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DEPARTMENT OF STATE
AGENCY FOR INTERNATIONAL DEVELOPMENT
Washington, D.C. 20523

215p.

CAPITAL ASSISTANCE PAPER

Proposal and Recommendations
For the Review of the
Development Loan Committee

LIBERIA - UPPER LOFA COUNTY RURAL DEVELOPMENT

AID-DLC/P-2101

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AGENCY FOR INTERNATIONAL DEVELOPMENT
WASHINGTON, D.C. 20523

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June 12, 1975

MEMORANDUM FOR THE DEVELOPMENT LOAN COMMITTEE

SUBJECT: Liberia - Upper Lofa Country Rural Development

Attached for your review are the recommendations for authorization of a loan in an amount not to exceed Five Million United States dollars ($5,000,000) to the Government of Liberia (Borrower) to assist in financing the United States dollar and local currency costs of goods and services for the Upper Lofa Country Rural Development Project.

This loan proposal is scheduled for consideration by the Development Loan Staff Committee on Wednesday, June 18, 1975; please note your concurrence or objection is requested by close of business on Monday, June 23, 1975. If you are a voting member a poll sheet has been enclosed for your response.

Development Loan Committee
Office of Development Program Review

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LIBERIA

LOFA COUNTY RURAL DEVELOPMENT PROJECT

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SUMMARY

A. BASIC DATA AND RECOMMENDATIONS.

1. Introduction and Format.

The Government of Liberia (GOL) requested on May 6, 1973, IBRD and AID assistance in an agricultural development project in Upper Lofa County. Subsequently, the International Development Association (IDA) and the GOL contracted with the German consulting firm Agrar Und Hydrotechnik to study the project for possible joint IDA and AID financing. The proposed project was identified for potential AID financing in the FY 74 Congressional Presentation. In January 1975, the IDA led an appraisal mission to Liberia which included five IDA representatives, a representative of the West Africa Rice Development Association, and an AID consultant. The IBRD appraisal report No. 744-LBR entitled "Appraisal of Lofa County Agricultural Development Project, Liberia" (hereafter called the "IBRD Appraisal") was prepared by this mission and is incorporated as identified below in this project paper.

AID/W and USAID Liberia representatives have consulted with and been involved with IDA in the development and design of this project. However, the detailed design including project planning and organization, technical evaluation financial estimates, social consideration, and economic calculations are the work of the IDA staff. AID/W and USAID/Liberia staff have closely examined and reviewed the IBRD design and have satisfied themselves as to its technical, economic and financial feasibility; compliance with the Congressional Mandate; and compatibility with U.S. interests and objectives in Liberia and AID policy and program guidance.

The IBRD Appraisal contains the comprehensive description and analyses of this project and is reproduced verbatim in order to maintain its integrity on pages 1-32, Annexes 1-10 and the two maps. Pages i-vi of this project paper were prepared by the AID project committee and reflect certain concerns and requirements of specific interest to AID. Additional material of relevance to AID concerns is attached in Annexes 11-8. Since several of the AID Annexes provide information supplemental to the main text they are more meaningful and in better sequence presented after the main text.

2. Summary Description

This project is designed to improve the welfare of some 8,000 farm families residing in Upper Lofa County in Liberia through a program of integrated rural development. The project provides a means of increasing agricultural production through the improvement of upland rice cultivation, rehabilitation of rice swamps, and the development of coffee and cocoa farms. Additionally it provides for strengthening the Ministry of Agriculture, infrastructure improvement in the project area, cooperative development, disease control, credit extension and the provision of farm inputs and marketing services.

3. Borrower. The Government of Liberia, Ministry of Agriculture.

4. Loan Amount. U.S. $5,000,000 (AID Loan)

5. Terms.

a. Maturity: Forty (40) years including a ten (10) year grace period.

b. Interest: Two percent per annum during the grace period, and three percent per annum thereafter.

c. Repayment: Interest and principal payable in U.S. dollars in thirty (30) equal annual payments.

6. Financial Plan.

	TOTAL	Foreign Exchange Costs	Local Costs
A.I.D. Loan	$5,000,000	3,000,000	2,000,000
IBRD Credit	$6,000,000	4,800,000	1,200,000
GOL Contribution	$5,900,000		5,900,000
Farmer Contribution	$1,100,000		1,100,000
Total	$18,000,000	7,800,000(43%)	10,200,000(57%)

7. Statutory Criteria. Statutory Criteria have been met (see Annex 14. "Statutory Checklist")

8. Country team views. The country team strongly endorses the the project.

9. Recommendation: a. Authorization of a loan not to exceed U.S. $5,000,000 foreign exchange costs (approximately $3,000,000) and local costs (approximately $2,000,000) to finance farmer credit and cooperative development, farm inputs and related health services as described herein.
b. Determination by AA/AFR that the project is essentially technical assistance in character (Reference Annex 11, Item 7)
c. Approval for five year AID financing (Reference Annex 11, Item 8)

10. Project Development Team.

IBRD (IDA) Appraisal Mission Members:
Messrs. A. Arben, Mission Leader, M. Burer, M.O. Farruk, I. Peprah, A. Mercer (IBRD), C. Tagoe (WARDA) and E. Schroepfer (AID Credit Consultant).

AID: G. Adams, AFR/DS
K. Martinez, USAID/L

B. PROJECT DESCRIPTION AND APPRAISAL.

The project would assist 8,000 small farmers to boost production of upland and swamp rice, coffee and cocoa. These crops represent a feasible approach to small farm development in the area given traditional farming patterns, soil and climate conditions, and produce market demand.

A complete agricultural service package of improved cultivation methods and farm inputs including seeds and seedlings, fertilizers and agricultural chemicals, tools and sprayers, farmer credit, agricultural cooperatives, marketing, seed multiplication, staff and farmer training, banking, health monitoring and increased Ministry of Agriculture capacity for planning and implementing rural development will be introduced. AID financing will be used to establish a farmer credit and cooperative system, to procure farm inputs to be issued to farmers as in-kind credit and to establish the schistosomiasis surveillance activities. Project development will last five years and cost $18 million -- $6.0 million IBRD credit, $5.0 AID loan, $5.9 million GOL contribution and $1.1 million farmer labor contributions.

At full development, annual incremental production is expected to amount to 7,200 MT milled rice, 2,500 MT coffee, and 1,800 MT cocoa. The rice production increase is expected to amount to the equivalent of twenty percent of forecasted 1980 rice imports while coffee and cocoa production would be an increase over 1973/74 exports of 67 and 58 percent respectively. Incremental rice production would be in excess of farm consumption needs and would reduce rice imports. Incremental production of coffee and cocoa represent a minute portion of world production and would be marketable at remunerative prices.

Average annual farm net income would be expected to increase from approximately U.S. $213 to U.S. $813, or about 380% for participating farm families. The internal rate of return for the project is calculated at thirty percent (30%).

The project relates directly to the congressional mandate, AID priorities and the important agricultural strategy thrusts proposed in the Liberian DAP, i.e., small farmer incentives, input supply, agricultural training, extension, farmer credit, cooperatives and research. The overall project strategy is to increase the agricultural productivity and welfare of small traditional Liberian farmers.

AID support goes to project elements which are vital to small farmer development (farmer credit, cooperatives, health) and which offer direct access to the farmer and opportunity to influence project implementation toward the "bottom up" approach.

The project area is near the Kenema region of Sierra Leone where the IBRD is supporting the "Eastern Area" project of nearly identical project design, involving closely related ethnic groups in a similar agricultural area. The Kenema experience provides a solid basis for the Lofa County project design as well as invaluable empirical verification of the reasonableness of the sociological, financial, technical and economic analyses involved.

For purposes of analysis, a logical framework matrix and description are presented in Annex 12. The project purpose is to increase agricultural production and productivity for rice, coffee and cocoa on small farms in Upper Lofa County in order to contribute to the project goal of improving the welfare of rural people in the traditional sector. Purpose and goal attainment is to be measured in terms of production and productivity increases (purpose level) and family income increases (goal level). Project inputs include salaries and support, construction, equipment and farm inputs for project activities including project management, staff and farmer training, farmer credit, agricultural cooperatives, and land and crop development. Outputs refer primarily to the establishment of the several service systems needed to assist farmers, including a trained Project Management Unit (PMU) staff, farmer training programs, developed land, an operational extension system an operational farm credit system, farm input supply system and a schistosomiasis surveillance system.

C. AID CONTRIBUTION.

The $5.0 million AID loan represents 27% of total project costs and will be used to finance elements of the project as summarized below and specified in detail in Annex 16.

1. Training facility for project management staff .... $0.65 million.

2. Personnel, equipment and support costs for the development of agricultural cooperatives and farm credit operations .... $1.1 million.

3. Agricultural credit (to be provided largely as in-kind farm inputs) .... $2.1 million.

4. Personnel, equipment and support costs for the establishment and operation of a Schistosomiasis Surveillance and Control Unit .... $0.3 million.

In consultation with the IBRD, AID selected the credit/cooperative and schistosomiasis activities for AID support, largely because of their direct relevance to AID's small farmer, equity and health concerns.

Cooperatives -- Four cooperatives, currently managed with Peace Corps assistance, are scheduled to expand their functions and staff under the project. These cooperatives are the principle local channel for organizing farm support services, including farmer credit and input supply, and for mobilizing farmer project efforts. As farmer participation is considered essential, the farm cooperatives will work through small village farmer groups. Through these village groups, farmers will be responsible for village level farm input distribution (fertilizer, chemicals, seedlings, tools, equipment, etc.) produce storage and delivery to market, credit repayment, village planning, and information and opinion feedback to the PMU and other functions as they arise.

Cooperative development, particularly the organization and training of the village "farmer groups" is probably the most important activity for directly engaging small farmer participation in the process of village level project planning and implementation.

Further description and analysis of the cooperatives is contained in paragraphs 2.12, 6.12-6.13, Annex 6 and Annex 11.

Farm credit -- The provision of agricultural credit to small farmers (initially by distributing physical farm inputs to farmers on credit) will allow participating small farmers the essential capital to increase productivity using project supplied technology. Farm credit distribution relates directly to the equity concern. Credit is to be distributed to small farmers with an average holding of less than four ha. In initial years, a project management unit will be largely responsible for credit administration through the cooperatives.

The management unit will seek to establish a self sustaining credit mechanism in the cooperatives, emphasizing farmer authority and responsibility, to provide continued profitable and equitable farmer credit services in later development stages. Further description and analysis of the farm credit element is contained in paragraphs 4.06, 6.15-6.19, and Annexes 7 and 11.

Schistosomiasis Surveillance Unit -- The encouragement of swamp rice cultivation could possibly result in an increase in Schistosomiasis (Bilharzia). An AID-financed Schistosomiasis Surveillance and Control Unit comprised of a research doctor with laboratory and staff is to monitor/research the disease and to develop a plan of control.

In financing the schistosomiasis unit and writing its terms of reference, AID is emphasizing the importance of environmental health factors associated with agricultural development. The schistosomiasis unit may also monitor other waterborne diseases in the project area should baseline data, currently being compiled, indicate a need. The unit will develop disease control plans where appropriate. Further discussion and analysis of the health situation and the schistosomiasis unit is included in paragraph 4.10; Annex 2, paragraphs 15-22. This subject is also referred to in Annex 11, item 6., and in the AID covenants, Annex 18.

As part of the PMU training activities, AID would undertake to finance a fifteen bed dormitory, probably at the Agricultural Extension Training Center (AETC) at Johnsonville. This portion of the project was selected for AID financing largely because of USAID/L experience in constructing the West Africa Rice Development Association (WARDA) dormitory at the same site. Further description is provided in Annex five, paragraphs 11-18.

CURRENCY

Currency Unit = United States dollar

WEIGHTS AND MEASURES

1 acre (ac)	=	0.405 Hectare (ha)
1 mile	=	1.61 kilometer (km)
1 square mile	=	640 ac = 259 ha
1 ton	=	2,240 pound (lb) = 1,016 kilogram (kg)

ABBREVIATIONS

AETC	=	Agricultural Extension Training Center
AGRIMECO	=	Agricultural Mechanization Company
AHT	=	Agrar und Hydrotechnik
CAES	=	Central Agricultural Experimental Station
ERR	=	Economic Rate of Return
GDP	=	Gross Domestic Product
GNP	=	Gross National Product
GOL	=	Government of Liberia
LBA	=	Licenced Buying Agents
LBDI	=	Liberian Bank for Development and Investment
LISCO	=	Liberian Iron and Steel Corporation
LPMC	=	Liberian Produce Marketing Corporation
MA	=	Ministry of Agriculture
MPW	=	Ministry of Public Works
PMU	=	Project Management Unit
PSC	=	Project Steering Committee
RDA	=	Rural Development Association
UL	=	University of Liberia
UNDP	=	United Nations Development Program
USAID	=	United States Agency for International Development
WARDA	=	West Africa Rice Development Association
WHO	=	World Health Organization

FISCAL YEAR

January 1 - December 31

I. INTRODUCTION

1.01 The Government of Liberia (GOL) has requested an IDA Credit of US$6 million and a USAID loan of US$5 million to assist in financing agricultural development in Lofa County, the first agricultural investment project undertaken by the Bank Group in Liberia. This report appraises a project costing US$18 million which would benefit some 8,000 farm families by: improving upland rice cultivation; rehabilitating rice swamps, coffee and cocoa farms; developing additional swamps for rice cultivation; developing new coffee and cocoa farms. Additionally, the project provides for strengthening the Ministry of Agriculture, and infrastructure improvements including roads, water supplies, disease control, cooperative development, and banking.

1.02 The project was identified by IDA 1/ and was prepared by German Consultants, Agrar und Hydrotechnik (AHT), financed under the Liberia Agriculture Development Technical Assistance Project (306-LBR).

1.03 This report is based on the findings of an IDA appraisal mission in January 1975, consisting of Messrs. A. Arben, M. Burer, M.O. Farruk, I. Peprah, A. Mercer (IDA), C. Tagoe (West Africa Rice Development Association) and E. Schroepfer (USAID Consultant).

II. BACKGROUND

A. General

2.01 Liberia has an area of about 110,940 km^2 and a population of 1.5 million, growing at 2.8 percent per annum. Estimated GNP in 1972 was US$355 million or US$237 per capita (with income from concessions excluded per capita income decreases by 50 percent to US$120). Income distribution is highly skewed: 75 percent of the total population engaged in subsistence farming earns only US$70 per capita compared to US$150 by urban wage earners while only 4 percent of the population commands 60 percent of the national income, averaging about US$3,300 per capita. Mining and agriculture account for 30 percent and 21 percent respectively of GDP which has grown at 5.2 percent annually in recent years. Foreign concessions (rubber, timber and mining) dominate the economy by providing 30 percent of total public sector revenues, and 90 percent of export earnings of which 30 percent is repatriated as profits, interest and salaries. The fiscal system is unsophisticated, lacks discipline and the country has a chronic balance of payments deficit on current account.

B. Agricultural Sector

2.02 Liberia has a gently rolling coastal topography, which becomes more rugged inland. The climate is tropical, annual rainfall ranging from 4,300 mm at the coast to 1,800 mm inland. Most rain falls between April and November. Liberia is well suited ecologically for the competitive cultivation of many of the tropical tree crops, in particular rubber, cocoa and robusta coffee. The

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1/ Appraisal report PA 120a, March 7, 1972. (Appraisal of an Agricultural Development and Technical Assistance Project, Liberia) oil palm grows wild and is also a planted crop although yield potential, as in West Africa in general, is much lower than in the Far East. Rice, which is the principal food crop, and other food crops are produced mostly in small farms by a traditional system of shifting cultivation under which soil fertility can be maintained only through a long period of bush fallow. However, valley bottoms and swamps are fertile, and with water control and fertilizers, can be continuously cultivated in rice. Government is concentrating on programs for developing such areas and a principal component of the project appraised in this report would be directed to engineering the development of swamps for rice growing.

2.03 Agricultural output totalled US$95 million in 1972 of which US$60 million originated in the monetized sector composed of rubber, coffee, cocoa, palm products and other export crops, and US$35 million in the subsistence sector. Rubber alone accounts for about US$25 million in the monetized sector. The structure of the agricultural sector is characterized by (a) foreign concessions, (b) Liberian owned commercial farms, and (c) small traditional farms that comprise more than 90 percent of agricultural holdings in Liberia. Foreign concessions are limited principally to large rubber plantations and timber exploitation, the basic features of these enterprises being highly trained expatriate managerial and technical staff, extensive capital investment, large scale modern technology and high levels of efficiency. The Liberian owned commercial farms primarily produce rubber but they are increasingly expanding into poultry, livestock, coffee, cocoa, oil palm and some rice and vegetables. They employ moderately capital intensive technology, and have relatively easy access to capital and other resources, often against the security of their owned interests in other sectors. Most owners are absentee and management is poor except in cases where the farm is large enough to support an experienced professional manager. The traditional sector is largely outside the monetized economy, is located in areas with minimal infrastructure, and is composed of farms where less than 4 ha is cultivated in each year. There is little or no adoption of modern innovation, and the sector primarily produces rice, cassava, yams, and other subsistence crops along with some coffee, cocoa, oil palm and sugar cane that are grown as cash crops. Farms in the project area, see Chapter III, are largely of this type although due to relatively good communications they are more commercially oriented than the majority of farms in the traditional sector.

2.04 Government policy in the past has been to develop agriculture through permitting foreign enterprises to establish concessions under very attractive conditions for land acquisition and favorable tax structures. In turn through the demonstration effect of the concessions Liberian enterprises have moved into agriculture generally as a secondary business interest. This spontaneous development has been mostly without Government assistance, and the Liberian commercial farmers have relied on the concessions for technical support, both in terms of advice and inputs such as improved planting material. A small service industry has developed in support of these commercial farmers, as have institutions such as an association of rubber producers.

2.05 The great bulk of farmers, over 90 percent, are in the traditional sector where they are only now beginning to receive direct help from Government, and this on only a very limited scale. Equally the traditional farms have no commercial support except a very small amount provided in some areas by the Liberian Produce Marketing Company (LPMC).

2.06 In short, agricultural development in Liberia until very recently has occured with a minimum of Governmental intervention in either the positive or negative sense. Thus while Government has given very little assistance to the sector in terms of extension and other support services, and input subsidies, it equally has avoided introducing constraints such as producer price and other controls and taxes that might have restricted production. In Chapter VII pricing arrangements for commodities are discussed in detail.

C. Agricultural Strategy

2.07 A frontal attack on agriculture and rural poverty will be indispensable for Liberia's development for the decades to come. With uncertainties over future iron ore mining and the constraints on the development of a modern industrial sector, much of future growth, employment and foreign exchange earnings will have to depend on the development of agriculture. A Bank Economic Mission 1/ that visited Liberia in 1973 recommended Government adopt programs that would improve in the medium run the income earning capacity of the rural poor, i.e. those in the traditional sector and in the longer run the production of export crops. The mission also concluded that any successful development strategy in Liberia would need to be regional because constraints and ecological conditions differ between the coastal belt, which is relatively thinly populated, has good communications, and is where most of the concession plantations and commercial farms are located, and the rural interior where the majority of the population lives cut off from the coastal cities and the national market. The Mission stated that the principal points of an action program in pursuit of the foregoing strategy should be:

(a) improvement of the institutional structure to plan and carry out development projects more effectively;

(b) improvement of price incentives for increased production by adopting an active price policy and improving the marketing system and the infrastructure; and

(c) provision of a package of measures - extension, input supply, credit and marketing - to traditional farmers in order to raise their level of productivity.

