

PD-AHU-049

Rec'd. PPC/E 17 JAN 1984 (2)

PROJECT EVALUATION SUMMARY (PES) - 4672

1. PROJECT TITLE Rural Information Systems, 669-0134	2. PROJECT NUMBER 669-0134	3. MISSION/AID/W OFFICE USAID/Liberia
	4. EVALUATION NUMBER (Enter the number maintained by the reporting unit e.g. Country or AID/W Administrative Code, Fiscal Year, Serial No. beginning with No. 1 each FY) 2 FY 84	

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5. KEY PROJECT IMPLEMENTATION DATES	6. ESTIMATED PROJECT FUNDING	7. PERIOD COVERED BY EVALUATION
A. Firm PRC-AG or Equivalent FY 80	A. Total \$ 17,527,000	From (month/yr.) August 28, 1980
B. Final Obligation Expected FY 85	B. U.S. \$ 11,700,000	To (month/yr.) October 1983
C. Final Input Delivery FY 87		Date of Evaluation Review Oct. 3-Oct. 24, 1983

B. ACTION DECISIONS APPROVED BY MISSION OR AID/W OFFICE DIRECTOR

A. List decisions and/or unresolved issues; cite those items needing further study. (NOTE: Mission decisions which anticipate AID/W or regional office action should specify type of document, e.g., telegram, SPAR, PIO, which will present detailed request.)	B. NAME OF OFFICER RESPONSIBLE FOR ACTION	C. DATE ACTION TO BE COMPLETED
1. Steps should be taken immediately to strengthen the management and production functions, of the project implementation unit.	GOL	1/2/84
2. The roles of the Steering Committee, LBS, and project management must be clarified.	GOL	1/2/84
3. A management advisor (short term) should be fielded to assist with long range planning, organizational design and management.	USAID/T.A. Team/GOL	1/20/84
4. Near term project development goals should be addressed through the use of short term advisors.	USAID/T.A. Team/GOL	1/15/84
5. Activities of Content Specialists should be coordinated with ministerial representatives on the Steering Committee to insure the Content Specialists' constant participation.	GOL	1/15/84
6. Improve communications and relations in project implementation unit among all personnel and specifically between Liberian staff and Technical Advisory Team.	USAID/GOL	1/15/84
7. Assure timely contracting for construction and procurement of commodities.	AID/W, REDSO, USAID/L	3/15/84
8. Employ evaluation specialist.	GOL	12/10/83
9. Analyse personnel needs to assure adequate space, funding and staff at present and when stations open.	GOL/T.A. Team	2/1/83
10. Prepare policy on use of vehicles and other equipment.	GOL/T.A. Team	2/1/83
11. Reduction in number of stations to four and one central unit.	GOL/T.A. Team	Completed

9. INVENTORY OF DOCUMENTS TO BE REVISED PER ABOVE DECISIONS'

<input type="checkbox"/> Project Paper	<input type="checkbox"/> Implementation Plan e.g., CPI Network	<input type="checkbox"/> Other (Specify)
<input type="checkbox"/> Financial Plan	<input type="checkbox"/> PIO/T	
<input checked="" type="checkbox"/> Logical Framework	<input type="checkbox"/> PIO/C	<input type="checkbox"/> Other (Specify)
<input type="checkbox"/> Project Agreement	<input type="checkbox"/> PIO/P	

10. ALTERNATIVE DECISIONS ON FUTURE OF PROJECT

A. <input checked="" type="checkbox"/>	Continue Project Without Change
B. <input type="checkbox"/>	Change Project Design and/or
	Change Implementation Plan
C. <input type="checkbox"/>	Discontinue Project

11. PROJECT OFFICER AND HOST COUNTRY OR OTHER RANKING PARTICIPANTS AS APPROPRIATE (Names and Titles)

Dr. Larry Frymire, S&T/ED
 Mr. Peter Amos George, Jr., LBS
 Mr. Aaron Paye, MPEA
 Ms. Myrtle Dennis, MPEA
 Mr. Harold Johnson, MT

Mr. Robert Braden, USAID
 Mr. Sydney Anderson, "
 Mr. Wesley Snyder, MOE
 Mr. Henry W. Reynolds, Project Manager, USAID

12. Mission/AID/W Office Director Approval

Signature: *John Piferencia (Acting)*
 Typed Name: Lois Richards
 Date: Jan 5, 1984

13. SUMMARY: Due to low estimates on construction and equipping costs and inability of the GOL to support re-current costs, the original scope of the Rural Information Systems Project has been reduced from the proposed 7 Regional Radio Stations and a Central Production Unit to 3 Regional Stations, refurbishing and up-grading of an existing station at Harper and the Central Production Unit. The project has potential for achieving its original objective of providing GOL information services to rural populations, especially in education, agriculture and health, provided certain corrective measures are taken soon. The major problems encountered were an ineffective project management operational structure, unskilled GOL managers, poor planning, inadequate progress in transfer of technical skills because of problems with project staff/T.A. communications and divisions in project oversight authority caused by disagreement between the 1981 GOL Decree which placed the Liberian Rural Communications Network under legal control of the Liberian Broadcasting Systems and project Steering Committee By-Laws which give project policy control to the Committee. As a result jurisdictional disputes between the Steering Committee and LBS have caused delays in project implementation.
14. EVALUATION METHODOLOGY: This was the first project evaluation. Other evaluations are scheduled later in the life of the project. The purpose of the evaluation was to review the original Project Paper design, assess progress and offer corrective implementation recommendations.

The Evaluation Committee consisted of an AID/S&T/ED Radio Education Specialist (team leader), USAID Program Officer, USAID Engineer, and GOL representatives from the Ministries of Planning, Education, Post & Telecommunications and the Liberian Broadcasting System.

All project-related documents were reviewed, including the Project Paper; the contractor's Life of Project Plan; project correspondence; quarterly and annual reports; architectural, engineering and equipment lists; project loan and grant agreements; current year and future budgets, and staffing plans, etc.

Data gathering interviews were held with over half of the members of the Steering Committee, the USAID Project Manager, LRCN staff and the Technical Assistance Advisors.

Individual committee reports were presented and synthesized by a writing committee. Discussions were held within the committee to come to final agreement on all aspects of the report.

15. EXTERNAL FACTORS: The Liberian economy continues to deteriorate. Significant debt, reduced revenues and ineffective management practices are making the availability of host country funding an increasing problem. There was a need to reduce the number of stations from seven to four because USAID provided funds were inadequate to cover the costs of constructing and equipping seven stations. Recurrent costs for running the stations, which are also expected to be higher than originally projected, contributed to the decision to reduce the number of stations. The current economic situation must be monitored carefully and means by which expenses can be cut must be devised. Also a new strategy for programming should be developed to reduce staff required for the stations and the Central Programming Unit.

V

When a new Director of the Liberian Broadcasting System was appointed in late 1982, problems began to increase in the project due to the new Director's unwillingness to cooperate with the Steering Committee. Because he has failed to motivate project staff to work effectively and impedes Steering Committee actions designed to improve the efficiency of project management, the problems have become increasingly serious. Further, he has expressed the belief that this project is not a high priority for Liberia and has recently indicated that he accords other activities (e.g. educational T.V.) higher priority. His views are not shared by other GOL officials.

16. INPUTS:

A. Technical Assistance: The arrival of the team in Liberia was delayed 18 months due to contracting difficulties. Problems are occurring with the transfer of technical information in the project. The Liberian Project Director has often ignored TA advisors' suggestions causing numerous problems in planning and implementing project activities. On the other hand, there is evidence that the TA team has not been as effective as expected in adapting to the local environment and establishing the kind of rapport with local staff necessary to effectively transfer and adopt a new and complex technology. Improvement in rapport and communication between local staff and the TA team was found to be critical for further project process. Failures in communication, poor management and lack of timely or appropriate decision making have increased the problems within the project. The mix of TA seems to be appropriate and all contract team members have been judged by the evaluation committee to be technically competent. Suggestions have been made as to the types of short term assistance that might accelerate the present crucial planning and other work to be accomplished. The most critical need in the TA area, however, is to ensure effective working relationships between local staff and TA team.

B. Commodities: No major commodity procurement has yet been finalized since procurement of commodities must be coordinated with the completion of construction. If commodities arrive prior to completion of construction, they will have to be stored at considerable cost. Delivery will be established in accordance with project construction termination dates.

C. Training: In-country training has proceeded on schedule. However, a second group must enter training in the next six months to provide the manpower necessary to man the field stations. Present financial capabilities of GOL could negatively effect this activity.

D. Construction: Delays in presentation of final designs have caused delays in construction bidding. Hopefully this bottleneck will be overcome shortly so that construction can begin in April 1984.

17. OUTPUTS:

A. Radio Stations: The number of rural radio stations to be constructed has had to be reduced from seven to four because of inadequate project funding and shortfalls in projected recurrent cost availabilities on the part of GOL.

Projected construction timing is on schedule with a revised critical path analysis done for the Life of Project Plan.

B. Producing programs in the vernacular: Because of delays in project implementation no vernacular programs yet exist. Pilot broadcasting scheduled to begin in November has not been initiated due to problems with the production specialist's performance. Early research for this programming has been completed, however.

It is hoped that actions recommended by the evaluation team will correct this problem.

C. 10 hours per day of development information programming: It is too early in the project to discuss this output. However the financial limitations of the GOL could result in a reduction in staff and the number of hours of programming. This question will be reviewed prior to the next evaluation.

D. Programs being modified to meet audience needs: This output will come much later in the project.

E. Organized listener groups: There has been no broadcasting yet. These groups will be organized prior to the next evaluation.

18. PURPOSE: To provide rural Liberians with the data they need, in an understandable form, to make informed decisions concerning the development opportunities and services available to them. Despite several problems discussed in detail in the evaluation text, the project purpose and related EOPS are still attainable. The project is still too young for measurement of progress towards EOPS indicators. Increased use of educational, agriculture and health services cannot be measured until after broadcasting starts. Similarly, it is not possible to assess greater independence and self sufficiency until after broadcasting has begun.
19. GOAL/SUBGOAL: Increase the standard of living of all rural Liberians through their acceptance and use of improved production, health and education standards and techniques. Again, achievement of this goal depends on initiating broadcasting. The evaluation did determine that because of delays, it would unlikely that evidence of goal achievement would be available during the project period.
20. BENEFICIARIES: The beneficiaries of the RIS Project are the rural citizens of Liberia who are currently inadequately served, or not served at all, by GOL services in education, agriculture and health. The project also has the potential to improve the cultural and social quality of life of Liberia through the "sharing" of music, drama and other cultural enrichment type radio programming. It is expected also that the project will positively affect national cohesiveness and have a tendency to bring the nation together as one people.

If broadcasting is successfully applied to GOL educational, agricultural and health campaigns, literacy (and other educational growth); productivity of rural farmers, their economic status; and the health of LRCN listeners should be improved. The reduction of rural stations from seven to four will decrease the proportion of Liberian citizens who will be within range of broadcasts in these vernacular languages from 50% to 35%.

21. UNPLANNED EFFECTS: None

22. LESSONS LEARNED: Implementation of such a complex project as RIS should have adequate lead time for management and others to obtain extensive practical academic training. In addition, hands-on internships in a similar operational environment should be provided. Initial recruitment and selection of potential managers and key operational staff must be exacting to ensure that persons with as many applicable skills as possible are employed. Early excellence in management of such projects will result in most favorable implementation and operation.

Clearances: DD:JPielemeier (in draft)
DP:Jpurcell (in draft)

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EXECUTIVE SUMMARY ON TECHNOLOGY

Prepared By: Henry W. Reynolds, Director, HRD
Date : December 19, 1983
Project : Rural Information Systems, 669-0134
Country : Liberia
Cost : \$5 Million Grant; \$6.7 Million Loan

I. What constraint did this project attempt to relieve?

There is general agreement that communications within rural areas of Liberia are poor. This affects the learning opportunities of adults and children and tends to retard economic development. It is estimated that less than 35% to 40% of the people in rural Liberia benefit from government outreach programs in health, education and agriculture. The lack of a communications system in rural areas has resulted in missed development opportunities, increased costs, duplication of programs and general dissatisfaction with the GOL's rural development efforts. Further national cohesiveness is severely constrained because of lack of communications. Regional identities are much stronger than national identities and the sense of nationhood is clearly undermined by this problem.

To alleviate the above constraint the project will provide Liberians with the data they need in an understandable form

to make informed decisions concerning development opportunities and services available to them.

II. What technology does the project promote to relieve this constraint?

The technology to be used in this project is radio. The educational aspects of the radio programming will be developed using instructional systems design techniques. The technique develops programming through gathering of data on communities, determining their felt needs, establishing measurable objectives, testing the programming on small samples of the target group, revising the programs, broadcasting and using formative feedback to continually revise and improve the programming. Most programs will be broadcast in 4-5 local languages rather than in English which is poorly understood by the majority of rural Liberians. This technology has proved to be effective in other developing countries.

III. What technology does the project attempt to replace?

Previous to this project no communications technology existed to deal with this constraint. There is very limited broadcasting of development-related material on the two existing English language radio networks, which cover only a small portion of the country, in any case. Due to poor road networks, limited

budgets and manpower, the access of the rural population to "extension" personnel and information (agriculture, health, literacy, etc.) in extremely limited.

- IV. Why did project planners believe the intended beneficiaries would adopt the proposed technology?

Pre-project data indicated a high level of radio listening and a high level of access to radio in rural areas. Broadcasting in local dialects should encourage increased dissemination of information pertinent to development and rural concerns.

- V. What characteristics did the intended beneficiaries exhibit that had relevance to their adopting the proposed technology?

Surveys, were conducted in rural communities on interest in the development of radio related education programs. With the exception of one area there was unanimous interest and commitment to involvement. All areas provided land free of charge and pledged financial support for stations. Interest continues as observed and expressed during follow-up visits to the sites. In view of the limited learning opportunities available in rural Liberia and the acute interest in those areas in benefiting more from resources that could be made available,

adaptation to educational offerings via radio at the location of rural poor is logically considered a reasonable approach.

