

Conclusion 3. The focus of vocational/technical programs which are oriented to skills training for particular occupations should be handled increasingly by out-of-school institutions and by employers, and costs increasingly borne by trainees or by sponsoring institutions in proportion to returns anticipated.

7.5 RECOMMENDATIONS

The recommendations for vocational/technical education are discussed in relation to the main conclusions outlined above.

7.5.1 First Priority - External Efficiency: Recommendation 1.

This recommendation is formulated to improve the external efficiency of vocational/technical education by effecting better linkages between training programs and employment needs.

Recommendation 1: Increase Involvement of Employers. The data and findings of the National Manpower Survey to be reported soon by the Ministry of Planning and Economic Affairs will provide an informative base from which to address national needs. Employers and major employing agencies should be part of the review and deliberation given this document.

The advisory body of employers, which forms part of the NCV/TET, should play an active role in identifying occupational areas having greatest promise for employment in Liberia. This body should participate in asessing the industrial sector, primarily, and the agricultural and service sectors needs, not only at present, but also in the next five or so years.

Advisory groups of employers and employing institutions should be consulted on a continuing basis to assist in the identification of appropriate vocational/ technical performance objectives, design of learning strategies, and evaluation of outcomes.

7.5.2 Second Priority - Internal Efficiency: Recommendations 2-5.

The following four recommendations are intended to improve the internal efficiency of vocational/technical programs by more effectively linking training to actual skill requirements.

Recommendation 2: Establish Occupational Performance Standards. Based on the assessment of occupational needs, conduct selected job analyses to establish occupational performance standards with objectives to be achieved and measures of achievement. AITB, with appropriate consultation, could coordinate this effort.

Recommendation 3: Design Training Based on Occupational Performance Standards. Again, AITB can coordinate and assist in this effort, drawing upon expert resources from the various occupational fields.

Recommendation 4: Monitor and Provide Advisory Assistance to Vocational/Technical Programs to Ensure Quality. AITB, with consultative groups of employers provided for under the NCV/TET and other knowledgable persons, should set up a service-response capacity for review of and support to training programs.

Recommendation 5: Strengthen the Capacity of AITB to Effectively Coordinate These Recommendations and to Carry Out Their Mandate. Short-term training and technical assistance should be provided to the AITB professional staff on an as-needed basis.

7.5.3 Third Priority - Cost and Financing: Recommendations 6-7.

The next two recommendations address the need to rationalize public expenditure for vocational education.

Recommendation 6: Develop Pilot, Cost-Effective Instructional Methodologies Yielding Quality Outputs. Several existing programs have potential for high degrees of success in terms of effecting employer involvement, producing well-skilled individuals in certain occupational areas, obtaining employment for program completers, and managing these activities at reasonable costs. Such well-designed pilots should be continued, efforts made to further identify factors critical in successful training programs, and experiments conducted to achieve desirable results through cost-effective means.

Recommendation 7: Use Existing Public Funds for Vocational/Technical Training Effectively and Efficiently. Disbursement of public monies must be rationalized to achieve the foregoing recommendations and to ensure that outputs are commensurate with the level of investment. Major subsidizing of formal secondary vocational education is not available in view of the negligible vocational outcomes realized and the extraordinary costs involved. Instead, support of short-cycle, out-of-school pilot projects should be undertaken to develop models which might become self-financing or employer-supported.

TABLE 7 - 1a

VOCATIONAL/TECHNICAL OCCUPATIONAL STUDY AREAS*

1. Agriculture
2. Agricultural Engineering
3. Air Conditioning/Refrigeration
4. Animal Science
5. Architecture
6. Auto Mechanics
7. Bookkeeping/Accounting
8. Building Construction
9. Cabinet Making
10. Carpentry
11. Civil Engineering
12. Clerk Typist
13. Clothing Construction
14. Communications--Postal/ Telecommunications
15. Cooking/Stewardship
16. Cosmetology
17. Decorating/Upholstery
18. Drafting
19. Electricity/Electronics
20. Electrical Engineering
21. Fire Fighting
22. Forestry/Ranger
23. Handicrafts
24. Health Worker, Physician Assistant, Environmental Health Inspector
25. Home Economics
26. Machinery
27. Management
28. Masonry
29. Mechanics--Diesel, Heavy Duty
30. Mechanical Engineering
31. Metal Work
32. Midwifery
33. Nursing--Professional, Practical
34. Plant Science
35. Plumbing
36. Seamanship/Marine Work
37. Secretarial Science
38. Soil Science
39. Taxes/Trade/Customs

* Use for references in next tables

TABLE 7 - 1b
VOCATIONAL/TECHNICAL EDUCATION AND TRAINING INSTITUTIONS, COURSE AREAS, AND NUMBERS OF STUDENTS

INSTITUTION	COURSE AREAS	TOTAL STUDENTS (1982)	COMPLETERS (1981)	TUITION	GOVERNMENT SUBSIDY	ANNUAL BUDGET
Public School Institutions						
1. Booker Washington Institute	1, 6, 7, 8, 9, 10, 18, 19, 26, 28, 35, 37	1,084	390	nominal	complete	$2,176,631 (8/82)
2. WVS Tubman High School	6, 7, 8, 25, 37	554	14	none	complete	
3. WVS Tubman College of Science & Technology	5, 11, 19, 20, 30	226	38	$1,000/yr (80% on scholarship)	$1,258,378	$1,508,378
4. Rural Development Inst.	2, 4, 34, 38	164	63	$140/yr	donor assistance	
5. Tubman National Inst. of Medical Arts	24, 33	279	140	none	complete (est. $3,000/student)	
Public Out-of School Institutions						
6. Liberian Swedish Vocational Training Center	6, 9, 19, 26, 29	126	28	none	complete donor assistance	$266,00
7. Home Economics Center	16, 13, 23	210	77	none	yes	
8. National Youth Training Center	1, 10, 25, 28	134	100	none	20% govt 80% donor	$446,812
9. Business & Domestic Occupational Training Center	7, 15, 37	72	57	none	complete	$251,881 (81-82)
10. Liberian Opportunities & Industrialization Center	2, 6, 10, 19, 28, 35	117	126	none	room & board	$460,000
11. Monrovia Vocational Training Center	3, 6, 10, 17, 19, 26, 28, 29, 31, 35	99	new	none/nom.	complete	$381,650

TABLE 7 - 1b

VOCATIONAL/TECHNICAL EDUCATION AND TRAINING INSTITUTIONS, COURSE AREAS, AND NUMBERS OF STUDENTS

(Continued)

INSTITUTION	COURSE AREAS	TOTAL STUDENTS (1982)	COMPLETERS (1981)	TUITION	GOVERNMENT SUBSIDY	ANNUAL BUDGET
Public Out-of-School Institutions (Continued)						
12. Youth On-the-Job Training Center	9, 12, 17, 19, 26	190	new	none	complete	$223,000 (81-82)
13. Eugenia Simpson Cooper School of Stenotype	7, 12, 37	183	20	$30/sem. few pay	complete	$51,000 (81-82)
14. National Clerical	12, 37	103	13	$75/yr	N/A	$62,123
15. Mano River Union Customs, Excise & Trade Statistics Institute	39	184	184			
16. Mano River Union Marine Training Institute	35	42	N/A			
17. Mano River Union Tele-communicatins & Postal Training Institute	14	132	89			
18. Mano River Union Forestry Training Institute	22	19	N/A			
19. West African Insurance Institute	27	7	9	$6,150/yr		
20. Public Works Road Maintenance Training Center	27, 29	54	33			

TABLE 7 - 1b
VOCATIONAL/TECHNICAL EDUCATION AND TRAINING INSTITUTIONS, COURSE AREAS, AND NUMBERS OF STUDENTS
(Continued)

INSTITUTION	COURSE AREAS	TOTAL STUDENTS (1982)	COMPLETERS (1981)	TUITION	GOVERNMENT SUBSIDY	ANNUAL BUDGET
Proprietary Institutions						
21. City Commercial Pennah Memorial Institute of Bookkeeping	7, 12, 37	155	36	$155/yr	none	$18,100
22. City Commercial Training Center	7	500	90	$25/mo	$2,000 (promised)	$15,682
23. College of West Africa	7, 37	124	10	$450/yr	yes	$12,000
24. Gar Lour Commercial Institute	7, 12, 37	13	new	$6/mo/cl	none	N/A
25. Leigh Sherman Executive Secretarial Training Institute	12, 37	116	24	$70/mo	$10,000 (promised)	N/A
26. Lincoln Commercial Institute	7, 12, 37	350	54	$10-20/mo	$4,000	$30,000
27. Modern Commercial Training Center	7, 12, 37	284	24	$450/yr	$10,000	$75,000
28. Morning Star Typing School	12	110	60	$60/yr	none	$3,000
29. National Academic & Vocational Institute	7, 12, 37	12	3	$65/yr	none	$2,500
30. Opportunity Commercial Center	7, 12, 37	80	62	$15/mo/cl	none	$8,795 (approx.)

TABLE 7 - 1b
VOCATIONAL/TECHNICAL EDUCATION AND TRAINING INSTITUTIONS, COURSE AREAS, AND NUMBERS OF STUDENTS
(Continued)

INSTITUTION	COURSE AREAS	TOTAL STUDENTS (1982)	COMPLETERS (1981)	TUITION	GOVERNMENT SUBSIDY	ANNUAL BUDGET
Private Mission Institutes						
31. Arthur Barclay Technical Institute	7, 10, 28, 37	151	40	$260/yr	none	$119,000
32. Monrovia College	7, 11, 37	106	12		yes	$20,000
33. Zion Academy	7, 37	60	new	$270/yr	none	$17,000
Concession Institutes						
34. Vocational Training Center of Bong Mining Company	6, 19, 26, 31	43	N/A	none		$950,000
35. Firestone Institute	6, 27, 29	104	N/A	none		N/A
36. Wallenberg Training Center of Lamco	19, 26, 27, 29, 37	N/A	N/A	none		N/A

TABLE 7 - 2a
OCCUPATIONAL CLASSIFICATION OF VOCATIONAL/TECHNICAL FIELDS

OCCUPATIONAL DIVISION	EXAMPLES OF FIELDS INCLUDED
A. Professional, Technical and Kindred Workers	Animal science, architecture, drafting, electronics, engineering (agricultural, civil, electrical and mechanical), plant science, medical, nursing, teaching, science and technology
B. Administrative and Managerial Workers	Taxes, excise, customs; mid-level management
C. Clerical and Related Workers	Accounting/bookeeping, secretarial science, clerk/typist
D. Sales Workers	Cooking/stewardship, cosmetology, dressmaking-design, decorating, upholstery, home economics
E. Service Workers	
F. Agricultural, Animal Husbandry	Agricultural, animal husbandry, fishing, forestry, seamanship
G. Production and Related Workers, Transport and Equipment Operators and Laborers	Air Conditioning/ refrigeration, carpentry, construction, electrical work, machinery, metal work/ welding, mechanics - auto, diesel, heavy duty; plumbing

TABLE 7 - 2b

VOCATIONAL/TECHNICAL INSTITUTIONS,

PROGRAMS OF STUDY, 1982 ENROLLMENT, AND 1981 COMPLETIONS

Institution	Programs								
	A. Prof. and Tech.	B. Admin. and Mgmt.	C. Clerical and Related	D. Sales & E. Services	F. Agric.	G. Production & Related			Total
						Bldg.	Elec.	Mech/Metal	
	Enr/Com	Enr/Com	Enr/Com	Enr/Com	Enr/Com	Enr/Com	Enr/Com	Enr/Com	Enr/Com
B.W.I.			221 73		188 77	324 137	176 44	175 59	1084 390[a]
Tubman H.S.			554 14						554 14
Tubman Coll.	226 38[b]								226 38
R.D.I.					164 63				164 63
TNIMA	279 140								279 140
Lib-Swed.Voc.						--combined 126[h]		--28[h]--	126 28
Home Econ.Cen				210 77					210 77
NYTC				35	99 100[c]				134 100[c]
Bus&Dom OTC			53 43	19 14					72 57
LOIC						49 40	18 19	50 67	117 126
MVTC						23	21	55	99 new
YOJT			29			77	39	45	190 new
ESC School			183 20						183 20
NCTC			103 13						103 13
MRU Customs		184 184							184 184
MRU Marine							42[d]		42[d]
MRU Telecom.			132[e] 89[e]						132[e] 89[e]
MRU Forestry					19[f]				19[f]
W. Afr.Insur. Inst.		7[g] 9[g]							7[g] 9[g]
Pub.Works RMTC		18[f] 11						36[f] 22	51[f] 33

TABLE 7 - 2b

VOCATIONAL/TECHNICAL INSTITUTIONS,

PROGRAMS OF STUDY, 1982 ENROLLMENT, AND 1981 COMPLETIONS

(Continued)

Institution	Programs								
	A. Prof. and Tech.	B. Admin. and Mgmt.	C. Clerical and Related	D. Sales & E. Services	F. Agric.	G. Production & Related			Total
						Bldg.	Elec.	Mech/Metal	
	Enr/Com	Enr/Com	Enr/Com	Enr/Com	Enr/Com	Enr/Com	Enr/Com	Enr/Com	Enr/Com
CCPMI			115 36						155 36
CCTC			500 90						500 90
Col.West Af.			124 10						124 90
Gar Lour			13						13 new
Leigh Sherman			116 24						116 24
Lincoln Comm.			350 54						350 54
Mod Com TC			284 24						284 24
Morning Star			110 60						110 60
NAVI			12 3[b]						12 3[b]
OCC			80 62						80 62
Arthur Barclay TI			110 40			41 0			151 40
Monrov. Coll.			106 12						106 12
Zion Acad.			60						60 new
Bong Mines TTC							8	35	43
Firestone Inst		15						89	104
LAMCO									
TOTAL	505[i] 178[i]	224 204	3163 578	396 180	472 240	514 177	262 63	653[h] 176[h]	6187 1796[j]

a 3-year program in 1981
b 1982 completions anticipated
c program in confusion: government ordered all graduated
d. 1981 enrollment: none in 1982
e for period 1978-1981
f 1981 enrollment
g Liberians
h figure over-represented
i paraprofessionals
j underestimated due to incomplete data

8.0 HEALTH EDUCATION

This section discusses basic health-related education directed toward people outside the formal school system. It also examines the training of mid-level health workers who implement much of this education.

In the present health care system of the Ministry of Health and Social Welfare (MHSW), health education is supposed to be provided at local health posts. The new Primary Health Care Program seeks to implement village-level health education through a trained village health worker and a traditional birth attendant, under the supervision of the Village Development Council. Education activities at the health posts and in the villages will be supported by improved capacity at the national and county levels. Because the Primary Health Care Program offers an expansion of both formal and non-formal health education activities, and because it will become the major national health delivery system, this section focuses its analysis and recommendations on that program.

As detailed in the following pages, several inputs are required to enable a nationwide health care program to be effectively implemented. These include short-cycle training in organization and management for mid-level personnel, further technical training appropriate to village needs, training for adult education, and supply of transport.

Key government plans include a significant decentralization of services through the improvement of existing health centers and health posts; limited construction of new health care facilities; and the training of several hundred village health workers, traditional birth attendants, and other personnel over the next four years.

Chief recommendations call for strengthening administrative capability to implement the Primary Health Care Program and improvement of the Program's internal efficiency through development of training curricula for health workers to emphasize village-oriented health needs.

At this point, attention is turned toward the status of health education in Liberia. This section concerns health education, not health care; the health care system is explained, but the analysis and recommendations are focused on health education.

8.1 STATUS

This discussion briefly notes the status of health in the country followed by a consideration of means for health education and the training of health educators. It then summarizes current donor assistance in this area.

8.1.1 Overview

Only one-third of Liberia's population has access to any form of modern health care services. These services tend to be concentrated in urban, semi-urban, and concession areas. Other health care services are provided by health posts that are often poorly equipped and staffed. For the majority of rural Liberians, health care is obtained via forms of traditional medicine which do not reflect adequate knowledge of modern curative or preventive health techniques.

Malaria, diarrheal diseases, measles, neo-natal tetanus, and malnutrition contribute to a 16 percent death rate for infants in the first year of life. Among those who survive, malaria, schistosomiasis, respiratory infections, skin infections, eye infections, diarrheal diseases, and tuberculosis are the major causes of morbidity and mortality. Poor hygiene, inadequate sanitation, unavailability of safe water, and inadequate health education are underlying causes of the high incidence of parasitic and other infectious diseases.

8.1.2 Health Care Goals

During the Second Four-Year National Socio-Economic Development Plan (1981-1985), the government will support the establishment of a Primary Health Care Program that will begin expanding the health care coverage of the country from its present 35 percent to 90 percent by the year 2000. The Primary Health Care Program includes:

- nutrition and health education
- maternal and child health services
- environmental sanitation
- immunization
- communicable disease control and surveillance
- clean rural drinking water supplies
- family planning
- the collection of vital statistics.