The project appraised in this report conforms to the strategy proposed by the Economic Mission and indicates the acceptance by Government of Liberia (GOL) of the principles of the strategy. The project would increase the incomes of traditional farms through assisting them to improve their production of rice, cocoa, and coffee. These are crops which grow well in the project area and of which the farmers have experience.

1/ Report No. 426a-LBR, dated March 1, 1975.

2.08 With increasing awareness of the pressing need to effect change in the traditional farming areas, Government has adopted a number of ad hoc approaches to development in recent years. Some of those appear of doubtful validity. The most important of these is a large scale fully mechanized land clearing program designed initially to aid the production of rice. This program has focused on two areas, Cape Mount, and Foya in the project area. For the mechanical clearing, GOL has established the wholly GOL owned Agricultural Mechanization Company (AGRIMECO), managed and operated by AGRIDEV of Israel. Whilst the land clearing (1,500 ha to December 1974) in the Foya area has been efficiently carried out, the financial cost has been high, and much damage done to the fragile top soil. Farmers have been uninterested in using the land for rice and most of the cleared land is now reverting to bush. The Ministry of Agriculture (MA) is now attempting a crash program to help smallholders to develop the existing and yet to be cleared land with coffee, cocoa and oil palm, and LPMC is being required to provide inputs financed initially from its Agriculture Development Fund. Credit arrangements for smallholder participating in the scheme have not been finalized and generally administration of the program is poor. In view of the high development costs of this type of program and its doubtful benefits, and because its "give away" nature could conflict with project procedures, it was agreed with GOL at appraisal that AGRIMECO schemes in Lofa County would not be included in the project in any way and that GOL would not permit AGRIMECO to undertake any new land clearing in Lofa County after December 31, 1975 and during the project development period. A further assurance would be obtained from GOL during negotiations that in the interest of avoiding conflicts with the project LPMC and MA would be required to establish, within 6 months of loan effectiveness, detailed plans for the settlement and use of areas cleared by AGRIMECO in Lofa County and that charges that would be levied, and credit terms would be economic and in harmony with those employed by the project.

D. Agricultural Institutions

2.09 Ministry of Agriculture. The Ministry of Agriculture (MA) is responsible for agricultural research, extension and administration of technical assistance. Its past impact has been insignificant, due to poor planning and management, limited funds - about US$1.0 million or less than 2 percent of total GOL expenditure between 1968 and 1970, the low caliber of the staff, many of whom are unqualified and were appointed for non-professional reasons, and lack of interest in agriculture. Government is aware of the need to strengthen MA and is currently undertaking a reorganization study with the aid of consultants financed under Credit 306-LBR. In addition GOL is devoting an increasing proportion of its expenditure to agriculture; US$6.3 million (7 percent of total GOL expenditure) in 1974; and US$9.6 million (10 percent of total GOL expenditure) was allocated for 1975.

2.10 Liberian Produce Marketing Corporation (LPMC). The export crops, coffee, cocoa, palm kernels and palm kernel oil (but not rubber), are processed and marketed exclusively by the Liberian Produce Marketing Corporation (LPMC) which was established in 1962 as a Liberian registered but wholly Danish owned company. In 1972, GOL became directly involved in the company by the acquisition of a 50-percent interest, and the appointment of the Minister of Agriculture as Chairman and four GOL directors to the ten-member board.

LPMC is largely autonomous, operates commercially and is profitable. Export crops are purchased through Licenced Buying Agents (LBA) who in turn buy through unlicenced traders or subagents at prices established by LPMC. In addition to export crops, LPMC also purchases and mills paddy for sale locally and in Monrovia; and imports milled rice for private trading (8,400 tons in 1974). Whilst LPMC's involvement in the Lofa County paddy market is small (approx. 22 percent of 2,000 tons marketed in 1974), its official paddy price tends to establish the local market floor price. LPMC operates three rice mills, coffee hullers, a palm kernel mill, and a palm oil mill; it also owns small estates growing coffee, cocoa or oil palm. LPMC maintains and controls two funds financed from deductions from export crop sale proceeds (other than rubber), namely a Price Stabilization Fund (US$1.1 million in 1974) for export crops, and a Agricultural Development Fund (US$1.4 million in 1974). The latter fund is used to finance the tree crop program covering coffee, cocoa and oil palm which LPMC has operated on MA's behalf since 1972.

2.11 Liberian Bank for Development and Investment (LBDI). LBDI was established in 1965 with IFC assistance and subsequently received two Bank loans. Agricultural credit is extremely limited in Liberia, the only known sources of farm credit for which collateral is required are LBDI and the commercial banks. LBDI has agreed to establish a branch in Voinjama with project financial assistance to administer the proposed revolving credit fund which will provide agricultural credit to project farmers through their co-operatives. Assurances to this effect would be obtained at negotiations.

2.12 Cooperatives. There are four farmer produce marketing cooperatives with 3,700 members in the project area. Primary marketing was in the hands of private traders, mainly Lebanese, until 1972 when GOL revoked the licences of these LPMC buying agents and appointed the four cooperatives in their place as the Licenced Buying Agents for Lofa County. Two of the cooperatives are well run with assistance from Peace Corp Volunteers and their operations are profitable; the other two are still in the early stages of development and require support which would be provided under the proposed project. Co-operative income consists of LPMC coffee and cocoa buying commission, and rice trading profits. The cooperatives are anxious to increase their volume of operations and to expand into the provision of farm input supplies, credit and savings facilities which are presently severely limited in Lofa County. The three largest cooperatives are constructing substantial storage capacity from their own resources or with loans financed from LBDI. The project would use the cooperatives for the delivery of farm inputs and credit, and for providing marketing facilities to project farmers.

2.13 Research. Although rubber research is undertaken privately by Firestone Plantations Ltd., results are made available to Liberian farmers, and provide a sound technical base for the industry. Rice and other food crop applied research is the responsibility of GOL Central Agricultural Experimental Station (CAES) at Suakoko with support from West Africa Rice Development Association (WARDA) and UNDP. The gradual improvements in quality are encouraging, but GOL needs to increase budgetary allocations to sustain the research effort. There is little or no research for coffee, cocoa and oil palm but data is available from other West African countries with similar ecological conditions.

III. THE PROJECT AREA

3.01 General. The project area is centered on Voinjama in Lofa County in Northwest Liberia (see map). It is bordered by Sierra Leone to the West and by Guinea to the North and East. The project area covers some 3,300 km^2 and contains nearly 14,000 farming families (90,000 people). The climate is tropical with ample rainfall of over 2,500 mm; topography and soils are suitable for the proposed development program.

3.02 Water. The project area is drained by three major rivers, and intersected with numerous streams. Swamps are formed from the bottom land which is permanently or temporarily waterlogged. Swamp rice cultivation during the rainy season is reasonably assured and a small proportion of swamps have sufficient water for two rice crops a year. The project area contains an estimated 16,000 ha suitable for swamp rice development.

3.03 Local Administration. Lofa County is divided into four chiefdoms administered by elected paramount chiefs, which embrace 32 clans, each with its own elected clan chief, and hierarchy of town and village chiefs and elders. The county is administered by a County-Superintendent, the personal representative of the President, but who reports administratively to the Minister of Local Government and Rural Development. In recognition of their importance and considerable traditional influence, the paramount and clan chiefs became paid GOL employees in 1974 with the election of paramount and clan chiefs subject to confirmation by the President and County Superintendent respectively.

3.04 Mineral Resources. The Wologisi range on the southern border of the county contains estimated iron ore reserves of 900 million tons, presently unexploited but with potential annual production of 10 million tons of pellets. The Liberian Iron and Steel Corporation (LISCO), the concession holders, must under the terms of their concession agreement, decide by October 1975 whether to commence construction and, if they so decide, start construction by September 1976 and production during 1980/81. Wologisi mine development could have two effects on the proposed rural development project: on one hand part of the rural labor force may be attracted to the mine; on the other, however, the development would provide an accessible and remunerative market for rice and other food crops grown in the project area. The possible impact of the mine on the labor situation is taken into account in the economic analysis in Chapter VIII.

3.05 Communications. There is an unpaved primary road linking the main towns of Foya, Kolahun, Voinjama and Zorzor with Monrovia and numerous poorly maintained feeder roads and tracks link other population centers. The project would upgrade the maintenance standard of both primary and feeder roads (see para 4.02). Whilst at present there are nine small airfields in the project area used only by GOL and private small aircraft, Liberia Airways proposes to introduce a trial scheduled service Monrovia/Voinjama in mid-1975. As tele-communication facilities with Monrovia are limited to a few GOL and private radio sets, the project organization would install its own radio.

3.06 General Infrastructure. Social and related services are limited and village water supplies would be improved under the project. Whilst education and health facilities are also inadequate, improvements to education would be made through GOL Community Schools program to be financed in part by IDA and augmented by project farmer training efforts; improved health facilities will be provided through an approved USAID financed rural health program for Lofa County supported by a project financed schistosomiasis surveillance unit.

3.07 Farming Systems. The upland farming system of shifting cultivation consists of rice intercropped with vegetables, maize, peppers, beans, plantains, etc., in the first year; followed by root crops and sugar cane in the second year; thereafter the land is left fallow for five to ten years. This very long fallow period is indicative of the areas relatively low population pressure. At any one time up to 10,000 ha of the project area will be under upland rice cultivation. A small number of swamps, (about 700 ha), have been developed for rainfed rice cultivation on a semi-permanent basis and are fallowed for a short period every 3 to 5 years. A mixture of local rice varieties are grown on both uplands and swamps without the use of fertilizers or pesticides. Tree crops grown in the project area are coffee 4,600 ha, cocoa 3,000 ha and oil palm 500 ha. Cultivation standards are low, and fertilizers and insecticides are not used. Total area presently under cultivation in food and tree crops is 19,000 - 20,000 ha annually, about ten percent of land suitable for cultivation. The 1971 Census of Agriculture covering a substantial part of the project area indicated a highly skewed farm size distribution, 90 percent of the farms are less than 4 ha covering 46 percent of the surveyed area while the remaining 10 percent of the farms are larger than 4 ha covering 54 percent of the surveyed area. However, of the remaining 10 percent about half the farms are less than 10 ha and only 80 farms are larger than 20 ha, and many of these larger farms are neither fully developed nor intensively cultivated. Four ha is about the maximum that the typical farm family can handle without hired labor (except at harvesting). Availability of suitable land is not a constraint to improving the production of the smaller farmers. Most farms have some upland rice, and a few also swamp rice; all farms grow the other traditional food crops for home consumption and some obtain cash income from vegetables and fruit trees. Coffee and cocoa tend to be cultivated by the larger farmers, but many small farmers have small plantings, usually up to 0.5 ha, to provide a cash income. Based on the 1971 Census of Agriculture, the average family labor force is 2.3 adult equivalents on farms of 4 ha or less. Labor requirements are unevenly distributed over the year with peaks from March to June/July (land preparation, planting) and from mid-October to December (harvesting). In between these peaks there is seasonal underemployment.

3.08 Land Tenure. Apart from small amounts, largely in the urban areas that are owned freehold, land in Liberia is owned by the State. Within each tribal area, however, the traditional authorities are responsible for the administration of land and allocate right of usufruct to members of the community and others. This process is common to much of West Africa and provides satisfactory tenure especially in areas, such as the project area, where population pressure is light. Land allocated to an individual may not be sold or otherwise disposed of and as the planting of tree crops, because of their long life, conveys a more permanent and owner-like right of usage, permission of the traditional authorities must be obtained by the farmer before he plans tree crops. To minimise the risks of ownership disputes over tree crop areas and swamps which are limited in extent, project would provide the technical capability to undertake land surveys, if required.

IV. THE PROJECT

A. General Description

4.01 The project would be carried out over five years 1976 through 1980 and would involve:

(i) Road improvement - construction of up to 100 km of new roads and rehabilitation of up to 500 km of existing roads;

(ii) Farm and Crop Development - provision of development and seasonal credit, through a revolving credit fund, to develop and improve production of:

upland rice	- improvement	5,600 ha
swamp rice	- rehabilitation	500 ha
swamp rice	- new	1,400 ha
coffee	- rehabilitation	500 ha
coffee	- new	2,300 ha
cocoa	- rehabilitation	800 ha
cocoa	- new	1,500 ha

(iii) Staffing - provision of technical and administration staff with support facilities for project implementation.

(iv) Training - construction and operation of a staff training center and a farmer training center and dormitory facilities at AETC.

- recruitment and training of Liberians for extension, cooperative/credit and project management;
- training and upgrading existing cooperative staffing and organization;

(v) Social Services - construction of 100 village wells;
- provision of a schistosomiasis surveillance unit;

(vi) Support Services - financial assistance to establish a LBDI branch at Voinjama.
- provision of consultant services to advise (a) the coffee and cocoa program, and (b) the schistosomiasis program.

B. Detailed Features

4.02 Road Improvement. The project area is well served with unpaved primary and feeder roads but their condition is poor, many require realignment and the reconstruction of some culverts and minor bridges. To provide all weather access, the project requires (a) the upgrading and subsequent maintenance of the primary road, linking Foya, Voinjama and Zorzor, together with 500 km of existing feeder roads, and (b) construction of 100 km of new feeder roads. GOL has agreed that Ministry of Public Works (MPW) would undertake the road program, the phasing of which would be agreed with the Project Management Unit (PMU). To further strengthen the MPW program the project would finance and PMU operate a small road maintenance program for minor feeder tracks not covered by MPW. The cost of MPW road improvements is estimated at about US$1.5 million. This amount is not included in project costs nor covered by the project financing plan, see Chapter V.

4.03 Farm Development. The schedule of farm development would be as follows:

	Year	1	2	3	4	5	Total
		Ha					
Upland rice	- Improvement	150	650	1,200	1,600	2,000	5,600
Swamp rice	- Rehabilitation	50	50	100	150	150	500
	- New	-	150	250	400	600	1,400
	Total Rice	200	850	1,550	2,150	2,750	7,500
Coffee	- Rehabilitation	50	80	100	120	150	500
	- New	-	500	500	600	700	2,300
	Total Coffee	50	580	600	720	850	2,800
Cocoa	- Rehabilitation	50	100	150	200	300	800
	- New	-	300	300	400	500	1,500
	Total Cocoa	50	400	450	600	800	2,300
	GRAND TOTAL	300	1,830	2,600	3,470	4,400	12,600

4.04 Crop Development. The project would provide credit for farm inputs including hired labor for swamp development, tools and equipment, seeds, seedlings, fertilizer and chemicals for:

(a) Upland rice improvement - presently upland rice is intercropped with other food crops under shifting cultivation. Estimated yields are 1,000 kg/ha and are expected to increase to 1,700 kg/ha with project inputs of 100 kg/ha of fertilizer (20-20-0) and 50 kg/ha of improved seed of LAC 23 variety. Seed would be replaced every fifth year; farm tools would be available if required. Some 5,600 ha of the present 7,300 ha cultivated would be improved under the project. (Details at Annex 1.)

(b) Rainfed swamp rice - there is already 650 ha of rainfed swamp rice in Lofa County. The project would increase paddy yields from 1,500 kg/ha to 3,500 kg/ha over a five-year period for 500 ha through better water control and the use of fertilizer, and fungicide treated seed of the IR 5 or IR 20 varieties. The project would develop an additional 1,400 ha of swamp rice by providing credit for hired labor in addition to credit for inputs. However, a special provision of US$0.3 million for mechanized land clearing equipment is included in project costs in case labor is inadequate or clearing work too onerous to be carried out by hand. (Details at Annex 1.)

(c) Irrigated swamp rice - of the 1,900 ha of improved and new rainfed swamp developments approximately 400 ha would have sufficient water for double cropping. Paddy yields (double crop) are expected to increase to 6,300 kg/ha over a six-year period. (Details at Annex 1.)

(d) Tree crop development - project would rehabilitate 500 ha coffee and 800 ha cocoa and would establish 2,300 ha of new coffee and 1,500 ha of new cocoa. Farm inputs would be provided including tools, seedlings, fertilizer, sprayers and chemicals. Rehabilitated coffee yields are expected to increase from 280 kg/ha to 700 kg/ha over a 5-year period, rehabilitated cocoa yields from 280 kg/ha to 600 kg/ha over a 2-year period. New planted coffee yields are expected to increase to 1,000 kg/ha at full development 6 years after seedlings are planted, and new planted cocoa to 850 kg/ha after 8 years. (Details at Annex 1.)

4.05 Seed Multiplication and Seedling Nurseries. Adequate supplies of fungicide-treated seed of improved varieties would be provided from breeder seed supplied by CAES, Suakoko, through either the privately owned National Seed Association or from project seed multiplication farms. Coffee and cocoa seedlings grown from approved seed would be supplied by LPMC nurseries on contract. Alternatively the project would produce its own seedlings from imported seed. Technical advice on seedling production would be provided by consultants retained under the project. (Details at Annex 1).

4.06 Supply of Inputs. The project would provide farm inputs to farmers on credit for both farm development and seasonal requirements. Long-term loans would be provided for small farmers to rehabilitate existing farm and to establish new farms for swamp rice, coffee and cocoa. Loans would be given in kind for tools and equipment, coffee and cocoa seedlings, fertilizers and agricultural chemicals during the development period; and in cash for hired labor for swamp land development. Seasonal credit would be provided in kind for upland rice and swamp rice to cover seed and fertilizer; and for coffee and cocoa would cover fertilizer, agricultural chemicals and replacement sprayers. Delivery of farm inputs would be made through the farmer cooperatives. To ensure farmers permanent access to credit, the project would establish a revolving credit fund to finance inputs, and which would be administered by LBDI on behalf of GOL under a trust agreement. LBDI would establish a branch at Voinjama with project financial assistance (para 4.11), and would maintain separate accounts and financial arrangements for the revolving credit fund. Farm inputs, other than seed and seedlings would be imported through LPMC (acting on a commission basis), whilst rice seed, coffee and cocoa seedlings would be procured locally (para 4.05). (Details of inputs and credit delivery systems are in Chapter VI and Annex 7).

4.07 Staffing. The project provides for up to 276 administrative, technical and commercial staff positions for project implementation, including 161 staff who would be available for transfer to rural development programs in other areas in the last two years of project development. In case suitable qualified Liberians would not be available for key positions, the project provides for up to ten internationally recruited staff. Staff so recruited would be required to undertake practical training of their Liberian counterparts. Where appropriate, staff would be provided with rented housing, and senior staff with vehicles and junior staff with motorcycles (details are in Annex 5).

4.08 Staff training in project management and organization, and basic technical skills would be provided at a residential training center, to be constructed under the project at Voinjama and would be supplemented by practical on the job training. Further technical training would be provided at CAES, Suakoko for rice agronomy; and at the existing Agricultural Extension Training Center (AETC), Monrovia, where the project would construct a 15/20 bed dormitory block for project use for residential training courses covering cultivation of rice, coffee and cocoa (para 6.12). The staff training program is substantially in excess of immediate project needs and should be regarded as an investment in institution building that would be realized by other development projects (para 6.08). Internal training and support of cooperative staff would be provided by the project through the assignment of four full time resident cooperative officers (one to each cooperative) under the direction of the cooperative training officer (para 6.13). Farmer training would be provided by project staff for the more progressive farmers and their wives at a residential farmer training center to be constructed by the project at Kolahun. Full use would be made of the demonstration effect of these farmers (para 6.14).