VI. What adoption rate has this project achieved in transferring the proposed technology?

Since stations have not been constructed yet and broadcasting is not scheduled to begin until March 1985, no information of this type is currently available. The project in the next to the last year, i.e. FY 1986, should provide data on radio users and changes in health and agricultural practices. At that time we will be able to gauge the impact of the technology.

VII. Has the project set forces into motion that will induce further exploration of the constraint and improvement of the technical package proposed to overcome it?

The project is not sufficiently far along in its implementation to allow for this to occur. No stations are broadcasting as yet.

VIII. Do private input suppliers have an incentive to examine the constraint addressed by the project and come up with solutions?

There is very little private sector advertising on the existing English language radio network that is aimed at rural audiences.

However rural radio campaigns might stimulate private firms to market new technologies like oral rehydration or fertilizers, etc. by increasing rural demand for these inputs. The potential in this area will have to be determined at a later date.

- IX. What delivery, system did the project employ to transfer technology to intended beneficiaries?

Radio, personal contacts, listening groups, recorded messages and visual aids.

- X. What training techniques did the project use to develop the delivery system?

The project provides Masters and post-Bachelors level training in radio research, management, communications, community organization, production and broadcasting for high level personnel. It also provides in-country training for lower level staff in the above areas. It provides 18 months of training for radio technicians. Major emphasis has been placed on in-country and on the job training.

- XI. What effect did the transferred technology have on those impacted by it?

Because stations are not yet broadcasting, it is not possible to respond to this question.

RURAL INFORMATION SYSTEMS PROJECT

EVALUATION COMMITTEE

REPORT

NOVEMBER 21, 1983

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Glossary

CPU	-	LRCN Central Production Unit to be built in Monrovia
CRITICAL PATH	-	Project Planning document containing schedule of target dates for project implementation
GOL	-	Government of Liberia
LBS	-	Liberian Broadcasting System
LRCN	-	Liberian Rural Communications Network
Logical Framework (Log Frame)	-	Official Aid project planning and monitoring document
PID	-	Project Identification Document, an official AID project planning, document
Project Paper	-	Official AID document containing original project design, cost and implementation plans
REDSO	-	AID Regional Development Services Office, Abidjan, Ivory Coast
RIS	-	Rural Information System, official AID name for the LRCN project
TA	-	Technical Assistance
COP	-	Chief-of-Party
RFP	-	Request for Proposals

I. EXECUTIVE SUMMARY

This was the first evaluation of this project, after three of the proposed seven years of implementation. The evaluation committee noted that the complexity of the project has made it somewhat difficult to implement and the project is about sixteen months behind schedule due to the delay in contracting and fielding of the T.A. Team.

The purpose of the project is to use the medium of radio to assist the GOL to extend government services to the majority of the population who live in the rural areas. The evaluation took place at a critical stage in the emergence of LRCN's organizational identity and scope.

This report concludes: That the LRCN project can make a significant contribution to the development of Liberia, especially in the fundamental areas of education, agriculture and health; that the project should be supported in a manner that will allow it to reach its stated goals and objectives, and that adequate progress has been made in project implementation to keep on the revised critical path schedule. However, several difficult decisions must be made and some ambiguities clarified in order for LRCN to maintain the momentum necessary for the proper institutionalization and implementation of this innovation so it can achieve its purpose of supporting national development.

The most serious problems encountered in the evaluation relate to management of the project and productivity of some of the sub-units in LRCN. Many of the organizational and development problems experienced by LRCN can be attributed to its infancy and institutional immaturity. Further problems of a logistical nature have affected the cohesiveness of the implementation team. For example, staff and Technical Assistance Advisors worked at two different temporary sites in the first ten months of the project. This early physical inconvenience (inadequate office facilities) diverted attention from operational objectives and slowed the development of the interrelational fabric of the organization.

It appears that the present facility will no longer meet LRCN space needs, in January, 1984, when 24 existing trainees will require working space and a new trainee class, proposed at about 27, will require more teaching space than the present facility offers. Early decisions must be made to solve this urgent problem.

Because of earlier delays, it has only been during the last few months that LRCN has begun to function as an organization. There has not been adequate time to establish institutional precedents which help shape roles, functions, and responsibilities within the organization. The management of the project has often been ineffective, unimaginative and nondirective in shaping roles functions and responsibilities and in the resolution of institutional and operational issues, leaving some key operational targets in jeopardy. This is partly due to lack of clarity of the relationships among LBS, LRCN and the Steering Committee. The LRCN project is a complicated development effort which requires stronger and more effective leadership from LRCN management, LBS and the Steering Committee, particularly in these formative phases.

Some positive steps have already been taken within the LRCN project to rectify some of the more apparent institutional difficulties, but in order to continue to maintain deadlines in the critical path schedule, attention must be given to the problem areas. For this reason, the evaluation has focused on problematic areas within the project. The project is no longer just an exciting development idea but has the potential for meeting its key objectives, if further progress can be made in institutional development.

The Evaluation Committee has not overlooked the many achievements of the project thus far. They can be found in Section IIIC.

The Evaluation Committee has noted several significant policy, management, organizational, personnel and oversight problems. These are described and recommendations offered for their amelioration.

The Committee generally recommends improvement in:

- a. Communication and Cooperation: Communication and cooperation among the various participants in the project have been strained by difference of opinion between LBS and the Project Manager on one side and the Steering Committee on the other as to the role of the Steering Committee in this project. The Evaluation Committee determined that the problem relates to less than adequate management of the project thereby necessitating more active participation by LBS and the Steering Committee to monitor and correct these problems. Improved performance in cooperation and

communication by all parties, including USAID, is an immediate need to create effective working relationships among the parties to carry on the project with a minimum of problems.

- b. **Coordination:** Improved coordination of LBS, Project Steering Committee, and USAID surveillance of the project activities is required to ensure that LRCN management with the advice of the TA Team effectively assumes the role of leadership required for project success.
- c. **AID Contracting and Support Services:** The next four months are critical to assure the initiation of construction prior to the rainy season in May/June. Services to accomplish the needed contracting and procurement depend on availability of support from REDSO/W and AID/W. The USAID mission must effectively coordinate these support services to assure a timely contracting and procurement process.
- d. **Ministry Involvement:** GOL ministries must improve efforts to engage themselves productively in the LRCN programming and development services functions, particularly in support of the ministries' Content Specialists assigned for LRCN work and for their budgetary support.
- e. **Mastery of Technical Knowledge:** Greater effort must be made by LRCN management and professional staff to master necessary radio production technical knowledge through more effective application of advice and transfer of skills from the Technical Assistance Advisors.
- f. **Morale and Dedication:** Greater effort must be exerted by all parties concerned with LRCN to raise morale, infuse enthusiasm, and encourage productive, highest quality work.

II. EVALUATION PLAN AND PROCEDURES

A copy of the Scope of Work for this evaluation is included as Annex M to this document.

The Evaluation Committee consisted of representatives from the Government of Liberia and the Government of the U.S. as follows:

Government of Liberia

Mr. Peter Amos George
LBS

Dr. Wes Snyder
Ministry of Education

Mr. Aaron Paye
Ministry of Planning and Economic Affairs

Mr. Sam Watkins
Ministry of Communications

Government of the U.S.

Mr. Robert Braden
USAID

Dr. Larry Frymire
AID/Washington

Mr. Mik Mikkola
Contract Engineer

The steps followed in order to carry out the evaluation were: the review of all relevant documents; interviews with a majority of individuals involved in project implementation from USAID, LRCN, LBS, the Technical Assistance team and the Steering Committee based on predetermined questions; group meetings; individual sub-committee reports; discussions of the issues within the committee and final report writing.

The Committee met on October 3, 4, and 5, 1983 to discuss the purposes and scope of the evaluation, the background on the LRCN, other organizational and administrative procedures and general issues to be evaluated. Documentation was made available at that time for individual review.

The Committee was organized into four (4) sub-committees, management, finance, program production and technical.

Early-on for more efficiency a decision was made to combine the Management and Finance subcommittees.

A schedule was established (see Appendix I - Evaluation Committee schedule), and it became clear that the

evaluation was to be carried out under very stringent time constraints.

Appointments were made for interviewing all participants in the project and interviews were initiated.

Structured in-depth interviews were completed with:

- a. All LRCN management and professional staff members.
- b. All Technical Assistance Advisors.
- c. USAID Project Manager.
- d. Six of the thirteen members of the Project Steering Committee (in addition, Mr. Aaron Paye, a Steering Committee member from the Ministry of Planning, took an active part in the Evaluation as Chairman of the combined Management and Finance subcommittees).

On October 7, 1983, the Steering Committee was given a list of questions by the Evaluation Committee leader. The Chairman appointed members of its Executive Committee to prepare responses.

The Evaluation Committee made appointments to directly interview the Chairman, Dr. Peter Naigow, Minister of Information, and the Vice-Chairman, Mr. Alhaji Kromah, Director General of the Liberian Broadcasting System. The interview with Dr. Naigow was conducted, but unfortunately, official GOL out-of-town business forced Mr. Kromah to cancel his interview. It was not possible to reschedule the interview with Mr. Kromah. Further, no written response was received from the Steering Committee on the questions submitted. To overcome these problems, the Evaluation Committee arranged interviews with six members of the Steering Committee. Their comments have been included in the context of this report.

The work of the Technical subcommittee did not begin until October 11, 1983, due to the unavoidable delay in the arrival of the engineering consultant.

III. PROJECT DESCRIPTION AND BACKGROUND

This was the first formal evaluation of the R.I.S. Project. Others are planned for approximately May 1985 and February 1987.

A. Project Goals and Purpose

As indicated in the Project Paper, the goal of the project is to increase the standard of living of all rural Liberians through their acceptance and use of improved agricultural production, and health techniques. In support of this goal, the purpose of the project is to provide rural Liberians with the data they need, in an understandable form to make informed decisions concerning the development opportunities and services available to them. The primary media to be used in the network is radio.

The Liberian Rural Communications Network (LRCN) is designed to support rural development in the following ways:

1. Promote the increased utilization of existing government services by the rural population;
2. Provide development and other services to a greater portion of the rural population;
3. Increase communication between villages and the local, regional and national governments;
4. Promote increases in self-help activities;
5. Distribute news and entertainment information, especially of local relevance; and
6. Inform the rural population of, and involve them in, local and national development activities.

The justification for the project as stated in the Project Paper dated 1979 is as follows:

- The Government of Liberia (GOL) has accelerated its rural development efforts during the past decade. Since 1974 Liberia's development budget was increased by more than 80%. Even with this expanded level of investment, however, the GOL found itself unable, through traditional programs and methods, to meet the basic needs of its people. It was estimated that less than 35 to 40% of the people in rural Liberia benefit from Government outreach programs in health, education and agriculture.
- A critical constraint to the GOL's rural development efforts has been inadequate communications between

the Government agency sponsoring a development program and its target population. This has resulted in missed development opportunities, increased costs, duplication of programs and general dissatisfaction with the GOL's rural development efforts.

- The GOL is convinced that local radio programming and broadcasting in local dialects are effective instruments for promoting social and economic development programs. To make some effective use of broadcasting in support of national goals, the GOL has recently reorganized, refocused, and expanded Liberia's public broadcasting system. As part of this reorganization the Government created the Liberia Rural Communications Network (LRCN).

(It should be noted that although the critical constraint of inadequate communications mentioned still exists, other critical constraints have evolved. The present serious financial problems of the GOL constitute an even more critical constraint on development and could seriously impact on the future of this project.)

To discharge these responsibilities, the LRCN planned to establish and operate 7 regional broadcasting facilities. Due to project cost increases the system was reduced to a Central Production Unit, 3 new stations at Voinjama, Gbarnga and Zwedru, plus rehabilitation of an existing but inoperative regional station at Harper. Each of these facilities will have the capability of originating broadcasting programs in languages of its service areas. The four regional stations will be supported by the Central Programming Unit (CPU) responsible for the development of general policy and national information campaigns. As conceived, the LRCN has the potential to be an effective two-way means of communication between rural Liberians and their National Government.

Prior to the development of the Project Implementation Document (PID) and Project Paper (PP) a committee was named to design this project by the Ministry of Planning. It consisted of a group of interested Liberians from several ministries and USAID/HRD (Human Resources Development) staff. USAID also provided five advisors for drafting of the final project, consistent with the design of the committee. After the project was approved, the group, appointed by the MPEA continued as the Steering Committee for the project.

The Steering Committee, headed by Dr. Peter Naigow, Minister of Information, with Mr. Alhaji Kromah, Director General, Liberian Broadcasting System (LBS) as Vice-Chairman (see Appendix B, roster of LRCN Steering Committee members) serves as the policy-making group for the LRCN and performs other project oversight functions. (see Appendix C - By-Laws.) Additional project oversight is furnished by the Liberian Broadcasting System (see Appendix D - GOL Decree 20 and 21) and by USAID/HRD. Further discussions of LBS and the Steering Committee will be found throughout this report.

B. Project Logical Framework*

This section will first describe the evaluation committee's findings as to the validity of the original Log Frame. A second section describes progress on objectively verifiable indicators.

Goal: The broader objective to which this project contributes is to increase the standard of living of all rural Liberians through their acceptance and use of improved production, health and education standards and techniques.

The evaluation committee agreed that the project could be a significant factor in the achievement of this goal though not during the present life of the project. In view of the sixteen month delay in project implementation and minor delays in the start of construction, there will only be two years of broadcasting before the final evaluation in March, 1987. This short period probably will not allow for enough broadcast time to allow for meaningful changes in educational, agricultural or health practices.

No changes were found necessary in the measures of goal achievement found in the logical framework.

The assumption that the "GOL will continue to support current and proposed national development efforts" was questioned in view of current Liberian economic problems. The committee decided that this would be the case if the resources exist and that careful consideration must be given to developing resources to assure continuation of the project after USAID withdrawal.

*See next two pages for easy reference to this document.

Purpose: To provide rural Liberians with the data they need in an understandable form, to make informed decisions concerning the development opportunities and services available to them.

The committee agreed that this purpose could be achieved and possibly would be evident at the end of the project. The measures of purpose achievement were also legitimate. The assumptions were considered to be valid.

Outputs: The committee agreed the outputs were legitimate and achievable.

The magnitude of the outputs should be modified to a Central Production Unit and 4 functioning stations, one CPU and 10 hours of development information programs.