8.1.3 Education for Health Care

Briefly described is the development of health education in Liberia, the present system for health education, small private-sector programs, and the use of radio for the delivery of health education.

8.1.3.1 Development of Health Education

Liberia has a medical college at the University of Liberia and a 650-bed hospital in Monrovia. There are a total of 30 government and private hospitals, approximately 40 health centers, and 250 local health posts. One major and several smaller training centers for mid-level health workers have been established to train physician assistants, registered nurses, certified midwives, practical nurses, and health inspectors. In-service training for health care personnel is provided by the Ministry of Health and Social Welfare.

The government has been training traditional birth attendants from rural villages since the early 1950's in an attempt to lower the maternal and infant death rate from complications at birth. In the initial National Socio-Economic Development Plan (1976-1980), the emphasis was placed on preventive health care based upon recognition that poor hygiene, inadequate sanitation, unavailable potable water, and a lack of health education are the main underlying causes of the high incidence of disease. This emphasis is continued under the Second Plan (1981-1985).

8.1.3.2 The Present System

The Ministry of Health and Social Welfare is now developing a new Primary Health Program that will add a more localized level of service to the existing structure of health education delivery. That new level of

delivery, directed to the village level, is already in the early stages of implementation in several areas. The Primary Health Care Program will be discussed in greater detail in Section 8.3, Plans. However, to provide necessary background information, this subsection summarizes the present delivery system as it relates to health education.

The existing levels of health service are:

(1) at the national level, the Ministry of Health and Social Welfare and the JFK Medical Center in Monrovia;

(2) at the county level, the County Health Department and hospital; and

(3) at the local level, the health centers and health posts.

The structure of the program places responsibility for policy and nationwide support with the Ministry of Health and Social Welfare in Monrovia. Health education is supported from the Health Education Divison, and training is supported from the Division of In-Service Training. Supervision, monitoring, and training are located at the county level in County Health Departments.

Health education in the existing system is delivered by mid-level health workers at health posts. Each post, intended to serve from 2,000 to 5,000 people, usually has a physician assistant and a trained birth attendant. However, some health posts have only one of these, while some have additional personnel, usually with less training.

Physician assistants receive three years of training, but health education is not presently a major part of the curriculum. There is no specific guidance concerning health education and little supervision takes place.

The health post personnel may provide some health education, through pre-clinic lectures or demonstrations, to patients who come to the health post, but the government does not supply adequate health education materials or equipment to support an organized education effort. Some government health workers and expatriate volunteers stationed at health posts design their own materials and implement health education activities in the post and in nearby villages. Although there is a government program

in health education materials development, the program currently suffers from a lack of resources.

8.1.3.3 Small Projects

Data about private sector programs are slight, but these should be mentioned because they represent possible additional resources. The Catholic Church in Nimba County has been training village women to provide health education, agriculture education, and literacy instruction in their communities. The mission has trained at least 20 women so far, and these women receive Ministry of Agriculture support. (This project is mentioned in more detail in Section 9.0, Agriculture Education.) Protestant groups are also providing some health education. The Bantu Baptist Mission in Grand Cape Mount County is supporting health education efforts in seven health posts. The Lutheran Mission in Totota trains pastors in health issues with the help of the Ministry of Health and Social Welfare personnel from that area. The Lutheran Literacy Centers (mentioned in Section 10.0, Adult Basic Education) insert health education messages in their monthly newsletter and in other reading material they produce. Several family planning agencies are involved in maternal and child health education on a limited scale in several counties.

8.1.3.4 Radio Health Education

Radio has been used as a medium for health education, notably the health education drama and entertainment programs supported by CARE for broadcast on the radio in Nimba County. This project produced a number of radio dramas and health-related entertainment programs in Liberian English, as well as in local dialects, for broadcast in the area. The master tapes and written scripts of these programs are still available (from radio ELWA), but are not being used. This work should provide useful background and input for the new Liberian Rural Communications Network (LRCN) Project, which is discussed in greater detail in Sections 8.3.1 and 9.1.3.5.

8.1.4 Training Institutions

Almost all of the present health post personnel have been trained at the Tubman National Institute of Medical Arts (TNIMA), located in Monrovia. Each year, TNIMA produces about 40 registered and practical nurses, 25 physician assistants, 5 certified midwives, 25 environmental health workers, and 5 laboratory technicians. The physician assistants are presently the only graduates who are deployed to health posts. Although some attention is given to health education in the curriculum, it is insignificant and slanted toward clinical studies, since the teaching staff are not expected to provide instruction about health education at the village level. There is a clinical internship, but no health education practicum. Students are required to serve one year in the rural areas for each year that they study, but supervision at this time is lax due to insufficient funds for TNIMA staff to travel to these areas.

Training of mid-level health workers is also provided at other institutions. Practical nurses and midwives are trained at Phebe Hospital; registered nurses are trained at Ganta Hospital and Cuttington University College; certified midwives, practical nurses, and laboratory technicians are trained at the hospital in Zorzor; and a new certified midwife program has just begun at Zwedru. However, there is little indication that any of these people work at government health posts after completing their training.

The Ministry of Health and Social Welfare is training about 135 traditional birth attendants (TBAs) each year. They are trained in groups of 15 for periods of three to five months. Most TBAs return to their villages and resume their practice with improved techniques and a knowledge of when and where to seek modern help for a pregnant woman. Other TBAs are employed at health posts, in the absence of certified midwives.

Graduates from TNIMA are essentially guaranteed jobs by the MHSW, while graduates of the other institutions tend to be hired by their sponsoring institution in the private sector. The demand for these mid-level workers is greater than the supply, but inadequate staff, equipment, and facilities at TNIMA have kept that institution from expanding.

8.1.5 Donor Assistance

The Royal Government of the Netherlands has been assisting the MHSW in the implementation of the Village Health Worker Project in Maryland County. The U.S. Peace Corps, as part of an USAID-assisted project sponsored by the Pathfinder Fund, provides about thirty volunteers who work at either the county or health post level and provide health education, supervision, and on-the-job training. International Planned Parenthood, UNICEF, and UNFPA support family planning and maternal and child health programs that include health education. The AID-assisted regional project--Strengthening Health Delivery Systems--is sponsoring one health expert who is working in a regional nursing education program.

8.2 NEEDS

This section views the government's goals for health care and training in light of current plans and strategies and identifies three areas of outstanding needs. Some of these needs are addressed by well-formulated plans as discussed in Section 8.3.

To meet the national goal of access to primary health care and improved health maintenance practices for 90 percent of the population, the country needs to train several thousand people as village health workers and traditional birth attendants and hundreds more as health post personnel over the next 15 years. Particular needs exist to optimize administration of the Primary Health Care Program, as well as its internal efficiency and its external linkages with other health education efforts in the country.

8.2.1 Administration and Supervision

Most important is the need to expand the capacity of the Ministry of Health and Social Welfare to plan and administer a national health program. Although the Primary Health Care Program has been successfully tried as a pilot in Maryland County, the Ministry of Health and Social Welfare has yet to implement and administer this type of program on a large scale. Designing the program and training staff at all levels is necessary but not sufficient to make a large-scale program work well. Ministry and county staff will have to spend more time in rural areas and effectively monitor, supervise, and support these activites. The capacity

to do this does not presently exist in the Ministry of Health and Social Welfare or at the county level. Needed will be short-cycle training in organization and management for mid-level personnel, further technical training appropriate to village needs, training for adult education, and supply of transport.

The Primary Health Care Program is to rely on the mobilization of people at the local level to participate in improving their health. This process of mobilization of resources and delivery of services must be managed at the county level through health departments and at the local health posts, but the Ministry of Health and Social Welfare does not presently have an adequate monitoring and supervision capacity. This capacity will have to be built.

8.2.2 Internal Efficiency

To effectively bring together components of the Primary Health Care Program, three needs are paramount. First, the training orientation, environment, and curricula for mid-level health workers need to become more oriented to villagers and their health needs. This also means that those training the mid-level workers will have to be more prepared to gear their training to practical applications in rural contexts.

Second, when the health agents are trained, they will need instructional materials and media to assist them in developing certain attitudes and behavior at the village level. Additional materials oriented to village needs will have to be prepared and distributed, and the capacity to design and produce them will need to be improved.

Third, and related to the other needs, the MHSW should examine the health problems of the rural areas with a view to developing a set of education objectives, learning strategies, and easy-to-obtain measures of success. Years of education effort will be necessary just to raise awareness of the major health issues, and the government needs to be able to measure the change that is taking place.

8.2.3 External Efficiency

The outreach and impact of resources brought to bear on behalf of the Primary Health Care Program need to be maximized. Effective articulation

and collaboration among the various groups and donor agencies capable of assisting the national health education effort is especially important in this regard.

8.3 PLANS

Government plans for the Primary Health Care Program focus upon a significant decentralization of government services. County-level decentralization will mean that county health departments and county hospital operations will formulate and implement work plans and budgets. This will involve decentralization of the budgetary process of financial responsibility, and of management responsibility. The government also plans to improve existing rural health centers and build new ones to be staffed with a physician or a senior physician assistant, lab technicians, and other health professionals. These health centers are to serve a population of 10,000 to 25,000 and will provide direct care and referral to the county hospital. Supervision of the health posts and village health workers and coordination of county health services will be done by the County Health Department.

Each health post will be staffed by three paraprofessionals: a physician assistant, a certified midwife, and an environmental health inspector. The government aims to build new health posts where needed and improve the quality of the posts that already exist.

Initiation of the Primary Health Care Program will extend the health system to the village level. This will be done through a village health team consisting of a village health worker (VHW) and a traditional birth attendant, both of whom are directed by the Village Development Council. The Council is to be representative of the village and decide on development priorities and on how to use government and local resources. Local government officials will be available to serve in an advisory capacity to the Councils. The Council will select who will be trained to be the village health worker and the traditional birth attendant. After the training, the Village Development Council will assist the health post to supervise the village health worker and the traditional birth attendant and will have the authority to terminate service. The Village Development

Council, itself, will be trained by the County Health Department to help in this effort.

The VHW will serve from 300 to 500 people and will be trained to provide simple treatment of common health problems. The VHW with the traditional birth attendant will also implement a health education program using visual aids and other materials supplied from the county and national offices, on such topics as causes of disease, personal hygiene, nutrition, maternal and child care, and child spacing. The VHW will also promote the adoption of preventive medical practices such as development and maintenance of safe drinking water supplies, waste disposal, immunization, and control of communicable diseases.

During the next four-year plan, the government expects to train more than 1,000 individuals as village health workers, traditional birth attendants, health post certified midwives, health post inspectors, and other people to support the system at the county level including the Village Development Council. The government plans to move the training of physician assistants and environmental health inspectors to the new Rural Health Training Center in Bong County. This will place training of these mid-level health workers in a more rural setting and will make field practice much easier.

8.3.1 Donor Assistance

The Dutch government funds a significant project in Maryland County involving the training and deployment of village health workers. The Dutch are considering continuation of this support. The Federal Republic of Germany is involved with a county-level PHC project in Nimba County.

Other donors currently providing Primary Health Care support include UNICEF (vaccines, drugs and medical supplies, vehicles) and WHO (consultants, surveys, training). UNICEF also plans to offer aid to the Health Education Division of the Ministry of Health and Social Welfare in the preparation and production of health education materials. The UNICEF project will conduct research on how best to design educational materials for the different ethnic groups in Liberia. For each cultural area prototype, educational modules will be designed, field tested, and reproduced.

USAID proposes assisting the Primary Health Care Program by developing the capability for a coordinated PHC system in two counties (Sinoe and Grand Gedeh), and by providing training for organizational and managerial capacity at the national level. At the national level, the USAID project would strengthen the MHSW logistical system (especially drug procurement and distribution), including the design and construction of a central warehouse facility. Health manpower development capability would be expanded through the development and implementation of revised curricula, for both mid- and senior-level health workers, to include appropriate PHC content and emphasis. Curricula will be developed also for village-level workers (village health workers and traditional birth attendants). Mid-level health worker training institutions would be strengthened to help ensure their ability to provide increasing numbers of qualified health workers to support the national PHC Program. In addition, central managerial and financial systems will be strengthened to support the implementation of a decentralization policy enabling the county health departments in the project area to formulate and execute annual work plans and budgets.

At the county level, the proposed USAID project would strengthen county health departments in support of the village-level primary health care activities. This institution building is expected to include modest construction/ renovation of facilities and supply of equipment. It will emphasize the development and implementation of needed supervisory and support systems and the establishment of training teams. The project also would test alternative organizational and service-delivery approaches at the county level. At the village level, assistance would support the organization and training of the Village Development Councils and the village health teams.

The Liberian Rural Communication Network expects to begin broadcasting in 1984 and will eventually have transmitters throughout the country. This USAID-assisted project will have a central programming unit in Monrovia, which will be able to collaborate with the MHSW to develop health education programs. These, in turn, can be translated into local languages and broadcast at the rural sites. Local programming will also

be possible including participation by the village health workers and their clients.

8.4 ANALYSIS

This part of the assessment notes the constraints within which health education and training must take place in the next few years, raises some related issues, and draws several conclusions.

8.4.1 Constraints

The major constraints to expanding health education as an integral component of the primary health care delivery system are present levels of human, logistical, and financial resources.

8.4.2 Issues

Four sets of issues emerge from the assessment of current strategies and plans for health education in view of existing constraints.

8.4.2.1 Administration and Supervision

Key to the successful implementation of the Primary Health Care Program is improvement of the present organizational infrastructure and a strengthening of the administrative and managerial capacity of central MHSW officials and mid-level staff. The proposed USAID-assisted project, discussed in Section 8.3, would make a major contribution in this area by providing:

- 32 person years of long-term participant training (out-of-country) in health professional and managerial programs;
- 56 person months of short-term participant training in areas of training and management; and
- various in-country training programs, workshops, orientations, and scholarships.

This project has not yet been finalized, however, and the needs for strengthening staff capability are extensive and immediate. In addition, it will be important to closely tie this training to needs of the Primary Health Care Program, to stress performance objectives, and to ensure that

trainees assume responsibility for applying their skills to the program upon completion of the training.

8.4.2.2 Internal Efficiency

Through the health posts and the village health teams, the government intends to provide local resources which can effectively deal with 60 to 70 percent of the health care problems of rural Liberians. This expansion of health service delivery at the local level should result in more responsive health care and health education. Also, the mechanisms will be in place for direct monitoring and supervision. However, these objectives will be met only if personnel are trained for village-oriented health education and delivery of services. The training facility at TNIMA is not adequately equipping persons with the attitudes and skills the government needs to implement health education and preventive aspects of the new Primary Health Care Program. Moving the training of physician assistants to the new Rural Health Training Center in Bong County, together with the ongoing training program at Phebe Hospital for certified midwives, will provide a setting in which the training can be made more village-oriented through practical work outside the center. But without a teaching staff oriented toward a field-based method and a curriculum that supports that method, nothing will change after the move to Bong. In addition, the need for mid-level health workers will be so great over the next ten years that both institutions will have to continue operation.

The Ministry of Health and Social Welfare will need to monitor and supervise the efforts of their county staff more effectively, and the County Health Departments will have to do the same for the health centers and health posts. The health posts will have to carefully monitor and supervise the village health workers and traditional birth attendants. Simple, easy-to-assess measures of performance will help make this effort possible. The proposed USAID-assisted project would help address some of these needs.

At present, few health education materials exist for villagers; these will be needed to support the efforts of the health personnel. The Division of Health Education within the Ministry of Health and Social Welfare intends to research and develop area-specific health education

materials. Materials and media should be developed based on experience with the users, then field tested and revised before being mass produced. Production of these materials, or adaptation and acquisition of existing materials, will require considerable attention, talent, and financial support. Some of this burden can possibly be lessened by reliance on materials and media available through other projects. For example, the Liberian Rural Communication Network (radio) Project will enable the broadcasting of material recorded in the village. This could be a powerful source of motivation for the Village Development Councils, the health agents, and the villagers themselves. Council members can be encouraged to participate in periodically assessing the health problems and the progress in their village and be invited to record their thoughts for radio broadcast. The health workers could be directed to initiate short training sessions in the villages related to the health education broadcast. Villagers might form radio listening groups modeled upon successful experiences in the Liberian CARE project and in similar efforts in other African countries. The LRCN also can be used for in-service training for village health workers.

Finally, means will have to be developed for establishing easy-to-obtain measures of success for assessing progress toward Primary Health Care Program goals.

8.4.2.3 External Efficiency

The external efficiency of the national Primary Health Care Program depends upon its being supported by those it seeks to serve. This, in turn, depends upon its perceived appropriateness and success in meeting village-level health needs. The program intends to meet the health needs of Liberia by building a system at the village level that will be monitored and supported by the people in that village. The recurrent costs of this new first level of health care and health education are to be paid for by the people who are served. This should produce a health care and health education system that a village is willing to pay for, thereby insuring greater relevance in the program. However, an assumption is being made that villagers want and will be able to support such services.