4.09 Village Wells. The project would assist villages to construct up to 100 hand-dug village wells on a self help basis by the provision of materials and technical advice.

4.10 Schistosomiasis Surveillance Unit. The project would construct and staff laboratory facilities to monitor swamp areas being developed under the project for schistosomiasis to support the Lofa County medical authorities, and the approved USAID rural health program (not part of this project) which provides improved medical facilities, including additional district clinics, midwives, village health visitors, drugs and supplies.

Support Services

4.11 Establishment of LBDI Branch. The project would provide financial assistance to LBDI for two years to establish and staff a branch at Voinjama. The branch would provide normal banking services and administer the project's revolving credit fund.

4.12 Consultant Services. To strengthen and oversee the cocoa and coffee development program, consultants would be required for a total of 14 man-months to provide periodical technical advice. The project would also finance visits, by a WHO specialist to advise on the schistosomiasis surveillance program for a total of 6 man-months.

V. PROJECT COSTS AND FINANCIAL ARRANGEMENTS

A. Project Costs

5.01 Project costs for the five-year development period 1976 through 1980 are estimated at US$18 million including contingencies of US$5 million and are net of all identifiable taxes and duties. Physical contingencies have been calculated at 5 percent of base costs and amount to US$0.7 million, whilst price contingencies amounting to US$4.3 million (31 percent of base costs plus physical contingencies) allow for compounded increases in costs of (a) vehicles, plant and farm inputs of 18 percent in 1976, 8 percent per annum 1977 through 1979, and 7 percent in 1980; (b) buildings and construction materials for training centers, roads, and wells of 24 percent in 1976, 12 percent per annum 1977 through 1979, and 10 percent in 1980; (c) salaries, consultants, technical assistance and local costs of 11 percent in 1976, and 7 percent per annum 1977 through 1980. Project infrastructure accounts for 13 percent of base costs, incremental farm inputs 36 percent, farmer support services 49 percent, and technical assistance 2 percent. Total foreign exchange costs are estimated at US$7.8 million, 43 percent of project costs. Detailed cost estimates are presented in Annex 9 and summarized on the next page.

5.02 Costs are based on prices prevailing during January 1975 for vehicles, equipment, materials, and farm inputs and exclude all identifiable taxes and duties. Confirmation would be sought at negotiation that (a) all project imports would be exempt from import taxes and duties, and (b) the salaries of internationally recruited staff would be free from income taxes. Salaries and wages have been based on up-to-date scales including allowances. Cost of staff who may need to be recruited overseas are based on current international salary levels and include appropriate allowances. Family and hired labor for land and crop development has been costed at full current market value. The cost of seasonal inputs has been estimated on an incremental basi

B. Proposed Financing

5.03 A special feature of the project is a USAID contribution of US$5.0 million. IDA would contribute US$6.0 million, GOL US$5.9 million and participating farmers US$1.1 million in the form of family labor for land and crop development. The IDA credit would finance US$4.8 million (61 percent) of the total foreign exchange costs of US$7.8 (43 percent of total project costs) and US$1.2 million (12 percent) of local costs. The USAID loan would finance US$3.0 million (39 percent) of foreign exchange and US$2.0 million (20 percent) of local costs; it would be separately disbursed and cover the costs of the PMU cooperative/credit division, imported farm inputs and hired labor for swamp development, the schistosomiasis surveillance unit and construction of a dormitory. The IDA Credit would be on standard terms and the USAID loan would be for 40 years, including 10-year grace, repayable in 30 equal annual installments with interest at 2 percent during the grace period and 3 percent thereafter. The financing plan is summarized on page 14.

5.04 Retroactive financing of up to US$100,000 is proposed to cover the costs of early recruitment of the project manager, training and development controller, and agricultural manager prior to credit signature.

C. Procurement

5.05 Contracts for the procurement of vehicles, plant, equipment and other items financed by IDA and valued at more than US$25,000 would be let following international competitive bidding (ICB) in accordance with IDA guidelines. Such procurement is estimated to have a value of US$0.9 million.

Summary of Project Costs

(US$ '000)

	Local	Foreign	Total	Percent of Base Costs	
I. **Infrastructure Costs**					
Road improvement	277.7	174.0	451.7	3	
Training centers	437.5	423.2	860.7	7	
Well construction	50.0	50.0	100.0	1	
Schistosomiasis unit	82.1	202.0	284.1	2	13
II. **Farm Inputs (Incremental)**					
Fertilizers	204.8	830.0	1,034.8	8	
Seeds, seedlings, sprayers, chemicals, and hired labor for swamp development	2,143.8	530.0	2,673.8	20	
Farm labor for land and crop development	1,025.0	-	1,025.0	8	36
III. **Farmer Support Services**					
Local staff	2,299.9	-	2,299.9	18	
Internationally recruited staff	-	1,525.0	1,525.0	12	
Buildings	48.0	77.0	125.0	1	
Vehicles and equipment	186.9	826.8	1,013.7	8	
Administration and operating costs	728.7	648.0	1,376.7	10	49
IV. **Technical Assistance**					
Assistance to LBDI	60.0	90.0	150.0	1	
Consultants	-	100.0	100.0	1	2
Base cost estimate	7,544.4	5,476.0	13,020.4		100
V. Physical contingencies (5%)	396.0	274.0	670.0		
Expected price increases (31 %)	2,309.6	2,000.0	4,309.6		
Total cost of project	10,250.0	7,750.0	18,000.0		
Distribution %	57	43	100		

Summary of Proposed Financing

(US$ '000)

	Total	IDA	USAID	GOL	Farmers
Investment Costs					
Buildings and construction materials	435.0	340.0	95.0	-	-
Vehicles and equipment	1,246.1	836.0	185.1	225.0	-
Farm Inputs					
Fertilizer	1,034.8	-	1,034.8	-	-
Other including seed, seedlings, tools, agricultural chemicals and hired labor	2,673.8	-	1,042.0	1,631.8	-
Farm family labor	1,025.0	-	-	-	1,025.0
Annual Operating Costs					
Local staff	2,773.7	-	650.6	2,123.0	-
Internationally recruited staff	1,895.0	1,410.0	485.0	-	-
Vehicles and equipment	902.0	902.0	-	-	-
Administration	785.0	743.0	42.0	-	-
Assistance to LBDI	150.0	150.0	-	-	-
Consultants	100.0	60.0	40.0	-	-
Subtotal	13,020.4	4,441.0	3,574.5	3,979.9	1,025.0
Contingencies - physical	670.0	219.0	176.0	200.0	75.0
- price	4,309.6	1,340.0	1,249.5	1,720.1	-
Total	18,000.0	6,000.0	5,000.0	5,900.0	1,100.0
Percent	100	33	28	33	6

Domestically manufactured goods would be allowed a 15 percent preference or tariff, whichever is lower, when comparing domestic bids with those of foreign manufacturers. Items betwen US$5,000 and US$25,000 would be procured on contracts which would be awarded on the basis of competitive bidding advertized locally and in accordance with local procedures which are acceptable to IDA. Procurement financed by USAID would be in accordance with their procedures and is estimated to have a value of US$3.6 million (para 5.10).

5.06 Project houses and buildings would be rented and PMU would enter into rental agreements under local procedures satisfactory to IDA. To ensure early availability of suitable rented accommodation, advance payments of rent would be permitted to part finance landlord costs of construction and/or improvements. Project costs include US$0.2 million for rented accommodation.

5.07 Wells would be constructed by villagers under supervision on a self-help basis with project supplied materials estimated to cost US$0.1 million.

5.08 A substantial part of project costs, an estimated US$5.0 million, would be for hired labor, local staff salaries, maintenance and operation of buildings, vehicle and equipment which are unsuitable for competitive bidding. Internationally recruited staff would be appointed on terms acceptable to IDA for all positions other than commercial manager, cooperative training officer, and medical head of the schistosomiasis surveillance unit who would be appointed on terms acceptable to USAID.

D. Disbursement

5.09 The IDA Credit of US$6 million would be disbursed over the five-year period, 1976 through 1980 to cover 33 percent of total project costs against the following categories:

Cat.		US$ million
1	100 percent of foreign or 80 percent of local expenditure for vehicles and equipment not financed by USAID (para 5.10, Cat. 1 (iii))	0.9
2	90 percent of expenditure for civil works and construction materials	0.4
3	100 percent of foreign or 80 percent of local expenditure for internationally recruited staff 1/	1.7
4	90 percent of local expenditure for administration and operating costs	1.7
5	100 percent of foreign and 80 percent of local expenditure for LBDI assistance	0.2
6	100 percent of foreign and 80 percent of local expenditure for consultants services 2/	0.1
		5.0
Unallocated		1.0
	Total	6.0

1/ All staff excepting commercial manager, cooperative training officer, and medical head of the schistosomiasis unit who are financed by USAID (para 5.10, Cat. 1(iv)).

2/ Visiting coffee and cocoa experts for project crop development.

5.10 The USAID loan of US$5 million would be disbursed during the same period to cover 28 percent of project costs against the following categories:

			US$ million	
Cat. 1	100 percent of total expenditure for:			
	(i)	fertilizer, agricultural chemicals, improved seed, agricultural tools and equipment, and hired labor for development	2.1	
	(ii)	vehicles and equipment for the cooperative/credit division and the schistosomiasis unit	0.2	
	(iii)	erected cost of 15-20 bed dormitory block with equipment	0.1	
	(iv)	internationally recruited staff, local staff, consultants 1/ and general support costs for the cooperative/credit division, and schistosomiasis unit	1.2	3.6
Cat. 2	Unallocated to cover physical and price contingencies			1.4
		Total		5.0

5.11 The GOL contribution of US$5.9 million, 33 percent of project costs, would cover the following categories: local costs of imported vehicles and equipment, local staff costs (other than financed by USAID, Cat. 1 (iv)) and the costs of seeds and seedlings.

5.12 IDA disbursements would be fully documented for Categories 1,2, 3, 5 and 6. Disbursement for Category 4 would be made on the basis of statements of expenditure, the supporting documents for which would not be submitted for review but would be retained by PMU for scrutiny by IDA supervision missions. Surplus credit funds, if any, would be used for further development of the project area.

5.13 Disbursement of USAID funds would be made direct according to USAID procedures.

E. Budgetary Control, Funding Procedures, Accounts and Audit

5.14 Under supervision of the Deputy Project Manager, the Finance Manager will prepare annual budgets for approval by the Project Steering Committee (PSC) and inclusion in MA Annual Estimates. Project budgets will be based on the cost estimates in this report with suitable amendment to reflect changes in project costs, policies, and development schedules. Thereafter PMU would submit to the Project Steering Committee quarterly cash flow forecasts indicating costs, revenues and working capital requirements.

1/ Visiting WHO specialist for the schistosomiasis program.

5.15 As condition of effectiveness, GOL would establish a project bank account with LBDI, or an established commercial bank if LBDI is initially precluded by its statutes from commercial banking, with an amount of US$100,000. Subsequently the account would be replenished with funds by the Ministry of Finance quarterly in advance to finance forecasted local expenditures as approved by PSC (para 5.14). Both IDA and USAID reimbursement of local expenditures would be made direct to the Ministry of Finance. Subject to approval of the project budget and the regular submission of the quarterly cash flow forecasts (para 5.14), PMU would be given full authority to operate the Bank account within the budgetary allocation.

5.16 PMU will maintain income and expenditure records in accordance with acceptable accounting practices to reflect the operations and financial position of the project and to provide evaluation data. The accounts will be scrutinized periodically by the PMU evaluation and planning section, and audited annually by external auditors acceptable to IDA. Assurance in this respect will be obtained at negotiations.

5.17 GOL will ensure that cooperatives maintain adequate farm credit and operational records. These records would be subject to audit by the Registrar of Cooperatives and scrutiny by IDA supervision missions. Assurances in this respect will be obtained at negotiations.

5.18 LBDI would maintain separate accounts and records of the revolving credit fund in accordance with the Trust Deed requirements (see para 6.16) which would be audited annually by external auditors acceptable to IDA. Assurance in this respect will be obtained at negotiations.

VI. ORGANIZATION AND MANAGEMENT

A. Institutions, Staffing and Project Implementation

6.01 Background. MA technical field services are grouped under an assistant minister in eight divisions: rice, extension, cooperatives/credit and marketing, applied research, livestock, agricultural engineering, plant quarantine, and fisheries. In 1972, MA made LPMC responsible for sponsoring coffee, cocoa and oil palm development by private farmers.

6.02 In the project area there are currently several independent and uncoordinated MA operations: these are the MA extension service, the Foya rice project, the AGRIMECO mechanized land clearing program at Foya and Kolahun, a UNDP swamp rice development project, a Taiwanese staffed rice project, and the LPMC tree crop program. It is proposed that within six months of project effectiveness, LPMC would relinquish extension responsibility for coffee and cocoa in the project area and transfer extension staff surplus to its needs to the project. Assurances to this effect would be sought at negotiations. In addition, it is proposed that the present County agriculture and cooperative extension staff which comprises the County Agent, a cooperative officer, and 14 other staff should be transferred to the project which henceforward would be responsible for all extension services in the County. The project would strengthen these services through the recruitment and training of additional staff; provision of transport, equipment and buildings; and through introducing improved conditions of service for staff (para 4.07). At the end of the project development period the extension service would again become an MA county organization albeit much strengthened and more efficient, if it had not been transferred to the Special Development Authority (as discussed at paras 6.08 and 6.09). The remaining MA controlled organizations and projects in Lofa County would remain independent of the project; these activities are the Foya rice project, the AGRIMECO mechanized land clearing program at Foya and Kolahun, a UNDP swamp rice development project, a Taiwanese staffed rice project, and the LPMC oil palm program.

6.03 A Project Management Unit (PMU) would be established to carry out the project and would have headquarters at Voinjama. PMU would be headed by a Project Manager responsible through a project steering committee to the Minister of Agriculture. PMU would comprise six divisions: administration and personnel; finance; training; cooperatives and credit; land development; and agriculture. The project manager would be assisted by a Deputy and be supported by an evaluation and planning unit. The training division would be responsible for all staff and farmer training, and the cooperatives and credit division for strengthening and supporting the four project cooperatives (see para 6.15), which would be the channels for farm input, credit delivery, and credit repayment collection. The land development division would be responsible for land use planning, swamp identification and layout, maps, feeder road identification and alignment, and work connected with land titles (see para 3.08). The agriculture division would consist of three sections: (a) field experiments, demonstration farms and applied research; it would conduct the latter in liaison with CAES (see para 2.13), (b) extension services for all project crops; and (c) rice seed multiplication, and the production of coffee and cocoa seedlings either directly or through the agency of LPMC.

6.04 PMU positions would be filled by qualified local staff wherever suitably qualified Liberians were available; however such persons are in short supply and it is clear that some positions will have to be filled by persons recruited internationally. At this time numbers of the latter cannot be determined, but the project provides funds for international recruitment of the project manager, evaluation and planning officer, heads of the six operational divisions, a cooperative training officer, and the head of the schistosomiasis surveillance unit. Internationally recruited staff will have the dual function of project execution and of training Liberians at all levels. The project provides sufficient funds for Liberians to be appointed as deputies to the project manager and each of the six operational division managers, if in practice these are expatriates. Under this arrangement an expatriate appointed to any of these posts would be responsible for training his deputy to take over from him within a period that would be agreed by GOL and IDA at the time of the expatriate's appointment. Appointment of a project manager, training and development controller, and an agricultural manager with qualifications and experience, and under terms and conditions acceptable to IDA would be a condition of credit effectiveness. To assist and encourage GOL to recruit these key staff prior to project signature, retroactive financing of expenses so incurred is proposed (see para 5.04). Furthermore during negotiations the arrangements for international recruitment and the prefinancing required for this purpose would be discussed and agreed. Job descriptions for key positions are presented in Annex 5. Assurances would be obtained at negotiations that the qualifications and experience and terms and conditions of the deputy project manager, finance manager, administration manager, commercial manager, land planning officer, cooperative training officer, evaluation and planning officer, and head of the schistosomiasis unit would be mutually acceptable to GOL and IDA.

6.05 Project Steering Committee. To ensure cooperation with other GOL departments concerned directly or indirectly with the project, a Project Steering Committee (PSC) would be established within three months of project effectiveness with terms of reference acceptable to IDA. The Committee would comprise the Ministers (or their deputies) of Agriculture (Chairman); Finance; Planning; Local Government and Rural Development, with the Project Manager as Secretary.

6.06 Project Advisory Committee. A Project Advisory Committee would be established within three months of effectiveness to ensure cooperation with the area administration, and support for and participation in the project by the local people. The committee would consist of the County Superintendent (Chairman), the four paramount chiefs of the County who are elected by the people, the presidents of the four cooperatives and the project manager and his deputy. The evaluation and planning officer would be the secretary. PMU would discuss its objectives and plans with the Committee in order to take full account of local needs, conditions, customs and attitudes.

6.07 The weakness of the Ministry of Agriculture (MA) was discussed in Chapter III. Currently a study is being made of MA, its functions and its financial needs under Credit 306-LBR. This study will not be concluded until late1975 and it cannot be determined which of its recommendations will be acceptable to GOL.

6.08 As MA now functions it does not attract persons of the qualifications, energy and experience that Liberia needs if MA is to be an efficient instrument in the development of the Nation's agriculture. Under the proposed project an attempt will be made to recruit and train personnel with the capabilities of playing a major role in Liberia's agricultural development in the future. It seems clear, however, that at the end of the project period when PMU will have completed its task, and when the project area will revert to normal extension activities that the persons recruited and trained under the Project will not be prepared to transfer to MA, unless the role it plays in the Nation's development is much greater and more effective than now, and unless the terms and conditions of service that the Ministry offers are adequate and attractive.

6.09 It is possible that GOL will find it difficult or maybe impossible to reorganize MA to meet these objectives; inevitably, for example, an improvement in terms and conditions of service will have to be harmonized with other agencies of Government and this could prove difficult. If MA is not reorganized there is the danger that project recruited and trained staff would be lost to the sector. Also MA would itself be no better qualified to supervise the implementation of successor projects to that appraised in this report, for example, the Rural Development Project that has been prepared for Bong County and the Smallholder Rubber Development Project. To guard against this possibility, assurances would be obtained from GOL during negotiations that in the event MA was not organized to the degree necessary to ensure the successful implementation of the Lofa and other development projects, a special development authority would be established to take over these functions. It is proposed that during negotiations agreement would be sought from the Government that this matter will be discussed with IDA within six months of issue of the consultants' report on the reorganization of MA.

Project Implementation

6.10 For implementation the project would be divided into clan areas grouped under the four paramount chiefdoms. One chiefdom would be developed at a time with Zorzor chiefdom last as it has the weakest data base. The evaluation and planning unit would collect planning data on the Zorzor chiefdom as one of its first priorities. Implementation would be carried out in stages. The first stage would be identification of development areas, swamps, road requirements, and farmers; followed by farmer training, road improvement, land clearing, soil preparation, and distribution of seed and seedlings. Existing MA extension, cooperative and credit services would be transferred to PMU (para 6.02).

6.11 Sufficient extension, cooperative/credit staff would be recruited and trained in project year one to service farmers commencing land development in project year two. Part of this staff would then be transferred to the next development area in project year three and replaced by more recently recruited staff. This progression would be continued until development was completed with the most experienced staff concentrating on the new areas. By the end of the development period, staff would be progressively reduced, permitting the surplus staff to be transferred to other projects or development schemes, whilst those remaining in Lofa County would revert to MA (see also para 6.09). At the end of development period, local staff, equipment and facilities of the schistosomiasis surveillance unit would be transferred to the Voinjama (Ministry of Health) hospital; road equipment and staff would be transferred to Ministry of Public Works; staff training center and farmer training center would be transferred to County Superintendent for benefit of the County unless required for other MA development schemes.