The assumption for these outputs was questioned in terms of funding availability. The committee agreed that careful consideration must be given to developing sources of financial support for the project once AID support terminates.

Inputs: Inputs should be modified as appears in the attached Log Frame Project Design: The assumption was not questioned. For progress on verifiable indicators, see chart below.

1. Progress under the project in the meeting of targets (keyed to the Logical Framework).

	<u>Targets</u>	<u>Progress</u>
Goal:	Objectively Verifiable Indicators; Increased agricultural production, Increased health standards, Higher levels of education achievement.	Since no radio broadcasting has begun, no progress has been made.
Purpose:	Increased utilization of existing health services; Agricultural Services, Educational Services, Facilities, Greater Independence, Self-sufficiency.	Since no radio broadcasting has begun, no progress has been made.

Project Title & Number: Rural Information Systems - 669-0134

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTION
<p>Program or Sector Goal: The broader objective to which this project contributes: To increase the standard of living of all rural Liberians through their acceptance and use of improved production, health and education standards and techniques</p>	<p>Measures of Goal Achievement: increased agricultural production and health standards, higher levels of educational achievement throughout rural Liberia.</p>	<p>GOL, IMF and UN records and reports</p>	<p>Assumptions for achieving goal targets: GOL will continue to support current and proposed national development efforts.</p>
<p>Project Purpose: To provide rural Liberians with the data they need, in an understandable form, to make informed decisions concerning the development opportunities and services available to them.</p>	<p>Conditions that will indicate purpose has been achieved: End of project status. Increased utilization of existing health agricultural education and other services and facilities throughout rural Liberia. Greater independence and self sufficiency in the rural areas.</p>	<p>GOL, IMF and UN records Base-line studies and evaluations conducted by the project. Surveys.</p>	<p>Assumptions for achieving purposes: Radio is culturally acceptable form of transferring information. Improved health agricultural and educational systems are available that are economically feasible.</p>
<p>Outputs: 1) a rural broadcasting network capable of supporting government and private</p>	<p>Magnitude of Outputs: 4) functioning regional radio stations supported by a central program service unit producing relevant, comprehensible radio broadcasts in the languages of their service areas.</p>	<p>Project evaluation, program logs and on-site visits.</p>	<p>Assumptions for achieving outputs: GOL, funding available, degree of interministerial coordination required to implement and maintain the project can be achieved.</p>

10.b.

<p>2) A systematic two way flow of information and feedback between sponsoring agencies and services (public and private) and the rural user of these services</p>	<p>10) hours of development information programs programs broadcast daily and modified, as required, to meet the needs of the target audience.</p> <p>Organized listening groups.</p>		
<p>Inputs:</p> <p>Technical assistance</p> <p>Training</p> <p>Commodities</p> <p>Construction</p>	<p>Implementation Target (Type and Quantity)</p> <p>22) person years of long term</p> <p>70 person months short term</p> <p>17 central programming staff</p> <p>60 regional staff</p> <p>30 participating ministry staff</p> <p>Broadcasting and related equipment for four stations and central support unit</p> <p>5 Studio/offices</p>	<p>Project records, evaluations and site visits.</p>	<p>Assumption for providing Inputs: funding will be available on a timely basis</p>

HC

	<u>Targets</u>	<u>Progress</u>
Outputs:	4 functioning radio stations and Central Programming Unit.	Designs near completion. Bids imminent.
	Producing programs in vernacular languages.	Early research completed.
	Comprehensible radio broadcasting. 10 hours development information programs.	Broadcast programs being written for Short-Wave. System being set up for this activity. It is behind schedule.
	Programs being modified to meet audience needs.	This is planned but not yet functioning.
Inputs:	Technical Assistance 22 person/years long-term 70 person/months short-term.	7 1/4 years. 10 months.
	Training 17 Central Programming staff (CPU).	8 CPU staff trained, 6 in Training, 3 training planned.
	30 Regional Staff	30 Regional staff in training. 27 to begin in January, 1984. First two courses for Content Specialists complete. Follow-up courses planned.

Commodities:	Broadcasting and Related Equipment.	IFB to be issued by January 1984.
	4 Stations	RFP to be issued by January 1984.
	1 C.P.U.	Same.
	5 Studio Offices	Same.

C. Project Implementation Achievements

As of October 3, 1983, the following project activities (as described in the Project Paper and Project Agreement, or developed during project implementation) are in place, operating, or pending approval:

1. Loan and Grant Agreement was signed August 30, 1980.
2. Temporary central headquarters facility for LRCN operations has been operational since January, 1983, following consolidation from two smaller, inadequate locations used earlier.
3. Technical Assistance Team, under contract from the Institute for International Research, McLean, VA, has been in-country and functioning since January, 1982.
4. LRCN professional and support staff for C.P.U. have been employed.
5. Training for 8 professional staff members has been completed and other training is in progress or is scheduled.
6. Training programs are operating for 12 LRCN technicians and for 24 proposed script writers, announcers, and other production personnel.
7. Plans have been completed for recruitment of a second group of trainees, including those to be trained as regional station managers, with classes to begin in January, 1984.
8. Architectural Plans for the Central Production Unit and the regional stations' physical plants are in final modification with RFP schedule to be issued

January, 1984. LRCN Technical System Design and Equipment Lists are in final review, anticipating IFB issuance on or about January, 1984. All procurements will follow AID procedures.

9. Deeds have been secured for two of the regional station sites. Deeds for the remaining sites are anticipated to be acquired by December, 1983.
10. A site for the Central Production Unit (on LBS property) has been approved.
11. The LRCN Host Country Budget for 1983-84 has been approved by the GOL at \$474,000.
12. "LRCN Until December 1984: Issues Working Document" prepared by technical assistance contractor for use as "guide" for technical assistance team and LRCN management has been prepared, but not formally approved as of this date.
13. A "Life of Project Plan" has been prepared and agreed upon by the Technical Assistance Contractor and LRCN management and approved by USAID, LBS and the Steering Committee.
14. A replacement Technical Assistance Chief-of-Party (COP) has been recruited and will begin duty January, 1984, to replace the present COP, whose tour will conclude at that time.
15. Content Specialists from participating ministries have been assigned, and received two-month training courses in script writing and other radio methodologies. Their effective work assignments await resolution of transportation, scheduling and other issues between ministries and LRCN (further discussion on these matters will be found later in this report).
16. Plans for a pilot program test period have been developed, but await resolution of the Content Specialist issue referred to in (15) above.
17. Baseline data gathering and other research activities have begun.
18. USAID Grant and Loan funds have been authorized and committed to the project, based on the schedule established in the Project Paper (see Appendix E - LRCN Budget Contributions - Project Expenditures).

19. Two Peace Corps Volunteers have been assisting with project implementation, as assigned. A larger number, with specifically requested radio and other skills, are due for arrival and assignment in January, 1984. (See Appendix G - Proposed Peace Corps Assistance - LRCN).
20. Established Critical Path objectives are close to schedule, but from November, 1983 - May, 1984 any delays of one month or more will impact severely on project implementation (eg: the IFB process for equipment, selection of building contractor and installation of building foundations must be completed prior to May, 1984 start-up of rainy season in Liberia to avoid costly construction delays).
21. The RIS Project has several participating groups and organizations serving particular functions with the LRCN. In addition to USAID, some of them are: The GOL Ministries of Education, Agriculture, Health, Information, and agencies such as LBS, Peace Corps and ELWA (non-commercial, religious, radio station).

IV. FINDINGS AND ISSUES

A. Validity of Original Design for Rural Information Systems Project

The evaluation committee has studied the original concept and design of the RIS Project and offers the following comments:

Although this is a very complex project, and some projections regarding staffing and funding were underestimated, the authors of the Project Paper did plan a potentially effective project. However, experience in project implementation has revealed several unanticipated problems:

1. Since there is a limited pool of people experienced in radio in Liberia for staff replacements, there is the need for some type of planning for on-going training for replacement staff at LRCN. Resources should be investigated and options proposed. Requirements for space, staff and budget support for this activity should be analyzed as soon as possible. Contracting with outside firms or arrangements with existing radio stations should be investigated prior to final decision making.

2. The proposed Program Operations Committee should have been established earlier in the project. Better planning and coordination would very likely have occurred.
3. The By-Laws of the Steering Committee making the committee a policy establishing group for LRCN and the GOL Decree 20-21 establishing LBS as the legal representative of the government are in conflict. This has resulted in an adversarial relationship between the Steering Committee and LBS over many issues of project management and implementation.
4. The project plan for establishment of 7 stations did not anticipate the likely inability of the GOL to support recurrent costs when USAID funding ends. Unless careful plans are made and carried out, the GOL may have difficulty funding the recurrent costs of the present LRCN consisting of 3 new stations and CPU, and the rehabilitation of the LBS station at Harper.
5. The Project Paper (p.14) Evaluation Plan proposes an improper role for the Evaluation Supervisor at LRCN. His proposed role would require him to evaluate the following:

"Organization and management of the LRCN, i.e.: "Were staff adequately trained? Were they in position on time? What was the nature of intra-organizational relationships among different specialists (production, instructional design, community organization, evaluation and content) and between the program service unit and the regional radio station? How well did the Program Operations Committee work? What were the problems with community organization around radio listening?"

The formal evaluation of these issues is not a proper function for an LRCN staff person. This most properly should be done by an independent evaluator.

6. The Project Paper (p. 42) characterizes the progress evaluation (month 18) as "simple evaluation of project progress and the logic of the original design." In reality, because of delays the present evaluation (month 37) has been

scoped much more extensively. The present evaluation is a combination of evaluations one and two in the Project Paper. This has resulted in a more detailed evaluation of all aspects of the project than originally projected. As has been done in this evaluation USAID and the GOL should assure that when future evaluations are done all necessary elements are included.

7. The Project Paper did not realistically assess the difficulties the project would encounter in attempting to be a focal point for improving the ability of various GOL ministries to accomplish their development objectives. E.g. problems of coordination and funding. The creation of LRCN offers a new way to inform, educate and culturally enrich the lives of rural people, but it also requires major changes in deeply entrenched operational practices of the ministries; changing these operational practices presents a monumental challenge to this project.
8. The Project Paper underestimated the number of professional staff required to produce quality non-commercial educational programming on the scale contemplated in the project.

3. LRCN Organization and Finances

1. Organizational Structure

Several efforts have been made to establish a formal internal organizational structure for LRCN. Although in a development project some fluidity in structure must be accommodated, it is time in the LRCN project for some stability. A functional organizational structure must be developed. Without it, difficulties in role clarification and assignment of responsibilities will continue.

The present structure (see Appendix J - LRCN Organization Chart) is nearly nonhierarchical, with all communicative links passing through the Director. The line of divisional heads seems to be based on different content disciplines rather than the integrated, functional tasks required for the organization. Requirements for divisional

subordinates have not been articulated at this stage of the project. Therefore, the organizational structure is ambiguous, and inadequate for institutional development and planning.

The inadequacy of the organizational structure can be attributed in part to ambiguous links between LRCN, LBS and the Steering Committee. Until the lines of authority are more clearly demarcated, confusion will exist in LRCN management. At the moment the general impression of the evaluation committee, is that the organization is stalled with some individuals awaiting clarification of their roles and functions and only hesitantly taking up necessary responsibilities. A great deal of discussion and effort has taken place regarding the development of an appropriate structure. Although the staff-approved structure has many inherent weaknesses, the barrier to a sound organizational plan seems to be the lack of any definite and officially approved functional plan to achieve coordinated operation required by LRCN. The perception of the evaluation committee is that LRCN lacks specific management direction, leading to a sense of helplessness or inability to perform on the part of the staff.

Another constraint on the adoption of a formal structure is, of course, the financial burden implied by any staffing position. Since the scope of the project has already been narrowed, cutbacks on staff could be the next obvious target for recurrent cost reductions. The staff requirements for the regional stations exceed original projections. Without the advantages of a clear organizational structural plan and clear managerial directives, these important satellite centers could remain noninstitutionalized. The following sections provide discussion of several specific problems resulting from (among other things) the lack of a carefully crafted, functional organizational chart.

2. Organizational Climate

Despite early difficulties in establishing some organizational unity, the LRCN staff, TA Advisors and the USAID Project Manager agree that progress has been made in recent months. The staff appeared to have undirected enthusiasm and energy. Although they voiced recognition of their tenuous career positions

within LRCN, they seem committed to the project and motivated to fuse into an effective "team". There is now emerging a sense of "collegiality" and professional recognition, but this harmony has not been fully translated into operational achievements. Steps must be taken soon to channel these new professionals into functional roles which will result in cohesive project accomplishments.

Part of the apparent staff unity may have been artificially generated by defensive parochialism. The Steering Committee failed to back a decision by the Project Director to dismiss the Deputy Director. Some LRCN staff have emotionally joined together in opposition to the Steering Committee, mostly focused on the committee's "interference" rather than the particular decision. Resolution of this situation and its associated ambiguities is essential in order to clarify lines of LRCN authority. Staff attention must be redirected from the "problems" they perceive with oversight by the Steering Committee to project objectives.

3. Management Style

The organization is seriously hampered by democratic management. Most decisions are made in general meetings. Although there is precedent indicating this style can be effective, it is not particularly adaptive for an inexperienced staff in such a complex project. The practical result has been "crisis management" and long-term planning has been sacrificed to consensus on immediate concerns. Since LRCN development is tightly scheduled because of the financial support required from USAID and the GOL, many issues which must be settled quickly have been subjected to a lengthy debate and conservative decision-making process, which has not been efficient or effective.

LRCN management and the Steering Committee oversight should be creative and especially at this stage of project development it should be more authoritative. The limited resources should be timely applied and nurtured with almost singlemindedness. The strong management required should be facilitated by a clarification of the role of the Steering Committee. This is necessary so that it is clear what authority rests with the Project Director.

In a project as complex as this, long-term planning is essential. Without it, there is a danger that the rural commitment of the project will be curtailed. Careful planning must seek to assure achievement of LRCN central educational objectives. Although the overall project planning has been translated into critical events, staff activities and responsibilities still need to be effectively assigned and assessed. At present no personnel assessment procedure is in operation. The evaluation committee considered this to be a serious impediment to sound management.