The Village Development Councils will be key to making the Primary Health Care Program work. These Councils will have to be formed from the existing village power structure, and there may be some resistance to the new ideas presented in the health education program. These people will need to be prepared first by the County Health Department staff and their support enlisted to aid the primary health care effort.

The Primary Health Care Program should encourage optimal linkages and cooperation with other projects and groups already involved in health education at the local level.

8.4.2.4 Costs and Financing

In view of the country's economic situation, the PHC Program must control increases of recurrent costs. USAID funds will be used to pay all of certain recurrent costs generated by its proposed PHC project for a fixed period, with government phasing in its continued funding of these costs thereafter. A scheme to recover drug costs through a revolving fund is a feature of the project, while remuneration for both VHWs and TBAs is to be borne by the communities.

8.4.3 Conclusions

The assessment of health education in Liberia leads to three conclusions. These form the basis for the recommendations which follow.

Conclusion 1. Strengthening the administrative, organizational, and managerial capacity to implement the Primary Health Care Program is of chief importance.

Conclusion 2. Improvement of the internal efficiencies of the health delivery system deserve second priority. Special attention should focus on careful assessment of needs and on the development of instructional methods, materials, and media. The training curricula for mid-level health workers need to be become more oriented to village health needs.

Conclusion 3. Strengthening collaboration among the various groups and donor agencies capable of assisting the national health effort is important to maximize use of existing resources and facilities.

8.5 RECOMMENDATIONS

The recommendations for furthering health education are discussed in relation to the main conclusions listed above.

8.5.1 First Priority - Administration and Supervision: Recommendations 1-2.

Recommendation 1. Train Staff in Program Management. To strengthen administrative capability, primary health-care-oriented planning, administration, organization, and management training should be provided to senior central staff and regional coordinators to ensure successful implementation.

Recommendation 2. Begin USAID Primary Health Care Project. Because the proposed USAID-assisted PHC Project would help to address the above recommendation, efforts should be made to initiate the project as expeditiously as possible.

8.5.2 Second Priority - Internal Efficiency: Recommendations 3-7.

Recommendation 3. Revise Curricula in Line with Village Health Needs. Revised curricula for mid-level health workers should be developed to emphasize village-oriented health needs, and reflect and build upon the health behaviors, attitudes, and knowledge of villagers. The curricula should be performance-oriented and geared to objectives of the PHC Program.

Recommendation 4. Use Revised Curricula for Training Health Workers. The revised curricula should be incorporated into the training schemes for all health workers, particularly those in mid-level roles. When the new Rural Health Training Center in Bong County is opened, the Ministry should require a relevant, village-oriented curriculum for the people who are trained there. In addition, an effort should be made to do the same at TNIMA.

Recommendation 5. Provide Workshops in Using the Village-Oriented Curricula. Health instructors at the training institutes should be provided short workshops to learn how to implement the revised village-oriented curricula. Instruction should be provided also in the planning, organization, and design of instructional units for village health education; in the preparation and use of low-cost teaching materials; and

in adult group-process skills so that they can effectively teach these skills to the mid-level trainees.

Recommendation 6. Develop Support Mat als. Various materials and media should be developed to support village-level health education. The MHSW should begin to design and produce simple materials that can be used at the health centers and health posts and by village health workers and traditional birth attendants. Whenever possible, these materials should be designed in the rural areas where they will be used, and tested for effectiveness before being produced.

Recommendation 7. Establish Easy-to-Obtain Measures for Success. In order to monitor health improvements at the village level, measures of success should be identified and health personnel prepared to gather the necessary data so that program effectiveness can be assessed.

8.5.3 Third Priority - External Efficiency: Recommendation 8.

Recommendation 8. Assess Possible Sources of Collaboration. To improve the external efficiencies of the Primary Health Care Program, an assessment should be made of the various public and private groups already engaged in health education in order to build upon their local efforts and to benefit from their experience. Plans for collaboration with the Liberian Rural Communication Network Project should be formulated.

9.0 AGRICULTURE EDUCATION

This section examines education that addresses agricultural needs and is directed toward farmers. It also considers the training of agricultural extension agents charged with implementing this education. Although some agricultural education may take place in the primary, secondary, and post-secondary school system and in vocational/technical institutes, that aspect of formal education is not covered here. Instead, this section focuses on programs for the education of farmers and the training of people who provide those programs.

In assessing the status of agricultural education in Liberia, particular attention is given to two major systems for its delivery: the regular Ministry of Agriculture (MOA) system and the extension system of large Agriculture Development Projects (ADPs). The ADPs have a high cost and a medium output. The regular system is less expensive, but has a low output. Neither is doing a good job in reaching small subsistence farmers. In addition to these extension systems, there are some small but effective government and non-government projects in agriculture education. A major new project to establish regional radio stations offers further programming possibilities for agricultural education. The most encouraging experience to date in the training of agriculture extension agents is with the Rural Development Instititue (RDI) at Cuttington University College. This institute is being looked to by the Ministry of Agriculture in seeking training mechanisms for its regular extension agents.

An assessment of the needs within agricultural education calls for development of an extension package of information, inputs, and technology that is relevant to the small farmer. This must be deliverable by agents with little additional training who are provided adequate supervision and support.

Key government plans are for greater local control and supervision, assumption of a larger operational role by the Agriculture Development Projects, a continued program of agricultural research, an expanded training function by the Rural Development Institute, and eventual agricultural programming through the new radio project.

With the major constraint being financial, recommendations focus on ways in which these plans can be realized through more efficient and effective use of human resources currently available, and through existing institutions and projects.

Greater consideration is now given to the status of agricultural education in Liberia.

9.1 STATUS

This discussion focuses on the status of agriculture in the country and examines the means for agricultural extension and for the training of extension agents. It then describes the nature of current donor assistance.

9.1.1 Overview of Agriculture

Agriculture accounts for 35 percent of the Gross Domestic Product of Liberia and involves nearly 80 percent of the population. Over 60 percent of the population depends upon traditional subsistence agriculture, producing only 15 percent of the GDP.

In 1981, 29.5 percent of the export earnings came from agricultural products--rubber, logs, coffee, cocoa, and palm products. Although the country is endowed with resources which enable it to grow enough food for all, food is the major category of consumer goods, with rice accounting for 45 percent of food imports in 1980. Liberian farmers meet less than 75 percent of the country's need for rice, and the demand is growing. Liberian women are the primary producers of rice, provide the majority of labor, and make most of the decisions regarding food production.

The country would benefit from an increase in export earnings from agriculture and from a decrease in food imports. Food imports have been increasing for the last ten years, however, and export earnings from

agriculture dropped significantly in 1981, after several years of increase. Most of Liberia's farmers (78%) are producing only at a subsistence level. These farmers are using hand labor in a slash-and-burn agriculture that has a very low level of productivity. There is little incentive for them to produce more since transportation and storage are insufficient and the current price of rice is low. Rice production ha in fact, leveled off or slightly declined in the last two or three years,[1] and the production of meat and other food products is below present needs. In addition, there are foods that subsistence farmers are not growing that they easily could grow (such as lentils and beans) to greatly improve their diet with little extra effort.

Four types of farming systems characterize Liberian agriculture:

(1) Concession farms. Primarily engaged in the production of rubber and oil palm, these farms are largely foreign owned, highly efficient, and employ modern technology and highly trained staff.

(2) Corporation-managed farms. These are publicly-owned farms which grow oil palm, coconut, cocoa, coffee, and sugar cane.

(3) Liberian-owned commercial farms. These farms, ranging from less than five to more than 100 acres, are privately owned. They grow coffee, cocoa, oil palm, irrigated rice, and vegetables.

(4) Traditional farms. These comprise the greatest number of farms, estimated at 160,000, with an average of 2.5 acres per farm. Historically, upland rice, cassava, and some vegetables have been the principal crops. In recent years, cash crops such as coffee, cocoa, oil palm, sugar cane, and swamp rice have been added to some farms.

On the concession farms, the soil is rich, the farm technology advanced, the management efficient, and the land tenure secure. For corporation and commercial farms, land tenure and soils are no problem, but management and technology frequently are. On traditional farms, soils

[1]In 1982, the first harvest year since the price of paddy rice increased from $.12 to $.18 per pound, there are indications of a slight production increase. However, this cannot be substantiated at this time.

tend to be poor, farm technology is primitive, and land tenure is usually not secure. With a few notable exceptions, the agricultural support system of inputs, supply, marketing, extension, credit, research, and training is very inadequate.

9.1.2 Goals and Strategies

The overall goals for agriculture as stated in the Second Four-Year National Socio-Economic Development Plan (1981-1985) are to:

(1) stimulate participation of subsistence farm families in the development of the agriculture sector;

(2) develop programs that will stimulate increased productivity, employment, and income of small farmers;

(3) promote equitable access to resources and other means of increased production;

(4) promote diversification of production in the agriculture sector;

(5) work toward self-sufficiency in food production; and

(6) expand agriculture as the principal base for self-sustained economic development.

Specifically for agriculture education, government's aim is to develop a decentralized nationwide extension service capable of reaching subsistence farmers as well as those who are more advanced and already using improved agricultural technologies.

9.1.3 Agricultural Extension Services

This section briefly describes the development of agricultural extension in Liberia, the regular extension service of the Ministry of Agriculture, the extension schemes of the Agriculture Development Projects, and small projects offering extension services. Also noted is the use of radio for the delivery of agricultural education.

9.1.3.1 Development of Agricultural Extension

The Ministry of Agriculture made an effort to develop a comprehensive nationwide agriculture extension system in the 1960s. That system failed

because the extension agents were not linked to research, information, and inputs sufficient for a relevant program.

The Ministry of Agriculture then changed its strategy from a nationwide system to one with the more focused objective of performing specific activities to support individual Agriculture Development Projects. The ADP approach became dominant, and each ADP had its own extension agents with responsibility for disseminating only a small amount of information that was highly specific to the activities of the project.

Now there are two separate systems. The original nationwide system of agricultural extension agents is still in place, but the agents have no extension program. The ADPs have been working independently of that system and of each other. Gradual integration should result, however, because the ADPs are to take responsibility for the extension work of the Ministry of Agriculture within the counties in which they are located. The Lofa County Agriculture Development Project (LCADP) has already absorbed the extension work of the Ministry, and it is expected that the Bong County and Nimba County ADPs will follow suit in about one year. Responsibility for training of agricultural extension workers lies with the Bureau of Training of the Department of Administration in the Ministry of Agriculture.

9.1.3.2 The Regular Extension Service

The regular extension service is managed by the Department of Regional Development and Extension in the Ministry of Agriculture. There are at least 600 regular extension agents who are paid a minimum of $200 and a maximum of $300 per month. The salaries of these agents therefore cost the government around $1.8 million each year. Even so, the agents do not have a well-developed agricultural extension package to offer the farmers, nor is there effective direct supervision of these agents who now report to Monrovia.

The extension package is supposed to consist of two components: research-based agricultural information and tangible inputs. In fact, the first set of deliverables has not been developed. Regarding inputs, there are three rice seed producing farms with a total of 486 acres, vegetable seeds, and fertilizer. These are made available on loan to subsistence

farmers, about 3,000 of whom reportedly received such inputs in the last year. The availability and distribution of inputs is currently curtailed because of inadequate funding.

While an organizational framework for supervision does exist, the absence of adequate logistical supports (transport, inputs, communications) makes it difficult to undertake the necessary supervision and support.

About 95 percent of the regular agents are high school graduates with limited training in agriculture and none in extension. The agents have had or are given six months of training on such subjects as rice, vegetables, and animal husbandry. They are expected to assist in providing inputs, where available and to the extent possible, and to instruct the farmers in land preparation, transplanting, fertilizing, and pest control.

Each regular extension agent is meant to serve about 600 farm families. At the county level, there is a County Agriculture Office with a Chief Officer and one or more Assistant Chief Officers, plus several District Agriculture Offices that are supposed to offer technical support to the agents within their geographic areas. Most of the approximately 26 Chief or Assistant Chief Officers have bachelor's degrees. Some of the 600 regular agricultural extension agents--actually, they are extension aides--are doing work on their own initiative; some are now working for the ADPs, but many are doing little or nothing.

9.1.3.3 Extension Services of the ADPs

There are four major area-specific ADPs: (1) the Lofa County Agriculture Development Project (LCADP), (2) the Bong County Agriculture Development Project (BCADP), (3) the Nimba County Rural Development Project (NCRDP), and (4) the Liberian Rubber Development Project (LRDP). The farm family to agent ratio is 50 to 1, and there are about 800 ADP agents who are not also government agents.

The LCADP focuses on production of swamp rice, upland rice, cocoa, and coffee. The agents are well-trained and effectively supervised by county-level administration. The LCADP project is targeted to serve 8,000 farmers; the cost will be about $2,000 per farmer over the five-year life

of the project. Production increases have been striking. Even in the most difficult situation, upland rice, project farmers have average increases of 58 percent.

The BCADP (also rice, cocoa, and coffee) and the LRDP (rubber only) have not been quite as successful as the LCADP. The internal efficiency appears to be the same, the costs are equal or higher, but there is some farmer resistance to the technology package of the two projects. These two projects have been changing their strategy to come more in line with what farmers in the area want and can manage with their existing farming tradition. The NCRDP is still very young, but it is using regular government agriculture extension agents and attempting to develop a package of technology and innovation that is less dependent on outside support.

9.1.3.4 Small Projects

Along with these two extension programs, both of which are government programs, there are several small, private sector programs. While little information exists about these programs, they deserve mention. To illustrate one project, the Catholic Mission in Nimba County has been training rural women in agriculture, health, and literacy education in a two-year course, so the women can return to their villages to teach. About 20 women have completed the program so far. The Ministry of Agriculture has supported this program with a supplement of $10 per student per year and with agricultural personnel to help teach. The Ministry of Agriculture also pays the women $50 per month in pocket money to serve as extension agents in their villages after they finish the course. The program support and the quality of the training is high, and the women function well in their villages. The Lutheran mission and other Protestant missions also have small informal agricultural education projects.

9.1.3.5 Educational Radio

An emerging resource for agricultural education is radio. There has been some agricultural education over the radio in Liberia, but is has all been in English and only broadcast in an area of about fifty miles around Monrovia. A new project, the Liberian Rural Communications Network

(LRCN), will be building transmitters around the country (all in rural areas) and broadcasting in local languages. The LRCN plans to work with the Ministry of Agriculture to produce programs in a central programming unit in Monrovia for nationwide use. The LRCN will also produce local programs at each of the outlying stations for use in those areas. There is a great lack of back-up materials for use by the extension workers, and the radio will provide some of this support.

9.1.4 Access and Equity

The great mass of small subsistence farmers are not being served by either the regular agriculture extension system or the ADPs. For the most part, the ADPs are concentrated in the northwestern section of the country and are directing their efforts toward Liberian-owned commercial farms. Many of these farms are small, but the farms are nearer to roads and have better soils available. Attention to women farmers is frequently missing as well. There are tasks in the growing cycle performed only by women in traditional agriculture, and women are performing at least fifty percent of the total effort of growing, storing, and preparing food.

Only a few female extension agents work for the Ministry of Agriculture. There are, however, about 90 women employed as home economics aides, about two-thirds of whom were trained in a special, two-year training course funded by UNICEF at the University farm.

9.1.5 Training Institutions

There is one institution currently training agriculture extension agents--the Rural Development Institute at Cuttington University College at Suacoco. Several other institutions have been involved in the training of agriculture extension agents in the past. They are the Agriculture Extension Training Center at the University of Liberia, the Booker Washington Institute at Kakata, and the National Youth Training Center at Bensonville. However, none of these is involved in the training of agriculture extension agents at present.

The Rural Development Institute (RDI), which began in 1978 and graduated its first class in 1980, is a two-year institution that grants

an A.A. Degree in Agriculture. It presently has a student body of 164. Of this number, about 25 are Ministry of Agriculture personnel. Some of these are regular MOA personnel, and the majority are from the various agriculture development projects.

The Rural Development Institute provides its students with a general agriculture curriculum of theory related to practical work on the Institute's farm. Extension is covered in the curriculum. The quality of instruction is high, and there is sufficient equipment and other resources.

RDI conducted a tracer study on its 1980 and 1981 graduating classes. All but five of the 1980 class of 61 are known to be employed: one-fourth by the Ministry of Agriculture, one-fourth by the ADPs, and one-fourth by private corporations or commodity concessions. Six remain at RDI as teachers, and five returned to high school to teach. For the 1981 class of 63 people, the status of 36 is known: 16 are employed in the Ministry of Agriculture, 2 remained at RDI as teaching assistants, 1 is deceased, 2 are enrolled in the University of Liberia, 4 are in private enterprise, and 11 are teaching in high school. In 1982, the graduating class will be about 90, showing a dropout rate of 16 percent. In 1981, females comprised about 20 percent of the students. An effort is made to ensure that a geographic balance of students is maintained. Currently, many of the full-time staff are expatriates, and the institution is supported by outside funding.