B. Staff, Cooperative and Farmer Training

6.12 In view of shortages of trained staff and time constraints, project would train all staff levels through a combination of short formal courses interspersed with practical field training. Courses would be provided at a staff training center to be constructed at Voinjama; at CAES, Suakoko; and at AETC, Monrovia. Staff would be recruited at least six months prior to field appointment to allow for adequate training. Training would be the responsibility of the Training and Development Controller, assisted by two full-time lecturers at Voinjama and the division managers. Courses at Voinjama would cover administration and organization, project objectives, communications and PR, and basic agriculture practicics. More advanced training would be provided through short-residential technical courses at CAES, Suakoko, on rice agronomy, and at AETC for all project crops with teaching inputs provided by University of Liberia, WARDA and MA technical staff.

6.13 Training would be given to all cooperative staff levels, covering farmer credit, input supply, marketing, management and organization. Training, which would be the responsibility of the cooperative training officer with guidance from the Training and Development Controller, would be undertaken either at the PMU training center Voinjama or at the cooperatives, by a full time cooperative officer, assigned to each of the four cooperatives, who would conduct short introduction and technical courses interspersed with supervised practical training.

6.14 Farmer training would consist of residential farm family courses at the farmer training center, demonstration farms, farm visits, village/group discussions with film and slide shows and other training aids. Training would be coordinated by the Training and Development Controller, with support from the project manager, agriculture manager, and commercial manager. Full use would be made of the demonstration effect of the more progressive farmers.

C. Farm Inputs, Procurement Distribution and Credit Arrangements

6.15 During project development period, PMU cooperative/credit division would supervise and train the four farmer cooperatives to establish annual farm input and credit requirements from information supplied by village groups with extension staff assistance. These village requirements would be totalled by the four area cooperatives who would in turn advise LPMC (for procurement of inputs), LBDI (for farmer credit needs and financing of non-incremental farm inputs from the revolving credit fund), and PMU (for project financing of incremental farm inputs). On receipt of LPMC organized imported inputs together with Liberian procured seed and seedlings, cooperatives would organize distribution to village centers, primarily with hired transport, at preannounced times. Farmers would collect inputs and if, on credit, complete all credit documentation at that time. Distribution would be supervised by the extension services. All farm inputs would be provided to the farmer in kind and financed from the revolving credit fund. Cash payments for hired labor as certified by the extension service, would be made by cooperatives, under PMU direct supervision with funds provided from the revolving credit fund. All farm inputs would be supplied at full cost plus a cooperative operating margin.

6.16 Credit. Both medium-term development loans and seasonal credit would be provided under the project. Development loans for swamp rice would cover the cost of tools, hired labor and/or equipment for land clearing; and for coffee and cocoa would cover the cost of tools, seedlings, fertilizers, sprayers and agricultural chemicals. Seasonal credit for upland and swamp rice would cover seed and fertilizers; and for coffee and cocoa would cover fertilizers, sprayers and agricultural chemicals. Farmer credit records would be maintained by the cooperatives. Swamp development loans would be disbursed in one installment and repayable in 6 equal annual installments at 10 percent 1/ interest per annum after a 2-year grace period. Coffee and cocoa development loans for rehabilitation would be disbursed in one installment repayable in 5 and 3 equal annual installments respectively at 10 percent per annum. Coffee and cocoa development loans for new planting would be disbursed over three years and would be repayable in 4 equal annual installments for coffee, and 8 years for cocoa at 10 percent interest after a four-year grace period for both coffee and cocoa, during which interest at 10 percent would be capitalized. Development loans would be disbursed in kind with exception of cash for hired labor (para 6.15). Seasonal credit would be provided in kind at a flat service charge of 10 percent (equivalent to 15 percent per annum if average seasonal credit outstanding eight months), which would assist the cooperatives to cover their credit handling costs. All credit would be repayable at the end of each season following harvesting. Loan and credit applications, after screening by a village or group Credit Advisory Committee consisting of village or clan chief, one or two respected farmers, local agriculture and cooperative/credit extension assistant, and a credit officer from the cooperative, would be submitted to PMU for approval. Development loan applicants would require tribal confirmation of the borrower's right to use the land to be developed. As the farm crop development pattern will vary considerably, the project proposes that discretion should be given to PMU to determine individual credit limits within an overall maximum of US$925 per farm family. Whilst this seems high, it is based on the cost of farm inputs required to develop 1 hectare of cocoa spread over a 4-year period (3 year development together with the first seasonal credit granted in year 4) which is within the capacity of the family labor of the smaller farmer to cultivate in addition to his upland food crops. On the same basis 1 hectare coffee would require US$646 (over 4 years), 1 hectare rainfed swamp rice, US$385 (for 1 year). Credit would be restricted to the smaller farmers and would be assessed on a farmers availability and suitability of land, farming capability, family labor availability, and creditworthiness. The overall credit limit of US$925 would be amended from time to time to allow for price inflations with IDA's prior approval. Based on the crop development program during the project development period, credit needs would total US$3.8 million, US$3.0 million for development and US$0.8 million for seasonal credit. Sufficient development loan repayments would be received by the revolving fund in the post project development period to finance completion of project commenced crop development (see Annex 7, Table 1).

6.17 Credit Recovery. Credit recovery would be the responsibility of the cooperatives. As project area LBA's, the cooperatives would purchase farmers coffee and cocoa and make deductions of credit repayments from the proceeds. Marketing of coffee and cocoa through his cooperative would be a condition for a farmers access to project credit. As paddy would be partly farm consumed and partly sold freely on the local market, it would not be possible to make deduction from sale proceeds, consequently the farmers cooperative, with cooperative/credit extension service assistance, would maintain close liaison with paddy farmers at harvest time, to collect credit repayments. Additionally, by offering attractive paddy prices,

1/ 10 percent is the current maximum permitted by Liberia's Usury Law.

cooperatives would encourage the marketing of surplus paddy through their own organizations thereby strengthening their credit collection opportunities. The assistance of the Credit Advisory Committees and of the tribal authorities would be sought in bad debt recovery.

6.18 Field Staffing. An important part of the credit system would be the role of the PMU cooperative/credit assistant, supported by the agriculture extension assistants, namely: (a) to establish farmer credit needs, (b) to explain and train the farmer in credit management; (c) to supervise and advise the field management of farm inputs, credit, marketing and credit recovery system, and (d) general field support of the farmer cooperative efforts.

6.19 Credit Institutions. The project would create a revolving credit fund for farmer credit, to be governed by a trust deed arrangement and administered by LBDI on GOL behalf. At the end of project development in 1980, the fund would amount to US$3.8 1/ million for the benefit of 8,000 farmers. By 1987, all development loans amounting to US$3.4 million would have been repaid and available for further agricultural development as determined by the trust deed. The fund would be built up by the channelling of the development and incremental seasonal inputs, supplied by the project to farmers through the farmers cooperatives (see para 6.15). The fund would charge the farmers cooperatives interest at 7 percent per annum on the credit which the cooperatives in turn on-lend to farmers at 10 percent, leaving a 3-percent margin (approximately an 8 percent margin on seasonal funds as farmer loans would be outstanding for less than 12-months - para 6.16) to cover credit administration and bad debts. LBDI would receive 2 percent commission on disbursed credit leaving 5 percent to be credited to the revolving credit fund. Development loan and seasonal credit repayments would be recovered by cooperatives and paid over to LBDI, which would credit the revolving credit fund. After the first year, seasonal farm inputs would be financed from the revolving credit fund, leaving only the incremental seasonal inputs together with additional development inputs to be project financed (details at Annex 7). Additionally, LBDI would provide normal banking facilities to the project, cooperatives, County authorities, LPMC, and other organizations and larger farmers. Savings facilities would be available to the smaller farmers at the cooperatives who are currently paying 2 percent per annum on deposits.

D. Processing and Storage

6.20 Processing Facilities. At Voinjama, LPMC has a 1-ton/hour rice mill and a 1-ton/hour coffee huller for processing LPMC's own and farmers production. Due to its pricing policies, see Chapter VII, LPMC purchases of paddy rice and cherry coffee are small and consequently these processing facilities are under utilized Most farmers prefer to have their paddy milled and cherry coffee hulled on contract by small private millers of which there is an increasing number. The LPMC and private mills provide sufficient physical capacity to handle existing production as well as increases in production that would be included by the project.

6.21 Storage. Farmers rice surplus to their domestic needs would be marketed through the traditional system of private traders with increasing amounts being channelled through the cooperatives; coffee and cocoa would be marketed through the cooperatives as LBAs for LPMC as in the past. Storage capacity available for project production at full development would be adequate as three

1/ Excluding interest income.

out of four project cooperatives are constructing additional storage capacity (para 2.12), LPMC has substantially underutilized storage capacity at Voinjama, and storage capacity of former private commodity traders is unused. Consequently, additional bulk storage facilities would not be required for the project. However, to assist farmers to market their crop at the primary market level, the project would provide for construction of small buying stores at village centers at which the four cooperatives would be able to buy direct from farmers thus excluding the existing small middlemen.

VII. PRODUCTION, MARKET PROSPECTS, FARM INCOME AND RECOVERY OF COSTS

A. Production

7.01 The variety of ecological conditions and farm sizes in the project area, and the complexity of cropping patterns, are such that yield variations would be inevitable and substantial. Without project development crop yields are based on observations and surveys conducted in the pre-appraisal study, supplemented for rice by field trial results at CAES, Suakoko, but are necessarily tentative. Without and with development yields are summarized below.

	Without Development			With Development			
Crops	Area ha	Av. Yield kg/ha	Total Prod. '000 tons	Area ha	Av. Yield kg/ha	/1 Total Prod. '000 tons	Incremental production '000 tons
Upland Rice	5,600	1,000	5.6	5,600	1,700	9.5	
Swamp Rice /2							
Rehabilitation	400	1,500	0.6	400	3,500	1.4	
	-	-	- -	1,100	3,500	3.9	
Swamp Rice /3							
Rehabilitation	100	1,500	0.2	100	6,300	0.6	
New	-	-	-	300	6,300	1.9	
			6.4			17.3	10.9
Coffee							
Rehabilitation	500	280	0.2	500	700	0.4	
New	-	-	-	2,300	1,000	2.3	
			0.2			2.7	2.5
Cocoa							
Rehabilitation	800	280	0.2	800	600	0.5	
New	-	-	-	1,500	850	1.3	
			0.2			1.8	1.6

/1 Upland rice, first year of development
Swamp rice, improved - 5 years after first planting, new - 6 years
Coffee, rehabilitation 5 years after seedlings planted, new - 6 years
Cocoa, rehabilitation 2 years after seedlings planted, new 8 years
/2 Single crop
/3 Double crop

7.02 As far as upland rice is concerned the without project yield of 1,000 kg/ha may appear high; however upland rice is particularly high yielding in the wetter zones of West Africa where, as in the case of the project area, it is the first crop that follows the slashing and burning of forest or bush fallow. Yields of more than 2 tons/ha have been commonly recorded. The anticipated increment of 700 kg/ha from the minimum package of improved seed and fertilizer is substantiated in particular by the very large volume of experience in the Ivory Coast with upland rice, and is endorsed by the West African Rice Development Association (WARDA). Without and with development yield estimates for swamp rice are drawn from Liberian experience, and in particular from experience obtained at the IDA financed agricultural development project at Kenema in Sierra Leone, where an identical program of swamp rice development has been implemented for the last three years. Kenema is about 150 km from the project area, has a similar eco-climate and is populated by the same ethnic group. Cocoa and coffee yields are based on the very large amount of experience available throughout West Africa.

B. Marketing and Prices

7.03 Rice. Project participants would sell their rice on the open market either directly or through their cooperative. LPMC participates competitively in this market but its share is small, less than 3 percent of all domestically produced rice marketed in Liberia. LPMC intervention in the market is important only in so far as its paddy price tends to act as a floor price above which private traders operate. Currently the LPMC purchase price is US$0.24/kg; this is somewhat lower than what could be paid for domestically produced rice thus permitting it to remain competitive with imported rice. As LPMC intervention in the rice market could be an important instrument in ensuring that private traders pay fair prices to producers, a side letter would be obtained from Government during negotiations in which Government would affirm that LPMC would continue its floor price setting role in the project area by continuing to offer to purchase paddy at prices which it would set following consultation with Government and PMU. The side letter would confirm that the LPMC role would be to endeavor to maximize, for project participants their share of the real market value for their paddy without LPMC itself becoming a permanent and major purchaser of paddy.

7.04 Adequate paddy processing facilities exist in the project area for projected project output. LPMC operates a 1-ton/hr capacity mill which it uses to process its own purchases, and there is a large and increasing number of small mills that practice custom milling. Par boiling is not widely employed. Rice to paddy outturns are 66-68 percent for the LPMC mill; 50-55 percent for the small mills; and about 65 percent for traditional hulling by hand pounding. One reason for low outturns--a good performance would be 68 percent--is the differing milling characteristics of the mixture of varieties grown. This situation would be improved as a conseouence of the project.

7.05 In project calculations and farm budgets the farmgate paddy prices used and expressed in constant 1975 dollars, are as follows. Economic price: US$0.23/kg, the 1980 import substitution value of project produced rice which reflects the Bank's assessment that the world market price of rice of a similar quality as now imported by Liberia will by 1980 fall some 27 percent below the present US$275/ton FOB Bangkok. Financial price: US$0.21/kg, the estimated price that the farmer will receive by 1980; it assumes that the farmer's rice eventually will be retailed in Monrovia and that he will receive only 90 percent of the real financial farmgate value due to marketing inefficiencies. Price breakdowns are at Annex 8, Table 5c.

7.06 Project induced milled rice production is estimated at 7,300 tons 1/ equivalent to 20 percent and 3 percent of rice imports and consumption respectively in 1980. The domestic market would be able to absorb all project induced rice production.

7.07 Cocoa and Coffee. Project farmers would sell their cocoa, as dry cocoa beans, to their respective cooperatives. The cooperatives are licensed buying agents (LBA) of LPMC which has a monopoly for cocoa exports. The procedure would be the same for coffee. However, some improvements in the marketing and pricing arrangements for both cocoa and coffee are required. There is a need to improve cocoa quality in order to maximize overseas sales returns, and LPMC should switch from purchasing (via its LBAs) clean coffee to purchasing cherry coffee (unhulled coffee). For cocoa a premium for high quality, possibly through purchasing two or three quality grades, as in other West African countries, would appear a feasible solution. During negotiations, assurances would be obtained from Government that such a system would be introduced on a nationwide basis by December 31, 1976. In the case of coffee much labor is employed in converting cherry coffee to clean coffee 2/ through tedious hand processing techniques. The return to such labor is very low, despite a substantial price differential, since the conversion ratio, clean coffee: cherry is 55 percent by machine, and only 50 percent by hand pounding. It would be more rewarding for both grower and the economy if the misleadingly favorable premium for clean coffee was reduced to encourage cherry sales. LPMC owns and operates sufficient coffee hulling capacity at Voinjama to accept in the form of cherry coffee all coffee purchases in the project area, including production induced by the project. Assurances that adjustments to price differentials would be introduced by December 31, 1976 adequate to achieve the above objectives would be obtained during negotiations.

7.08 Producer prices currently paid by LPMC are cocoa US$0.79/kg and cherry coffee US$0.33/kg (equivalent to US$0.66/kg of clean coffee). These prices compare favorably with producer prices paid by other West African producers of these commodities, eg. for cocoa, Ghana US$0.48/kg, Ivory Coast US$0.84/kg; and for clean coffee, Ivory Coast US$0.72/kg. They are also sufficient to attract cocoa and coffee from Guinea and Sierra Leone. Producer prices, however, constitute only a relatively low proportion--generally in the range of 50-60 percent--of their FOB value; at times of high prices, eg. for cocoa in the first quarter of 1974 the proportion has been very much lower. Many countries, such as Ivory Coast and Ghana, operate produce marketing boards or stabilization funds that through fixing producer prices below market values, inter alia function as a means of taxing tree crop farmers. Such activity may be, and often is, in the public

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1/ Equivalent to 10,900 tons paddy at 67 percent outturn.
2/ See Annex 8, para 9.

interest. In the case of LPMC, however, the private partner (see para 2.10) benefits to 50 percent of surpluses accuring to LPMC above certain statutory expenses. Briefly the system is that under its statutes LPMC deducts from the FOB value of its agricultural exports 8 percent as profit (4 percent to the Government and 4 percent to the private partner); 5 percent, which it retains in a price stabilization fund but which it can use for purposes approved by its board; and an additional 7 percent which is deducted as an agricultural development levy and used for a variety of purposes, see para 2.10. Of the balance of 80 percent of FOB value the producer receives the official producer price and the remainder accrues to LPMC to cover its marketing costs; anything additional to this is a further profit on which dividends may be paid. As a commercial entity LPMC generally attempts to fix producer prices to maximize purchases; an incentive to do this is that the private partner is also the overseas marketing agent for LPMC and obtains a 2 percent selling commission for this work. On the other hand as LPMC has a monopoly for cocoa and coffee marketing and fixes the producer prices for these commodities there is the danger that in the absence of any statutory control over LPMC marketing expenses, marketing inefficiencies will develop that will be met at the expense of the producer. There is also the danger that stabilization funds will be employed for purposes, which while worthwhile and in the general economic interest, could mean that LPMC would have liquidity problems at a time of need to support prices, again to the disadvantage of the producers.

7.09 In order to remove the dangers inherent in the present LPMC system it is proposed that during negotiations Government would be asked to agree in principle that LPMC statutes and procedures would be changed in such a way to (a) establish annually a fixed marketing cost margin for LPMC consistent with efficient marketing procedures, (b) establish a price stabilization fund that would be separate from other LPMC accounts and be used only for price stabilization of the commodities supporting the fund, and (c) establish a price intervention system under which the producer would receive a minimum of 60 percent of the anticipated medium term FOB value of the commodity and under which in any single year anticipated surpluses available over and above the base price would be shared between the producers and the stabilization fund according to an agreed formula, 1/ and any deficits incurred by LPMC in paying the agreed price would be made good by the stabilization fund. Assurances would be obtained at negotiations that Government would prepare appropriate new statutes and regulations for LPMC and that statutes and regulations satisfactory to IDA would come into force prior to December 31, 1976. Should Government need assistance in the above endeavor funds would be available under Credit 306-LBR to employ consultants for this purpose.

7.10 According to Bank's forecasts the world market coffee price will appreciate from US$1,366/ton FOB Monrovia in 1974 to US$1,903/ton in 1980 at 1974 constant prices, and the world market cocoa price will decline from US$1,914/ton to US$1,260/ton over the same period. The 1980 prices are used in project economic calculations. With these prices, and assuming that under the new pricing arrangements farmers would receive an average of 67 percent of the FOB value of their produce less 10 percent due to marketing inefficiencies

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1/ In many countries the producer's share in a single year is limited to a 10 percent [illegible] over the price paid in the previous year.

(para 7.04), farmgate producer prices in 1980 would be US$1.03 and US$0.69/kg for coffee and cocoa respectively. The relationships between world, FOB Monrovia and farmgate prices for coffee and cocoa are detailed in Annex 8, Tables 5a and 5b.