Although not all the staffing needs have been identified, the evaluation committee assessed each of the existing LRCN divisions and offer the following brief comments on each.

4. Programming

- a. Community Organization. This department was established in May, 1983 with one staff member assigned. He has been fully involved with the LRCN training program, thus far. Since the Community Organization function was originally envisaged as part of the Research Department, no formalized functional plan presently guides that division.

The staff expressed the need for 4 Community Organization workers at each station. Despite the clear importance of this function, it is doubtful that a future LRCN could support that level of staffing. Some imagination will be needed, such as utilizing existing community groups for community liaison purposes. From this the LRCN may achieve some "multiplier effect". Some strategy such as this should be tested. Finally, the separation of the Research and Community Organization functions may be a luxury that LRCN cannot afford. The possibilities for combining these two functions should be looked into immediately.

- b. Research and Evaluation. For a variety of reasons (including poor planning), there is no Liberian staff member working in research and evaluation at LRCN. One staff member is away in training and another person has been approached to join the staff in December, 1983. LRCN could utilize any

number of research/evaluation staff and justify them functionally; however, this again would be fiscally irresponsible. LRCN can only afford a limited investment in these activities. Furthermore, a problem with development projects is that they require insightful professionals, but often end up with inexperienced, freshly trained personnel. LRCN will require some creative solutions to carry its research and evaluation operations through maturation. Additional support by short-term TA could enable LRCN to achieve initial research/evaluation goals until present staff matures and other sources of needed research data are identified.

- c. Materials Coordination. No precise definition of the role of the Materials Coordinator is presented even in the Proposed Life of Project Plan. The only reference to such a function is (p. 51): "Given that the majority of rural clients are illiterate, posters are likely to play a major role. Thus, LRCN will require the capability to produce large formats and to provide graphic services." Nevertheless, it is agreed among those responsible for implementing the project, as well as other interested, knowledgeable observers, that this function is indispensable to the achievement of LRCN goals.

There is no TA Advisor for this function, though the Materials Coordinator feels he would benefit from an experienced advisor cognizant of the latest techniques in visual communication. He also expressed the belief that he would benefit from further training in production, management and site visits to similar projects.

The Materials Coordinator has produced very few useful products to date. He attributes the lack of more tangible performance, so far, to LRCN administration problems, in organization and coordinating field trips and to the unavailability of Content Specialists. (The committee feels he may lack sufficient initiative and motivation to do the job well.)

- d. Training. Training was established as a separate department in March, 1983. This function has been one of the bright aspects of the project, with almost unanimous accolades from participants and

colleagues. This seemed to be attributed to good planning, hard work and excellent working relationships between the TA advisor and the training coordinator. The recognition of its continued importance to LRCN, particularly in view of the high staff turnover experienced by Liberian institutions and the specialized nature of LRCN requirements, has led to a long-term plan for institutionalization. Staff and operational funding will be required accordingly, if the plan is adopted.

- e. Production. Although the LRCN production control room and studio have been equipped and available for program production for some time, no programs have been produced.

The evaluation committee observed that many persons associated with the project feel that there was a need for a Chief-of-Production with a strong production background. Other broadcasting organizations require this position to be filled by an experienced person who exercises strong, hands-on participation in production, in addition to effective management and leadership.

The LRCN incumbent Chief-of-Production has not been formally trained in programming/production or communications in general. During an evaluation committee interview, the Chief-of-Production, described her view of her position as being a "manager" of production, overseeing others in the production process, rather than being directly involved in the actual components of production. The Project Director and the Technical Assistance Production Advisor, in their interviews, indicated the necessity for her direct involvement in production as well as supervision.

The offshore training of the Chief-of-Production is now scheduled for January, 1984 which is a crucial phase for LRCN production activity. The October, 1983 pilot broadcast schedule was postponed until January, 1984, when the incumbent will be away. Because no programs have been produced, the committee felt that this training schedule is ill-timed.

In addition to the technical deficits mentioned above, personality clashes have occurred between

high level members of LRCN management and between TA and LRCN staff responsible for production, which have hindered progress in this area.

The evaluation committee recommends that LBS and the LRCN Director and USAID seek, at the earliest possible date, to resolve the issues discussed above. Without a resolution, LRCN production goals will not be achieved.

- f. Financial Context. According to the project financing plan, the total cost of the project is \$18,710,000 of which the Government of Liberia contributes \$5,827,000, USAID contributes \$5,000,000 of grant funds and \$6,700,00 of loan funds, and U.S. Peace Corps contributes services in the amount equivalent to \$183,000.

Since the project's inception, the GOL has appropriated a total of \$1,168,000 in FY 1981/82, 1982/83 and 1983/84. This is in accordance with their required project contributions. Of this amount, \$311,409 was disbursed in 1981/82 against an appropriation of \$342,000; the undisbursed difference of \$28,591 lapsed due to late submission of the allotment request by the management of LRCN; \$376,000 was disbursed in FY 1982/83 and \$474,000 was appropriated for FY 1983/84. The project has not yet received its first quarter 1983/84 allotment even though it has been approved by the Ministry of Planning and Economic Affairs.

The GOL contribution to the project is for personnel services, logistics and for other costs among which are electricity, equipment, equipment maintenance, telecommunication, vehicle operation and maintenance, foreign and local travel, and materials and supplies.

The USAID contribution to the project breaks down as follows:

Loan	\$ 6,700,000
Grant	<u>5,000,000</u>
Total	\$11,700,000

Of the loan funds \$2,700,000 in loan funds and \$80,000 of the grant funds will be utilized for local costs. Local costs of the loan will be used for construction, vehicle maintenance, operations, materials and supplies; while the aforementioned grant funds will be used for the financing of in-country training. The Peace Corps contribution represents a quantified amount for volunteer support, inflation inclusive.

Money expended under the grant total \$1,612,065. These funds have been used for IIR personnel and participant training.

Under loan funds, \$240,406 has been expended on the project, leaving a balance of \$6,459,594.

Under the terms of the agreement, all concerned parties have been meeting financial obligations, however, specific potential problem areas noted during evaluation committee interviews. They include the following observations:

1. Although cuts have been instituted because of GOL budget stringencies encouraged by the IMF regulations, the level of GOL annual appropriations still seem adequate, as evidenced by year-end surpluses in the project's accounts. However, given the present economic situation this could change soon. Everything possible should be done by USAID and GOL to assure continued GOL funding using counterpart funds from PL-480 sales.
2. Definite GOL, USAID and Project Agreement policies exist governing the assignment and use of official project vehicles. The evaluation committee discovered that project vehicles purchased through loan funds are assigned to the TA team for project use as mutually agreed with the Project Manager during working hours and are parked at USAID at the end of each work day. However, in the case of project cars purchased with GOL funds, 4 out of 5 are personally assigned on a 24 hour basis with only one being used for project utility. All of the latter are gassed and maintained through the host country project budget.

The evaluation committee found that there is a need for a consistent policy for vehicles purchased under the project. The policy should guarantee exclusive use of these project vehicles for the purposes of the project and be consistent with USAID and GOL policies regarding vehicle use.

These practices place a strain on other areas of the project budget and project logistical development and could be exacerbating the problem of nonavailability of vehicles. Vehicles for personal use do not fill the GOL obligation for counterpart vehicle provision.

As originally envisaged, the project was to build 1 CPU and 7 regional stations, but this has been scaled down to 1 CPU and 3 1/2 regional stations, the half being the acquisition and rehabilitation of a building in Harper. Given previous financial implications of this decision, no additional funding would have been required. However, it has recently been discovered that the planned station in Harper has been badly vandalized and that cost of reconstruction will have to be adjusted upward. USAID funding will net a surplus of about \$900,000 to \$1.2 million (these figures may change after recalculation of costs. Unscheduled construction activities may also warrant an upward adjustment in construction figures if they are off further than the "most probably schedule." In order to assure the project does not end with either an excess or deficit balance the GOL and USAID must monitor project costs and update cost estimates on a regular basis.

Neither the Project Paper nor Loan and Grant Agreement provided for training as an on-going LRCN activity. To institutionalize training poses unforeseen financial burdens on the project and warrants immediate resolution.

The annual figure forecast for this activity is estimated at \$73,500. This amount has to be secured and included as an integral part of the project. The question of a funding source for ongoing training expenses remains to be answered.

2/20

Another burdensome aspect of the project is the training of core staff. An amount of \$80,000 of grant funds was earmarked for in-country training. The amount of expenditures on training through 1984 was not determined by the committee. However, the amount for in-country training has been increased to \$338,000 for the Life of Project.

In-country trainee salaries range from \$250 - \$300 for Group I. Presently, the major costs of LRCN are from its personnel budget and training budget. After completion of training of Group I, all trainees will be transferred to the regular personnel budget. An unanswered question on this issue is: Will these trainees be taken onto the LRCN staff at their level of stipend or will their salary/stipends be augmented? The evaluation committee also noted that trainees in Group II may require a higher amount since they have families and a higher level of trainee is necessary to fill the Regional Station Management slots. This issue has to be resolved before candidate selection begins for the training session, currently scheduled to begin in January 1984.

In relation to the above, LRCN management has pointed out that Groups I and II will complete training when the CPU and/or regional stations are completed. However, the space demands while both groups are training is an important issue which must be addressed immediately. The decision needs to be made as to whether to acquire an additional building or rent additional space; either will require an outlay of cash which has not yet been estimated, nor has a funding source been identified.

C. USAID Project Management

Several comments were made in interviews with LRCN staff and TA personnel indicating extensive involvement and commitment in the project by the USAID Project Manager. This active contact with the project has been viewed as "helpful," "understanding" and "supportive." Given the resource demands and complicated structure of the project, continued active managerial assistance seems advisable. Project implementation has been facilitated

by conscientious monitoring of contractor, LRCN and GOL responsibilities. This section will deal with the few, but significant, problems dealing with the USAID interface with the project.

1. USAID Mission support to the project depends heavily on backstopping by AID/W and REDSO/W for contracting purposes. In this project there were two notable delays in those support services which had serious negative effects on the project. Because of the changing need associated with building design, it was necessary to amend the design contract on several occasions. On one of those occasions, the project waited from December to March for the REDSO contracts officer to be available to come to Liberia to amend the contract. The second instance related to an amendment to the technical assistance contract to reduce costs because of the reduction in the number of stations. The PIO/T for the amendment was submitted to AID/W in June, 1983 and the amendment was scheduled for signing in mid-October. The successful implementation of the technical training of 12 trainees depended on this amendment. Were it not for the excellent cooperation of the contractor, IIR, in supplying temporary funding, serious problems and delays would have been encountered.
2. While appropriate PIC/Ps for training were developed, the evaluation committee found one instance in which the training of LRCN staff did not match that requested. In the case of the Community Organization position, the candidate was trained in Instructional Systems Design, adult education, and some aspects of radio, but received no community organization training. This occurred because the AID/W training office did not assure that the training institution provide the proper training. This has had a negative impact on the work done in the LRCN Community Organization area.
3. Sixteen months of project implementation were lost due to delays in the procurement process for Technical Assistance services. Consequently, 37 months after signing the Loan/Grant Agreement, only 21 months have been spent on project implementation. Thus, net time for project implementation has been shortened considerably and there is some question as to whether the balance of project time will be adequate to institutionalize the system. This should be reviewed at the time of the next evaluation.

4. USAID followed normal selection procedures which resulted in the selection of Stanley Consultants, Ltd. as architectural and engineering contractor. Extensive project delays have occurred, due to the lack of contractor experience in radio station building and electrical design. The USAID Engineer and the Project TA Engineer Advisor found design flaws which required changes to be made by Stanley Consultants, Ltd. and this has added to the delays.

D. Technical Assistance

Overall, the evaluation committee views the IIR Technical Assistance Team as a group of well qualified consultants who are hardworking and dedicated to the success of the LRCN. With few exceptions, team members have been able to establish and maintain effective working relationships with their Liberian counterparts.

The leadership of the TA team has sometimes not been adequately insistent that LRCN staff follow Technical Assistance advice. For example, costly research field activities took place with poor planning and follow-up in spite of TA advice to the contrary.

Two of the Technical Assistance Advisors have no effective Liberian counterparts - Research and Production. Given the lack of manpower available, the research accomplishments under the project have been limited to date, consequently much remains to be done.

Two positions exist for Liberians in the research area. The second should have been filled prior to sending away the Research specialist to training. An experienced evaluator, trained prior to the project under the African Manpower Development Project is available in December and can undertake some small projects at the Gbarnga site immediately. This person should be employed by LRCN as quickly as possible in order to work with the TA counterpart.

The TA Production Advisor has no operational Liberian counterpart. Her counterpart is the LRCN Chief-of-Production who has no training or experience in radio broadcasting. Apparently, the TA Production Advisor has allowed this lack of experience (and the full-time load she is carrying in the LRCN training program) to block any efforts she might have exerted to offer personal training or suggestions for self

instruction for the Chief-of-Production. In the interest of LRCN program production objectives, this condition should be ameliorated as quickly as possible.

The TA Training Advisor's role has proven to be more critical than originally envisioned and will grow in importance as the project progresses over the next several years. The evaluation committee believes the scope of this advisor's role will have to expand as the LRCN training needs grow and there may be a need for such TA advisory services for a longer period than originally envisioned and additional manpower to get through the 1984 calendar year of training.

The TA Training advisor should begin to systematically address the problem of the inadequacy of the physical training facility for the next training session. He should also, in collaboration with his counterpart, and the Project Director, begin to do preliminary planning to accommodate the expanded training function; to address the issues of increasing the number of women trainees, and the "institutionalization" of the training function.

Finally the workload for training should be carefully considered to assure adequate TA resources.

E. Technical and Engineering

This section reviews the 3 aspects of the technical and engineering portions of this project, including training, radio station and CPU design and specifications, and equipment lists and specifications.

Except for delays on the part of the design contractor in meeting design requirements specified by the Engineering Advisor, all portions of this aspect of the project were found to be well conceived and without serious deficiencies.

1. Training

Technical training for 12 broadcast electronic technicians began March 1, 1983. This training had to be added to the project because although it was essential it was not included in the original project design.