RDI is providing a good agricultural education, but the enrollment cannot expand without additional development funds. Only a small percentage of the students are from the Ministry of Agriculture, and the MOA would like RDI to increase the number of Ministry employees receiving training at the Institute. RDI would also like to include more MOA personnel as students, but sees a dilemma. Entrance standards might have to be lowered for entry into the A.A. program because most of the regular extension agents may not be able to pass the entrance test. RDI is also willing to change the admission standards, if it could either separate itself from Cuttington University College or have Cuttington waive the admission standards for RDI students. Alternatively, RDI could set up a separate program for MOA extension workers who might take only the first

year of courses, or some shorter cycle, and then get a certificate. This will need to be worked out in a Phase II design.

Because the Ministry of Agriculture has a long-term commitment to its extension agents, it wants the agents to have a solid base in agriculture, ideally through a two-year curriculum. Nevertheless, short-cycle training may be most expedient and affordable. RDI began allowing its curriculum to become specialized and more academic, but is now returning to its original mandate to provide practical field-oriented training that is appropriate for extension agents.

Students at RDI pay a tuition of $350, but this is only a token payment. The actual recurrent costs are difficult to calculate because they will change radically once the institution is through its development stage. Costs could be nearer to the Cuttington average of $3,500 per student per year (See Section 5.0, Higher Education) or slightly below.

9.1.6 Donor Assistance

The United States Agency for International Development is supporting a number of projects affecting agricultural education. The Agriculture Research and Extension Project, centered at the Central Agricultural Research Institute (CARI), is establishing an adaptive crop, livestock, and soils management research program with active outreach services to farmers. The Rural Development Training Project has assisted the Rural Development Institute. This project is scheduled to conclude, but an evaluation of the project has recommended follow-on assistance. USAID assists in the support of the three integrated development projects in Bong, Nimba, and Lofa Counties. USAID is also helping to develop a radio system for eventual dissemination of information on improved farming (and health practices and basic education) to the rural population. In addition, many Peace Corps Volunteers in Liberia are working in the area of agricultural education.

Several other donors are contributing to the agriculture sector. The World Bank provides major support to the country's integrated agriculture development efforts and agriculture research programs. With the United Kingdom's Overseas Development Authority, the World Bank is supporting the Decoris project to develop 8,000 hectares of oil palms. The Food and

Agriculture Organization (FAO) of the United Nations is sponsoring research on the control of post-harvest food loss, tree crops, plant protection, vegetables, and pulses. The European Economic Community (EEC) is aiding the Butto Project to expand oil palm production. The EEC also supports a coffee and cocoa project in Grand Gedeh County. IFAD provides major assistance for a project to develop four seed multiplication and distribution centers. The Federal Republic of Germany contributes to an integrated development project in Nimba County and to other agricultural efforts. The Netherlands is supporting a self-help village development project in Maryland County that has an agricultural component.

Attention turns now to consideration of some remaining needs to realize a nationwide education and extension service for farmers.

9.2 NEEDS

The needs of the agricultural education sector are basic and extensive. The research and development efforts that are now going on must be strengthened or focused to produce an extension package of information, inputs, and technology that is relevant to the small subsistence farmer, and deliverable by agents with little additional training. The goals of this package should be to increase the production of food and exportable cash crops and to provide a more nutritious diet to the people living in the rural areas. This package must eventually be sustainable by the government without outside assistance.

The extension package must have clear operational guides with measurable indicators of success. With a relevant package and indicators of success, the Ministry of Agriculture will be in a position to train and monitor the extension agents. To do this effectively, the training and supervision operations will have to be greatly stepped up and moved closer to the extension agents.

These extension agents will need a system of locally available credit and sufficient inputs to offer the farmers, and the agents will also need ways to reach the farmers. At this time, transportation for the extension workers is still a problem. Providing the extension agents with

individual transportation is impossible at present, but some way to bring the agents into contact with the farmers is necessary.

Once all of the program and structure is in place, the educational effort will have to focus on developing methods, materials, and media to assist in the delivery of these educational messages. In the ADPs where successful agriculture extension efforts are now underway, the Ministry of Agriculture needs to coordinate these activities so that duplication of effort is avoided, each ADP learns from the others, and all the ADPs are redirected to produce results that are sustainable by government.

9.3 PLANS

Government plans to restructure the existing agriculture extension system and bring the ADPs into that structure. Supervision and monitoring will be moved to the District Agriculture Offices, and the District Offices will be administered and supported by the County Agriculture Office. All inputs will be controlled locally. The ADPs will be absorbed into the system by having them take over all of the Ministry's operation in the county. The Director of the ADP will become the County Agriculture Officer and report directly to the Bureau of Regional Development and Extension in Monrovia. The areas that are not now covered by ADPs will eventually have them, but the new ADPs will be on a larger regional basis of several counties. Research is to be concentrated at the Central Agricultural Research Institute (CARI), and the training of existing agricultural extension agents will be done at the Rural Development Institute or in the field. Government plans to use the existing research and information developed over the years in Liberia to develop a relevant interim agricultural extension package that can be used while a more complete package is being prepared.

9.4 ANALYSIS

The analysis of the situation regarding agricultural education in Liberia takes into account constraints which the government faces in carrying out its plans as well as several issues that must be addressed. The section closes with a set of conclusions.

9.4.1 Constraints

The plans for developing an effective agricultural extension system are under severe constraints. The major constraint at this time is financial. The Ministry of Agriculture (along with other ministries) has suffered a 15 percent cut in appropriations, and there is little possibility that the MOA budget will be increased in the near future. Thus, the MOE must institute its plans without significantly increasing its recurrent budget. This means that the educational effort must be implemented with existing staff, or a donor agency must be willing to pay all capital and recurrent costs. As previously noted, however, at least 600 extension workers are already on the MOA payroll and potentially available for a revitalized extension effort.

The ADPs have been paying their agents much more than the government pays its agents. The government cannot pay a higher salary than it now does, and the ADP agents have been told that their salaries will be reduced when donor funding ends.

In addition, any educational message must relate to the government's ability to supply inputs of credit, seeds, fertilizer, and so forth. These inputs are now being supplied in some areas under the ADPs, but when those inputs end, the government will be without adequate means of continuing the supply. The extension package, for the near term, must be simple and require no complicated inputs.

9.4.2 Issues

This section reviews four major issues facing agricultural education and particularly the Ministry of Agriculture's extension effort.

9.4.2.1 External Efficiency

In order to best relate agricultural education to the needs of Liberia and to individual Liberian farmers, the government has decided to focus its efforts on two groups: (1) small subsistence farmers who are now growing only enough for their own consumption, and (2) small commercial farmers who are growing crops for income as well as for their own consumption. In this way the agriculture sector can help raise the standard of living of both groups of farmers and help Liberia grow more

export crops and import less food. Special extension packages will have to be developed for each of these groups.

The extension package for the subsistence farmer must focus on increasing the nutrition available to the farm family and producing some cash crop income. This package will have to be simple and based on local inputs. The government cannot expect, at this time, to supply imported inputs to these farmers, nor can the farmers be expected to make much capital investment.

Although the ADPs are very effective in delivering education messages, the messages are sometimes not related to the government's ability to sustain the provision of agriculture inputs and extension services. This presents an obstacle to eventual government ability to sustain project activites, as does the higher salary level of the ADP agents. The government expects that, at the end of foreign donor assistance, the salary structure of the ADPs will reflect that of the Ministry. Achievement of this salary consistency will be important if the ADPs are to assume larger responsibilities on behalf of the MOA.

The extension package for the small farmers must be tailored to their particular needs and use technology and inputs that the government will be able to support after donor funding has ended.

9.4.2.2 Internal Efficiency

To implement an effective and efficient agricultural extension program, the existing regular extension agents who have not been involved with the ADPs will need retraining. RDI has only a limited capacity and requires two years of preparation. The Ministry may need to turn to an in-service model that is simple, inexpensive, of short duration, and which incorporates some of the best features of the ADP training. ADP training is closely geared to skills required in delivering a specific extension package, including management skills. At the end of the training, the agents know what to do and how they are expected to do it. The ADPs back up the training by supervising and maintaining the efforts of the agents based on the work plan presented at the training. This management of the agents is key to making the educational effort successful.

While it is true that the ADPs have been relatively more successful than the Ministry in all facets of their activities, these successes have been achieved at relatively higher cost. The ADPs develop their own extension packages, have adequate logistical support, conduct their own training, and cater to particular project farmers. The ADPs also have been able to build roads to reach farmers where roads do not already exist and to repair them when needed.

Even with all of its agents trained and well-managed, the Ministry will have trouble reaching all of Liberia's farmers. The ADPs have been using a ratio of 50 farmers for each agent. With more than 160,000 separate farms, the Ministry would need more than 3,000 agents. In addition, many of these farmers live in places remote from transportation. The Ministry of Agriculture must look at economically feasible ways to extend the effectiveness of its agents by using, for example, radio, paraprofessionals from the villages (as in health education), and demonstration farmers who could serve as models for others.

The notion of involving some farmers as "group promoters" (GPs) is being explored by the MOA. For instance, some farmers have been trained as GPs at one of the rice seed farms so they can train other farmers in agricultural methods. Such a strategy is consistent with present resource constraints. It should minimize some of the effects of poor infrastructure and logistic support since the GPs and farmers will be living in close proximity and use traditional modes of mobility and interaction.

Use of the LRCN radio project could complement the efforts of extension agents who might organize radio listening groups in several villages. After listening to a weekly agriculture program, the extension agent or his or her assistant could visit the groups and collect their responses using a recorder supplied by the LRCN. Portions of these reports could comprise a new or follow-up program on the topic. For each innovation to be promoted (for instance, growing and eating legumes), the Ministry of Agriculture could work with the LRCN to develop instructional materials and a radio broadcast. The extension agents and assistants could supplement the programs with visual presentations and special demonstrations, following guidelines developed by a team of agriculture education specialists in the MOA and the LRCN.

9.4.2.3 Administration and Supervision

The Ministry of Agriculture must identify the kind of agricultural assistance that people in the rural areas need and are willing to support. Agents must be trained to help deliver that education, and they must be aided and supervised well to ensure they are being effective. This means that short-term training in administration and management is desirable for persons responsible for managing the extension program centrally, as well as at the county and district levels.

Government's decision to move administration and supervision to the county and district levels will help improve the efficiency of the system. There are resources in these counties that the Ministry could use to expand its efforts. Private groups should be contacted and efforts with them coordinated by someone at the county level. In addition, local cooperation should be initiated with the Ministry of Health's Primary Health Care Program, if it exists in the county, and the LRCN when it begins operating. These two resources will offer possibilities for expanding the Ministry's efforts, but such cooperation is dependent on effective administrative leadership.

9.4.2.4 Access

The more progressive, income-oriented commercial farmers will be easier to work with and will produce the greatest measurable improvement from an agent's efforts, but all Liberian farmers should benefit from an agricultural education effort. Most of the effort with subsistence farmers will focus primarily on improving the family's nutrition, rather than on yielding large income gains. Income improvement is, nevertheless, also an important national goal.

Because women perform much of the work in agriculture, the Ministry of Agriculture may need to pay more attention to that work and consider how best to help improve it. This may mean a special program for farm women and the use of more female agents.

9.4.3 Conclusions

Three major conclusions emerge from the analysis of contraints and issues.

Conclusion 1. External efficiencies of the agricultural extension program need to be strengthened, focusing initially on building of a relevant knowledge base and then on development of appropriate delivery packages of information, inputs, and services.

Conclusion 2. Internal efficiencies of the program should be given attention, with a particular view to replicable features of the Agricultural Development Projects.

Conclusion 3. Administrative and management capability needs to be enhanced at central and regional levels of government, with improved supervision of present extension personnel.

9.5 RECOMMENDATIONS

This section provides specific recommendations to improve external efficiency, internal efficiency, and administration.

9.5.1 External Efficiency: Recommendations 1-2.

Recommendation 1. Support Applied Research Programs. To build a knowledge base for small farmers, government should become more involved with the model Agricultural Development Projects. In turn, the ADPs must modify their programs to come more in line with the government's ability to sustain the project activities. In addition, the ADPs (LCADP, BCADP, and LRDP) should use existing agents at a salary level equivalent or near to that of the Ministry of Agriculture agents as has been recently instituted by the NCRDP.

Recommendation 2. Develop Instructional Delivery Packages and Methodologies. The Ministry of Agriculture should use existing research and information to produce instructional packages to be used in a well-conceived educational program. The packages should seek to: (1) improve the nutrition in rural areas, for example, by introducing legumes and vegetables; (2) increase the nation's food supply, particularly rice; and (3) increase the production of selected export food products.

The instructional packages must be simple and require inexpensive inputs that are either locally available or one-time inputs that can be paid for with foreign assistance. Examples are: improved local storage

to cut down on the 20 percent post-harvest loss that now occurs, legume and vegetable seeds that can be propagated locally, and improved varieties of roosters that can survive in a village environment.

Separate educational packages should be developed for subsistence farmers, small commercial farmers, and women. The same extension agent might deliver to all three of these groups, but each target group should receive adequate attention.

9.5.2 Internal Efficiency: Recommendations 3-4.

Recommendation 3. Identify and Adopt Succesful Features of ADP Training and Extention Programs. Examination should be made of the training model used for the ADP extensionists, together with the supports provided them, in order to (1) identify the factors critical to their effectiveness, and (2) incorporate feasible and cost-effective factors into a design for the retraining and support of the government's regular extensionists.

Recommendation 4. Establish Extension Assistants in the Villages. The effectiveness of the existing agriculture extension agents should be additionally augmented by unpaid (or fee-for-service) extension assistants in the villages. The Ministry of Agriculture should consider combining resources with the Ministry of Health and Social Welfare in support of the Village Development Councils. The Council should consider selecting a person to be an extension assistant in the same way that it chooses a village health worker. The extension assistant would get special training, and non-salary benefits could be used as motivation. Materials and media, such as the Liberian Rural Communication Network, could be used to help the extension assistant provide agriculture education.

9.5.3 Administration and Supervision: Recommendations 5-8.

Recommendation 5. Explore Use of RDI for Training Programs. Use of RDI for short-cycle training programs is highly desirable and should be pursued. The Ministry of Agriculture should continue to look to RDI and CARI as model instititutions for assistance in planning agriculture education training programs.

Recommendation 6. Proceed with Decentralization. Because decentralization of administration, supervision, and control of inputs is a necessary prerequisite to effectively conduct agricultural education in rural villages, government should proceed with this process and seek assistance, as needed, from other in-country institutions to further plan the decentralization.

Recommendation 7. Coordinate Eforts with other Agencies. The County Agriculture Officer should have at least one staff member who focuses on cooperative efforts with other agencies in the county. He or she should work with the Health Department, the LRCN, and small private groups to expand the effectiveness of their agriculture education efforts.

Recommendation 8. Support and Supervise Extension Agents. The regular extension agents must be furnished with guides to the services expected of them, be supported in these, and be held accountable for their performance.

10.0 ADULT BASIC EDUCATION

This section briefly examines adult education, including literacy programs, community education, domestic skills programs, and other forms of nonformal education (NFE) not covered in Sections 7.0, Vocational/ Technical Training; 8.0, Health Education; and 9.0, Agriculture Education. Particular emphasis is placed on programs that reach or could reach the rural poor.

The major program for adult basic education, in terms of staff and budget, is that in the Division of Adult Education within the Ministry of Education. That program is attempting to implement a national, English-language literacy project. The budget, staff, and materials of the Division are insufficient, at this time, to implement a large program. Additionally, adult literacy in English may not be the most pressing goal given these limited resources.

Besides the literacy program, the Ministry of Education and the Ministry of Agriculture in Monrovia operate home economics courses. These are formal, two-year courses that are vocational in nature. A number of small governmental and private sector groups also work through nonformal education to address the functional needs of adults who have little formal schooling. These are mentioned here, but the focus of the analysis and recommendations is on the Division of Adult Education.

Although the Division plans to undertake new projects in Monrovia, fiscal constraints limit any additional activities to those involving existing staff. Of particular and immediate value would be an assessment of what rural adults want in terms of basic education and what they are willing to help support.

10.1 STATUS

The overview to follow, after noting the condition of adult literacy in the country, cites related national goals. The section then discusses the development of adult education and its present status in terms of both governmental and non-governmental programs.

10.1.1 Condition of Adult Literacy

While the adult literacy rate for Liberia is 25 percent nationally, the rate rises to 40 percent in Montserrado County, the major urban county, and falls to 11 percent in rural Lofa County. The literacy rate of women is similarly low (about 11 percent) in all but Montserrado County. And, despite large increases in absolute numbers of children enrolled in primary school, at least two-thirds leave before completing the four to six grades necessary to acquire and maintain literacy. For this reason especially, nonformal adult education remains an important and necessary means through which to reach the masses of adults who have not shared in the benefits of formal schooling and who seek more active participation in national life.