7.11 Annual project induced cocoa and coffee production at full maturity in 1985 would amount to 1,600 tons and 2,500 tons respectively. These outputs would result in substantial proportional increases in exports of the two commodities, 48 percent over 1973/74 cocoa exports, and a 67 percent increase in the case of coffee. By world trade standards the increments in production are very small, 0.1 percent of expected 1985 world trade in cocoa and 0.05 percent of expected world trade in coffee in the same year. While Liberia is not a member of either of the International Cocoa and Coffee Organization, both have been informed of the scope of this project and have proffered no objection to its being implemented.

C. Farmer Benefits

7.12 The project through its comperehensive support services including roads, farm inputs, credit, and marketing will enable the 8,000 participating farmers to increase both the area under cultivation and crop yields. These improvements will bring substantial direct benefits both in the return on the farmer's investment and on his family labor. Crop budgets are summarised below and indicate on a per hectare basis for the three crops, the benefits of improved technology over traditional practices.

Summarised Crop Budgets

	Without Development Net Return 1/		With Development Net Return 1/		Incremental Net Return 1/
	$/ha	$/manday	$/ha	$/manday	$/ha
Upland Rice	210	1.00	305(45%)	1.40(40%)	95
Swamp Rice (Single cropped)					
Rehabilitated	316	1.50	650(105%)	2.50(67%)	334
New	-	-	650	2.50	650
Swamp Rice (Double cropped)					
Rehabilitated	573	1.60	1159(102%)	2.50(56%)	586
New	-	-	1159	2.50	1159
Coffee					
Rehabilitated	283	3.80	562(99%)	4.10(8%)	279
New	-	-	870	5.90	870
Cocoa					
Rehabilitated	188	3.80	390(107%)	4.30(13%)	202
New	-	-	557	4.60	557

Note: Figures in parenthesis show increase over without project situation.

1/ Net return after debt servicing.

7.13 No attempt has been made to produce a typical farm budget, since farm sizes, crop combinations and land ownership patterns are diverse and unidentified. At full development the project is expected to increase average annual net family income of the participating farmers from US$213 to US$813 equivalent to an increase in per capita from US$45 to US$163 (excluding the value of minor crops, fruits and vegetables).

D. Financial Implications to Government

7.14 The financial implications to GOL of implementing the project are summarized in Annex 9, Table 9. Although cost of US$2,250 per farm family appears high, partly explained by the coffee and cocoa development costs, it includes substantial infrastructure and training costs beyond project needs.

7.15 However, after the development period, revenue from indirect taxation and LPMC dividends accruing to GOL together with the agricultural development levy arising from project production (see para 7.08) would finance the full cost of extension and cooperative/credit services, and from 1987 there would be an annual surplus of about US$0.7 million before credit servicing.

VIII. BENEFITS AND JUSTIFICATION

8.01 Direct benefits from the project would be incremental production of 7,300 tons of rice; 1/ 2,500 tons of coffee and 1,600 tons of cocoa annually at full maturity from 1985 onwards, which would result in increased income for 8,000 families. Living standards for the remaining population in the project area would be improved through social infrastructure and marketing arrangements.

8.02 Project rice production would be consumed internally, coffee and cocoa being exported. The gross foreign exchange savings/earnings arising from rice import substitution and additional exports is estimated at US$9.3 million based on the Bank's 1985 price forecasts in constant 1975 terms 2/ of US$400/ton for rice, US$1,800/ton for coffee; and US$1,200/ton for cocoa.

8.03 The project will bring about a substantial mobilization of labor resources in the area, particularly the seasonally unemployed. It is estimated that during the project implementation period, 2.6 million mandays of employment will be created. In addition, the project will create additional employment opportunities in the agricultural industries and services sector, as well as in transportation and construction.

8.04 Apart from these direct benefits to participating farmers, the project would have important secondary benefits, largely unquantifiable, for the community from improved roads, banking, education and health facilities, including improved drinking water supplies. The project would also strengthen MA's technical capability in agriculture, cooperative/credit extension, agricultural research, and agricultural project management for further rural development.

8.05 The economic rate of return (ERR) based on incremental costs and incremental benefits is estimated at 30.5 percent. The main assumptions in estimating the cost and benefit streams are described in Annex 10.

1/ Equivalent to 67 percent of 10,900 tons paddy.
2/ FOB Monrovia equivalents.

8.06 Risks and Sensitivity. The project is subject to a moderate degree of risk in that its estimated benefits might not be obtained because of four reasons. First, it would be the first project of its type in Liberia and will require degrees of organization and cooperation within and between GOL agencies that have not been practiced in the past. It appears inevitable, therefore, that problems of coordination and demarcation of responsiblities will arise, and that of services, these could result in delays in project implementation. The likelihood of serious delays is lessened, however, in the light of the apparent commitment of GOL to make this project function efficiently. Second, this will be the first exposure of project participants to a relatively intensive program of development. Thus the extent of their response cannot be forecast accurately; this leaves some question concerning the degree of accuracy of the production assumptions, in terms of area and yield per unit area, employed in report calculations. Fortunately, the project area is only some 150 km from a similar project financed by the Bank Group in Sierra Leone (Integrated Agricultural Development Project - Credit 323-SL), where farmer response has been excellent. As the people of the project area are of the same ethnic group as those participating in the Sierra Leone project and have similar customs and traditions, it appears likely that a similar strategy response would be obtained under the project. Third, while yield data on rice, both upland and swamp, are good and substantiated in particular by experience in the Sierra Leone project those on coffee and cocoa are less firm. This is because there is no existing detailed experience in Liberia or its immediate neighbors of the yield performance of these crops under the type of management that would be provided under the project. The yields employed in report calculations are those generally accepted by authorities but given the long life of these plantings, cocoa may produce for more than 50 years, they are susceptible to error. Fourth, in project economic calculations a shadow rate of labor is employed, 50 percent of the official minimum wage- Annex 10. Should the Wologisi mine be opened, the labor structure would change and the opportunity cost of labor would rise. The extent of such a rise is unknown and would depend on how much labor would transfer to Wologisi from the Bomi mine which is due to close in the near future.

8.07 Sensitivity tests have been used to test the impact, singly and jointly of some of the above possible adverse factors occuring. The factors employed are an overall delay in project benefits by 2 years, decreases by 10 percent and 20 percent in project production and project costs, employment of the estimated market wage rate for labor rather than the shadow rate and project life shorter than 30 years used in the statistical calculations to take account of possible errors in forecasting crop yields (Annex 10, Table 3). ERR decreases from 30.5 percent to 27.2 percent when labor is costed at the official minimum wage rate of US$1.00 per day; ERR decreases to 19.6 percent with 20 percent increase in costs coupled to 20 percent decrease in benefits, and to 15.8 percent if labor costed at the full wage rate. A 2 years delay and a 10 percent decrease in benefits would reduce ERR to 19.6 percent (15.8 percent if full wage rate used). The ERR is insensitive to a reduction of project life by 5 years.

IX. RECOMMENDATIONS

9.01 During negotiations the following assurances would be discussed and agreement obtained:

Conditions of Effectiveness

(a) GOL would establish a special PMU bank account with either LBDI or a commercial bank with an initial payment of US$100,000 (para 5.15);

(b) Appointment of project manager, training and development controller, and agricultural manager would be made with qualifications, experience and on terms mutually acceptable to GOL and IDA (para 6.04);

(c) Formal authorization by the USAID of a loan of US$ 5 million to assist the project.

Assurances

(d) GOL would ensure that AGRIMECO schemes in Lofa County were excluded from the project, and would not permit AGRIMECO to undertake any new land clearing in Lofa County after December 31, 1975 and during the project period (para 2.08);

(e) GOL would require LPMC and MA to establish within 6 months of credit effectiveness detailed plans for the settlement and use of areas cleared by AGRIMECO in Lofa County together with economic charges and credit terms (para 2.08);

(f) GOL would cause LBDI to establish a branch at Voinjama within three months of project effectiveness to provide normal banking services, and to administer the project revolving credit fund under a trust agreement (para 2.11) with separate accounts externally audited (para 5.18);

(g) GOL would allocate sufficient funds and equipment to MPW Lofa County to maintain annually the Foya, Voinjama, Zorzor primary road as an all-weather road together with 500 km of existing farm to market roads, and construct 100 km new farm to market roads (para 4.02);

(h) GOL would establish satisfactory procedures for quarterly advance replenishment of PMU bank account for local expenditures (para 5.15);

(i) GOL would instruct LPMC to relinquish extension responsibility for coffee and cocoa in the project area, with the exception of the AGRIMECO cleared areas in Lofa County, and would transfer surplus extension staff to PMU, within six months of effectiveness (para 6.02);

(j) The appointment, terms and qualifications of the deputy project manager, finance manager, administration manager, commercial manager, land planning officer, cooperative training officer, evaluation and planning officer, head of the schistosomiasis unit would be mutually acceptable to GOL and IDA (para 6.04);

(k) GOL would establish within three months of effectiveness a project steering committee (para 6.05);

(l) GOL would enter into discussions with IDA, within 6 months of submission of consultants report on MA reorganization, for implementation of this and other development projects (para 6.09);

(m) Farm credits would be limited to a maximum of US$925 outstanding at any one time per farmer, subject to amendment for price inflation by mutual agreement between GOL and IDA (para 6.16); and

(n) GOL would establish new produce pricing statutes and regulations for LPMC to come into force by December 31, 1976 (para 7.09).

9.02 On the basis of the above assurances and conditions, the project would be suitable for an IDA credit of US$6 million to Government of Liberia.

LIBERIA

LOFA COUNTRY RURAL DEVELOPMENT PROJECT

AGRICULTURE

A. Climate, Water and Soils

1. Introduction. The project area is principally located in the northern most part of Liberia, the so-called Upper Lofa area, administratively part of Lofa County. It is bordered by Sierra Leone to the west and by the Republic of Guinea to the north, and east; the southern limit is the borderline of the high rain forest that stretches far to the south, covering the largest part of Liberia. Southeast of Voinjama separated by a 30 km-wide mountain range lies another part of the project area of which ZorZor is the most important town. Eleven clans (approximately 90,000 people) live in the project area where population density is estimated at about 22 per sq kilometer. Assuming that farm population is 75% and each farm holding consists of 5 persons, the number of farm holdings is some 13,500.

2. Rainfall. Annual rainfall averages 2,500 mm, there is one rainy season from April/May until November, during which precipitation reaches about 2,300 mm or 90% of total annual rainfall (Table 1). August is on average the wettest (411 mm) and January the driest (13 mm) month. The sliding average annual rainfall figures over 5-year periods since 1953 show that annual rainfall in Voinjama is diminishing during the last decade. In particular the last 5 years (1969-1973) annual rainfall has been some 25% below normal.

3. Temperature. Average monthly temperature oscillate only slightly around 24°C. The daily temperatures however, could differ significantly, such as an absolute minimum of 5°C in January and an absolute maximum of 37°C in February. Average monthly temperatures, recorded over a period of 21 years in Voinjama are as follows (°C):

J	F	M	A	M	J	J	A	S	O	N	D	Average
24.5	24.6	24.3	24.5	24.2	24.0	23.8	23.7	24.0	24.3	24.4	24.3	24.2

Dry winds from the North-East (Harmattans) are a general phenomenon in the project area. These winds are cold in the winter in the North and warm in summer.

4. Surface Water. Three major rivers (Makona, Zeliba and Lofa River) drain the project area in south-westerly directions. The watersheds of these rivers are intersected with numerous perennial and ephemeral

streams. The bottom land of these streams, permanently or temporarily waterlogged, form the swamps. No data on discharge and water levels of the major rivers and perennial streams are available and it is therefore not possible to determine the quantity of water, that could be used for irrigation. Water for rice growing in the swamp during the rainy season is reasonably secured, but during the dry season the swamps rely on direct run-off from the catchment area which occurs with a certain time lag after the rains have stopped. This type of water supply may become very low or decrease to practically zero from January through April. The increasing intensity of shifting cultivation and shorter periods of fallow, would cause run-off rate during the wet and dry season to increase and less water for swamp rice growing would become available for shorter periods. Based on a rough estimation, 1 ha of double cropped rice needs at least 5 ha of well preserved watershed. With diminishing annual rainfall and continuing clearing of forest land for shifting cultivation, it is obvious that less land would be available for double cropping of rice. Since for practical reasons it would be impossible to forbid shifting cultivation in the watershed areas of swamps, the only way to preserve forest land and maintain a reliable water supply is to show the rural population the advantages of a more permanent cropping system, whereby irrigated rice in swamp areas and upland tree crop growing could play a key role. The project area has not sufficient ground water for irrigation purposes.

Soils

5. The Dissected Lateritic Plateau. The project area is located on an average altitude of approximately 500 m above sea level and consists for the greater part of a dissected lateritic plateau with low rounded hills and valley bottoms with alluvial terraces. Also high hills exeeding 800 m frequently occur as steep, pointed hills under a thick forest or as rounded monarocks. A very small part of the project area is occupied by mountains belonging to the lower parts of the Wologisi range. Of importance for agricultural purposes is only the lateritic plateau. The valley bottoms generally consist of deep soils with a light sandy loam topsoil. Drainage conditions vary from moderately good to very poor with a high water holding capacity and a moderate to low fertility. These soils are very suitable for wet rice growing but in general not to be recommended for annual crops, cocoa or coffee. When drainage conditions can be improved by a drainage system, the cultivation of a second crop on residual water after the rice harvest maybe possible. The project area has about 16,000 ha of valley bottom soils of which about 12,000 ha is suitable for mechanical cultivation methods.

6. The almost flat and undulating part of the lateritic plateau has a large variety of soil characteristics, that makes an additional soil survey necessary, to advise farmers with regard to their specific wishes on crops and crop rotations. In global terms however, two major soil units can be distinguished, such as an 14,500 ha area of soils belonging to the Foya series and a comparable large area with soils of the Weledu series. Soils of the Foya series are mainly located in the western and

southern part of the project area, with Foya as the major village. They are deep, though the top soils are generally thin over lateritic gravel. Water holding capacity and fertility are moderate. Suitability for annual crop production is moderate and for cocoa and coffee growing poor; irrigated rice cultivation cannot be recommended. The Weledu soils occur especially in the eastern part of the project area and oftern intergrades towards Foya soils. They generally have a lower gravel content, a thicker top soil and offer good possibilities for cocoa and coffee, and also for a wide variety of annual crops except irrigated rice.

B. Crops and Cropping Practices

7. Introduction. The project area has the potential for growing a large variety of annual and perennial crops. At present, only traditional agriculture is practiced, predominantly for subsistence (rice and vegetables) with some tree crops for cash (fruits, cocoa, coffee and oil palm). Productivity of both land and labor is low. Annual crops are mainly grown on basis of shifting cultivation; seeds and seedlings are of an inferior quality; and neither fertilizers nor agricultural chemicals are used. The major crops are rice, cocoa and coffee.

Farm Sizes and Cropping Patterns

8. According to the Agricultural Census of 1971 nearly 91% of the holdings in the project area were below 4 ha but accounted for only 46% of the total farmed area. The average farm size is about 1.1 ha and nearly 54% of the cropped land is vested in 9.4% of holdings with an average of about 13 ha. This indicates extreme skewness in farm size distribution.

9. The cropping pattern of project area farms shows considerable variation. The 1971 census reported eight different field crops and eleven tree crops in the area. Available data indicates the following cropping patterns expressed as a percentage of all holdings governing these crops: upland rice: 88%, corn: 35%. coffee: 32%, cola nut: 30%, cocoa: 21%, mango: 13%, banana: 9%, cassava: 7%, orange: 5%, broad beans: 5%, swamp rice: 4%, sugar cane: 3%, plaintain - avocado - oil palm - pineapple: 2%, okra: 1%.

10. This does not indicate a typical cropping pattern but some conclusions can be drawn from the distribution of important crops by farm size (see Table 14). Both swamp rice and upland rice are concentrated in small holdings: 87% of the total swamp rice areas and 83% of the upland rice areas are cultivated in holdings between 1-4 ha. Production of the other two staples, corn and cassava, are also predominantly grown by the smallholders. Conversely, cocoa and coffee production are concentrated on holdings above 5 ha, which reflects the limited resources of small farmers who cannot afford the high establishment costs and maintenance to maturity.

Upland Rice

11. According to the Agricultural Census 1971, practically all farm holdings grow rainfed upland rice to feed the family. The farming year in upland rice starts early in the dry season, with bush felling and burning; following the burning, smaller branches and trunks are cut, stacked together and reburned. When the first rains start, the ground is lightly tilled (scratched) with a hand hoe and the seed broadcast (35 kg/ha); this is often a cooperative activity organized by the women of the community. Nearly all upland rice fields are intercropped with vegetables such as cassava, maize, sorghum, pepper, bitterball, beans, plaintains, etc., as cash crops and/or additional nutrients. Bird scaring takes place in the first few weeks after seeding and the last six to eight weeks before harvest. After sowing, fences generally made of wood are erected around the fields to protect the crop from ground hogs (Thryonomys swinderianus). Hand weeding takes place four to six weeks after planting and the crop is harvested four to five months after sowing. The rice is harvested by cutting each panicle separately. Since no fertilizers or chemicals are used, yields are relatively low, averaging 1000 kg/ha. The varieties used have a low photoperiod sensitivity and are highly resistant to Blast (Pyricularia oryzae). The project area is estimated to have approximately 7,300 ha of upland rice.

12. Under the project, the extension services would promote a minimum package consisting of better quality LAC 23 seed (50 kg/ha) and fertilizer (100 kg/ha of the compound fertilizer 20-20-0). Farmers would be allowed to purchase the inputs on credit, with repayment against sale of paddy. It is anticipated that average yields would increase from 1,000 kg/ha to 1,700 kg/ha, on a total area of 5,600 ha under these recommended inputs. The rate of acceptance of the minimum package would be as follows:

Year	1	2	3	4	5	Total
Improved Area (ha)	150	650	1,200	1,600	2,000	5,600
Number of Farmers	200	930	1,710	2,300	2,860	8,000

Swamp Rice

13. Cultivation practices for swamp rice are basically the same as for upland rice. Traditional swamps are often cropped semi-continuously with a fallow year, every three to five years. During the dry season, the swamp is drained by opening a drainage ditch, and small trees and undergrowth are removed; sprouted rice seed is then sown onto the rough surface of the swamp. Where deep water is encountered, rice may be transplanted from nurseries; young seedlings often stay in the nurseries as long as 12 weeks when no labor is available for transplanting. Water

necessary to grow rice in the swamp is supplied by rain on the swamp itself and by run-off from the upstream catchment area. The major problem is to pre-saturate the fields early in May, when rain, and consequently run-off may not yet be significant. Another important aspect is the maximum discharge of the run-off that may occur after heavy and high intensity rainfall, and that may cause flooding of the rice for some days with the consequent of highly reduced yields. Under the project, excessive flooding would be avoided by a peripheral main drain so as to diminsh crop losses. Field bunds with simple inlets would make some degree of water control on the fields possible and together with some field levelling would cause uniform ripening of the crop. After the harvest of the first crop, the field bunds would retain the run-off from the catchment area which still occurs with a certain time lag after the rains have stopped; this run-off water could then more efficiently be used for the second crop. Little information on yields is available; but from scanty data, average yields may be estimated at about 1,500 kg/ha. The only input is 35 kg/ha of seed. The percent total area under swamp rice in the project area is estimated at about 650 ha.