The training program appropriately includes: The National Radio Institute course of Basic Electronics Theory to Advanced Theory of Communications and Circuitry. In addition, the trainees are given technical English, remedial Mathematics, and special training in broadcast theory and circuitry. The course also includes proper use of hand tools, electronic measurement equipment and theoretical and practical analysis of trouble shooting.

Observations during a visit to the school showed the course to be well managed with the level of student accomplishment high, even when compared to U.S. standards.

Future experience for the students includes hands-on training using the existing studio and transmitting equipment at LBS and equipment in the regional stations, once installed. The students will also receive copies of operating and maintenance manuals and wiring drawings for the new equipment and will assist in equipment installation and preliminary testing of the system once they complete training. Training is scheduled to terminate just as the electrical and electronic aspects of construction begin.

2. Radio System Design

The radio band and frequency for each station were selected on the basis of the limited information available in Liberia. The justification for these selections is sound.

3. Site Selection

Although at the time of project design several inappropriate sites were selected, further site searches have resulted in the selection of adequate sites for all of the proposed stations and the CPU.

4. CPU and Regional Station Size

The original regional station layout was found to be inappropriate for the needs of the project. A modified design was made to utilize space more efficiently. That is the one selected by all parties as the basic regional station design and it is satisfactory.

There was no suggested layout for the CPU. The layout was agreed upon by all parties after extended consultation and is in accordance with the needs of the project.

5. Equipment Lists and Specifications

The Project Paper only proposed a partial list of equipment necessary for the project. The lists and specifications prepared by the Engineering Advisor have been carefully reviewed and found to be satisfactory. Some minor recommendations on these lists can be found in the Engineering Annex L of this report.

6. Plans

- a. Electrical and Mechanical. These plans were reviewed carefully with the USAID Engineer and the Engineering Advisor. Although the requirements for the plans which were written by the Engineering Advisor were comprehensive, the design contractor has had problems doing the designs correctly. Care should be taken to review the final drawings carefully to assure that they are in accordance with requirements. Recommendations on these drawings are included in Engineering Annex L of this report.
- b. Architectural, Structural, Civil and External Plans for Construction. This review was based on marked up drawings because the finals had not been submitted as yet. Once again, requirements based on the Engineering Advisor's specifications were found to be adequate. The engineers in this case must be sure to review the plans carefully to assure they are properly done.

7. General

The selection of a design contractor without radio station design experience was a serious error. Many of the delays in completing design work can be attributed to their lack of knowledge as to electrical requirements for radio stations. Further, their cooperation and general performance has been less than satisfactory. The USAID should not follow through with the option of extending this contract for the purpose of supervision.

Major recommendations for this section can be found in the Recommendations section of this report. Also, the Engineering Annex L contains the findings and minor recommendations of the Evaluation Engineering Consultant.

V. EVALUATION COMMITTEE RECOMMENDATIONS

Discussion: The first recommendations are set out as urgent priorities to be addressed as soon as possible.

The other recommendations from this evaluation are organized in terms of the responsible authority (GOL, LBS, Steering Committee, LRCN Management, and USAID) and time frame, Near-term and Long-term). Recommendations for the TA Advisors have been integrated within the context of the report and the specific recommendations which follow:

A. Priority Recommendations

LBS in conjunction with the Steering Committee should take immediate steps to strengthen the management and production functions of LRCN.

LRCN has been split by leadership conflict (between LBS the Steering Committee, the Project Director, and the Deputy Director). The roles of each of these project elements must be clarified to ensure the accountability of each in reaching project objectives.

LRCN management with approval of LBS and Steering Committee should request a management advisor short-term to assist with the tasks of long-range planning, organizational design and management. Proposed models should be developed for consideration of LBS and the Steering Committee.

LRCN management should coordinate with the technical assistance Chief-of-Party to determine the need for short-term technical assistance which may enable LRCN to achieve near-term development objectives.

The management of LRCN, particularly the Chief-of-Production should make a concentrated effort to begin coordinating activities involving the Content Specialists with ministerial representatives on the Steering Committee. This should result in improving the interaction between the Steering Committee representatives and their Content Specialists and LRCN.

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LBS and the Steering Committee should take appropriate action to ensure better communication among personnel at LRCN and work with USAID to promote positive interrelations between LRCN staff and TA Advisors.

Due to staffing problems at REDSO/W, some delays occurred in contracting procedures, USAID should communicate sufficiently in advance with the appropriate AID offices to get assurances that timely and prompt services will be available for project implementation, particularly during the period from November, 1983 through April, 1984 when it is essential the RFP's be issued, proposals be reviewed, contracts be executed for construction and (at least) foundations be installed for the Regional Stations prior to the 1984 Liberian rainy season.

B. LRCN

1. For Near Term Attention

For near-term attention, LRCN should seek to immediately employ, even on a part-time basis, the evaluation specialist currently working on the IEL project (in Gbarnga) who is resigning as of December 1, 1983. Her services are essential and funding is available.

The Project Director should become more cognizant of and sensitive to problems with interpersonal relationships in program operations and their impact on performance and become more actively involved in ameliorating such problems following policies already established.

LRCN Management should analyze the projected movement of trainees into the LRCN payroll to ensure that timely financial and space resources are available and that productive work is ready for them to perform. This analysis should be presented to LBS and the Steering Committee for approval.

LRCN Management should analyze and prepare a report for LBS and Steering Committee review on the acquisition, assignment, use, and accountability of all project vehicles and project equipment to ensure that no GOL, USAID nor project agreement policies are neglected or ignored. LRCN should then establish an LRCN Vehicles and Equipment Use Policy to be approved by LBS and the Steering Committee.

2. For Long-Term Attention

The Management of LRCN should coordinate a yearly workshop on LRCN's role in socio-economic, educational, agricultural and health development; participants should include the relevant ministries and agencies of government, USAID and other LRCN participants.

LRCN Management should investigate and report to LBS and the Steering Committee the feasibility of the offer by the noncommercial radio station ELWA to provide low-cost use of facilities either for pilot program testing (in addition to the LBS shortwave station) or for other aspects of LRCN development (see Project Paper, p. 45). In addition they should look into possibilities of contracting on-going training through these and other available institutions.

The LRCN Management should recommend to LBS and the Steering Committee a plan for recruitment and salary schedule for Regional Station managers and staff.

A long-term financial plan for LRCN should be prepared by management for approval by LBS and the Steering Committee as part of its long-range planning, the plan should reliably forecast project budgets to ensure the most effective use of funds. It should also include a plan for providing funding for project support after USAID phases out.

C. GOL, LBS and Steering Committee

1. For Near-term Attention

LBS should request the LRCN Project Director and contractor COP to prepare a report on present and projected LRCN and TA Team staffing levels. The report should be reviewed by LBS, the Steering Committee and USAID to ensure adequate project staff and TA. When considering staffing levels, it would be appropriate for LBS to request the Project Director to propose a new organizational chart for review by the Steering Committee. In this regard, the evaluation committee recommends that the title of LRCN Deputy Director be eliminated, other titles should be reconsidered in light of the need for a more functional, interrelated organizational

structure, and the position of General Coordinator should be reexamined, to better integrate that position into any revised organizational structure.

LBS and the Steering Committee should review projected costs and project expenditures on a quarterly basis to ensure that the project wisely expends its annual resources.

LBS, with the support of the Steering Committee, should request GOL ministries participating in the LRCN to include adequate 1984/85 budgets to support the work of their Content Specialists (such as local transportation, field travel, audio tape recorders, microphones and tapes).

During the 1985 evaluation a careful study should be made by LBS and USAID to determine the amount of time needed for adequate institutionalization of this project. Attention should be given to the financial implications of any possible extension of the project.

The Steering Committee should consider a specified term in office for its chairman and vice-chairman and adjust Committee By-laws accordingly.

The Steering Committee meetings should be held at LRCN at regular intervals. The social interaction at that level could minimize the differences that exist between LRCN and members of the Steering Committee and improve morale of the staff and the TA Advisory Team.

2. For Long-Term Attention

The Steering Committee should address itself to the policy guidelines that surround the merger of LRCN with LBS. The Committee, in connection with LBS, should examine such issues as the source of funding and potential cost for LRCN on-going use of the LBS shortwave transmitter for the program link to LRCN Regional Stations; should require LRCN management to present a detailed logistical and cost analysis of the plans for multi-translations of LRCN programs (e.g. can part-time translators be used? Does ELWA which broadcasts in 17 Liberian languages represent a useful LRCN resource?); and should require LRCN management to present a detailed, sound, year-round production and distribution plan for CPU delivery of taped programs and non-broadcast materials to Regional Stations.

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D. USAID

1. For Near-Term Attention

New staff members do not share a common vision of the institution as it will be when operational; Technical Assistance staff and the USAID Project Manager should provide more in-service training and information to address this deficiency.

USAID should communicate with ST/IT to determine advance time needed to set up relevant training and insist on closer supervision of the training. For training which is the TA contractor's responsibility, ST/IT should appoint specific advisors/monitors to give regular reports to USAID and the Steering Committee on the nature and progress of the project. USAID should plan to relate appropriately its projects in all sectors to the LRCN. Specific efforts should be made by all USAID Project Managers to use this new communications system to extend and improve the effectiveness of their projects, especially those in education, agriculture and health.

2. For Long-Term Attention

Since the generator sets in Regional Stations are prime power, and the power load in the building is approximately 140kw, 175 kw Prime Power set is recommended.

The construction contractor should provide itemized lists of spare parts showing quantity and cost of each item for each system of equipment included in construction. The spare parts should equal 15% of the system equipment cost. The list should be approved by the LRCN Chief Engineer and adjustments made as requested. These would be for the:

Electric power generating system;
 Ventilating and air conditioning system;
 Doors and windows, finish and hardware;
 Plumbing and sanitation system; and
 Electrical distributions and lighting system.

It is highly recommended that either LRCN Chief Engineer or LRCN Chief Maintenance Engineer witness performance testing and specification compliance prior to shipment as well as become familiar with the equipment at the manufacturer's location.

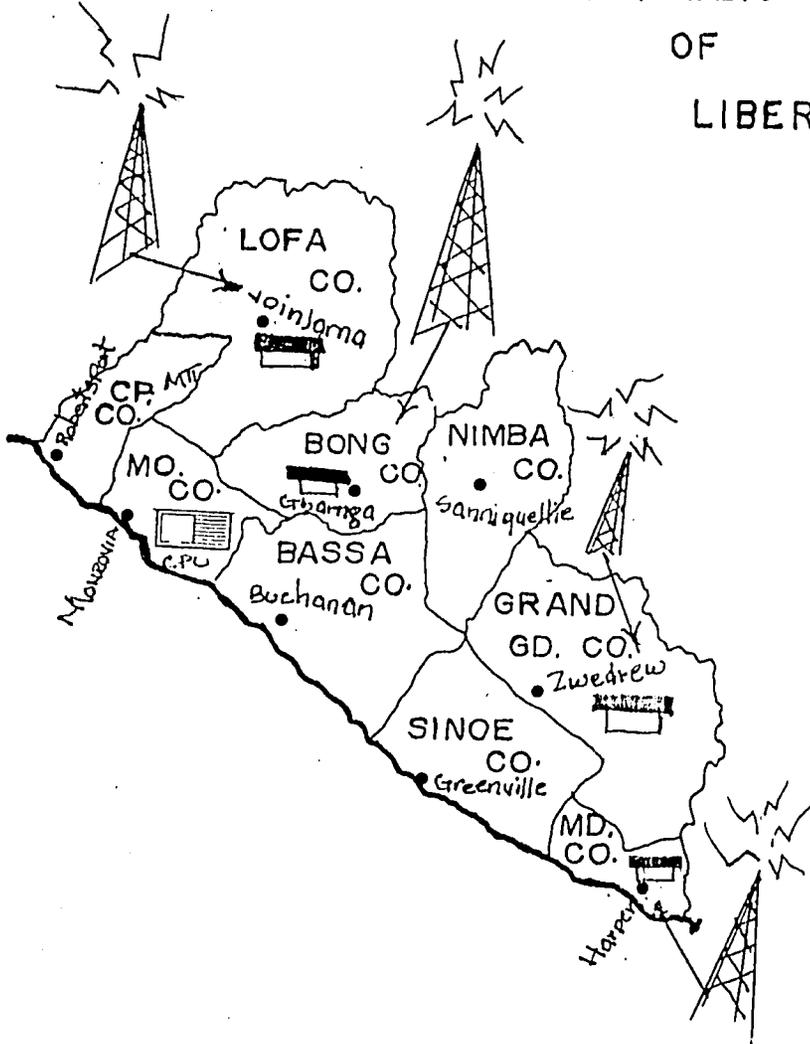
The design contractor has been a major factor in the delay of the construction aspects of the project. This is due to his inexperience in designing radio stations. The Mission should not exercise the option of extending this contract for supervision. Upon completion of the design, the contract should be terminated and a firm or individuals with radio equipment, construction experience should be contracted to provide necessary supervisory services.

APPENDICES

- A. Map of Liberian Rural Communications Network
- B. LRCN Steering Committee
- C. LRCN Steering Committee By-Laws
- D. GOL Decree 20-21 And Amendments
- E. USAID-LRCN Budget Contributions (Projected Expenditures)
- F. GOL And Peace Corps LRCN Budget Contributions (Projected Expenditures)
- G. Proposed Peace Corps Assistance - LRCN
- H. Evaluation Committee And Sub-committee
- I. Evaluation Committee Schedule
- J. Organization Chart Of LRCN/LBS
- K. List Of Project Documents Reviewed By The Evaluation Committee
- L. Engineering Annex
- M. Evaluation Scope Of Work

Maps of LRCN Project

REPUBLIC
OF
LIBERIA



PROPOSED RURAL BROADCASTING
STATIONS — L.R.C.N. / LBS

CENTRAL PROD. UNIT (CPU)

STUDIO:

TRANSMITTER:



LEAD STEERING COMMITTEE

- | | | |
|-----|--------------------------|----------------------------|
| 1. | Dr. Peter L. Naigow | Ministry of Information |
| 2. | Mr. Alhaji Kromah | LBS |
| 3. | Mr. E. Othello Gongar | MOE |
| 4. | Mr. Aaron Paye | MPEA |
| 5. | Mr. A. John Wilson | MOA |
| 6. | Mr. Henry W. Reynolds | USAID/Liberia |
| 7. | Mr. Jaker George | Peace Corps |
| 8. | Stanley Bruning | ELWA |
| 9. | Morwell Poe | MOF |
| 10. | Mr. E.C.B. Jones, Jr. | Min. of Lands & Mines |
| 11. | Mr. Alfred Kromah | MH&SW |
| 12. | Mr. Dweicena M. Korpor | Min. of Internal Affairs |
| 13. | Mr. S. Richelieu Watkins | Min. of Telecommunications |

Best Available Document

APPENDIX C

LIBERIA RURAL COMMUNICATIONS NETWORK

STEERING COMMITTEE'S BY-LAWS

APPROVED & ADOPTED:
JANUARY 18, 1983

ARTICLE I - NAME
The name of this body shall be the Steering Committee of the Liberia Rural Communications Network.