10.1.2 Goals and Strategies

The Second Four-Year National Socio-Economic Development Plan 1981-1985 indicates that the broad objective of the adult education program is to eradicate ignorance, disease, and poverty in order to facilitate the individual's own development and the economic development of the country. The operational objective of adult education is to increase the literacy rate. The plan also calls for greater popular participation at village, town, chiefdom, and district levels to plan and implement the nation's development.

10.1.3 Development of Adult Education

Efforts to promote adult literacy education in Liberia were initiated in 1948 when a group of Liberians and foreign missionaries began to produce literacy instructional materials in English and the local languages and when the government began a National Literacy Campaign in 1950. Mission efforts to date have focused on literacy in local languages, while the government program has focused on literacy in English.

The Bureau of Fundamental Education was formed with UNESCO guidance in 1954, and the Literacy Campaign expanded to include community education, women's education, agriculture education, health education, and the promotion of traditional arts and crafts. This model has been followed up to the present.

10.1.4 The Present Situation

The Bureau of Fundamental Education is now the Division of Adult Education of the Ministry of Education. There are similar efforts being made by the Division of Home Economics in the Ministry of Education, by a Division in the Ministry of Agriculture, and by many private groups.

10.1.4.1 The Division of Adult Education

The Division of Adult Education has a small central staff and thirteen county-level supervisors. These supervisors are required to monitor the efforts of 287 part-time literacy instructors who are paid $100 per month for their services. Most of these instructors (251) are men. The last report of the Division listed 4,461 literacy students, 1,832 men and 2,629 women. No evaluation of the effectiveness of the instructors has taken place, nor is there a study of the time required for the students to reach literacy. Reports on these literacy instructors by ministry officials indicate that the present level of effort is quite small.

Under the Community Schools Project, the Division intended to operate adult literacy classes as a preliminary step to the introduction of other nonformal education activities at 100 community schools, but there is no evidence that this is happening. The school staff and facilities were to be used by adults later in the day when the children had finished classes and the adults had free time, but because of limited manpower and shortage of funds, the adult activities have not yet been mobilized.

The Division has a set of three literacy primers in English that have been used for some time and a book of stories for reading practice. A new set of literacy primers, designed with help from UNESCO, should be printed soon. At present, there are not enough literacy materials.

The Division's central office staff is small, but well trained: one in adult education to the graduate level and four to the diploma level. In addition, UNESCO has provided training for the staff here and in Germany. The part-time teaching staff are high school graduates who are teachers in the formal education system. They have no special training in adult education and tend to use the same methods with adults as with children.

10.1.4.2 Home Economics

The home economics section of the Ministry of Agriculture operates from the University of Liberia Farm. Enrollment is open to twenty female high school graduates per year. There is a staff of fifteen who teach seventeen subjects, and from 1976 to 1979, forty women graduated from the two-year program.

The Home Economics Division of the Ministry of Education has seventeen home economics centers in the country and a School of Cosmetology in Monrovia. The home economics centers offer two-year courses in clothing construction, food and nutrition, interior decoration, child care, home management, handicrafts, and literacy (see Table 7-2b for enrollment data). These activities might reasonably be called vocational education, and most of the effort is concentrated in and near Monrovia.

10.1.4.3 Small Programs

There are several small governmental and non-governmental programs in adult basic education. The Civil Action Training Program for Rural Development in the Armed Forces of Liberia is performing some literacy work. The United Workers Congress, the Shipping Union, the Boy Scouts, Firestone, and Cementco have all conducted literacy programs. The Catholic Mission program in Nimba County, mentioned in Sections 8.0 and 9.0, includes a literacy component.

The Catholic School in Gbarnga is starting a separate program in villages for women who have dropped out of school. In this program, the education needs of the women are assessed by dialogue between the women and the project staff. The women are then helped to avail themselves of government resources (agriculture extension agents, health post personnel, and government literacy teachers, for example) to meet those needs. If existing resources are not sufficient, the project staff tries to supply them.

The Lutheran Mission in Totota develops literacy materials in the Kpelle language, supports literacy efforts, and publishes a monthly newspaper in Kpelle and English. This newspaper includes stories related

to health, agriculture, religion, local events, and recently, at the urging of the government, a section on the constitution. UNDP is sponsoring a rural press project in Bong County that is publishing a development-oriented local paper. The Baptists and other religious groups are working in literacy in local languages, and some American Peace Corps Volunteers have been running literacy classes on their own initiative. The Liberian Rural Communication Network will be able to offer services to the Adult Education Division when its radio broadcast facilities are working.

Information on the cost, effectiveness, and quality of the effort of the smaller groups is not readily available, but the materials of the Lutheran Kpelle Literacy Center are of a high quality. The Catholic School program for rural women in Gbarnga appears well designed.

Liberia has an Adult Education Association, and the staff and part-time teachers of the Division of Adult Education are members. The Association has a building in Monrovia that is now being prepared for use as a meeting place and library. The Association had been active, ceased for a period, and then was reactivated in 1982.

10.1.5 Training Institutes

The government had a National Literacy Training Center at Klay which provided one year of training for the part-time literacy teachers. The Literacy Center was discontinued in 1977 with the initiation of the Liberia Opportunities Industrialization Center (LOIC) program, also at Klay. The government now has a two-week course for literacy instructors, but at the present time no new teachers are being added or trained. None of the higher education institutions in Liberia offers studies in the field of adult education, literacy, or nonformal education.

10.1.6 Access and Equity

The number of female students in both the government and non-government literacy programs appears slightly higher than that of males. This parallels the greater rate of illiteracy among females in the population. About 27 percent of the government effort is focused in

Montserrado County. In some ways this is reasonable since the literacy environment is richer and the number of English speakers is greater in Monrovia. On balance, however, the level of effort is less than adequate to serve the basic education needs of most of the country's adults to enable them to be productive citizens.

10.2 NEEDS

For an effective literacy campaign or other nonformal adult education program to develop, the government would need to make a commitment and back that commitment with an adequate budget. Since FY 1982, about $75,000 has been committed to the National Literacy Campaign. The Division of Adult Education finds this insufficient to make its present literacy program work well.

When a larger financial commitment can be made, the County Supervisors and the part-time teachers will have to be retrained to use more effective adult education methods. The staff that now exists is inadequate to meet the basic adult education effort needed in Liberia. Although at present the Division of Adult Education is unable to expand or upgrade its staff for budgetary reasons, it may be able to coordinate with the many small groups to increase its effectiveness. These small groups should be able to help the Division in the development of a modest but functional program of adult education supported by materials, methods, and media.

10.3 PLANS

The Division of Adult Education is planning two new efforts--the Market Women's Education Project and the Bomi Hills Experiment. The Market Women's Project is intended to assist illiterate market women in Monrovia to learn to read and write English. In addition, numeracy skills relevant to their work will be taught. The Bomi Hills Experiment is a functional literacy pilot project that links literacy with skills in blacksmithing, weaving, basketry, pottery, carving, and other crafts. The Division of Adult Education needs transportation for effective supervision

of its programs and would also like a new training center to replace the previous one at Klay.

10.4 ANALYSIS

Analysis of the situation regarding adult education in Liberia considers constraints with which the government must deal in pursuing its objectives, identifies several critical issues, and closes with three conclusions.

10.4.1 Constraints

As noted for other sectors, the main constraint is financial. The Division of Adult Education will have to expand its efforts with little or no increase in recurrent cost, and the government may not even be able to continue the $75,000 per year allotment for the National Literacy Campaign. This means that the Division will be operating with a very small central staff and a small number of part-time instructors already on the payroll, but not very active. Although the Division may receive some development budget funding from the government and donor agencies, it will probably have to depend on existing staff.

10.4.2 Issues

The government must reach a decision about what is a realistic level of effort, given severe financial constraints. The Division of Adult Education will not be able to launch a massive effort in literacy in the near future, but this should not keep the Division from improving its present effort. Several additional issues must also be addressed.

10.4.2.1 External Efficiency

In considering the fit of the adult education effort with the needs and present constraints of Liberia, the question is raised whether the goals of the literacy programs are sufficiently functional in light of immediate needs. The major focus of the current adult education effort is literacy for its own sake rather than functional reading, writing, and numeracy closely tied to adult life. Programs oriented around the

operational needs of a group--managing a small entrepreneurial activity, for example, or starting a cooperative--tend to successfully build literacy and numeracy skills because they help the group achieve its functional objectives.

Another issue concerns the desirability of choosing English as the language for use in nonformal education efforts. The government has chosen standard English, but Liberian English might be more appropriate in some situations. Another aspect of the issue concerns the desirability of using local written languages as bridges for learning English, promoting popular participation, and teaching a few specific skills. While the government may not be able to afford adult education in indigenous languages, some of the private groups may be able to help the government with this.

A further issue focuses on the relative priority of supporting primary schooling for children versus providing basic education for adults. On the one hand, investment in children may be most valued for long-term development. And adults themselves may want English language and numeracy for their children rather than literacy for themselves. On the other hand, it is known that basic education for adults can have immediate social and economic payoffs, as well as indirect benefits for the education of children.

Perhaps most importantly, it is questionable whether the target populations are being brought into the process of ascertaining their needs and identifying priorities among them. Unless they are involved, it seems unlikely that the basic education programs intended for them will be effectively designed to fit those needs.

10.4.2.2 Internal Efficiency

The central issue here concerns ways to maximize most effectively the available human resources of the national adult education effort. If the Adult Education Division continues to depend only on its present system of centralized support in Monrovia, county-level supervisors, and part-time instructors, the extent to which it can expand its efforts will be greatly restricted. However, if resources can be pooled with other groups and

projects concerned with adult education, a fruitful and more effective effort might be realized.

10.4.2.3 Administration

The current role of the Adult Education Division may not be an optimum one. Given its limited resources and desire to expand its operations, the Divison may consider moving away from direct instruction to becoming a service agency that supplies resources, training, materials, and technical assistance to groups involved in nonformal education. This model might suggest a role for the Adult Education Division which would enable it to extend its influence by stimulating village-level and private-group efforts and by supplying training, materials, and technical assistance in these efforts.

With the service agency model, the Division of Adult Education would use its limited manpower to assist a variety of groups and institutions. The administrative duties of supervision and monitoring of field staff would be in the hands of those groups. The existing part-time instructors might still be paid, but they would be paid by one of these local groups or by a Village Development Council. If the clients of the education efforts had the duty to monitor their teacher, a much greater efficiency should occur. The Division then could use its human resources to train teachers, develop materials, stimulate groups to form, and assist in media production.

10.4.2.4 Access

The people who need the assistance of the Division of Adult Education most are the people who are being served least by the formal system. People living in rural areas and particularly rural women make up most of this group. How to better reach these people is yet another issue.

10.4.3 Conclusions

Three major conclusions result from the assessment of adult education in Liberia.

Conclusion 1. Successful implementation of a nationwide adult literacy program will depend on a strong degree of village desire and support for such a program.

Conclusion 2. The Division of Adult Education and other agencies engaged in literacy training need to coordinate education efforts.

Conclusion 3. The Division of Adult Education must make more effective use of staff.

10.5 RECOMMENDATIONS

These recommendations, listed in priority order and organized under the same headings as the analysis, suggest how the Division of Adult Education can resolve some of the issues presented in the last section.

Staff training through short-term workshops in planning, organization, adult education, and leadership is urged at the outset to enable the Division of Adult Education to effectively orchestrate and implement these recommendations.

10.5.1 First Priority - External Efficiency: Recommendation 1.

Conduct a Needs Assessment. The Division of Adult Education should conduct a needs assessment to determine not only what people in rural areas want and need but also what educational efforts the villages are willing to support. This assessment should use techniques for gathering data that are sensitive to the cultures of the rural areas and incorporate a process of dialogue over several visits.

10.5.2 Second Priority - Internal Efficiency: Recommendations 2-3.

Recommentation 2: Conduct Nonformal Education Assessment. The Division should also conduct a nonformal education assessment to see what resources already exist to support the delivery of services outlined by the needs assessment. This assessment should look at what is being done and what might be done by government and non-government groups, the Village Development Council, and related projects such as the LRCN (radio) Project.

Recommendation 3: Coordinate with Existing Groups and Projects. The Division should coordinate with existing groups and projects involved in adult nonformal education to share resources and more efficiently serve the target populations. For example, as with health and agriculture, the radio could be used to support and motivate a village paraprofessional by having his or her voice heard on the radio and by having a regular radio program for those paraprofessionals. Direct teaching of English over the radio is being tried with success in Kenya, and that project may offer a model for a similar program here using listening groups in the villages. Several projects in Latin America have literacy programs supported by radio that might provide models for Liberia.

One of the objectives of the LRCN is to allow different ethnic groups to express and explain their cultures to other groups. The Division might participate in this activity. The goal of the activity would be to build a better understanding of these different cultures and of the common bonds that bind them together into one nation.

10.5.3 Third Priority - Administration: Recommendation 4. Move to a Service Agency Model. For the near term, the only education that most rural villagers will be able to get is that for which they are willing to pay the recurrent costs. This idea was raised in the analysis of the health and agriculture sectors, and both of those sectors have more resources both present and planned. Nevertheless, the Division of Adult Education has an important opportunity to help people in Liberia to develop ways to identify and meet some of their educational needs. Through coordination with other groups, the Division may be able to offer some useful assistance to those efforts.

Moving to a service agency model would help the Division extend its resources to serve a larger number of people. With the needs determined, the available resources identified, and an understanding of what support will be offered at the village level, the Division should be able to design an effective and efficient program for which to use its existing budget and staff.

10.5.4 Fourth Priority - Access: Recommendation 5. Emphasize Programs for Rural People and Women. The Division must keep in mind who their major target groups are. The needs assessment and the nonformal education assessment should focus on the needs of rural people, especially women, and programs that will serve them.

11.0 MANAGEMENT

There is no issue more important in the assessment of a nation's ability to plan and implement development activities than that of the managerial capacity of its public and private institutions and organizations. In the context of this assessment, managerial capacity is defined as the ability of individuals and the bureaucratic or private sector systems of which they are a part to organize resources to meet institutional and organizational goals.

The attainment of the government's national goals is hindered by the relative paucity of qualified managers and by a social-cultural climate which does not adequately reward effort or achievement. Currently, Liberia's administrative capacity is felt to be seriously constrained in each of the following: (1) recruitment, promotion, and incentive systems of the public and private sectors; (2) state of applied information technology; (3) explicitness of goal definition; and (4) personal and organizational accountability. In spite of the efforts of the Civil Service Agency and other individual managers to rationalize recruitment, promotion, and incentive systems (including pay and job assignment considerations), much improvement in these areas is still required. While this is most serious in the public and parastatal employment systems, it is also found in the private sector. Administrators in top- and middle-level management positions are often unable to reward those who work diligently or to penalize those who do not. Frequently, the criteria for initial employment and promotion are unrelated to job performance, and thus it is difficult to motivate employees. Social and political structures also impact on sound administrative and management practices. Personal and family loyalties, relaxed attitudes toward government employment, centralization of decision making, and inefficient allocation of scarce manpower resources are examples.

While the last year has seen the beginning of a movement toward exploitation of new informational technologies (microprocessors, word-processing equipment, data analysis, and storage systems), most ministries maintain little capability in this area. The problem is less severe in private sector firms, especially the larger corporations. There is, however, an inadequate supply of personnel who can fully utilize advanced equipment and technologies.

The problem of goal definition and accountability is generally endemic in bureaucratic systems everywhere. The problem itself, especially in the public sector, is not necessarily more severe in Liberia than elsewhere, but its implications for societal development are. This is because of the size and strategic responsibility of the public sector in so many aspects of Liberian life, and the problems cited earlier which serve as constraints to efficient administration.

Senior ministerial, parastatal, and private sector personnel often have the training and/or experience required to perform satisfactorily. Middle-level managers, however, are often found in assignments which require skills beyond their training or experience. Because of a relative scarcity of talent, middle-level administrators or managers are often responsible for tasks which with they may not be able to deal, frequently centering around work allocation or motivational assignments for their staffs. The result of this is that decision making over a wide range of areas becomes concentrated at the highest levels of an organization. The increased demands placed on senior personnel operate to the detriment of sound decision making generally and specifically fail to provide junior personnel with the responsibility for critical thinking, which is a necessary experience for their own advancement. An increased concentration of decision-making responsibility also represents a serious bottleneck in any organization and results in costly delays. Finally, because senior members of an organization have to spend their time on a widening range of mundane matters, they are unable to focus their skills on such activities as analysis and planning, which are their appropriate responsibilities.