14. Of the farmers who would accept improved practices, some would only rehabilitate their existing swamp rice area by accepting the minimum package (IR 5 or IR 20 seed: 50 kg/ha and 200 kg/ha compounded fertilizer 20-20-0); others would use the minimum package and also start reclaiming new areas. The swamp rice farmers adopting the recommended practices most likely would be farmers who have already accepted the minimum package for upland rice (para 3), and have experienced its advantages. Average yields would increase to 3,500 kg/ha at full development against 1,500 kg/ha at present (after 5 years for improved land and after 6 years for new land. 20% of the swamps improved and developed would be irrigated for two crops per year. The expected rate of development would be as follows:

Year	1	2	3	4	5	Total
Rehabilitated Area (ha)	50	50	100	150	150	500
Newly Reclaimed Area (ha)	-	150	250	400	600	1,400
Total	50	200	350	550	750	1,900

Coffee

15. Coffee is planted on about 30% of all agricultural holdings. It is more widespread in the project area than cocoa and, in general, conditions are suitable for coffee growing. The main variety is Canephora, which was planted around the 1930s. Farms larger than 5 ha account for 20% of all coffee holdings and some 70% of the total coffee area. All farms are generally badly laid out (irregular and small planting distances), and badly maintained. There is almost no pruning; no fertilizer is used; weeding takes place once a year before harvest; and harvesting is done only once in the season by stripping all cherries -- ripe and unripe -- at the same time. Fortunately, there are no serious coffee diseases. The total coffee area is estimated at some 5,000 ha.

16. Under the project, about 10% of the existing coffee plantings would be rehabilitated, through replacement of non-producing trees, and spacing improvements by pruning, the use of fertilizers and intensive weeding. For newly planted areas, the robusta seedlings -- raised at LPMC nurseries from seed imports from the Ivory Coast -- will only be made available to farmers after an acceptable soil survey followed by land clearing, shade and mulch (gliricidia) planted, and plant holes dug correctly. On completion of the preparatory work, the farmer would receive seedlings and fertilizers, 1/ distributed as one package. The average yield of 280 kg/ha (clean coffee) would increase to an estimated 700 kg/ha at full production 5 years later; new areas planted with the new robusta seedlings would average, at full production 1,000 kg/ha 6 years after planting. The rehabilitation and replanting program would be as follows:

Year	1	2	3	4	5	Total
Rehabilitated (ha)	50	80	100	120	150	500
Newly Planted (ha)	-	500	500	600	700	2,300
Total	50	580	600	720	850	2,800

Cocoa

17. According to the Agricultural Census of 1971, only about 20% of all agricultural holdings have cocoa plantings, the majority being small areas. The project area is one of the most important cocoa producers of Liberia. Cocoa was established in the early 1950s with the Amelonado variety. Since 1970, when several important roads were constructed, cocoa cultivation has received a new impetus; new plantings have been started mainly with Amazon hybrid seed imported from the Ivory Coast. Roughly 80% of the cocoa in the project area are planted on holdings larger than 5 ha, on a relatively small number of farms. Cultivation methods are poor and yields are low. Additionally, sub-standard seedlings and unsuitable soils were planted. Cocoa pests and diseases are prevalent; in particular, the insects Sahlbergella singularis and Helopeltis cause great damage; and black pod disease, caused by the fungus Phytophtora palmivora, is common as maintenance practices, such as shade regularion, weeding and spraying are almost nonexistent. Average yields are estimated at 280 kg/ha dried cocoa beans. There is no fermentation or grading system for cocoa and, at present, all cocoa in Liberia is sold as "fair average" quality. An estimated 4,000 ha is planted to cocoa in the project area.

18. Under the project, better quality seedlings would be distributed through the extension services which would advise farmers wishing to re-habilitate their farms. New planting material would only be provided to farmers after an acceptable soil survey and the farmer had shown an interest by weeding his field, thinning out the existing stands, and restoring the necessary shade. The farmer would be supplied with other inputs at the same time:as the seedlings, namely: fertilizers 2/for the young seedlings and temporary shade, a sprayer, and agricultural chemicals for disease con trol. 3/ After the extension agent has judged his soil to be suitable, the

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1/ At a rate of 100 kg/ha urea in the second year; 150 kg/ha urea in the third; and 400 kg/NPK (20-20-0) from the fourth year onwards.
2/ Compound fertilizer (12-12-17-5) for the first 4 years of new plantings.
3/ Mostly copper oxide fungicides, used against black pod.

farmer should underbrush, plant the temporary shade, and dig plant holes before the seedlings are delivered to him. Average yields of rehabilitated cocoa plantings would increase from 280 kg/ha to 600 kg/ha at full production in 2 years; and for newly planted areas, to 850 kg/ha 8 years after planting. The rehabilitation and replanting program would develop as follows:

Year	1	2	3	4	5	Total
Rehabilitated (ha)	50	100	150	200	300	800
Newly Planted (ha)	-	300	300	400	500	1,500
Total	50	400	450	600	800	2,300

19. The extension workers would teach farmers better processing methods and LPMC would introduce a grading system with clear price differentials for better quality cocoa. Though no quantifiable benefits are expected during the project period, this would give farmers an incentive to improve processing procedures.

Labor Availability and Use

20. According to available information the average number of persons per holding is 5.1 and the equivalent labor 1.2. However, the figures are higher for holdings below 4 ha, 5.2 and 2.0 respectively. (See Table 15). According to 1971 census, only 1.5% of the farmers with less than 4 ha and 21% with more than 5 ha employed hired labor. On this basis future labor availability for participating farmers has been assessed at 2.0 per holding. Since existing minor crops will continue to be produced, it is estimated that only 75% of the 300 available working days per year will be used for proposed project activities. The seasonal nature of agricultural activities results in two clearly identifiable peaks in the demand for farm laborers: from mid-March to the second half of July and mid-October to the second half of December (see Table 16). It is likely that during the rest of the year there is excess labor available. Within these constraints it is estimated that in allocating the available 450 mandays (300 x 75 x 2), for a holding of less than 4 ha, a farmer will give priority to production of upland rice (222 mandays), which is his staple, using the remainder for swamp development and/or tree crop cultivation. The exact crop mix will depend, however, on socio-economic and institutional factors. It is reasonable to assume that seasonal labor shortages will not be a great problem as this can be overcome by using hired labor which should be readily available, particularly because of the ease of entry by labor from Sierra Leone and Guinea. Land clearing and land preparation for swamp development requires substantial amounts of labor within a short period of time, which exceeds the family labor capacity. Some hired labor is therefore required for which project provides a development credit. (See Annex). Additionally, project includes a special risk allowance of US $0.3 million for mechanized land clearing equipment in the event hired labor is not available or the land clearing work is too arduous.

Crop Yields and Production

21. Under the project, crop yields and production would develop as summarized in Tables 2 and 3 of this annex.

C. Agricultural Services

Ministry of Agriculture

22. Agricultural Policies Within agriculture, Government's main objectives as described in the Five Year Agricultural Plan (1972-1977) are to: (i) diversify agricultural output principally by promoting rubber, cocoa, coffee and palm kernels; (ii) modernize traditional agriculture which mainly consists of food crops for subsistence; (iii) improve farm income through higher cash crop production; (iv) maximize national income; and (v) improve nutrition of the population at lower cost. The primary emphasis at present is on production objectives. Some 44% of the Plan expenditures (US $15.0 million) are allotted to increase rice production. All efforts to increase rice production have been combined in the "Special Rice Programs," actually comprising 10 different projects, among which the Foya Rice Project and the Expanded Rice Project, both located in the project area.

23. The second largest project of the Plan (US $6,7 million) is for the production of tree crops (rubber, oil palm, coffee, cocoa, coconut, etc.) for which the Government has requested FAO assistance in identifying suitable areas and project preparation. The rice as well as the tree crop programs are nationwide, and oriented to a large number of traditional farmers. However, due to the nature of both the development programs, no spectacular effects can be expected in the short run. Production potentials can be fully exploited only if supporting services and production inputs are made available, together with a set of measures to increase farmer's incentives. Government is now encouraging a balanced development with strong attention directed to institution building.

24. Central Organization The Ministry of Agriculture, headed by a minister and a deputy minister, is responsible for agriculture, forestry and fisheries. It is divided into four departments: Administration, Technical Services, Forestry, and Planning and Evaluation; each department is headed by an assistant minister. Under the Assistant Minister for Technical Services are six divisions: Cooperative, Credit and Marketing; National Extension Services ; Agricultural Research, National Livestock Bureau, Rice Special Projects, and Fisheries and Plant Quarantine Services. The National Extension Services and Livestock Bureau are represented in each of the nine counties in Liberia. The Ministry is short of trained staff and is unable to effectively discharge its responsibilities in policy formulation, research, extension, planning, implementation of the agricultural development plan and investment program.

25. Extension Services Extension Services are generally understaffed and lack transport facilities. The National Extension Services consists of about 300 Liberians, Taiwanese rice technicians and farmers, tree crop volunteers and a small group of expatriate staff. In 1972, extension work

for rice was reorganized to form the Extended Rice Program and to con-
centrate in Bong, Nimba and Lofa counties. The Lofa County extension
services' centered in Voinjama under the County extension agent super-
vising:

- one assistant county agent, stationed at Zorzor;
- two senior extension aides;
- fourteen extension aides, for general extension work;
- two extension aides, specialized in rice; and
- one female aide for home economics.

There is one veterinary supervisor in Foya and a veterinary aide in Voinjama. Except for the County Extension Agents who are generally graduates of the College of Agriculture and Foresty of the University of Liberia, the majority of the extension aides are of secondary education standard and have received up to eight months special training at the Agricultural Extension Training Center at Monrovia, operated by the Ministry of Agriculture in close collaboration with the College of Agriculture and Forestry.

26. Under the project all extension aides would receive additional training, to be started as early as possible. Next to both theory and practice of relevant agricultural and farm management topics, a selected number of field agents would be chosen to receive further training in socio-economic subjects including marketing and cooperatives. All field extension assistants would be provided with motorcycles and back up office facilities. To improve their conditions of service, the assistants would be given housing and hardship aloowances, etc. The number of extension assistants is based on a ratio of one to 50 farmers in the first year, increasing to one to 100 and to 150 farmers in the second and third years. It would be anticipated that starting in the fourth project year, a number of extension workers would be moved to other projects and that finally this group of better trained extension officers would be the corner-
stone for a more competent National Agricultural Service.

27. <u>Research</u> Four organizations are involved in research activities
in Liberia: the Firestone Plantation Company for rubber, the Liberian
Agricultural Company doing research on rice and livestock; the Central
Agricultural Experiment Station at Suakoko operated by the Ministry of
Agriculture and concentrating on applied rice research; and the College
of Agriculture and Forestry of the University of Liberia carrying out
applied research on forestry and wood utilization. For the project area,
the Suakoko Station is of utmost importance, as it will provide foundation
seed for upland as well as swamp rice areas. Based on trial results ob-
tained at Suakoko, advice will be given to farmers through the extension
assistants, on fertilizer application, mixed cropping and crop rotation;
pest, disease and weed control; and development of swamp areas and culti-
vation practices. Suakoko will also provide training facilities for ex-
tension assistants and maintain demonstration plots to be incorporated in
the demonstration farms under the project.

28. For upland rice the demonstration of variety fertilizer combination, the minimum package under the project, should become a major objective of the extension service, and farmers response to this minimum package should be amplified by means of an effective distribution system. With the development of LAC 23, varietal improvement has been proven to be a reality and both introduction and hybridization should be continued to obtain upland rice varieties that consistantly produce more than LAC 23 under farm conditions, and has a high and stable resistance to local races of Pyricularia oryzae, blast disease. Also a range of maturation periods from 100 to 140 days is needed for flexibility in seeding and harvest, a moderate height to restrict rat damage and ease harvesting, a tolerance to low phosphorus soils, and good cooking and storing qualities would enhance consumers acceptance. As with upland rice, blast resistance is a major objective for swamp, rainfed and irrigated rice, as well as resistance to iron toxicity, and early varieties (100 - 110 days) to increase the possibility of a universal application and of a higher cropping intensity for farmers.

29. With the exception of rubber, research on tree crops like cocoa and coffee has not received much attention. Since the project area is one of the major producers of cocoa and coffee in Liberia it is obvious that systematic applied research should be set up in the project area. Under the project no specific financing is anticipated for this type of research, but the possibility to start well managed seed gardens and nurseries could be considered as a first step in the right direction. Under the rehabilitation and new planting program of the project, a few progressive farmers would be selected for their farms to be improved as demonstration farms. Here, simple trials on cultivation practices would be carried out and temporary expert assistance (totalling about 14 man months) would be provided to control occurring pests or diseases, advise on pruning and shade control and in general to keep the quality of the farm on a high level. When used as nurseries, these demonstration farms could very well function as the central points for a systematic plan of cocoa and coffee improvement in Upper Lofa.

30. Seed Multiplication The project will provide better quality rice seed (LAC 23 for upland rice and IR 5 or IR 20 for swamp rice), as well as seedlings for cocoa and coffee plantings. For rice, CAES Suakoko would provide foundation seed to multiplication farms through PMU. No seed multiplication facilities are now available in the project area, but the National Seed Association (NSA) a private agency only recently established in Foya, has acquired 3 ha bottom land and 13 ha upland areas for multiplication of foundation seed. Technical supervision at NSA is carried out by a project manager, and four field assistants trained at Suakoko for this purpose. Selected farmers, all members of local cooperatives undertake multiplication work, for which they are provided with the necessary inputs such as foundation seed, fertilizers and insecticides. The cooperatives purchase the better quality seed (registered seed) from the multiplication farms for 28.5 ¢/kg and sell it to farmers for 29.5¢/kg. GOL regulates the price of seed to farmers; presently the price is 33¢/kg for untreated and 35¢/kg for treated seed.

31. Under the project, PMU would collaborate with NSA but would also set up its own system of selected and supervised farmers for multiplication

of foundation seed, to assure project registered seed requirements. These farms could act as demonstration farms and would then be the focal point for further development of the project area. Based on a recommended seed rate of 50 kg/ha provided every fifth year to upland farmers and every year for the swamp rice farmers the seed requirements in tons are:

PY	1	2	3	4	5
LAC 23	7.5	32.5	60.3	80.0	100.0
IR 5/IR20	3.0	12.0	21.0	33.0	45.0

Assuming a yield of 2,000 kg/ha for LAC 23 and 3,000 kg/ha for IR5/IR20, of seed ready for distribution and only one crop per year, the corresponding hectares for seed multiplication would be:

PY	1	2	3	4	5
LAC 23	3.8	16.3	30.0	40.0	50.0
IR 5/IR 20	1.0	4.0	7.0	11.0	15.0

32. Cocoa and coffee seedlings for the project area are raised in nurseries from seed imported from Ivory Coast and distributed by LPMC, who also buys the produce from farmers, processes and sells it for export. LPMC 's Program for Cocoa and Coffee for 1975 comprises the purchase from the Ivory Coast of 500 kg coffee seeds at 1,200 CFAF/kg and 75,000 cocoa pods at 60 CFAF/kg, which is approximately equivalent to 1,000 ha new coffee and 2,000 ha new cocoa plantings. The general complaint is that the delivered material is of low quality and often delayed. Since the establishment of a PMU nursery would require about 5 years before sufficient material would be available for distribution it is anticipated that under the project most nursery seed would continue to come from IFCC in the Ivory Coast, which has basically good material and which has recently extended its seed gardens to meet the rising demand for good nursery material. The project would enter into a contract with LPMC for the supply of seedlings, but would safeguard itself against insufficient or untimely supply by LPMC by establishing its own nurseries. The following seedlings requirements would be anticipated under the project, to be purchased at the estimated price of 25¢ per seedling for cocoa and 30¢ for coffee (Tables 1 and 2).

PY	1	2	3	4	5
	---------- Number	of Seedlings	('000)		----------
Cocoa	10.0	581.0	591.0	788.0	994.0
Coffee	8.0	826.0	829.0	995.0	1,162.0

The above requirements are based on nursery and field losses totalling 20% and on a planting density of 1,500 plant/ha for cocoa and 1,300 for coffee.

33. Swamp Reclamation and Tractor Services Next to a higher yield per cultivated area, the project will bring additional land under cultivation. The rate of reclamation of smaller swamps by farmers in the project

area has been extremely slow: some 60 ha, during the last 5 years. Reasons for this slow adoption of wet rice cultivation are according to the Farm Survey in 1971/72: social, technical and economic. Traditionally swamp rice is considered to be the work for women; farmers find it difficult to arrange for a sufficient number of workers; work is laborious and unpleasant and is said to cause diseases not occurring on the uplands; finally, upland rice offers a very profitable possibility of intercropping vegetables, that swamp rice does not provide. A number of these constraints to swamp rice development could be offset by making credit available to facilitate the use of seasonal hired labor and modern inputs, like better seeds and fertilizers. Also extension services should emphasize the more reliable and higher rice yields and the possibility of a short growing vegetable or cash crop on residual water. More important, however, is the opportunity for farmers to have the back breaking and labor consuming first land reclamation done, with the help of small mechanical means like wheel tractors, hand and tractor winches and roto tillers, for the first land preparation and levelling.

34. Project management would keep close contact with Suakoko, where trials are being performed by the farm mechanization specialist and where the rice agronomist is developing varieties more suitable to the local swamp conditions and is experimenting with crop rotation, with cash crop growing next to or instead of rice in swamps. Extension workers would be assigned for swamp development and be trained at Suakoko to gain experience in mechanical swamp reclamation and particular cultivation practices. Project management would have one or two wheel tractors available together with some motor and hand winches and some roto tillers to assist farmers in their swamp clearing activities, if the need arises. It is also anticipated that there would be a rising demand for simple pedal threshers to be used on a rental basis. The extension workers in charge of swamp rice development would closely follow all development activities.

LIBERIA

UPPER LOFA COUNTY RURAL DEVELOPMENT PROJECT

Monthly and Annual Rainfall at Voinjama

Year	Annual Rainfall (mm)
1953	3020
1954	2193
1955	1817
1956	2386
1957	3948
1958	5277
1959	3271
1960	2800
1961	2000
1962	2946
1963	2450
1964	2520
1965	2040
1966	1744
1967	2476
1968	2560
1969	1800
1970	1645
1971	1989
1972	2075
1973	2071
Average:	2525

Sliding Average Annual Rainfall over 5-Year Periods (mm)

... Period	Average ...
1953-57	2673
1954-58	3124
1955-59	3340
1956-60	3536
1957-61	3459
1958-62	3259
1959-63	2693
1960-64	2543
1961-65	2391
1962-66	2340
1963-67	2246
1964-68	2268
1965-69	2124
1966-70	2045
1967-71	2094
1968-72	2014
1969-73	1916

.....21-Year Monthly Rainfall...... (mm)

	Average	Max	Min
January	13	90	0
February	35	127	0
March	107	289	26
April	191	699	47
May	217	460	114
June	277	466	80
July	371	662	102
August	411	635	177
September	382	853	216
October	239	453	15
November	198	723	53
December	84	746	0

ANNEX 1
Table 1

LIBERIA

LOFA COUNTRY RURAL DEVELOPMENT PROJECT

Estimated Crop Yields (kg/ha)

	........Rice 1/..........			........Coffee......		........Cocoa.......	
Project Year	Upland	Improved Improve	New Swamp	Rehab. Plantings	New Plantings	Rehab. Plantings	New Plantings
0 2/	1,000	1,500	-	280	-	260	-
1	1,700 3/	1,900 4/	1,800 4/	300	-	400	-
2	↓	2,500	2,000	350	-	600	-
3		2,800	2,500	600	-	↓	-
4		3,300	3,000	900	300 5/		200 4/
5		3,500	3,300	700	900		400
6		↓	3,500	↓	1,000		600
7			↓		↓		650 ↓

1/ On double cropped swamps, Yield on second crop is 20% lower than 1st crop. See Table 8.
2/ Situation without project.
3/ After accepting the minimum package: 50 kg/ha LAC 23 seed + 100 kg/ha fertilizer (20-20-0).
4/ After accepting the minimum package: 50 kg/ha IR 5 seed + 200 kg/ha fertilizer (20-20-0).
5/ The fourth year after planting.