ARTICLE II - PURPOSE

The Steering Committee shall approve LRCN Policies and ensure their implementation.

To achieve this purpose the Steering Committee shall:

1. Approve LRCN budgets for submission to National Budget Committee.
2. Approve LRCN Staff Training Programs.
3. Represent the interest of all ministries and agencies involved in the implementation of LRCN Project.
4. Approves all LRCN reports and planning documents as follow:
 - a. Quarterly reports on Project implementation.
 - b. Quarterly reports on financial expenditures.
 - c. Project quarterly financial implementation plans.
 - d. Projected yearly implementation plans.
 - e. Other reports as may be required by the Steering Committee, and reports related to the Liberian Fiscal year calendar.
5. Approve recommendation from LBS for the positions of Director, Deputy Director, and other senior staff.
6. Approve recommendations from LBS of all long term and short term Technical Advisors.

ARTICLE III - COMPOSITION

The Steering Committee shall be composed of representation from the following organizations: -

1. Ministry of Agriculture (one vote)
2. " " Education (" ")
3. " " Health & Social Welfare (one vote)
4. " " Internal Affairs (one vote)
5. " " Information (one vote)
6. " " Post & Telecommunications (one vote)
7. " " Planning & Economic Affairs (one vote)
8. " " Lands, Mines & Energy (one vote)
9. " " Rural Development (one vote)
10. USAID/Liberia (one vote)

11. Peace Corps/Liberia (one vote)
12. Liberia Broadcasting System (one vote)
13. ELWA (one vote)
14. LRCN Project Director (no vote)
15. LRCN/USAID Contractor's Chief of Party (one vote)

ARTICLE - IV

The Steering Committee shall have a Chairperson and Co-Chairperson. The Ministry of Information shall act as Chairperson and the Management of LBS shall act as Co-Chairperson. The Co-Chairperson shall perform the duties of the Chairperson in the absence of the Chairperson.

ARTICLE - V

An Executive Committee shall be composed of the Chairperson, Co-Chairperson, USAID, two other members elected by the Steering Committee plus the Project Director who will serve as Executive Secretary and the Chief of Party who will attend as observer. The Executive Committee shall carry out the functions of the Steering Committee in cases of emergency.

ARTICLE VI - SUB-COMMITTEES

The Steering Committee may designate Sub-Committees for study and/or action as needed. Such Sub-Committee appointments shall terminate when their assigned tasks and reports to the Steering Committee are completed.

ARTICLE VII - VOTING PRIVILEGES

Each member ministry, agency or group indicated in Article III shall be represented on the Steering Committee by one representative, additional representatives from member bodies may attend meetings without vote.

ARTICLE VIII - MEETINGS

The Steering Committee shall meet the first Friday of every month.

Special meetings shall be called at the discretion of the Steering Committee or its Chairman.

ARTICLE IX - QUORUM

51% of the voting members of the Steering Committee shall constitute a quorum.

ARTICLE X - OTHER PROVISIONS

1. Relationship of LRCN to Steering Committee: -
 - a. The LRCN shall relate to the Steering Committee through the LBS.

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2. Dissolution: -

- a. The Steering Committee shall be dissolved when the developmental aspects of the LRCN Project is completed and the Project becomes part of the recurrent budget of LBS.

ARTICLE XI - AMENDMENTS

Amendments may be made to these BY-LAWS when the proposed changes have been submitted in writing at least 2 weeks in advance and approved by a two-thirds majority of the Steering Committee present and voting members.

ARTICLE XII - EFFECTIVE DATE

These BY-Laws shall come into effect immediately upon adoption by two-third (2/3) majority.

PRC Decree No. 20**Decree by The People's Redemption Council of The Armed Forces of The Republic of Liberia to Amend Chapter 87 of The Public Authorities Law Establishing The Liberian Broadcasting Corporation and Establishing The Liberian Broadcasting System.**

It is hereby decreed by the People's Redemption Council (PRC) of the Republic of Liberia as follows:

Chapter 87 of the Public Authorities Law is hereby amended and may read as follows:

SECTION 1. LIBERIAN BROADCASTING SYSTEM (LBS)

- A. The Liberian Rural Communications Network**
(Rural Radio Network) is a development oriented public service broadcasting system with authority to establish a central programming facility and regional broadcasting stations. Its goals are to support rural development by promoting:
- a) the increased utilization by the rural population of existing Government services;
 - b) the expansion of these services to a greater portion of the rural population;
 - c) increased communication between the villages and the local, regional and national Governments;
 - d) increased self-help activities; and
 - e) increased involvement and participation in local and national development efforts.
- B. The National Television Network**
(Educational and Commercial)
- C. The External Broadcasting Service**
- D. The AM-Radio Commercial Service**
- E. The FM-Stereo Commercial Service**

SECTION 2. POWERS AND OBJECTIVES

The Liberian Broadcasting System shall have the following Powers and Objectives:

1. To engage in the business of broadcasting, transmitting, relaying and distributing whether audible and visual by means of radio and television broadcasting apparatus or any other devices, machinery or equipment whatsoever, whether by wireless telegraph, wired system, cable or by other means, and to develop the radio and television broadcasting industry in Liberia.
2. To own, equip, maintain and operate broadcasting and receiving stations, national or international, and any connections between such stations and wired system for the relaying or distribution of broadcasting program, to transmit, send and broadcast news, talks, speeches, lectures, musical concerts, plays, theatrical recitals, programs (including programs and material sponsored by advertisers and others), reading, reports, advertisements and signals.
3. To produce, present, provide record or arrange for the production, presentation, provision, or recording of programs or material of every kind, including the presentation, or portrayal of news of current events for programs (whether audible or visual or both audible and visual) to be broadcasted, transmitted, relayed or distributed, whether by wireless telegraphy, wired system, cable or by other means.
4. To provide, establish, construct, equip or operate, maintain or manage wireless telegraphy stations, recording rooms, studios, offices and other buildings, plant, equipments, works and apparatus of every kind required or used for the purposes of or in connection with or ancillary to the preparation, production, presentation or recording of such programs or material thereof, or the transmission, broadcasting, relay or distribution thereof, whether by wireless telegraphy, wired system, cable or by other means.
5. To carry on the business of recording programs (whether audible or visual or both audible and visual) and selling, letting on hire or otherwise distributing thereof.
6. To buy, import, or otherwise acquire, manufacture or assemble, sell, let or hire or otherwise deal in apparatus for receiving or reproducing programs or broadcast transmitted, relayed or distributed, whether by wireless telegraphy, wired system, cable or by other means, or recorded programs, accessories

and spare parts for and other equipments for use in connection with any such apparatus, and to install or maintain or undertake or arrange for the installation or maintenance of any such apparatus or any service in line or other accessories or equipment therewith, and generally to carry on all or any of the business of manufacturing or dealing in supplying or maintaining or contracting for the installation, supply, maintenance or servicing such apparatus, accessories or equipments.

7. To represent the Government's interest in national and international broadcasting or radio conferences and activities.
8. To engage in and conduct studies and experiments with a view to improving the suitability of radio and television broadcasting facilities and equipment to local conditions.
9. To enter into, perform and modify contracts, leases, agreements, or any other transactions, on such terms as may be deemed appropriate with any agency or instrumentality of Government or with any person, partnership, association, organization or other entity, public or private, singly or combination thereof.
10. To determine fair and reasonable rates, fees and charges which shall be charged in connection with radio and television broadcasting services.
11. To accept and use gifts or donations of services, funds, or property (real, personal, tangible or intangible).
12. To borrow or raise money for any purpose of the LBS, and acquire and dispense with the same upon such terms and conditions, and for such considerations as the Director General of LBS shall determine to be reasonable through purchase, exchange, discount, re-discount, public or private sale, negotiation, assignment, exercise or option or conversion of rights or otherwise, for cash or credit, with or without tangibles, including but not limited, to mortgage, bonds and debentures (including convertible debentures) liens, pledges and other collateral or security, contracts, claims currencies, notes, drafts, bills of exchange, acceptances, including bankers acceptances, cable transfers, and all other evidence of indebtedness of ownership, and guarantee payment against any instrument above specified.

13. To collect or compromise any obligations assigned or held by or any legal and equitable rights accruing to the LBS.
14. To take any and all actions determined by the Director-General to be necessary or desirable in making, carrying out, servicing, compromising, liquidating or otherwise dealing with, or realizing any transaction or operation authorized under this Decree.
15. To apply for, purchase, or by other means, acquire, hold, sell, assign, lease, mortgage, or otherwise dispose of and protect, and prolong, and renew whether in the Republic of Liberia or elsewhere any patents, patent rights, licenses, protections, concessions, trade marks and trade names and to use and turn to account and to manufacture under grant of license and to experiment upon and test and improve or seek to improve any patents, inventions, or rights which the LBS may acquire or propose to acquire.
16. To acquire, build, operate, and dispose of all necessary and convenient lands, buildings, structures, machinery, poles, wire and other things and devices incidental to the purposes of the LBS.
17. To do each and everything and exercise all the powers allowed by public Utilities Authority Law and Decree for the achievement of its purposes and powers in so far as the exercise of the powers so allowed does not conflict with the purposes and powers of the LBS herein specifically provided.
18. The Liberian Broadcasting System (LBS) is hereby granted the necessary Budgetary autonomy and authority to expend funds for the Liberian Rural Communications Network (LRCN) as necessary.

SECTION 3. *DIRECTOR-GENERAL*

The operational responsibilities for formulating and implementing the programs and policies of LBS shall be conducted by the Director-General who shall be assisted by a Deputy Director-General, and three other Directors: one for the Liberian Rural Communications Network, one for Radio and the other for Television. The Director-General and Deputy Director-General shall be appointed by the Head of State with the advice and consent of the People's Redemption Council. The Directors for Television, Radio and Rural Communication shall be appointed by the Director-General. The Director-General,

Deputy Director-General and the three Directors shall receive such salaries as shall be established by the PRC.

SECTION 4. FINANCING

The Liberian Broadcasting System shall receive sixty percent (60%) of its budget from the Government.

The remaining forty percent (40%) to cover operating expenses shall be generated from commercials and other enterprises as may be undertaken by LBS.

SECTION 5. AUDITS

The accounts of the LBS shall be subjected to periodic audits by the Government. The accounts of the LBS shall also be audited by a firm of independent accountants approved by the Auditor-General of the Republic of Liberia.

SECTION 6. REPORTS

The LBS shall submit an annual report to the People's Redemption Council and such other periodic reports as may from time to time be required. Such reports shall set out detail facts describing the operational and fiscal transactions of the LBS during the preceding year, its financial conditions and a statement of all receipts and disbursements during such year.

SECTION 7. BY-LAWS, RULES AND REGULATIONS

The Director-General, Deputy Director-General, and the three Directors shall, with the approval of the PRC, adopt By-Laws consistent with the Decree and issue rules and regulations under which the LBS is to operate.

SECTION 8. THIS DECREE

Shall take effect immediately upon publication in hand-bills.

Any Law to the contrary notwithstanding.

Given under my hand this 10th day of October,
A.D. 1980.

M/SGT. SAMUEL K. DOE
*Chairman, People's Redemption Council
And Head Of State, R.L.*

Decree No. 21**A Decree to Provide Appropriation for Expansion
purpose of The Liberian Broadcasting System**

*It is hereby decreed by the People's Redemption Council of the
Armed Forces of Liberia as follows:*

Whereas, there is an urgent need to undertake an expansion program and provide needed facilities for the Liberian Broadcasting System.

Now, Therefore,

It is decreed by the People's Redemption Council:

SECTION 1

That from and immediately after the passage of this Decree, the Head of State is hereby empowered to undertake an expansion program to provide needed facilities for the Liberian Broadcasting System.

SECTION 2

The Minister of Finance is hereby authorized to pay under warranty of the Head of State any amount, necessary for the effective implementation of this Decree, out of any moneys in the Public Treasury not otherwise appropriated.

SECTION 3.

This Decree shall take effect immediately upon publication in hand-bills.

Any law to the contrary notwithstanding.

Given under my hand this Ninth Day of October,
A.D. 1980.