The management/administration problem is systemic; any positive change must address the total system. First, it will require significant

reductions in public sector employment and improvement of the efficiency of those who remain. Second, it will require top-level commitment and implementation of measures to instill greater responsibility in government employees--most specifically, an improved understanding of the ways in which the current system works, including the identification of any organizational incentives that inappropriately reward individuals at the expense of the taxpayer. Armed with this understanding, new systems, incentives, and monitoring need to be devised and installed that reward efficiency and penalize inefficiency. Training, particularly management training, could be an important part of this difficult process. However, training without commitment would prove relatively meaningless. Training must not be allowed to take place in the same kind of vacuum that constrained previous efforts.

This section examines education and training in management available through formal programs and institutions and, also, informally through on-the-job training, non-formal programs, and the provision of opportunities for self development. It also focuses on the environment in which managers in both public and private sectors operate.

Attention is given to ways to strengthen the existing management education/training institutions, and to the creation of an environment in which it is possible for managers to manage effectively.

The considerations that affect the development of effective and competent managers for all sectors of the economy also have repercussions for the education sector itself. Without the managerial capacity, further investment in education will not produce the planned results. With competent managers operating in a results-oriented climate, not only will additional investments in education have a far greater likelihood of producing target results, but existing investments will produce improved --possibly dramatically improved--outputs.

11.1 STATUS

This section focuses on the managerial climate in the country. It then examines the existing programs and institutions offering management education and training.

11.1.1 Overview of Management Needs

Management education and training for Liberia can only be considered in the context of the environment in which Liberian managers, in both public and private sectors, operate. At present, much of the management training that exists has been described with justification as operating in a policy vacuum. The implication is that because of the environment in which the managers and the management trainers operate, the training has little relevance to effective managerial performance on the job. This is by no means entirely the fault of the training institutions. It is the result of the absence of a perceived connection between performance and rewards and the lack of institutionalized, systematic approaches to many of the functions of management. Without an incentive system that appraises performance and rewards effectiveness, training that is designed to enable managers to improve their job performance will have limited appeal and little effect. On the other hand, management education/training that leads to the award of formal qualifications which, in turn, can open the door to higher-level employment opportunities is likely to be in high demand, regardless of the quality of the training and its effect on the performance of those trained. At present, many Liberian public managers have no incentive (other than their own personal satisfaction) to perform at high levels of effectiveness. Their job can be all the more difficult if they are unable to offer rewards for effective performance to their subordinates.

11.1.2 Goals and Strategies

The overall goals of the government of Liberia as related to management development are:

1. to improve the effectiveness of management in the public sector (referred to as "inefficient" in the Second Four-Year National Socio-Economic Development Plan (1981-1985), and

2. to Liberianize managerial posts, primarily in the private sector, by replacing expatriate managers with qualified Liberians who can take over without detriment to the performance of the organizations concerned. (See pages 40-41 of the Second Four-Year National Socio-Economic Development Plan (1981-1985.)

11.1.3 Programs and Institutions

For the past two decades, government, with assistance from a number of donors, has been making efforts to improve the management of the public sector. The instrument for the first major effort was the Special Commission on Government Operations (SCOGO), appointed in 1961 with wide terms of reference to conduct studies and recommend and implement reform measures. Although many of the recommendations of SCOGO were never implemented, an important outcome of its activities was the creation of the Civil Service Agency. Another outcome of the government's concern to improve public sector management was the setting up of the Liberian Institute of Public Administration. The Institute received major donor aid in technical assistance, overseas training, and commodities.

Despite these and other projects, many of which received donor assistance, the outcomes in terms of improved management capacity and more efficient machinery for implementing development plans fell well below expectations. The effects of the projects were in most cases marginal. In large part this was due to the discrepancy between the stated aspirations for these programs and the actual political commitment given to them by previous administrations. Needed practical support was not forthcoming. It is important that, in looking to the future, these lessons from the past be kept in mind.

The main institutions and programs for management development currently in operation are described below.

11.1.3.1 The Liberian Institute of Public Administration (LIPA)

In 1972, the Liberia Institute of Public Administration (LIPA) became operational as a national staff development institution to assist government departments, parastatal organizations, and the private sector in developing management, supervisory, and clerical skills. Through a USAID grant, LIPA began actual training in 1974, presenting short courses in General Management and Supervision. In addition, twenty-eight Liberians were trained at the master's degree level and a number of books, films, and equipment purchased. According to the most recent annual report available, covering January 1 to December 31, 1982, the Institute trained a total of 363 participants in short courses in General Management, Supervision, Program Management, Training Methods, Performance Standards and Evaluation, Inventory Management, Warehousing, Hospital Stores

Management, Clerical Supervisory Training, and Financial Management. Additionally, through two auxilliary institutions, the National Clerical Training Center and the Eugenia Simpson-Cooper School of Stenotype and Accountancy, 10 clerk/typists, 8 secretaries and 24 accountants graduated during the same period from two-year training programs (see Table 11-1).

The Institute has faced a number of problems during its decade of existence. These include the absence of a guiding policy for training, weak commitment from the top, an inactive Board, and high turnover of staff, resulting in a general leadership problem among other difficulties. As a consequence, the Institute has been operating in isolation, adopting a fragmented approach to training development for civil servants. For example, only recently and partially have the Institute and CSA collaborated in setting priorities for Civil Service training, as the result of which a personnel management course was launched.

As indicated above, the Institute offers training in a number of functional areas. Because performance of the trainees is not tested, the Institute does not award certificates that indicate competence. In consequence, attendance at a LIPA course is seen by employers as only remotely connected with possible future advancement, even though the trainees may have improved their skills. The Institute's staff is relatively young and inexperienced and does not command the necessary respect from older and more experienced government officers, regardless of the staff's formal academic qualifications. There are few supplies, little equipment, and limited training materials and textbooks. Few of the training materials are directly relevant to the context of management in a West African, let alone a Liberian, context.

For these and other reasons, the effect of LIPA's activities on managerial effectiveness in the public service has been limited. However, the existence of a group of ten persons who are trained and able to provide training and consultancy, plus the existence of a modest library and a considerable quantity of audio-visual training materials, is an important asset and could be a significant instrument in raising management standards throughout the public service.

11.1.3.2 College of Business and Public Administration: University of Liberia

The College of Business and Public Administration produces graduates

TABLE 11-1

LIPA TRAINING THROUGHPUT

January 1 - December 31, 1981 - 1982

	1981	1982
General Management	73	56
Supervision	36	27
Program Management	18	38
National Trainers Workshop	30	--
Training of Trainers	20	14
Performance Standards and Evaluation	16	56
Personnel Management	38	--
Clerical Supervisory Training	--	83
Hospital Stores Management	--	27
Financial Management (Gov.)	--	21
Inventory Management	--	21
Warehousing (for Liberia Electricity Corp.)	--	20
	231	363

National Clerical Training Center Graduates		
(Enrollment: 1981=100, 1982=120)		
Clerk Typists	7	10
Secretaries	4	8

Eugenia Simpson Cooper School of Stenotype and Accountancy		
(Enrollment: 1981=160, 1982=149)		
Accountants	15	24
Clerk/Typists	3	--
Secretaries	5	--

with bachelor's degrees in economics, accounting, management, and public administration. These graduates are ready for entry level positions in public or private sectors.

Beginning in 1984, the College proposes to offer MBA degree programs which will train first degree holders with some years of work experience and prepare them for management-level positions.

The College is one of the prime sources from which Liberian managers are drawn. Within the University, it has an enviable reputation with more than 50 percent of the total of honor students coming from the College. However, the College is affected by most of the same problems to be found throughout the University and the education system as a whole. These include the generally poor quality of high school graduates, shortage of textbooks, shortage of staff, lack of incentives, and lack of educational materials directly relevant to the Liberian situation.

According to the Dean, the possessor of a master's degree can expect a higher salary on entry to the Civil Service than he or she can on entering the University as an instructor. Recruitment of well-qualified and motivated individuals to the faculty is therefore difficult.
The problem of the shortage of textbooks stems, in part, from the decision made by President Tolbert in 1972 that students should get a 50 percent discount on textbooks. At the present time, the University does not have sufficient funds to purchase books at the full price and resell them to students at half price. As a result, in the 1981 academic year 22 out of 31 textbooks required for courses were not available at the bookstore. (See Mid-Term Evaluation of the Performance of the College of Business and Public Administration under the University of Liberia's 1976-1982 Long-Range Development Plan.) In addition, private bookshops are not willing to stock the textbooks.

The College is cooperating with the Division of Continuing Education to offer credit courses. This does, however, place an additional strain on the College's resources.

11.1.3.3 Division of Continuing Education: University of Liberia

The Division of Continuing Education of the University has many demands upon it, but has at present only one professional staff member, the director. The Division is, in fact, an administrative unit whose task

is to orchestrate extension classes drawing upon the faculties of the various schools of the University for its instructors.

The Division offers additional remuneration to University faculty who are already teaching a full load. They also employ outsiders as faculty, provided their qualifications are approved by the dean of the appropriate school. The appointment of a second full-time professional staff member is expected in the near future. Given the circumstances under which it is currently operating, it is doubtful whether the Division could do more than it is doing.

The Division has surveyed the needs for extension classes in order to set its priorities and has, in consequence, decided to concentrate on offering credit courses for responsible adults over 28 years of age. Among course offerings are the "general requirement courses" of the College of Business and Public Administration.

The Division is not at present offering short noncredit programs of the type commonly offered by continuing education divisions in the U.S. Given the resources of the Division, this is no surprise. A task which the Division has undertaken, however, and which is of considerable importance to the whole of the education sector is the program of in-service training for the Ministry of Education staff. This program will concentrate in developing skills in the areas of instruction, administration, and evaluation.

11.1.3.4 The Civil Service Agency (CSA)

The Civil Service Agency is responsible for the general efficiency of the public service. The Agency's mandate includes:

- developing position descriptions,
- setting entry standards,
- setting performance standards,
- determining salary levels,
- developing criteria and methods for measuring skills levels,
- setting selection procedures,
- setting disciplinary procedures, and
- ensuring that Civil Service Regulations are adhered to by ministries.

The Agency is also charged with maintaining the central records for the public service and, through the Board of Appeals, is mandated to protect civil servants against arbitrary adverse decisions.

The Agency has established a relationship with the Royal Institute of Public Administration, London, under which the Agency receives technical assistance (for example, in the writing of the new Government Regulations and Financial Instruction) as well as training.

Civil Service, as with other government agencies, labors under funding constraints and a shortage of qualified personnel. The development of performance tests, for example, presently must be contracted to professionals outside the Agency, and lack of transportation impedes effective supervision in rural areas.

Given the constraints under which the Agency operates, the progress it has made in introducing the concept of a performance-oriented service is creditable. A new performance appraisal system has been introduced, and although acceptance is slow in coming from some ministries, it will, in the future, form the basis on which salary increments are awarded.

Much of the Agency's task is educational in that the Agency has to promote sound management practices in the public service and educate senior public servants in the application of these practices and procedures. Much of this educational function is done informally, but much is also done through formal training courses. These are usually conducted at the Agency's request by LIPA.

The linkage between the Civil Service Agency and LIPA should logically be a very strong one, but in practice the lack of a close collaborative relationship between the two organizations due to the absence of a rational training policy and employee development system has diminished their effectiveness.

11.1.3.5 The Agricultural and Industrial Training Bureau (AITB)

The functions of the Agricultural and Industrial Training Bureau (AITB) are largely dealt with elsewhere in this report (see Section 7.0). The significance of AITB in the context of management training is that it contains a supervisory training unit--the Center for Supervisory Training--which offers training to first line supervisors in the parastatal and

private sectors. AITB is also mandated to conduct research relating to the training needs of supervisors, the quality of supervisors, and the like.

The Center for Supervisory Training, which was set up with assistance from the International Labor Organization (ILO), has been operational since February 1981. Staff consists of one professional, and the unit does not have its own training facility. Attempts are being made to recruit additional staff to carry out the Center's planned expansion. The unit conducts supervisory management training programs of three months duration in the facilities of client organizations anywhere in the country. So far, nearly 100 supervisors have been trained in its three-month courses.

AITB wishes to do more supervisory training than is possible with the Center's current limited resources. AITB is constrained not only by a shortage of staff, but by its need for logistical support in the form of transportation, audio-visual hardware and software, instructional aids, and books, especially books that are directly relevant to the work of supervisors in a West African environment.

11.1.3.6 Rural Development Management Project

A UNDP-funded Rural Development Management Project, based at LIPA, was prematurely terminated in July 1981 as a result of the lack of central government support for the UN pilot decentralization project, which was discontinued after the coup. A new project document has now been drawn up and approved. It is anticipated that the new project will become operational in 1984.

11.1.1.7 USAID Assistance in Finance/Revenue Management

Under a project funded by USAID, technical assistance has been made available to assist the Liberian government in improving financial management and the collection of revenues through income tax and customs. A team of advisers is currently working with government officials to bring about improvements in the system.

11.1.3.8 Private Sector Programs and Capabilities

Private sector management training activities have been generally

restricted to the largest firms. The rubber and iron ore concessions, and to a lesser extent the parastatals, have provided certain supervisory and low-to-middle-level management training for their own personnel. Unfortunately, no adequate study has been made of the extent of training in terms either of numbers of participants or types of training provided. Unknowns here are the willingness and/or ability of these firms to expand programs of training to include non-employee participants and the relative cost-effectiveness of such training to the government and other employers. There are also several private management consulting firms in Liberia which are capable of doing management training. However, little information is currently available as to the extent of their capabilities.

11.1.3.9 Cuttington University College

Among the fifteen areas in which Cuttington University College offers bachelor's degrees are Educational Administration and Business. Thus, Cuttington contributes a handful of potential future managers to the Liberian economy each year.

A number of factors, however, prevent the likelihood of Cuttington being able to make significant impact on Liberia's management development needs in the foreseeable future. The first is the small size of the College (total 1982 enrollment 704). The second is its distance from the capital (over 100 miles) which renders the use of Cuttington for evening classes impossible except for local managers. In addition, except for managers up country, distance would make using Cuttington's facilities for short seminars inconvenient and expensive when contrasted with using the University of Liberia or LIPA facilities. Thus, although Cuttington has plans for upgrading to full university status (see Section 5.0) and for doubling its enrollment, its contribution to management education is likely to be limited in the immediate future.

11.1.3.10 Nonformal and On-the-Job Training

In the last analysis, much, probably the greater part, of the techniques used by effective managers are learned not from formal training

or academic programs but through on-the-job experience. For on-the-job training to be effective, it must be planned and systematic. If not well structured, the on-the-job experience may be dysfunctional. New employees may learn the behaviors and attitudes that hinder rather than promote the achievement of organizational objectives.

Well planned on-the-job training starts with a proper induction/orientation process in which the new employee is introduced to the mission and goals of the organization as well as the practices he or she must understand in order to be an effective member of the staff. On-the-job training continues throughout an employee's career, often in the form of a superior simply taking time out to explain to subordinates specific policies, practices, and procedures.

There is little evidence that most organizations in Liberia make any systematic attempt to provide on-the-job training of this kind. Even as fundamental a need as an initial induction/orientation for the new employee is usually lacking.

In many organizations around the world, a considerable amount of staff development is accomplished at low cost by providing staff with opportunities for self-development. This may take the form of giving time off to attend conferences, seminars, and workshops. It may be done through financial assistance to staff who wish to increase their knowledge through taking correspondence courses or evening classes. At very senior levels, it may take the form of granting sabbatical leaves to allow persons of director, assistant minister, or deputy minister levels to undertake work/study in another organization or another country to increase their understanding of some area of expertise. At present, it does not appear that this approach is used by the majority of organizations in Liberia.

11.2 NEEDS

The needs for the development of management education and training have several dimensions. First, the basic requirements must be met for management development to take place. Second, more information is needed as a basis for a national program of management development. Third, the existing institutions promoting and conducting management development

require strengthening. Fourth, to help training institutions in their task, books and training materials relevant to the Liberian work environment need to be made available. Fifth, information management must be developed at all levels, and finally, staff development officers must be designated for major organizations and government agencies.

11.2.1 The Basic Requirements for Management Development

Management development does not occur in a vacuum. It occurs in an organizational climate and a national culture. The organizational climate is determined, among other things, by the tone set by the personnel policies and practices; the clarity (or lack of clarity) of goals, objectives and targets; the extent to which employees are held accountable for their results; and the reward system.

To manage effectively, a manager ideally needs to:

1. know precisely what is expected of him or her (preferably through the establishment of clear objectives reached through agreement between the manager and his or her superior);

2. be given the opportunity to perform;

3. be able to ask for and receive help, training, and guidance where necessary;

4. receive constructive feedback on his or her performance; and

5. receive recognition and rewards (which may not necessarily or solely be financial) according to the results achieved.

Any program of management development that does not deal with these needs can only have very limited success.

In Liberia, it is clear that some, if not all, of these conditions are lacking in most organizations. What is required is a combination of management training and an improvement of the organizational climate through such measures as clarification of goals and objectives, setting of performance standards, performance appraisal, and a compensation system that is seen to be fair and in which effective performance is rewarded and poor performance is not. These are prime needs for management development in Liberia.