LIBERIA

LOFA COUNTY RURAL DEVELOPMENT PROJECT

Project Output of Rice

Year of Planting	Hectare Non-Cumulative	Hectare Cumulative	Project Year 1	2	3	4	5	6	7	8	9	10-30
			.....	.....	.....	.....	'000 kg	.....	.....	.....	.....	.....
I. Improved Upland Rice												
Yr 1	150	150	255	255	255	255	255	255	255	255	255	255
2	650	800		1,360	1,360	1,360	1,360	1,360	1,360	1,360	1,360	1,360
3	1,200	2,000			3,400	3,400	3,400	3,400	3,400	3,400	3,400	3,400
4	1,600	3,600				6,120	6,120	6,120	6,120	6,120	6,120	6,120
5	2,000	5,600					9,520	9,520	9,520	9,520	9,520	9,520
Total Production			255	1,360	3,400	6,120	9,520	9,520	9,520	9,520	9,520	9,520
Pre-improvement production /2			150	800	2,000	3,600	5,600	5,600	5,600	5,600	5,600	5,600
Incremental			105	560	1,400	2,520	3,920	3,920	3,920	3,920	3,920	3,920
II. New Swamp Rice												
Yr 1	-		-	-	-	-	-	-	-	-	-	-
2	150			313	348	435	522	575	609	609	609	609
3	250				522	580	725	870	958	1,016	1,016	1,016
4	400					836	929	1,161	1,393	1,537	1,624	1,624
5	600						1,253	1,392	1,740	2,668	2,298	2,436
Total Production				313	870	1,851	3,429	3,998	4,700	5,245	5,547	5,685
III. Improved Swamp Rice												
Yr 1	50	50	110	145	162	192	203	203	203	203	203	203
2	50	100		110	145	162	192	203	203	203	203	203
3	100	200			221	290	325	383	406	406	406	406
4	150	350				331	435	487	575	609	609	609
5	150	500					331	435	487	575	609	609
Total Production			110	255	528	975	1,486	1,711	1,874	1,996	2,031	2,031
Pre-improvement Production /3			75	150	300	525	750	750	750	750	750	750
Incremental			35	105	228	450	736	962	1,124	1,246	1,281	1,281
Total Incremental /4			140	1,000	2,500	4,800	8,100	8,900	9,700	10,400	10,800	10,900

/1 Assuming [illegible] and New Swamp rice only. Unhusked (paddy) rice. See Table 2 for yield assumptions.
/2 1,000 kg/ha.
/3 1,500 kg/ha.
/4 Improved [illegible]

ANNEX 1
Table 3
Page 1 of 3

LIBERIA

LOFA COUNTY RURAL DEVELOPMENT PROJECT

Project Output of Coffee

Year of Planting	Hectare	Project Year 1	2	3	4	5	6	7	8	9	10-30
		'000 kg clean coffee									
I. New Coffee											
Yr 1	-										
2	500					150	450	500	500	500	500
3	500						150	450	500	500	500
4	600							180	540	600	600
5	700								210	630	700
Subtotal	2,300					150	600	1,130	1,750	2,230	2,300
II. Rehabilitated Coffee											
Yr 1	50	15	18	23	30	35	35	35	35	35	35
2	80		24	28	36	48	56	56	56	56	56
3	100			30	35	45	60	70	70	70	70
4	120				36	42	54	72	84	84	84
5	150					45	53	68	90	105	105
Subtotal	500	15	42	81	137	215	258	301	335	350	350
Pre-rehabilitation production /1		14	36	64	98	140	140	140	140	-	-
Incremental /2		1	6	17	39	75	118	161	195	210	210
Total Incremental /2		0	0	0	0	250	700	1,300	2,000	2,400	2,500

/1 280 kg per ha.
/2 New plantings and rehabilitated coffee; rounded to nearest 100

ANNEX 1
Table 3

LIBERIA

LOFA COUNTY RURAL DEVELOPMENT PROJECT

Project Output of Cocoa 1/

Year of Planting	Hectare	1	2	3	4	5	6	7	8	9	10	11	12-30
		....					'000 kg	....					
I. New Cocoa													
Yr 1	-	-	-	-	-	-	-	-	-	-	-	-	-
2	300		-	-	-	60	120	180	240	255	255	255	255
3	300						60	120	180	240	255	255	255
4	400							80	160	240	320	340	340
5	500								100	200	300	400	425
Total	1,500					60	180	380	680	935	1,130	1,250	1,275
II. Rehabilitated Cocoa													
Yr 1	50	20	30	30	30	30	30	30	30	30	30	30	30
2	100		40	60	60	60	60	60	60	60	60	60	60
3	150			60	90	90	90	90	90	90	90	90	90
4	200				80	120	120	120	120	120	120	120	120
5	300					120	180	[illegible]	[illegible]	[illegible]	180	180	180
Total	800	20	70	150	260	420	480	480	480	480	480	480	480
Pre-rehabilitation production 2/		14	42	84	140	224	224	224	224	224	224	224	224
Incremental		6	28	66	120	196	256	256	256	256	256	256	256
Total Incremental 3/		0	0	100	100	300	500	700	1,000	1,200	1,400	1,500	1,600

1/ For yeild assumption see Table 2.
2/ 280 kg per ha.
3/ New plantings and rehabilitated cocoa. Rounded to nearest 100.

March 21, 1975

LIBERIA

UPPER LOFA COUNTY RURAL DEVELOPMENT PROJECT

Cost of Cocoa Seedlings

Imported from Ivory Coast: 60 CFAF/pod

1 truck load = 15,000 pods x CFAF60	=	CFAF900,000	=$ 4,000
Transport Cost: Ivory Coast - Voinjama			$ 2,700
a) Total Cost, 1 truck load till nursery (15,000 pods = 450,000 seeds)	=		$ 6,700
b) Plastic bags ($8/1,000) = 8 x 450	=		$ 3,600
c) Topsoil transport $\frac{450,000 \text{ kg}}{5,000}$ = 90 trucks of 5 tons 1 truck load = 5 x 50¢ per ton-mile = $2.50/truck-mile. Average distance is 50 miles round trip = $125 per trip + $25 filling cost = $150/trip. Hence 90 trips cost 90 x 150 = $13,500			$13,500
d) Labor Cost Filling of bags (1¢ per bag = 4,500) Maintenance: 50 men x 150 days x $1.20 = 9,000)			$13,500
e) Shade Material	=		$ 3,000
f) Plant Protection	=		$ 2,000
g) Transport of seedlings to distribution center per rented truck ($80/day for 3 trips). Each trip about 400 plants. For 360,000 plants = 300 truck days = $24,000 Handling $5,000	=		$29,000
h) Overhead	=		$ 7,700
Total (a + b + c + d + e + f + g + h)	=		$79,000

for 36,000 seedlings

Allowing for some inefficiency in the development stage the estimated cost is: 25¢/seedling

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UPPER LOFA COUNTY RURAL DEVELOPMENT PROJECT

Cost of Coffee Seedlings

To provide 450,000 seedlings one has to import from Ivory Coast: 140 kg seeds @ $5.50 = $770

Transport Cost: Ivory Coast - Voinjama = $130

a)	Cost of 140 kg seed till nursery (incl. transport)		=$ 900.00
b)	Plastic bags ($8/1000= 8 x 450)		=$ 3,600.00
c)	Topsoil transport (see cocoa)		=$13,500.00
d)	Labor Cost		
	Pre-nursery cost	$ 3,500	
	Filling of bags (1¢ per bag)	$ 4,500	=$26,000.00
	Maintenance: (50 men x 300 days x $1.20)	$18,000	
e)	Shade Material		=$ 3,000.00
f)	Plant Protection		=$ 2,000.00
g)	Transport to distribution center (see cocoa)		=$29,000.00
h)	Overhead		=$ 8,000.00
	Total (a + b + c + d + e + f + g + h)		$86,000.00

for 360,000 seedlings

Allowing for some inefficiency in the development stage the estimated cost is: 30¢/seedling

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LOFA COUNTY RURAL DEVELOPMENT PROJECT

Rice Cultivation Costs (per hectare)

Upland Rice - Improved

Year	1	2 thru 4	5 (and every 5th year)
Yield (paddy) (kg)	1,700	1,700	1,700
	.....	Mandays	....
Labor Requirements (annual)			
Removal of undergrowth cutting and burning of trees	60		
Land preparation	43		
Broadcast sowing	2		
Fertilizer application	2		
Weeding	45		
Fence erection and maintenance	15		
Harvesting and threshing	55		
Total Mandays (All farm labor)	222	222	222
	.....	US Dollars	.....
Materian Inputs			
Seeds /1	18	-	18
Fertilizer /2	36	36	36
Tools /3	20	-	-
Total Materials	74	36	54
Seasonal Credit			
Seeds	18	-	18
Fertilizer	36	36	36
Tools	20	-	-
Total	74	36	54

/1 Improved rice seed would be provided to farmer on Seasonal Credit every 5th year.
/2 100 kg NPK (20-20-0) supplied on credit annually.
/3 Seasonal Loan of $20 provided to farmer in first year for improved tools.

ANNEX 1
Table 7

LIBERIA

LOFA COUNTY RURAL DEVELOPMENT PROJECT

Rice Cultivation Costs (per hectare)

Swamp Rice - Improved

	Single Cropped					Double Cropped				
Year	1	2	3	4	5 onwards	1	2	3	4	5 onwards
Yield (Paddy) (kg)	1,900	2,500	2,800	3,300	3,500	3,420	4,500	5,050	5,750	6,300
Labor Requirements	....	....	....	....	....	Mandays	....	....	....	....
Development	nil	nil	nil	nil	nil	nil	nil	nil	nil	nil
Seasonal										
Removal of undergrowth	70					-				
Land preparation	28					56				
Direct seed sowing /1	2	175	175	175	175	80	278	278	278	278
Fertilizer application	2					2				
Weeding	50					100				
Canal and fuel maintenance	23					40				
Harvesting and threshing	58	70	75	87	90	116	140	150	174	180
Total Mandays (All Farm Labor)	233	245	250	262	265	394	418	428	452	458
Material Inputs	....	....	....	....	....	US Dollars	....	....	....	....
Seeds	18	18				36	36			
Fertilizer	72	72				144	144			
Tools	40	-				40	-			
Total Materials	130	90	90	90	90	220	180	180	180	180
Seasonal Credit /2										
Seeds	18	18				18	18			
Fertilizer	72	72				72	72			
Tools	40	-				40	-			
Total	130	90	90	90	90	130	90	90	90	90

/1 On single crop - farmer would directly plant seed using 50 kg/ha; on double crop farmer would need to transplant, due to time constraints, and would also use 50 kg/ha seed.
/2 Seasonal credit on double cropped basis same as for single crop but credit would turn over twice in each year.

LIBERIA

LOFA COUNTRY RURAL DEVELOPMENT PROJECT

Rice Cultivation Costs (per hectare)

Swamp Rice - New

	Single Cropped						Double Cropped					
Year	1	2	3	4	5	6 onwards	1	2	3	4	5	6 onwards
Yield (paddy) (kg)	1,800	2,000	2,500	3,000	3,300	3,500	3,240	3,600	4,500	5,400	5,950	6,300
Labor Requirements	....	....	....	....	....	.... Mandays	....	....	....	....	....	....
Development	(1/2 ha)	(1/2 ha)										
Removal of undergrowth	20	20					20	20				
Felling, clearing, burning, and stumping of trees	28	27					28	27				
Irrigation and drainage ditches	325	-					325	-				
Subtotal	373	47	-	-	-	-	373	47	-	-	-	-
Seasonal	(1/2 ha)	(1 ha)	(1 ha)				(1/2 ha)	(1 ha)				
Removal of undergrowth	-	35	70)				-	-)				
Land preparation	14	28	28)				28	56)				
Nursery and transplanting /2	-	-	-)				40	80)				
Direct seed sowing /2	-	2	2)	175	175	175	-	-)	27[illegible]	27[illegible]	27[illegible]	27[illegible]
Fertilizer application	1	2	2)				1	2)				
Weeding	25	50	50)				50	100)				
Canal and fence maintenance	12	23	23)				20	40)				
Harvesting and threshing	27	60	70	80	87	90	55	120	140	160	174	18[illegible]
Subtotal	80	200	245	255	262	265	194	398	418	438	452	458
Total Mandays	452	247	245	255	262	265	567	445	418	438	452	458
of which - hired labor /3	300	-	-	-	-	-	300	-	-	-	-	-
Material Inputs	....	....	....	....	....	.... US Dollars	....	....	....	....	....	....
Seed	9	18	18				13	36				
Fertilizer	36	72	72				72	144				
Tools	40	-	-				40	-				
Total Materials	85	90	90	90	90	90	125	180	180	180	180	180
Development Loan												
Hired labor	300	-	-				300					
Tools	40	-	-				40					
Total	340	-	-	-	-	-	340	-	-	-	-	-
Seasonal Credit (annual) /4												
Seed	9	18	18				9	18				
Fertilizer	36	72	72				36	72				
Total	45	90	90	90	90	90	45	90	90	90	90	90

/1 Development - farmer would clear and destump over two years - first year only 1/2 ha cultivated.
/2 On single crop - farmer would directly pland seed using 50 kg/ha.
On double crop - farmer would need to transplant, due to time constraints, and would also use 50 kg/ha seed.
/3 First year, farmer would require 300 mandays of hired labor at $1.00 md for land development as insufficient farm labor available.
/4 Seasonal Credit on double cropped basis same as single crop but credit would turn over twice in each year.

LIBERIA

LOFA COUNTY RURAL DEVELOPMENT PROJECT

Coffee Rehabilitation /1

Per ha Costs

Year	1	2	3	4	5	6
Yield (clean coffee) (Kg)	300	350	450	600	700	700
	....	Mandays	....			
Labor						
Underbrushing, clearing	5	-	-	-	-	-
Digging, staking, holing	4	-	-	-	-	-
Planting of seedlings	2	-	-	-	-	-
Planting of shade crops	1	-	-	-	-	-
Supplying	-	1	-	-	-	-
Weeding	40	40	40	40	40	40
Pruning	18	19	20	20	20	20
Fertilizer application	2	2	2	2	2	2
Insect control	5	5	5	5	5	5
Harvesting/processing	30	35	45	60	70	70
Total Mandays (All Farm Labor)	107	102	112	127	137	137
	....	US Dollars	....			
Materials						
Seedlings /2	39	4	-	-	-	-
Fertilizers /3	130	135	136	144	144	144
Tools /4	23	-	-	-	-	-
Shade trees	1	-	-	-	-	-
Total Materials Cost	193	139	136	144	144	144
Development Loan						
Seedlings	39					
Fertilizers	130					
Tools	23					
Shade trees	1					
Total Development Loan	193					
Seasonal Credit						
Seedlings		4	-	-	-	-
Fertilizers		135	136	144	144	144
Total Seasonal Credit		139	136	144	144	144

/1 10 percent of the area is infield, i.e. 130 new seedlings planted (1,300 per ha).
/2 Seedling at 30¢ each.
/3 360 kg NPK in Yr 1; 10 kg urea + 360 kg NPK Yr 2; 15 kg urea + 360 kg NPK Year 3; 400 kg NPK from Yr 4 onwards; NPK 36 ¢/kg, urea 45 ¢/kg.
/4 Hand tools (2 knives at $6.00, 2 cutlasses at $1.5 + 1 hoe $7.5).

LIBERIA

LOFA COUNTY RURAL DEVELOPMENT PROJECT

Coffee - New Planting /1

Per ha Costs

Year	1	2	3	4	5	6
Yield (clean coffee) (Kg)	-	-	-	300	900	1,000
Labor	....		Mandays	....		
Land clearing	70	-	-	-	-	-
Digging, staking, pegging	35	-	-	-	-	-
Planting of seedlings	18	-	-	-	-	-
Planting of shade crops	2	-	-	-	-	-
Supplying	-	5	2	-	-	-
Weeding	20	50	50	40	40	40
Pruning	-	10	10	20	20	20
Fertilizer application	-	2	2	2	2	2
Insect control	-	-	5	5	5	5
Harvesting/processing	-	-	-	30	75	80
Total Mandays (All Farm Labor)	145	67	69	97	142	147
Materials	....		US Dollars	....		
Seedlings (coffee) /2	390	39	20	-	-	-
Seedlings (shade tree)	10	-	-	-	-	-
Fertilizer /3	-	45	68	144	144	144
Tools /4	30	-	-	-	-	-
Total Material Cost	430	84	88	144	144	144
Development Loan						
Seedlings (coffee)	390	39	20	-	-	-
Seedlings (shade tree)	10	-	-	-	-	-
Fertilizer	-	45	68	-	-	-
Tools	30	-	-	-	-	-
Total Development Loan	430	84	88	-	-	-
Seasonal Credit						
Fertilizer	-	-	-	144	144	144
Total Seasonal Credit	-	-	-	144	144	144

/1 Establishment, maintenance and harvesting
/2 1,300 seedlings per ha at 30¢ each, supplying 10 percent in Yr 2, 5 percent in Yr 3.
/3 100 kg + 150 kg urea in 2nd and 3rd years respectively, from 4th year 400 kg NPK (20-20-0).
Unit cost: urea 45¢/kg + NPK 36¢/kg.
/4 Hand tools (2 cutlasses at $1.5, 2 hoes at $7.5 and 2 knives at $6.00).

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ANNEX 1
Table 11

LOFA COUNTY RURAL DEVELOPMENT PROJECT

Cocoa Rehabilitation /1

Per ha Costs

Year	1	2	3	4	5	6	7	8
Yield (cocoa beans) (Kg)	400	600	600	600	600	600	600	600
Labor				Mandays				
Underbrushing, clearing	5	-	-	-	-	-	-	-
Digging, staking, holing	4	-	-	-	-	-	-	-
Planting seedlings	2	-	-	-	-	-	-	-
Supplying	-	1	-	-	-	-	-	-
Weeding	20	20	20	20	20	20	20	20
Pruning	2	1	-	-	-	-	-	-
Fertilizer application	1	1	1	-	-	-	-	-
Phytosanitary control	20	20	20	20	20	20	20	20
Harvesting/processing	30	50	50	50	50	50	50	50
Total Mandays (All Farm Labor)	84	93	91	90	90	90	90	90
				US Dollars				
Materials								
Seedlings /2	38	4	-	-	-	-	-	-
Fertilizer /3	11	11	11	11	-	-	-	-
Tools and equipment /4	48	-	-	8	8	8	8	8
Phytosanitary chemicals /5	15	15	15	15	15	15	15	15
Total Materials Cost	112	30	26	34	23	23	23	23
Development Loan								
Seedlings	38							
Fertilizer	11							
Tools and sprayers	48							
Agricultural chemicals	15							
Total Development Loan	112							
Seasonal Credit								
Seedlings		4	-	-	-	-	-	-
Fertilizers		11	11	11	-	-	-	-
Tools and sprayers		-	-	8	8	8	8	8
Agricultural chemicals		15	15	15	15	15	15	15
Total Seasonal Credit		30	26	34	23	23	23	23

/1 10 percent of the area is infield, i.e. 150 new seedlings planted (1,500 p/ha).
/2 Seedlings at 25¢ each.
/3 For infield plants only during first four years, NPK (12-12-17-5) 35 kg each year at 30¢/kg.
/4 Hand tools (2 knives at $6.0, 2 cutlasses at $1.5, 1 hoe at $7.5) and one knapsack sprayer at $25; knapsack sprayer replaced every 3 years.
/5 Copper oxide 11 kg/ha at $1.1 per kg.