M/SGT. SAMUEL K. DOE
*Head Of State And Chairman,
People's Redemption Council
Republic Of Liberia*

Published by Authority
Government Printing Office
Ministry of Foreign Affairs
Monrovia, Liberia
May 22, 1981

LCRN BUDGET CONTRIBUTIONS
(PROJECTED EXPENDITURES)
(\$000)

	<u>YEAR 1</u>	<u>YEAR 2</u>	<u>YEAR 3</u>	<u>YEAR 4</u>	<u>YEAR 5</u>	<u>YEAR 6</u>	<u>YEAR 7</u>	<u>TOTALS</u>
1. USAID CONTRIBUTIONS								
<u>Grant Funds</u>								
A. Technical Assistance								
1. Long Term TA at 110,000/yr	275	550	770	495	385	220	110	2,805
2. Short Term TA at 10,000/mo	40	120	80	20	20	20	20	400
3. Contractor Central Support	35	70	85	62	42	26	20	340
Totals	<u>350</u>	<u>740</u>	<u>935</u>	<u>657</u>	<u>447</u>	<u>266</u>	<u>150</u>	<u>3,545</u>
B. Participant Training								
1. Long Term U.S. (104 pm at \$1850/mo)	104	30	30	30	---	---	---	194
2. Short Term (45 mo at \$3500/mo)	84	21	--	32	21	---	---	158
3. In country (5 courses at 20,000 each)	---	40	20	20	20	20	---	120
Totals	<u>188</u>	<u>91</u>	<u>50</u>	<u>82</u>	<u>41</u>	<u>20</u>	<u>---</u>	<u>472</u>
(A & B Totals)	<u>538</u>	<u>831</u>	<u>985</u>	<u>739</u>	<u>488</u>	<u>286</u>	<u>150</u>	<u>4,017</u>
C. Inflation/Contingency (10%/yr)	---	<u>83</u>	<u>206</u>	<u>244</u>	<u>224</u>	<u>173</u>	<u>115</u>	<u>1,045</u>
Grant Total	<u>538</u>	<u>914</u>	<u>1191</u>	<u>983</u>	<u>712</u>	<u>459</u>	<u>265</u>	<u>5,062</u>
<u>Loan Funds</u>								
A. Broadcast Equipment		1580	---	800	60	75	90	2605
B. Construction		1200	---	650	---	---	---	1850
C. Vehicles for T.A. (at \$12,000)	36	36	36	12	12	---	---	132
D. Vehicles Operation & Maintenance	7	21	42	42	28	14	7	161
E. Supplies & Materials	5	25	25	25	40	30	34	184
Totals	<u>48</u>	<u>2862</u>	<u>103</u>	<u>1529</u>	<u>140</u>	<u>119</u>	<u>131</u>	<u>4932</u>
F. Inflation (10%/yr)	---	256	21	504	65	78	105	1059
		430	---	217	---	---	---	647
G. Equipment and Construction Contingency (15%)	<u>48</u>							<u>6638</u>
Loan Total		<u>3578</u>	<u>124</u>	<u>2250</u>	<u>205</u>	<u>197</u>	<u>236</u>	
TOTAL AID CONTRIBUTION	<u>586</u>	<u>4492</u>	<u>1,315</u>	<u>3233</u>	<u>917</u>	<u>656</u>	<u>501</u>	<u>11,700</u>

LRCM BUDGET CONTRIBUTIONS (Cont.)
(PROJECT EXPENDITURES)
(\$000)

	<u>YEAR 1</u>	<u>YEAR 2</u>	<u>YEAR 3</u>	<u>YEAR 4</u>	<u>YEAR 5</u>	<u>YEAR 6</u>	<u>YEAR 7</u>	<u>TOTALS</u>
II. <u>GOL CONTRIBUTIONS</u>								
A. Personnel Salaries	167	214	407	435	550	550	550	2,873
B. Vehicles (at \$9,000)	9	50	11	96	13	116	16	311
C. <u>Other Costs</u> *								
1. Electricity	6	7	215	235	330	440	480	1,713
2. Equipment Maintenance	-	-	15	25	50	60	75	225
3. Telecommunications	1	2	5	6	7	12	15	48
4. Vehicle Oper. & Maint.	3	15	36	40	66	72	80	312
5. Travel (Local & International)	40	44	49	35	20	22	34	244
6. Supplies & Materials	55	10	11	15	18	20	22	101
Sub-Total	55	78	331	356	491	626	706	2,643
GOL Totals	231	342	749	887	1,054	1,292	1,272	5,827
III. <u>PEACE CORPS CONTRIBUTION</u>								
Volunteer Support* (at \$14,000 py)	---	15	170	186	245	270	297	1,185
	(1 py)	(10 py)	(10 py)	(12 py)	(12 py)	(12 py)	(12 py)	
IV. <u>GRAND TOTALS</u>	3,482	1,361	2,234	4,175	2,216	2,228	2,076	18,710

*Inflation Factor Included

PROPOSED PEACE CORPS ASSISTANCE - LRCN

APPENDIX G.

SKILLS	PROJECT MONTH REQUIRED	NUMBER NEEDED	LOCATION	COUNTERPART
1. Evaluation Specialist (Needs assessment, formative evaluation, training and testing.)	13	2	PSU (Monrovia)	Evaluation Spvr.
2. Graphic Arts/Material Coordinator (Develop and test use of print and nonprint material)	21 45	1 1	PSU (Monrovia)	Material Coordina- tor
3. Writer/Designer/Producer - Radio Programs (Extensive local language training advisable)	23 46 52	4 4 3	Regional Stations	Station Mgr. or Regional In- structional System Programmer
4. MOA Writer-Producer-Radio Programs	23 46	1 1	MOA/PSU (Monrovia)	MOA Content Specialist
5. MOH Writer-Producer-Radio Programs	23 46	1 1	MOH/PSU (Monrovia)	MOE Content Specialist
6. MOE Writer-Producer-Radio Programs	23 46	1 1	MOE/PSU (Monrovia)	MOE Content Specialist
7. Special Programs Writer-Producer-Radio Programs	23 46	1 1	PSU-ADP MLG, etc. (Monrovia)	Senior Program Designer
		Total	23	

RIS Project Evaluation Committee

- | | | |
|----|----------------------------|--------------------------------|
| 1. | Mr. Peter Amos George, II | LBS |
| 2. | Mr. Bob Braden | USAID/Liberia |
| 3. | Mr. Sidney C. Anderson | USAID/Liberia |
| 4. | Dr. Larry Frymire (Leader) | AID/Washington |
| 5. | Dr. Wesley Snyder | MOE |
| 6. | Mr. Martin N. Johnson | Min. Post & Telecommunications |
| 7. | Mr. Aaron K. Paye | MPEA |
| 8. | Mrs. Myrtle H. Dennis | MPEA |

Sub-Committees

A. Report Writing:

1. Dr. Larry Frymire, Chairman
2. Mr. Jouko Mikkola
3. Mr. Peter Amos George, II
4. Mr. Sidney Anderson
5. Dr. Wesley Snyder

B. Program:

1. Mr. Sidney Anderson, Chairman
2. Mr. Peter Amos George, II

C. Management:

1. Mr. Aaron Paye, Chairman
2. Mrs. Myrtle H. Dennis
3. Mr. Peter Amos George, II
4. Mr. Sidney Anderson
5. Dr. Larry Frymire
6. Dr. Wesley Snyder

D. Budget:

1. Mrs. Myrtle Dennis, Chairman
2. Mr. Robert Braden
3. Mr. Peter Amos George, II

E. Technical:

1. Mr. Jouko Mikkola, Chairman
2. Mr. Peter Amos George, II
3. Mr. Martin N. Johnson

Evaluation Committee
Schedule**Best Available Document**

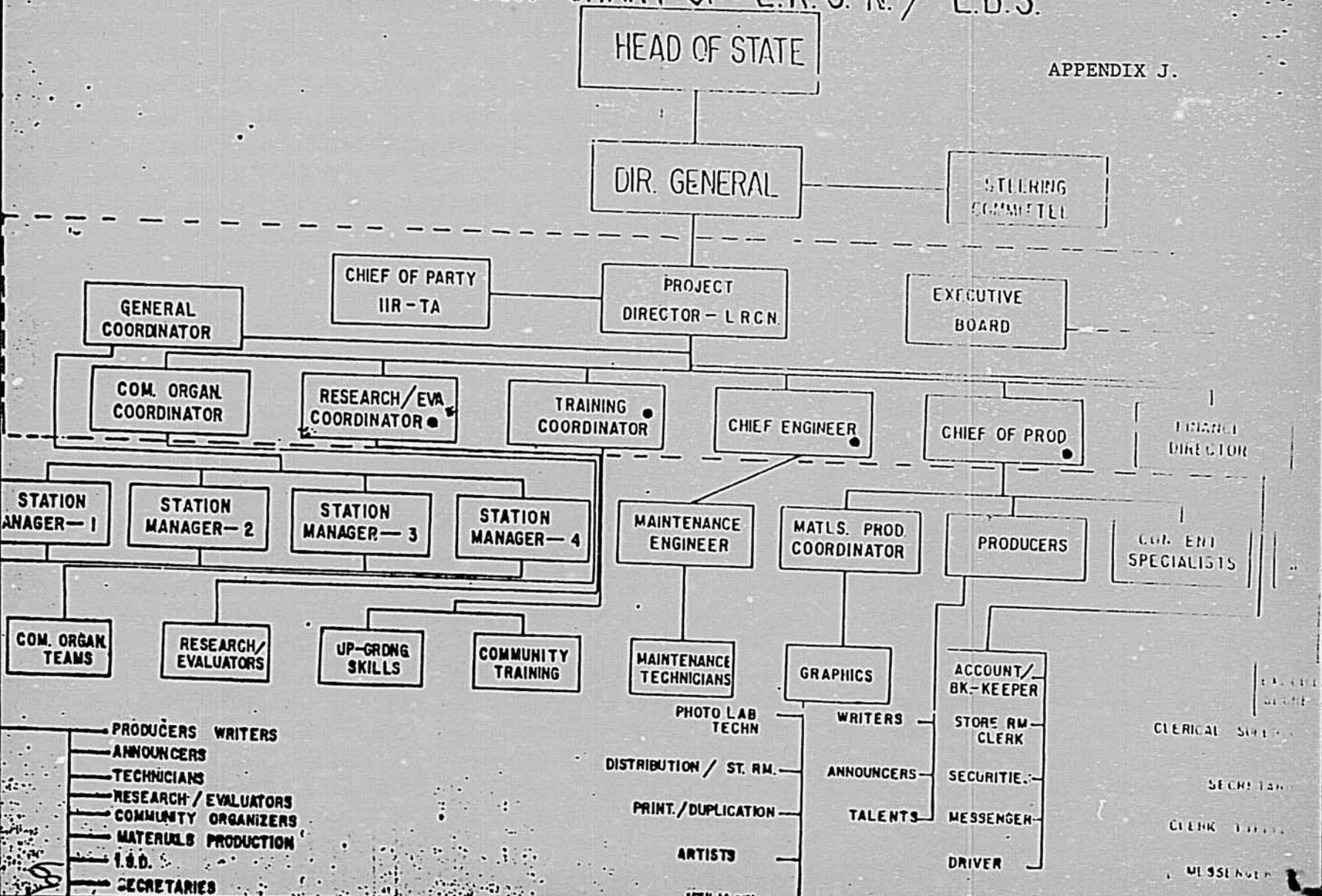
October, 1983

3 Committee Organiza- tion & Project Organization	4	5 Determination of Project Evaluation Issues Interviews and Data Collection	6 Interviews and Data Collection	7 Steering Committee Meeting Interviews & Data Collec- tion	8 Interviews & Data Collection Begin Drafting Sub-Committee Reports Evening-compile notes for Sub- Committee reports	9
10 11 a.m. Com- mittee meeting (Cancelled) Cont. In- terviews & Cont. Reports	11 Technical Committee First Meeting	12 Review Management First draft Review Program First Draft	13 Review Budget First Draft	14 Rewrite reports Consolida- tion of Reports	15 Final Report Writing	16
17 11 a.m. Full Committee meeting Adopt Final Report	18 Delivery First draft of USAID, Steering Committee & LBS	19 Receive Report back from USAID, Steering Commit- tee and LBS	20 Redraft final report	21 Final Report Writing (Except Technical Sub-Com- mittees chapter)	22	23

10

ORGANIZATION CHART OF L.R.C.N. / L.B.S.

APPENDIX J.



List of RIS Documents Reviewed by the
Evaluation Committee

1. Project Paper
2. Loan and Grant Agreement
3. Project Correspondence File
4. Minutes of Project Steering Committee
5. Steering Committee By-Laws
6. Technical Assistance Contractor Quarterly Reports
7. Annual Report To Steering Committee From
8. LRCN Project Director
9. GOL Decree 20&21 And Amendments
10. LRCN Administration Policies & Personnel
Rules & Regulations
11. Architectural And Engineering Designs & Plans
12. Specifications For And Schedule Of Broadcasting
Transmission & Program Production Equipment For
Central Production Unit And All Regional Stations
13. Deeds And Titles To Project Land For Regional Stations
14. GOL And USAID Project Past, Current Year And
Projected Future Year Budgets
15. Scope of Work
16. IIR Life of Project Plan

APPENDICES

- A. Map of Liberian Rural Communications Network
- B. LRCN Steering Committee
- C. LRCN Steering Committee By-Laws
- D. GOL Decree 20-21 And Amendments
- E. USAID-LRCN Budget Contributions (Projected Expenditures
- F. GOL And Peace Corps LRCN Budget Contributions (Projected Expenditures)
- G. Proposed Peace Corps Assistance - LRCN
- H. Evaluation Committee And Sub-committee
- I. Evaluation Committee Schedule
- J. Organization Chart Of LRCN/LBS
- K. List Of Project Documents Reviewed By The Evaluation Committee
- L. Engineering Annex
- M. Evaluation Scope Of Work

RIS Project Evaluation Committee

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APPENDIX L

Technical Evaluation

1. Technical Training. The Technical training was started March 1, 1983. The Chief Engineering Advisor submitted "The Technical Training Program Plan" to USAID as contained in "Life of Project Plan" Section V. It included the NRI course of Basic Electronic Theory to Advanced Theory of Communications and Circuitry in addition to technical English, remedial mathematics, and special training in broadcast theory and circuitry. In addition, it included proper use of hand tools, electronic measurement equipment and the theoretical and practical analysis of trouble shooting. A visit to the school and a talk with students and instructors have confirmed that the course is well managed. The level of students' accomplishments were very high even when compared to U.S. standards. The forward planning includes actual hands-on training using the existing studio and transmitting equipment at LBS and that in the LRCN stations upon final installation of the electronic equipment. The equipment specifications require that the contractor forward two sets of operating, maintenance manuals and wiring drawings for further technical training and equipment familiarization of the technicians, who will then go to their respective stations and assist in equipment installation and preliminary testing of the entire system.

2. Project Delays. The section deals with causes of delays in the LRCN project which are related to architectural and electrical plans. The Evaluation Committee reviewed the "Contract Files" with Stanley Consultants, Ltd., (contractor) which contain all design data as of October 20, 1983.

(a) The A/E Contract was signed by the Contractor on September 15, 1982, with a termination date of March 15, 1983, 1983 (6 months). The original contract included seven sites plus the C.P.U. The Contract was amended to December 31, 1983, and to reduce the regional sites to be designed from seven to 4 (Voinjama, Gbarnga, Zwedru and Greenville). Consequently, the Contractor submitted architectural concept and site topographic survey drawings for the four sites plus the CPU in Monrovia.