11.2.2 A Social-Institutional Profile for Management Development in Liberia

For any program of management development to be effective, it must be adapted to Liberian culture and environment. Any attempt to apply standard Western approaches to management without an adequate adaptation to the operational environment and the socio-psychological mind-set to be found in a Liberian organization will be unlikely to achieve positive results. In fact, negative results are likely to occur.

The work of a number of writers (e.g., Hofstede, Moris, and Mendoza) has drawn attention to the dangers of assuming that Western management approaches are appropriate in environments with different socio-cultural profiles. To expect managers to be able to apply motivational theories developed by McGregor, McClelland, Maslow, Herzberg, Likert, and other U.S. theorists to the problems of motivating Liberian employees may be unrealistic, but in the absence of any body of knowledge on what does motivate Liberians, one may ask what the management trainer/educator is to teach on the subject.

Therefore, the development of a social-institutional profile for management development in Liberia is a high-priority need. Unless this is developed, the practice in management development institutions of serving up Western approaches will continue, and management development efforts will remain ineffective.

The social-institutional profile should focus on the supervisors' expectations of subordinates, subordinates' expectations of superiors, motivational factors, attitudes about the future, (forecasting, planning, goal setting), and socio-structural factors (organizational hierarchy, extended family responsibilities, etc.).

11.2.3 Strengthening of Management Development Agencies

The main agencies for the development of the pool of managerial talent in the country are the University of Liberia, the Civil Service Agency, LIPA and AITB. Each of these agencies works under very serious constraints. In all cases, there are financial and staffing constraints that severely limit what each agency can undertake. There are also logistical constraints that range from transportation difficulties to

shortage of texts and materials. There are cultural and psychological constraints arising from past traditions in which rewards were distributed much more on the basis of personal connections than on quality of work. There have been political constraints under which sound management practices have been overridden because of political considerations.

The encouraging aspect of the picture is that, despite these constraints, the will to bring about the needed improvements still exists in the agencies charged with management development. It is important that these agencies be strengthened and supported to enable them to carry out their tasks. Support will be needed in terms of political support, financial support, staffing, and logistical support.

11.2.4 Needs for Training Materials

A subject that has repeatedly come up in conversation with Liberian managers and management educators/trainers is the lack of textbooks and training materials fully relevant to management in the Liberian context. Books and materials produced in North America or West Europe can provide essential insights into universal management principles. The application of these principles, however, is greatly affected by cultural factors. Managerial behavior that is effective in North America is not necessarily effective in West Africa, and vice versa. A case study or film based on events in an American organization may seem to have very little relevance to Liberian managers.

A considerable volume of textbooks, training materials, and case studies has been produced in Africa and developing countries elsewhere. Much of this material would be of value to Liberian management educators. There is a need for it to be made available to them. (A listing of books and other materials likely to be of value to management educators/trainers and managers in Liberia together with details of availability, where known, is appended as Appendix 11-1.)

11.2.5 Information Management

All decisions made by managers, from the granting of leave to an individual employee to a policy decision involving the commitment of major resources, require the availability of relevant information on which the

decision can be based. Information to be used has to be collected, recorded accurately, and stored in such a way that it can be retrieved without difficulty and at reasonable speed. When this is lacking, unsound and often costly decisions will be made.

A recurring theme during interviews conducted in the preparation of this report has been the poor quality of information management. This relates not only to the absence of state-of-the-art information processing techniques, but also to basic record-keeping and information-retrieval techniques. In consequence, many Liberian managers are forced into making decisions which are based on inadequate information.

The development of information management skills at all levels, from the setting up and maintenance of filing systems to the effective application of word processing and data processing, is an aspect of training that appears not to have received the attention it merits. The need for training in this area is clear.

11.2.6 Designated Staff Development Officers

Every major organization and, particularly, all the major government agencies need a senior manager who has designated responsibility for staff development and training. Such a manager would oversee programs of systematic on-the-job training, commencing with proper orientation and induction. He or she would also be the source of information on off-the-job training opportunities, coordinate internal and external training activities for the agency, and be responsible for ensuring that the funds available for training were spent in accordance with the work and skill requirements of the organization. The ability to undertake a training needs assessment would be an essential skill for the staff development officer.

11.3 PLANS

The University of Liberia has plans for two programs which will affect management training. As indicated in the previous section, the College of Business and Public Administration plans to introduce an MBA program in 1984. The program will seek to upgrade bachelor's degree holders of the College with some years of work experience to the point

where they are of managerial caliber. The Division of Continuing Education of the University plans to undertake a program of in-service training in instructional techniques, administration, and evaluation for the Ministry of Education.

The Civil Service Agency plans to publish new Government Regulations and Financial Instructions. The Agency also intends to expand and extend its regulatory functions to ensure that all public service agencies abide by officially sanctioned management practices and procedures.

AITB plans to expand its supervisory training activities. The extent of activities will depend upon the support the board receives from government and donor agencies.

LIPA is planning a joint project with ILO in 1984 for the purpose of sectorializing management training. Sectorial boards will be established to guide the development of management training in public administration, health, agriculture, public enterprise, and rural development.

11.4 ANALYSIS

Some difficulties have arisen in trying to follow the same format as other sections of this report in analyzing the internal and external efficiencies in detail. This is largely due to the fact that the topic of management development is so broad. It involves not only the institutions and the programs, but the whole environment in which management takes place. The external efficiency of a particular institution or program is a part of the internal efficiency of the system that is being examined as a whole, so that the difference between internal and external efficiency is not always clear. However, some generalizations can be made, and these are given below. This section then goes on to summarize the constraints on the development of effective management and discusses a number of key issues. A set of conclusions completes this section.

11.4.1 External Efficiency

The external efficiency of management development in the public sector is reflected in the delivery of services. The fact that none of the major extension programs in agriculture, health, or adult education are operating at reasonable levels of effectiveness is evidence that

external efficiency is well below desirable levels. One could add to this list other evidence of inadequate performance in private sector and parastatal organizations as well as in public agencies.

Although there are financial and logistical constraints that contribute to this inadequacy of performance, other factors are of critical importance. Two of the most significant factors are: (1) the shortage of trained, experienced managers with the ability to plan, manage, supervise, and evaluate programs and to motivate subordinates to achieve goals; and (2) the nature of the environment in which the activities of managers take place. These environmental constraints are analyzed in Section 11.4.3.1 below. The improvement of efficiency in all sectors of the economy requires, therefore, a change in the managerial environment as well as the development of more motivated and skilled managers.

11.4.2 Internal Efficiency

Internal efficiency implies that management development institutions are optimally utilized and that a climate exists in which managers are able to perform effectively. Although there are some instances of organizations in which the environment may be conducive to effective performance, such a climate does not generally exist in Liberia. The reasons for the lack of this favorable climate arise from past traditions in which managers were not evaluated or rewarded according to their performance and incentives to produce results were lacking.

The management development institutions themselves operate, in some cases, at extremely high cost. Owing to the lack of organizational linkages, the work at one major institution, LIPA, is only marginally geared to the needs of its clientele. All the institutions are understaffed and lack books and relevant training materials. The funding levels for some institutions (e.g., LIPA) appear adequate and even generous, but a greater amount of the budget is spent on internal administration than is spent on management development programs.

attendance in any training course for government employees is about 50 percent. This seriously weakens the institute and reduces any effect it might have on public service management. Unless it is fully incorporated into the government's organizational structure for managing the public service, LIPA will continue to have a marginal impact. Related to this constraint upon the Institute is the constraint on the Civil Service Agency. This constraint is due to the fact that government has not been able to effect an employee development system to enable the upgrading of the performance of public servants through training. A national training policy and an employee development system would remove these constraints and strengthen both LIPA and the Agency.

Another constraint on LIPA's effectiveness is the lack of measures to evaluate the performance of trainees. Since the Institute does not pre- or post-test its trainees, attendance at its programs can in no way be considered a qualification. Members of LIPA's faculty are aware of this constraint and would welcome a change. Proper testing, although likely to encounter some opposition, would help give LIPA the credibility it does not have at present.

Finally, a major structural constraint facing managers is the overstaffing of the public service, which reduces efficiency and has adverse effects on compensation and, thus, on morale and motivation. An optimally effective public service will be one that is trimmed down in size.

11.4.4 Issues

The issues in management development may be conveniently grouped into one primary issue, which must be dealt with if management development is to make appreciable headway, and a number of other issues regarding the effectiveness of institutions involved in management development.

11.4.4.1 The Major Issue: Commitment

While there are a number of measures which can and should be introduced to improve the effectiveness of the institutions responsible for management development, these are likely to produce positive change

necessary skills and who sincerely wishes to apply modern effective management techniques may find himself drowning in the tide against which he is swimming. It follows that any effective improvement of management and management development will need to be introduced with commitment from top managers on an organization-wide basis.

11.4.3.2 Financial, Logistical, and Structural Constraints

All the organizations responsible for management development are short of funds, trained personnel, equipment, and supplies. In addition, the University and most of the training institutions suffer from the low academic level of incoming students, which is due to weaknesses in the educational system as a whole.

The lack of qualified clerical/secretarial staff places a restraint on managers. For example, the through-put of the two government secretarial training institutions affiliated with LIPA, which are better equipped than others, is disquietingly small. The two institutions between them only graduated a total of ten clerk typists and nine secretaries in 1981. As was pointed out by the Civil Service Agency, institutions training typists and secretaries not only have to contend with the basic entry skills of trainees, but they also employ largely untrained instructors who do not themselves possess the required skills to enable trainees to acquire terminal skills. In the absence of any program or institution to upgrade the teachers of secretarial skills, the situation is not likely to improve.

This inability of the private sector and government training institutions to produce the skilled support staff places an additional burden on managers. This no doubt helps to explain the deficiencies in information management which extends from basics, such as the failure to file in strict alphabetical order, through the inadequate maintenance of proper personnel and financial records to the lack of data-processing and word-processing capability.

Because of the absence of a policy and an employee development system, the Liberian Institute of Public Administration lacks authority over other government agencies and cannot ensure their participation in training activities. Because of this, LIPA has not enjoyed the support of some public agencies in training programs. For example,

11.4.3 Constraints

The major constraints for management development in Liberia are to be found in the socio-cultural environment in which managers operate. These are summarized below. Additionally, there are financial, logistical, and structural constraints affecting the institutions responsible for management development.

11.4.3.1 Environmental Constraints

As the previous discussion has pointed out, the overwhelming constraints on management and management development are environmental factors arising from traditions and attitudes inherited from the past. These traditions have fostered the feeling that "technical know-how" (i.e., competence) and performance are less important than "technical know-who" (i.e., family, ethnic, and political connections). The past records amply bear out that rewards, in terms of appointments, salaries, and promotion, were often given out on the basis of family, ethnic, and political loyalties rather than on the basis of qualification, merit, and performance. Other cultural factors, such as the attitude toward time, the traditional relations between older and younger persons, and ethnic rivalries, further complicate the task of the manager. In consequence, the concepts of objective setting, performance appraisal, accountability, and performance-based compensation are almost entirely lacking in many parts of the public sector and, in some cases, in the private sector.

One important consequence of these traditions and attitudes is the pervasive unwillingness to delegate and even to share relevant information. This unwillingness to delegate is in part based on the fear, sometimes quite justified, that subordinates possess neither the skill nor the will to perform tasks that might be assigned to them. But unless a junior manager is given responsible work to do, he or she cannot grow. Thus the development of the future managers is characterized by stunted growth.

In such an environment, attendance at management training courses, whether of a short term seminar type or of a longer term-academic type, such as an MBA program, can only have a marginal effect and may ultimately serve only to increase frustration on the part of the manager trained. Without a critical mass of like-minded colleagues, the manager who has the

only to the extent that there is explicit, unequivocal, and visible commitment from the top. This applies at the national level, and it applies at the organizational level.

Such commitment may mean the introduction of measures that are contrary to the practices and traditions of the past. At the government level, it would mean giving the Civil Service Agency complete backing in its efforts to regularize recruitment, selection, appointments, promotions, performance appraisal, job evaluation, and enforcement of disciplinary codes and administrative and financial regulations. At the organizational level, it would mean total commitment from the top manager and his or her immediate subordinate managers to such concepts as goal and objective clarification, the identification of performance indicators and setting of performance standards, accountability for results as well as for financial and other resources, and a system in which effective performance (identifiable through success in meeting targets and objectives) is rewarded and poor performance is penalized.

It would be unrealistic to expect such commitment to be forthcoming simultaneously and immediately from all government agencies. An effective approach could be to identify a few agencies to act as demonstration models of excellence in management and administrative capacity. These would be chosen from those agencies whose top leadership had already demonstrated a commitment to bringing about improved performance. They are likely to be medium- to small-sized agencies and would benefit from the help that a process consultant could provide. A few such agencies could provide a pattern that could eventually constitute the norm for the management of public agencies.

An effective model for bringing about the improved performance in these agencies could be found in the successful UN projects in East Africa which produced dramatic changes in East African Airways and the East African Posts and Telecommunications Corporation. (These cases are documented in Robert Abramson: An Integrated Approach to Organizational Development and Performance Improvement Planning and the East African Airways Case Study in Improving the Performance of Public Enterprises in Developing Countries.)

11.4.4.2 The Other Issues: The Effectiveness of Existing Management Development Institutions

An issue affecting LIPA concerns its place in the government structure. Its present position outside the mainstream militates against its effectiveness. Also, its present practice of awarding only Certificates of Attendance and not of achievement discourages employers from taking the Institute seriously as a source of upgrading for middle management personnel.

The costs of management training as typified by the operational costs of LIPA are extremely high. Based upon 1981 figures, the cost per participant per week of training at LIPA is approximately double that of a similar institute in the U.S. (see Table 11-2). The main reason for the high costs is that insufficient use is made of the faculty and facilities of LIPA. The through-put of LIPA could be doubled without any great increase in operating expenses because LIPA's main expenditure is for personnel. This would reduce the participant/week cost by almost half, although this cost would still be high, given that faculty salaries in Liberia are much lower than in the U.S. However, the costs issue, as far as LIPA is concerned, is bound up with the structural issue. Until LIPA becomes a part of the government central management development machinery, the demand for its services is not likely to increase, and its unit costs will consequently remain high.

An issue affecting all the management training institutes concerns the adaptation of management concepts, developed in the U.S. and other industrialized Western countries, to the needs of the Liberian manager in the Liberian environment. The absence of (and lack of knowledge about) text and training materials developed in African and other developing countries indicates an insufficient awareness of this problem. Many managerial behaviors which are functional in the U.S. could be inappropriate and ineffective in Liberia, and vice versa. There is a need for serious thought followed by action to be given to this matter. A first practical step would be for the institutions concerned to obtain the relevant materials already in existence produced elsewhere.

A second issue also affec ıll the training organizations--the absence of systematic on-the-j .raining, including induction/orientation

TABLE 11-2

TRAINING COSTS AT LIPA

(Based on figures taken from 1982 annual report)

	LIPA	Comparable U.S. Institution
No. of Trainees on all list courses	363	130
Total training weeks(1)	38	218
Participant/weeks of training	1380	over 2000
Full-time faculty	10	6
Secretaries	8	4
Other support staff	not stated	2
Operating expenses	$598,212(2)	750,000 (approx.)
Approx. cost per participant per week(3)	$360	less than $375

(1) LIPA's courses are from 1 to 4 weeks' duration. The U.S. institution ran courses from 1 week to 7 months' duration.

(2) LIPA's operating budget includes two ancillary clerical schools which accounted for approximately $100,000 of operating expenses. These two schools produced the following graduates: 24 accountants, 10 clerk/typists, 8 secretaries.

(3) These figures are derived by dividing the operating expenses by the number of participant/training weeks. LIPA's operating expenses have been reckoned at $498,000, i.e. the full operating budget less the approximate amount for the two clerical training schools.

programs. Given past traditions and attitudes, effective introduction and continuation of such a program will require commitment from the top.

The final issue is the size of the public service, which was referred to previously. An overstaffed organization is inevitably less efficient than it should be. The administrative capacity of Liberia is currently reduced by the overstaffing of the public service. What the proper size of the public service should be and how to bring the service to that size are issues that vitally affect public management in the country.

11.4.5 Conclusions

The following conclusions are derived from the constraints and issues discussed above and form the basis for the specific recommendations in the concluding section of this discussion.

Conclusion 1. The problems of managerial capacity and management development are systemic and can be effectively tackled only on a systemic basis.

Conclusion 2. The systemic changes needed will require explicit and visible commitment from the top of governmental and organizational levels, and can best be initiated through identifying suitable organizations with committed leadership which can serve as demonstration models.

Conclusion 3. While major improvements depend on systemic change, the existing agencies concerned with management development can and should be strengthened through structural changes and other specific measures.