When it was evident that the drawings would not be ready by March 15, 1983, the originally agreed on date, the Contractor verbally agreed to submit final construction drawings by June 30, 1983. However, they asked for additional time to complete the soils testing. USAID agreed to set the final contract date at December 31, 1983. The reason for contract extension for the soil investigations on 4 regional sites was to allow for the termination of the rainy season and allow time to get the deeds to the properties.

(b) The Contractor on July 5, 1983 submitted to USAID a complete set of review drawings and a set of specifications marked "Not Released for Manufacture or Construction." Upon USAID review of said drawings and specifications, it was found that there were many serious discrepancies and omission. USAID determined that corrections could be made expediently and efficiently only if Mr. Parti, Project Architect of the Contractor, would come to Liberia to work out the problems with USAID. On July 20, 1983 USAID requested that Mr. Parti come to Liberia to work on the corrections. The contractor refused.

On August 1, 1983 USAID transmitted to the Contractor a com-

complete set of drawings and specifications, marked-up with corrections and omissions for immediate action.

By September 5, 1983 the Contractor had only submitted 2 sets of electrical drawings and associated specifications as well as 2 sets of technical drawings.

The above drawings and specifications were reviewed by USAID; however, various corrections requested by USAID on July 20 and August 1, 1983 had not been made. The marked-up drawings were resubmitted to the Contractor for revision on September 16, 1983.

After several phone conversations with the Contractor's engineers, including Mr. Parti, a majority of the discrepancies resolved.

On October 17, 1983 the USAID office received from the Contractor, the following final drawings:

(a) Regional Sites: Complete set of electrical and technical drawings.

(b) Monrovia complete set of electrical and technical drawings.

The drawings received October 17, 1983 are sufficiently accurate for construction.

Recommendations regarding the technical drawings are found at the end of this annex.

4.5.3 LRCN Construction and System Design

Choice of Radio Band:

Prior to 1980 there was no sufficient engineering data on the whole county to properly evaluate the expected coverage VHF-FM. However, there was some engineering data on AM-MW coverage based on

three stations (ELBC, ELWA and Radio Maryland). The choice of AM-MW was based on this available engineering data.

4.6.2 Site Selection and Station Cost

A survey conducted in 1982, showed that the following sites selected during project paper design were not acceptable for broadcasting purposes.

(1) Zwedru - Required a minimum of 3.5 miles of 3 phase power line, and 750 feet of new road. The antenna field was in a swamp, and required expensive drainage structures. This site was rejected as a possible AM antenna site. On a second visit in 1982, a suitable site was found close to electrical power line, and water supply, with adequate building area, and the antenna field in sandy loam, water saturated, requiring minimum clearing and site preparation.

(2) Greenville. The Greenville site was also unacceptable because it was located 5 miles from Greenville center, requiring 4 miles of 3 phase electrical power line and construction of 1000 feet of access road. The majority of the antenna field was in a swamp. Also the antenna tower would have been erected in the approach path for Greenville airport. In October, 1982, an adequate site was located approximately 1 mile from the city center requiring only 3,500 feet of power line. The land is flat with moist loam soil suitable for an antenna field. There is adequate, higher elevation for a building site.

(3) Saniquellie. Has been eliminated from the project.

(4) The Gbarnga, Voinjama, Robertsport, and Buchanan sites selected 1980 were found to be adequate.

(5) Regional Station Buildings. Engineering Annex "E" of the Project Paper proposed a regional transmitter/studio building layout which measures approximately 3,2000 sq. ft. of floor space. The layout does not present very efficient space utilization of office and electronic equipment layout. The reception area, managers office and engineering office were too large and the conference room, was not required. A new floor plan (approximately 3,200 sq. ft.) was designed to utilize the space much more efficiently. This design is satisfactory.

(6) Central Production Facility. Engineering Annex "E" does not provide any guidelines, nor proposed layouts for the CPU building. The final A&E design was arrived at from consultation among LRCN engineers, USAID engineer broadcast consultant engineer and the A&E engineers. The final layout was done in accordance with the requirements for the project. The conceptual drawings were submitted December 28, 1982.

4.5.4 Equipment Specifications.

Liberia does not fall under FCC standards, nor will a manufacturer guarantee that the proposed equipment will exceed their own specifications, as required by the Project Paper.

(1) CPU: The original paper does not indicate requirements for HF/SSB transceivers for intra-regional stations communication. Due to the lack of country telephone facilities, the HF/SSB is required for remote sites. The engineering Annexes "E" and "J" include a partial equipment list for the Central Programming Unit in Monrovia and partial list for the regional stations. The new equipment list which was developed from the above two

equipment lists, is totally adequate for the purposes and requirements of this project.

4.5.5 The Adequacy of Electrical and Mechanical Plans for Construction

Along with The Request for Technical Proposal was included an "Information for Consultant" paper to make sure that the bidders of the A&E package understood that the facility would not be a regular office nor housing facility. Paragraph 9 of the paper states "The entire regional broadcast station building and the studio production units are to be grounded in accordance with broadcast standards." Review of the drawings indicates that:

(a) Electrical Drawings were not done in accordance with U.S. standards especially for panel boards for the CPU and Regional Broadcast stations.

(b) The grounding of building reinforcing steel and other metallic building materials such as windows, doors, lower frame and flashings in submission July 5, 1983 was not included.

(c) The building parameter grounding design was not in accordance with broadcast standards.

(d) Drawings do not indicate that total electrical power requirement calculations were done to ensure the adequacy of the size of electric power generators nor is there any information provided for the general contractor and his electrical contractor as to how to hook-up the electrical panel boards to assure approximately equal loading to each one of the three phases.

(e) There was no site clearing design or design of access roads and parking lots.

(f) The specifications refer to numerous standards (NEC, ASTM, ACI, UL AWPA, AITC, etc). Copies of the numerous specifications are not locally available to USAID engineers.

These concerns have been passed on to the designers and have been corrected.

4.5.6 The Adequacy of Architectural, Structural, Civil and External Plan for Construction

This evaluation is based on USAID marked-up drawings. As of October 28, 1983, the final drawings and specifications had not been received by USAID.

(a) Drawings

A review of the A, S and C series drawings marked-up by USAID for corrections showed dimension errors, lack of reference dimensions for various equipment, grounding and bonding, soil fill, reinforcing steel bar schedule etc. All of the above have been appropriately marked for corrections.

(b) Project Manual (Specifications)

The final specifications had not been received by USAID as of October 28, 1983. The Draft is dated May 25, 1983. Division 16 Electrical was received by USAID 5/7/83. However, most of the corrections as requested by USAID were not done. AID engineers should assure those corrections are made in the final drawings.

4.5 Technical. The review of all drawings available, the technical training, the specifications as well as discussions with the engineers showed that the present radio engineering advisor has developed a comprehensive functional system. USAID and GOL

should be careful to follow his advice and feel comfortable with his conclusions.

The recommendations which follow have been discussed with the Chief Engineering Advisor and the USAID Engineer and Project Manager.

4.5.7 Recommendations on Construction and System Design

1. Studio, Speech Booth and Control Rooms, Acoustical Considerations:

(a) Engineering Annex "E" Section 2 sub: "Special considerations" and "Information to Consultants" part 4 and 13. There is not enough information on the drawings and specifications to make any kind of calculation of reverberation time. The measurements of the studios can only be made after the studio is completed. Acoustical corrections must then be made based on measurement results.

(b) An Airconditioning damper must be used to reduce the air speed thru the 12" x 12" grille to 300 feet/minute. Otherwise the size of the grille should be increased to 1.4 sq. ft. The latter is recommended to fully utilize the available cooling for the studio.

(c) The lighting fixtures used are not low noise nor radio frequency interference free fixtures. It is strongly recommended that the lighting fixtures be changed in order to comply with National Association of Broadcasters Engineering Standards.

2. Electrical

Regarding the final Electrical Specifications and drawings E-1 to E-4 for Regional Stations and drawings E1 to E-8 for Paynesville. The following recommendations are made:

(a) For all lighting, receptical and electronic equipment, power wiring should use THWN instead THW as specified in Division 16, Section 16050 Para E. The National Electric code permits installation of 10 conductors in each 1/2 inch. steel conduit or EMT. Only 7 conductors of THW type are permitted in 1/2 inch conduit. The small cost differential between THW and THWN wire more than offsets the cost of increased conduit size to next larger 3/4" conduits.

(b) It is recommended that a separate independent wire be used for grounding (color code: green), instead of using EMT or steel conduit as a means of grounding. The conduit itself may act as an antenna and introduce RF voltages into the electronic equipment where the individual grounding wire will be shielded inside of the conduit and will provide a true ground. The radio frequency interference in the electronic equipment caused by poor grounding would be very costly to correct at a later date.

(c) Photo laboratory in Paynesville CPU does not provide regular incandescent light fixtures which will be required in addition to 2-15 safety lamp - "DO NOT ENTER" signs. It is recommended that 60 watt bulbs be used instead of 100W, as shown on drawing E-1 type 7 lighting fixture.

(d) The corridor lighting fixtures as specified on the drawing E-1 for Paynesville and Regional stations type 4 are surface mounted incandescent type - lamps 1 - 200W in each fixture. They are manufactured by Markstone model #355-119P - there are 15 each in Paynesville producing 3000 watts of heat and of course light for corridors. There are 8 in each of the Regional stations producing 1600 watts of heat. It's recommended that these fixtures be changed to flourescent

lamps. The fluorescent light produces 3-4 times more light than equally power consuming incandescent. The result is better corridor illumination, reductions in air conditioning requirements, reduction in electric power consumption and reduced maintenance. Average life of an incandescent lamp is about 750 - 1000 HRS, fluorescent lamps 8000 HRS. There are 8760 HRS in one year.

(e) The revised specifications Division 16 Electrical, received by this office from Contractor 9/27/83 section 16206, "Diesel Engine Generator Sets" Sub I, 1.3 - A 1. states "standby 125KW (minimum). The generator sets in Regional units are prime power, not standby as stated by Contractor. The Caterpillar set 3208T is rated as 100 KW prime power. Based on load calculations for one Regional Station the load will be approximately 98KW. Therefore; it is recommended that a minimum 125KW Prime Power generating set be provided.

(e.1) The same generator size is also indicated for use in Paynesville as standby. Based on past experience with local electric power company during the dry season, it is recommended that the word standby to be changed to Prime Power.

Also preliminary calculations show that the total load of the building is approximately 140KW - Therefore a larger size generator 175KW Prime Power set is required.

(f) The Generator House

The generator house for Regional stations in drawing(s) E4 indicate 6 #10AW6 wires in 1" steel conduit going to panel board "M" in the transmitter building. These wires go to circuit breakers in panel "M" for lighting, wall outlets, battery charger

and fuel oil transfer pump. It is very impractical to have a person go from generator house to transmitter building to turn "on" and "off" circuit breakers when required. It is recommended that a small 2Ø 4W 208/120V panelboard "G" be provided with main disconnect breaker and have the following 20A breakers:

- 1 for 2 wall outlets near entrance door
- 1 for 1 wall outlet near battery charger
- 1 for ceiling light fixtures fuel oil transfer pump
- 1 for battery charger

min. 4 space for future breakers.

The cost of the new panelboard "G" and associated labor cost will be less than the cost of providing approximately 100 feet of 1" steel conduit (buried underground) and approximately 600 feet of #10 AWG wire, not mentioning the human engineering aspects.

3. General Spare Parts

(a) The contractor should provide itemized lists of spare parts showing quantity and cost of each item for each system. The spare parts shall equal 15% of the system equipment cost. The list shall be approved by the LRCN (Liberian Rural Communication Network) Chief Engineer and adjustments made as requested. These would be for the

- (1) Electric power generating system
- (2) Ventilating and airconditioning system
- (3) Doors and windows finish hardware
- (4) Plumbing and sanitation system
- (5) Electrical distributions and lighting system

4. Witnessing and Acceptance Prior to Shipment

It is highly recommended that either LRCN Chief Engineer

or LRCN Chief Maintenance Engineer witness performance testing and specification compliance prior to shipment as well as have system familiarizations at the manufacturers location.

5. The design contractor has been a major factor in the delay of the construction aspects of the project. This is due to his inexperience in designing radio stations. The mission should not exercise the option of extending this contract for supervision. Upon completion of the design, the contract should be terminated and a firm or individuals with radio equipment construction experience should be contracted for supervision.

SCOPE OF WORK

General: Evaluate all elements of the design and implementation of the RIS Project to determine progress and assess the validity of the original design. Determine problems and suggest solutions to those problems.

Specific Tasks:

- A. Review all documentation related to the project to formulate an information base as to the design and implementation of the project. Documents include PP Grant Agreement, Contractor Life of Project Plan, contractor and Mission quarterly reports, individual reports presented by the short term technical consultants and documentation of steering committee meetings - any other substantive correspondence available in USAID, contractor or project files.
- B. Interview major participants in project implementation including: USAID personnel; TA team; steering committee; project staff; and other persons as necessary.
- C. Review progress, plans, specifications, bid documents and designs as relates to construction element of the project to assure that it is advancing satisfactorily and that what has been done is of adequate quality. Make suggestions as to how to improve or accelerate this.
- D. Review progress of commodity procurement and plans for procurement to assure appropriateness of the process for procurement. Make suggestions as to how to improve or accelerate this.
- E. Review plans and progress of technical and program training, research programming production and community organization elements of the project to determine appropriateness of plans as well as progress in these areas.
- F. Review role and function of management including steering committee, contractor, AID/W, USAID and project staff to determine inadequacies which might be corrected.
- G. Carefully assess the basic design of the project and determine if the design's evolution will valid.
- H. Assess progress toward achieving project outputs, purpose and goal, whether project is overall on schedule, and, in evaluation team's judgment whether all project's objectives remain valid and are achievable prior to PACD.

I. Review project budget as relates to revised outputs to determine if funding is adequate to carry out project as currently conceived.

J. Produce a comprehensive report on all elements of the project in final draft prior to departure.

K. Make presentation to AID Director and steering committee on the findings.