11.5 RECOMMENDATIONS

The recommendations for improving management development fall into two major categories--creation of a climate conducive to good management practices and strengthening of management and training institutions. Within each category a number of specific recommendations are presented.

It should be noted that a number of the recommendations that follow can best be implemented through inputs from donor agencies.

11.5.1 First Priority - Creation of a New Work Climate:

Recommendation 1. Initiate a Dialogue on Management Development. Liberia's administrative/management capacity affects all sections of the economy. It affects Liberia's capacity to absorb the development assistance that is available from international agencies and, bilaterally, from other friendly nations. In every way the limitations of administrative and managerial capacity constrains Liberia's development.

As a means of getting first inputs as to how the context of management might be improved, it is recommended that government through the Ministry of Planning and Economic Affairs initiate a dialogue with donor agencies on the subject of management development for Liberia.

Recommendation 2. Create Demonstration Models. A small group (three or four) of public and parastatal organizations should be selected for major performance improvement programming. These will be organizations where top management is already committed to high standards of performance. It is important that they be organizations relatively insulated from overriding external constraints which would severely hamper the efforts at improving performance. Ideally, they should be organizations where increased effectiveness will produce early visible and measurable results. This will serve not only to keep the motivation of those in the organization high, but it will make the demonstration effect more apparent. The performance of these organizations will serve as demonstrations to other organizations as a first step in bringing about a change in work attitudes throughout the public sector.

To facilitate this process, the services of process consultants skilled in performance improvement programming should be made available to the agencies selected. The consultants should be experienced in working with organizations in Africa.

It is worth noting that this approach, of involving all the top management in a joint organizational-change effort, has proved a much more successful approach to management development than the traditional approach of sending individual managers away for training. The success of this approach in Africa and other developing nations has been documented in R. Abramson: An Integrated Approach to Organization Development and Performance Improvement Planning (Kumarian Press,1978) and Eastern and

Southern Africa Management Institute: Improving the Performance of Public Enterprises (ESAMI, Arusha, and German Foundation for Development, 1977) as well as various United Nations documents.

Recommendation 3. Develop a Social-Institutional Profile for Management Development. To ensure that the efforts of managers and management trainers to increase managerial effectiveness are soundly based, further knowledge is needed regarding the social-cultural factors conducive to effective management in Liberia. To this end, a social-institutional profile for management development in Liberia should be developed on lines suggested in Section 11.2.2.

Recommendation 4. Strengthen the Civil Service Agency. The Civil Service Agency is currently the one Agency charged with ensuring that approved personnel practices are observed throughout the public service. The Agency should be given clear and unequivocal support in carrying out its mandated task.

Four ways in which the Civil Service Agency can be strengthened are through:

1. public expression of top level political support for the Agency;

2. expansion of the Agency's outreach by the creation of regional civil services offices so as to provide administrative expertise to local administrators and to speed up the processing of personnel matters originating in the rural areas;

3. closer linkage of LIPA with the Civil Service Agency, which would strengthen both institutions; and

4. placing personnel directors in ministries under the control of the Director-General of the Civil Service Agency and paying them from the CSA budget.

The last measure was recommended in the 1981 Annual Report of the Civil Service Agency. The advantage would be that the personnel directors as Agency employees could perform their tasks as required by the Civil Service Law with less fear of reprisals or threats from top managers of the agencies where they are working. The disadvantage is that adversarial relationships might develop between personnel directors and the top managers of their agencies to the detriment of the organization.

It is recommended that measures 1, 2, and 3 be implemented and that a working party consisting of representatives of the CSA and two or three ministries be set up to consider the implications of measure 4. If the disadvantages are found to outweigh the advantages of placing personnel directors directly under CSA control, the working party should be charged with recommending measures which would strengthen the linkage between personnel directors and CSA.

Recommendation 5. Optimize the Size of the Civil Service Establishment. Measures should be taken to reduce the size of the public service so that each agency is staffed with the number and types of employees that it requires to carry out its mission. To avoid hardship and unrest, the process of reduction will need to be a gradual process of attrition. The Civil Service Agency should be charged with monitoring this process.

11.5.2 Second Priority--Strengthening the Management and Training Institutions: Recommendations 6-11.

Recommendation 6. Strengthen the Liberian Institute of Public Administration. LIPA should be strengthened by making it an integral part of the government machinery for managing the public service. (See also Recommendation 2 above.)

LIPA's Civil Service training programs should be planned on the basis of needs identified by CSA and in close collaboration with the Civil Service Agency. Successful completion of training should be recognized for salary and promotion purposes. Before this recognition can be given, LIPA should institute pre- and post-testing procedures for all training programs. Thus, participant performance could be evaluated, and LIPA could award a Certificate of Attainment rather than the present Certificate of Attendance.

The number of training programs offered at LIPA should be increased. LIPA should introduce training programs in information management at all levels, from the setting up and maintenance of simple filing systems to the application of computers in management and development. If necessary, LIPA instructors should be sent for training to acquire the necessary skills in modern information processing and management. LIPA should also

be charged with the training of agency Staff Development Officers (see Recommendation 8).

A compensation scheme should be worked out for LIPA staff to ensure that LIPA salaries are competitive with other public agencies and to reward effective performance.

Recommendation 7. Strengthen the College of Business and Public Administration, University of Liberia. The salaries paid to instructional faculty should be brought up to a level where they are competitive with those payable in other public agencies.

Recommendation 8. Strengthen the Division of Continuing Education, University of Liberia. The Division should be strengthened by the addition of one or two more full-time professional staff. The Division should include in its objectives the provision of short, non-credit workshops and evening classes on management and administrative topics.

Recommendation 9. Expand AITB's Supervisory Training Program. The AITB's Suprvisory Training Center should be strengthened by the provision of additional staff to enable it to expand its activities as planned.

Recommendation 10. Appoint Staff Development Officers for Each Public Agency. Every public agency should appoint a senior manager as Staff Development Officer with responsibility to oversee staff development and training for the agency. Staff Development Officer duties should include designing and supervising programs of systematic on-the-job training, commencing with orientation and induction courses; coordinating all training activities, internal and external, for the agency; undertaking training needs assessments; providing information on off-the-job training opportunities; and ensuring that training funds are spent in accordance with the work and skill requirements of the organization and individuals selected for training. Training for agency Staff Development Officers should be provided by LIPA (see Recommendation 6).

Recommendation 11. Improve Relevancy of Management Textbooks and Training Materials. To avoid the dependence on Western management training materials which may not be relevant to the Liberian context, all

the institutions involved in management training should obtain and use available materials that relate managerial/administrative principles to African (or developing country) circumstances. (A list of some of the materials produced is given at Appendix 11-1.) Each institution should also commence developing its own set of local materials, especially Liberian case studies. These should then be made available to the other institutions in the country.

11.5.3 Suggested Sequence for Implementation of Recommendations*

(1) A public statement, emanating from a very high level, drawing attention to Liberia's needs to raise the managerial and administrative quality in all sectors of the economy and the government's intention to take measures to ensure this improvement would be a most suitable first step. This could include a statement of government's total support of the Civil Service Agency in its task of ensuring that approved personnel management procedures are followed in the public service (see Recommendation 4).

(2) This statement should be followed by the government setting up a committee which would initiate dialogues with donor agencies on the types of changes needed and on ways and means to bring them about. The committee should include a representative from the Executive Mansion and high level representatives of the Ministry of Planning, the Civil Service Agency, and other concerned ministries.

(3) At the same time, a few agencies which could serve as models of effective management should be identified (Recommendation 2).

(4) Next, the Ministry of Planning would seek donor assistance in developing the social-institutional profile for management development in Liberia (Recommendation 3). As and when the findings of this work become known, findings should be passed to the institutions responsible for management development to help ensure that training is based on Liberian realities.

(5) At the same time, donor agency support should be sought in the

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* See Table 11-3 for diagram of sequence.

provision of process consultants to aid the "model" agencies in their programs to improve performance (Recommendation 2).

(6) Concurrently with (4) and (5) above, the rational restructuring of the relationship between the Civil Service Agency and the Institute of Public Administration should be undertaken. This restructuring should result in LIPA and CSA becoming the management and training arms of the machinery for bringing about a more efficient public service. LIPA training would be designed to meet needs identified by the CSA. Recognition and, if necessary, certification for LIPA training would be given by CSA and LIPA for jointly scheduled training activities (Recommendations 4 and 6).

(7) A small amount of donor funding should be sought to enable the management training and educational institutions to obtain books and training materials written in African and other developing country contexts (Recommendation 11).

(8) The remaining recommendations should be implemented as soon as funding and other circumstances permit.

These include:

A. the expansion of the outreach of the CSA (Recommendation 4),

B. the improvement of faculty salaries at the College of Business and Public Administration (Recommendation 7),

C. the addition of more staff to the Division of Continuing Education and expansion of its activities to include non-credit workshop/seminars on management (Recommendation 8),

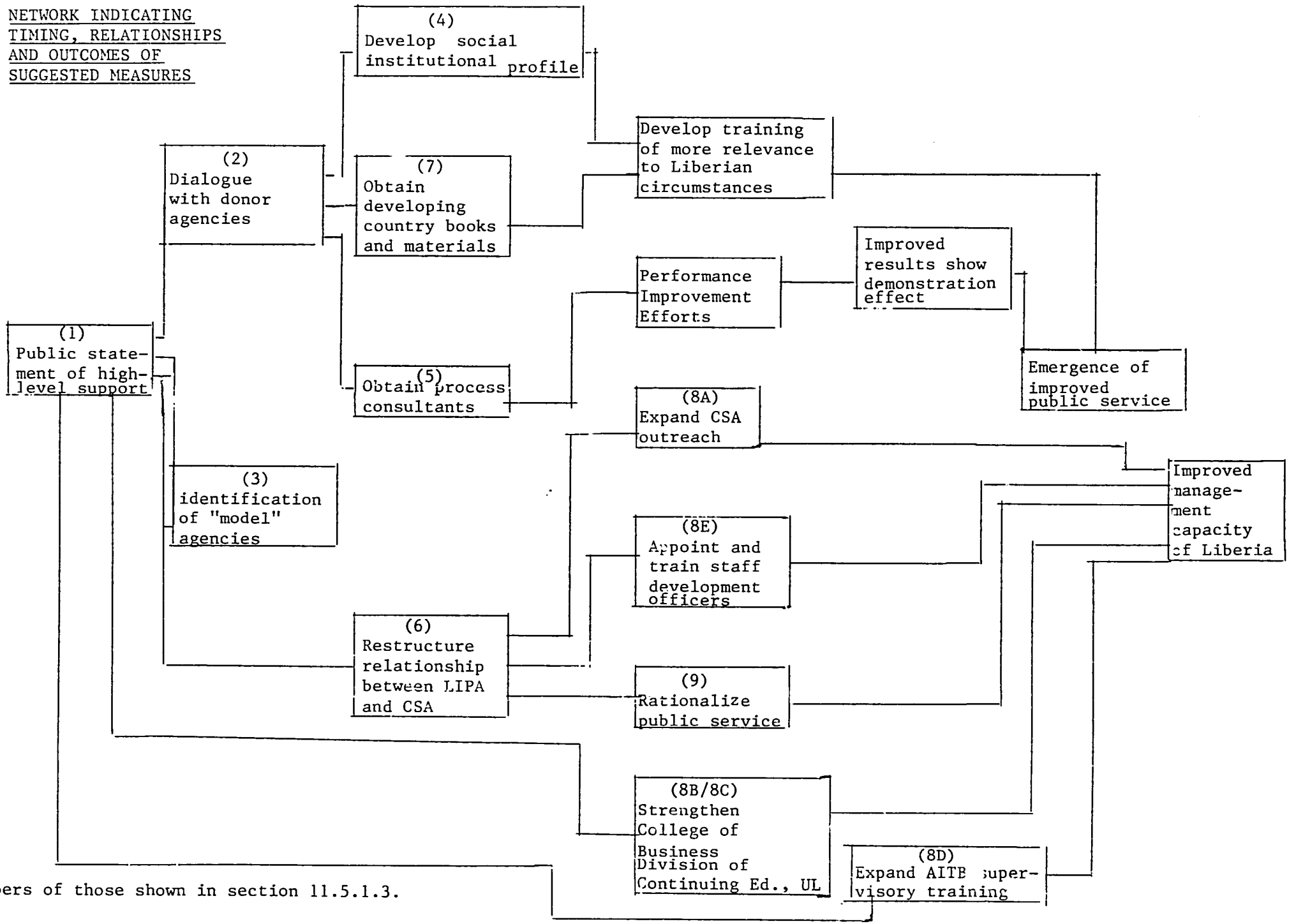
D. the expansion of AITB's supervisory training center (Recommendation 9), and

E. the appointment and training of staff development officers for every public agency and parastatal (Recommendation 10).

(9) The Ministry of Planning jointly with the Civil Service Agency should begin a long-term process of establishing the rational size for all public services agencies. Once established, measures to trim each agency down to its rational size without causing hardship and unrest should be introduced (Recommendation 5).

TABLE 11-3

NETWORK INDICATING TIMING, RELATIONSHIPS AND OUTCOMES OF SUGGESTED MEASURES



Numbers of those shown in section 11.5.1.3.

APPENDIX 11-1

A PARTIAL LISTING OF BOOKS AND TRAINING MATERIALS FOR AFRICAN MANAGEMENT TRAINERS

Available from: E.S.A.M.I., Box 3030, Arusha, Tanzania

Management Education in Africa, 1977

Improving the Performance of Public Enterprises in Developing Countries, 1977

Available from: Ghana Institute of Management and Public Administration, Achimota, Ghana.

The Greenhill Case Book by R. Dennison, James Nti et. al. (publication date unknown)

Available from: Kenya Institute of Administration, P.O. Lower Kabete, Kenya

Administration and Management in Africa (The KIA Case Studies) by Ian Mayo-Smith, 1972 (Two Volumes. Vol. 1 contains 21 case studies. Vol. 2 contains Notes for Case Leaders.)

Available from: University of Ife Press, Ife-Ife, Nigeria

Managerial Efficiency in the Public Sector, edited by M.J. Balogun, 1980 (ISBN 978-136-024-0)

Problems and Techniques of Administrative Training in Africa, edi by Adebayo Adedeji, 1969

The Work of Administration in Nigeria: Case Studies, by David J. Murray, 1969

also The Quarterly Review of Administration

Available from: Pergamon Press, Inc., Maxwell House, Fairview Park, Elmsford, NY 10525

Project Planning and Management, edited by Louis J. Goodman and Ralph Ngatata Love, 1981 (ISBN 0-08-025996-9)

Management of Development Projects: An International Case Study Approach, edited by Louis J. Goodman and Ralph Ngatata Love, 1981 (ISBN 0-08-025996-9)

Available from: The Rockefeller Foundation,

Education and Training to Public Sector Management in Developing Countries, edited by Joseff E. Black et al. 1977

Available from: African Association for Public Administration and Management, P.O. Box 60087, Addis Ababa, Ethiopa

Public Policy in Africa, edited by Ian Mackinson, 1981

Indigenization of African Economics, edited by Adebavo Adedejj, 1981

Available from: Kaduna Polytechnic, Kaduna, Nigeria

The Kaduna Cases and Notes on the Kaduna Cases, 1966

Available from: Longman Group Ltd, London

Men and Management in Contemporary Africa, by G.C. Onye Melukwe, 1973 (ISBN 0-582-44756-9)

Available from: International Center for Public Enterprises in Developing Countries, Titova 104, P.O. Box 92, 61109 Ljubljana, Yugoslavia

Control Systems for Public Enterprises in Developing Countries, edited by Praxy Fernandes, 1979 (ISBN 92-9038-012-8)

Joint Ventures and Public Enterprises in Developing Countries, edited by V.V. Ramanadham, 1980 (ISBN 92-9038-040-3)

A Case Book of Public Enterprise Studies, 1982 (ISBN 92-9038-080-2)

Management Training and Development in Public Enterprises, by Irshad Khan et al., 1982 (ISBN 92-9030-024-1)

Available from: Development Project Management Center, US Dept. of Agriculture, OICD, Washington, D.C. 20250

Elements of Project Management, by Morris Solomon, 1979

Available from: International Human Resources Development Corporation, 137 Newbury Street, Boston, MA 02116

Manpower Planning and Development: The Developing World, by John J. Connor and William M. Carson, 1982 (ISBN 0-934634-32-7)

Available from: United Nations, New York, NY 10017

A Practical Guide to Performance Improvement Programming in Public Organizations, 1977 (UN Pubs Sales No. E.77.11.H.5)

New Approaches to Personnel Policy for Development, 1974 UN Pubs. Sales No. E.74.11.H.1)

Handbook on the Improvement of Administrative Management in Public Administration, 1979 (UN Pubs. Sales No. E.79.11.H.3)

Availble from: Institute of Public Service International, University of Connecticut, 1380 Asylum Avenue, Hartford, CT 06105

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