LIBERIA

LOFA COUNTY RURAL DEVELOPMENT PROJECT

ANNEX 1
Table 12

Cocoa New Planting /1

Per ha Costs

Year	1	2	3	4	5	6	7	8
Yield (cocoa beans) (Kg)	-	-	-	200	400	600	800	1,000
	....	....	....	Mandays	....	....	....	....
Labor								
Land clearing	75	-	-	-	-	-	-	-
Pegging, staking, holing	40	-	-	-	-	-	-	-
Planting seedlings /2	18	-	-	-	-	-	-	-
Supplying /2	-	5	2	-	-	-	-	-
Weeding/slashing	5	25	20	20	20	20	20	20
Pruning	-	10	5	-	-	-	-	-
Fertilizer application	2	2	2	2	-	-	-	-
Phytosanitary control /3	-	15	15	15	20	20	30	35
Harvesting/processing	-	-	-	15	30	50	60	65
Total Mandays (All Farm Labor)	140	57	44	52	70	90	110	120
	....	....	....	US Dollars	....	....	....	....
Materials								
Cocoa seedlings /4	375	38	19	-	-	-	-	-
Fertilizer /5	105	105	105	105	-	-	-	-
Tools and equipment /6	55	-	-	8	8	8	8	8
Phytosanitary chemicals /7	-	2	2	6	12	13	16	20
Total Materials Cost	535	145	126	119	20	21	24	28
Development Loan								
Seedlings	375	38	19					
Fertilizers	105	105	105					
Tools and equipments	55	-	-					
Agricultural chemicals	-	2	2					
Total Development Loan	535	145	126					
Seasonal Credit								
Fertilizer				105	-	-	-	-
Tools				8	8	8	8	8
Agricultural chemicals				6	12	13	16	20
Total Seasonal Credit				119	20	21	24	28

/1 Establishment, maintenance and harvesting.
/2 1,500 seedlings per ha supplying 10 percent in Year 2 and 5 percent in Year 3.
/3 Includes shade management.
/4 At 25¢ per seedling.
/5 NPK (12-12-17-5) 350 kg/ha during first four years, 30¢/kg.
/6 Hand tools (2 knives at $6.00, 2 cutlasses at $1.5, 2 hoes at $7.5) and one knapsack sprayer at $25; knapsack sprayer replaced every 3 years.
/7 Copper oxide at $1.1/kg.

ANNEX 1
Table 13

LIBERIA

LOFA COUNTY RURAL DEVELOPMENT PROJECT

Fertilizer Costs

	Urea	NPK (12-12-17-5)	NPK (20-20-0)
	....	US$/ton	......
FOB /1	330.00	190.00	250.00
Transport/port handling	30.0	30.00	30.00
CIF/port handling	360.00	220.00	280.00
Transport to Voinjama /2	46.00	46.00	46.00
Landed Cost, Voinjama	406.00	266.00	326.00
LPMC Commission /3	20.00	14.00	17.00
Co-op transport /4	10.00	10.00	10.00
Handling /4	10.00	10.00	10.00
Total - per ton	446.00	300.00	363.00
per 50 kg bag	22.30	15.00	18.00
per kg	0.45	0.30	0.36
Foreign Exchange (percent)	80	75	78

/1 Source: Commodities Division, IBRD. Based on FOB North Western Europe.
/2 20¢/ton mile, 230 miles.
/3 5 percent commission on landed cost at Voinjama.
/4 50¢ per 50 kg bag.

LIBERIA

LOFA COUNTY RURAL DEVELOPMENT PROJECT

Size of Farm and Cropping Pattern in the Project Area, 1971 1/

Size Group ha	% of Holdings	Area	Swamp Rice % of Total Holdings	Area	Upland Rice % of Total Holdings	Area	Coffee % of Total Holdings	Area	Cocoa % of Total Holdings	Area	Cassava % of Total Holdings	Area	Corn % of Total Holdings	Area	Sugar Cane % of Total Holdings	Area
Less than .5	33.7	2.9	.5	1.7	22.2	5.9	2.6	.9	2.4	.7	-	-	10.1	5.3	.8	5.8
.5 - 1.0 1.0 - 2.0	24.1	8.0	.2	2.9	23.9	17.1	5.1	2.6	4.5	1.9	.6	8.1	9.5	17.3	.2	2.2
1.0 - 2.0	27.5	17.6	.8	17.6	26.0	33.0	10.3	9.6	6.1	4.6	3.5	48.0	9.7	38.8	1.4	28.3
2.0 - 4.0	15.3	17.6	1.7	64.3	12.0	26.6	7.9	18.6	3.8	6.8	1.7	40.6	3.1	10.7	.2	15.3
Totals	90.6	46.1	3.5	86.5	84.1	82.6	25.9	31.7	16.8	14.0	5.8	96.7	32.4	72.[illegible]	2.6	51.6
4 - 5.0	.2	.4	-	-	-	-	-	-	.2	1.[illegible]	-	-	-	-	.2	15.[illegible]
5 - 10.0	5.3	17.0	.4	13.5	3.0	15.8	3.5	32.7	[illegible]	17.0	.5	1.4	2.6	25.5	.2	2.5
10 - 20.0	2.9	16.9	-	-	.5	1.6	2.4	29.2	2.4	52.9	.2	1.9	.2	2.4	.2	30.6
20 - 50.0	.5	7.5	-	-	-	-	.1	2.9	-	.9	-	-	-	-	-	-
50 - 100.0	.5	12.1	-	-	-	-	.3	3.5	.5	13.5	-	-	-	-	-	-
Totals	9.4	53.9	.4	13.55	3.5	17.4	6.3	68.3	4.2	86.0	.7	3.3	2.8	27.9	[illegible]	48.4

1/ Liberia Census of Agriculture, 1971, Tables 1, 5, 11, 12
Excluding Zorzor Area

Annex 1
Table 14

LIBERIA

LOFA COUNTY RURAL DEVELOPMENT PROJECT

Holding Size and Labor Units per Holding (1)

Holding Size (ha)	Persons/Holding	Labor Units/Holding
Less than .2	3.8	1.5
.2 - .5	4.9	1.9
.5 - 1.0	4.6	1.8
1.0 - 2.0	5.7	2.2
2.0 - 4.0	6.2	2.4
0 - 4.0	5.2	2.0
4.0 - 5.0	3.1	1.6
5.0 - 10.0	4.3	1.7
10 - 20.0	3.7	1.4
20 - 50.0	3.5	1.4
50 - 100.0	3.3	1.3
4.0 - 100.0	4.0	1.6
	5.1	1.9

(1) Computed from Tables 22, 43, 44 of the Census of Agriculture 1971, op. cit., extrapolated to 1974.

Key used for labour equivalents as proposed by K. H. FRIEDRICH "Manual for Farm Management Investigations in Developing Countries". FAO 1971, p.45. For those farm members who have an additional off-farm occupation the value has been halved.

Household is defined as group of persons living together and eating together from the same kitchen, regardless whether they live in one or more structures (huts). (See: Census of Agriculture, 1971.)

The possibility of about 1300 laborers migrating into the Wologisi area taken into account.

LIBERIA

LOFA COUNTY RURAL DEVELOPMENT PROJECT

Summary - Labor Requirements for Project Crops
(Mandays/ha)

	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Upland Rice	20	20	10	20	27	20	15	15	-	30	35	10	222
Swamp Rice (Single Cropped)	20	20	30	15	20	20	15	50	40	10	5	20	265
Swamp Rice (Double Cropped)	20	50	55	44	35	20	20	50	40	25	54	45	458
Coffee New	25	-	10	2	10	12	-	15	-	20	33	20	147
Cocoa New	-	-	5	-	7	13	-	-	30	30	25	10	120

ANNEX 1
Table 16

LIBERIA

LOFA RURAL DEVELOPMENT PROJECT

INFRASTRUCTURE IN THE PROJECT AREA 1/

A. Roads

1. Roads in Liberia are classified into three categories: primary roads (width 24' - 26', 1.5" - 3" bituminous pavement on 16" - 18" base or 6" - 12" laterite pavement), secondary roads (width 18' - 20', 4" - 10" laterite pavement) and farm-to-market roads (16' - 18' wide, unpaved surface of gravel and earth). The primary roads link important urban and semi-urban population centers; the secondary roads provide access to the primary roads from small communities; and the farm-to-market roads link small villages and give farmers access to secondary and occasionally to primary roads. There is also an elaborate network of 3' - 4' wide footpaths throughout rural areas. Except for some roads constructed by rubber, timber and iron ore concessionaries, all others are constructed and maintained by Government. These have primarily been the responsibility of the Ministry of Public Works but recently the Ministry of Rural Development and AGRIMECO have been involved in construction of farm-to-market roads.

2. A complete inventory of project area rural roads is not available. However, there are believed to be nearly 500 km of roads including some 320 km of farm-to-market roads, 80 km of secondary roads and 160 km of primary roads. The latter is part of the 480 km all weather partly laterite, partly paved road running between Monrovia, Zorzor, Voinjama and Foya. Assuming a uniform population distribution, the most remote farmers in the project area are about five km away from the nearest road while 78% of the population have either easy access to or live within 2 km of a road. All these roads have inadequate surfaces with difficult grades and hazardous horizontal and vertical sight distances. The secondary roads have grades exceeding 7% and in some cases over 10%. Farm-to-market roads have grades varying between 12%-20% and very unsatisfactory horizontal and vertical alignments as most were constructed on old established footpaths or trails without a proper survey. In addition there is a total lack of proper maintenance. The Ministry of Public Works, which is primarily responsible for maintenance does not have the necessary equipment, finance and personnel. Even minor maintenance such as grading, filling up pot-holes, bush clearances on the right-of-way, cutting slopes and digging drainage ditches and clearing the excessive vegetation and natural debris from waterways near bridges and culverts is not carried out when required. Consequently, most of the roads have substandard surfaces and crossfalls, cannot be used for vehicular traffic year round, and during the rainy season many of them become impassable. However, much of the maintenance can be done by manual labor with small hand tools.

1/ Details on Zorzor area not included in this report because they were incorporated into the project at a larger stage of the appraisal.

3. The Government is aware of the problem and road development and maintenance work are increasing. The proposed 1975 MPW budget allocation for road maintenance is about $4.4 million for the whole of Liberia, about four times higher than in Fiscal 1974, and procurement of USAID financed road maintenance equipment of $4.4 million is underway. Implementation of the Bank/IDA Second Highway Project (907/395 LBR) will provide MPW with additional equipment, plant and trained personnel. To improve road maintenance in the Lofa region, a Maintenance District has been established at Voinjama.

4. To successfully implement the project it is essential that existing roads in the project area are maintained and new farm-to-market/feeder roads opened. To provide all weather access, the project requires (a) upgrading to and maintenance at an acceptable standard of the primary road linking Foya, Voinjama and Zorzor, together with 500 km of existing feeder roads and (b) construction of 100 km of new feeder roads. Assurances will be obtained from GOL that MPW will undertake this road programme according to phasing agreed with PMU and with funds provided under the Bank/IDA Second Highway Project and USAID technical assistance. To further strengthen the MPW programme in the project area, the project would finance and operate a small road maintenance unit consisting of construction and workshop crew, equipment, plant and workshop facilities.

B. Power

5. There is one public power-station in the project area which supplies the town of Voinjama and one LPMC plant in Voinjama. In addition, there are several small privately-owned diesel generators.

6. The power-station at Voinjama was built in 1971 by the Public Utility Authority (PUA). It has two diesel generators, each with a rated capacity of 500 kw and is barely adequate for the Voinjama town needs.

7. LPMC's power-station has three generators with rated capacities of 136, 58 and 28 kw, respectively.

8. Additionally, there are small power generation plants at Kolahun, Wologisi and Zorzor.

C. Education

9. In 1973 there were 47 elementary schools (kindergarten, pre-primary and grades 1-6) in the project area 1/, of which 20 are in the Voinjama district and 27 in the Kolahun district. Except for the larger towns of Voinjama, Kolahun, Bolahun, Foya-Tangia and Zorzor, all other school localities contain only one school. In the project area there are four secondary schools (grades 7-12), one each in Voinjama, Kolahun, Bolahun, Shelloe (Foya) and Zorzor. There are no colleges or institutions in the area to cater for students beyond twelfth grade.

1/ Excluding Zorzor

10. It is estimated that only 10% of the population attended school. Of these 7% completed one or more grades in elementary school, 2% completed grades 7-9 and only 1% attended grades 10-12. Many more boys than girls attend schools. Schools are inadequate and overall teacher-student ratio is about 1:42. There are about 11 mission schools in the area where facilities are better and the teacher-student ratio is about 1:27.

11. Less than 10% of the total population is literate in English, although about 15% can speak English. Both in the elementary and secondary schools enrollments progressively decrease in higher grades. Lack of funds, school distances and need for additional farm help are cited as major reasons for the dropouts.

12. The school system is plagued by the problems of quality as well as quantity. The school curricula at all levels are unimaginative, sterile and divorced from the needs of the society. To reorientate the primary school system towards rural development requirements GOL launched the Community Schools Program in 1971. The purpose is to improve primary education in rural areas, to provide more relevant education to rural children and to prepare them for life in a rural society. Furthermore, school facilities would be made available for adult education and community development activities.

The program includes the following elements:

- Improvement and development of 200 rural schools as Community Schools;
- Training of a new type of primary school teacher in rural development techniques who will be able to contribute to rural community development activities;
- Reform of the curriculae of primary schools with agriculture as a teaching subject;
- Activities for community education, including adult literacy, craft training and home economics;
- The addition to Community Schools of a school kitchen, cafeteria, manual arts room and a home economics room;
- Introduction of school gardens;
- Teaching of functional literacy to adults.

13. Up to mid-1974 about 100 schools had been designated as Community Schools. Of these, seven are in the project area and are situated in the following locations:

Voinjama District:	Voinjama	
	Velezala	
Kolahun District:	Kolahun	Bolahun
	Korwohun	Kpordu
	Sheloe	

14. A proposed IDA education project to support GOL's rural development program would also include the establishment of a number of Community Schools in the project area. The Ministry of Education has expressed its readiness to cooperate fully with the project in the implementation of the Community School Program. The PMU will closely liaise with the Ministry of Education to assist, with the help of the Project Advisory Committee, in establishing Community Schools Programme priorities in the project area.

D. Health

15. GOL allocates a little over 9% of its total expenditures for health services. The ratio of doctors and para-medical staff to population are about 1:10,000 and 1:1,000, respectively. There is significant imbalance between urban and rural health services with nearly 75% of Government employed physicians working in and around Monrovia. Government hospitals and clinics in rural areas are in poor condition, lacking minimum facilities, supplies and staff. In the rural areas the ratio between doctors, hospitals, and hospital beds to population are about 1:22,000, 1:54,000 and 1:1,200 respectively. The result of these regional imbalances in health services are manifested in the fact that death rates, including infant mortality, in rural areas are about 1.5 times higher than those in the urban areas.

16. In the project area there are only two government hospitals, one at Voinjama with 56 beds and one at Zorzor with 34 beds. There are 30 government health clinics in the Lofa county, 21 of them in the project area (17 supporting the Telewoyen Hospital in Voinjama, and four in the Zorzor area). The hospital at Voinjama has two medical doctors, one of whom is also in charge of the administration and coordination of the government health services in the whole county, and a small nursing staff. With this meagre staff and other facilities, the hospital had to give medical attention to about 25,000 persons in the outpatient department, perform nearly 150 surgical operations and take care of about 1,800 inpatients during 1974.

17. GOL is aware of the dismal state of its rural health services and the interaction between health and productivity. This has lead to a comprehensive health improvement program in rural areas starting with Lofa County and known as Lofa County Rural Health Project (outreach) (LCRHP). The objective is to establish an integrated institutional framework (with John F. Kennedy Medical Center in Monrovia at the apex) for providing preventive and curative medical services in the rural areas. It aims at a) upgrading and expanding 30 health clinics in Lofa County (each having two health assistants) to diagnose and treat common ailments, dispense certain specified drugs, and provide family planning assistance b) establishing five health centers (each having two medical assistants, two midwives, one health assistant, one lab technician, two nurses and one sanitary inspector and c) upgrading the county hospitals at Voinjama and Zorzor to provide technical guidance to the health centers posts and handle the more complicated cases. Essential elements will be the strong emphasis laid on preventive health activities, including family planning and child spacing; clearly delineated functions for each type of rural health institution; a properly conceived and organized personnel program; competent professional supervision; an effective transportation system and

distribution of drugs and supplies; two way radio communications between the various units; and record keeping and evaluation.

18. The total LCRHP project costs over a four year period are estimated to be $5.6 million with GOL financing $2.5 million, USAID $2.6 million, UNICEF, CARE and other philanthropic organizations $.5 million. It is expected that during the implementation of the project 15% of the Lofa County population will be served in the first year, 35% in the second year and 70% in the fourth year.

19. The common health problems in the project area are directly related to low income, poverty, unsanitary environment, malnutrition and dietary insufficiency, lack of health education, and inadequate disease prevention program. The population is susceptible to various infectious diseases common to tropical Africa (malaria, measles, diarrhea, dysentry, pneumonia, neonatal tetanus, hookworms and other intestinal parasites), the outcome of which often is fatal due to lack of curative medical services. Apart from these common infectious diseases, leprosy, onchocerciasis and schistosomiasis are endemic to the area. Incidence of oncho have been found in certain parts of Lofa County, but their consequences have not been serious (such as blindness and severe dermatoses). However, the Liberian Research Unit of the Tropical Institute of Hamburg, Germany, has been doing active research and surveillance of this disease in the project area. The proposed project is most unlikely to activate and intensify the causes of this infection.

20. Urinary schistosomiasis has been known for decades to be an endemic and widespread parasitic disease in North-Western Liberia although recent Government studies revealed that this was not so widespread in Lofa County. However, the possibilities of the balance between parasite and human host being disturbed when swamp rice cultivation is expanded are real and call for control measures. This is reinforced by the fact that Bulinus snails, the main intermediate host, were found in 12 of the 15 fields and 15 of the 23 creeks and uncultivated swamps investigated in the project area. Constant and careful vigilance is therefore essential during the first two to four years of project implementation to identify increases in schistosomiasis in the population so that appropriate preventive and curative measures could be initiated by GOL.

21. Implementation of LCRHP should develop adequate capabilities for handling normal diagnosis and curative treatment of schistosomiasis in the project area but not for monitoring and research aspects. The project, therefore, will provide facilities and skilled medical staff for a surveillance unit to work closely with local health authorities, the USAID rural health program and if necessary, with the Firestone Institute of Tropical Medicine where GOL proposes to conduct basic research on Schistosomiasis. 1/ The proposed surveillance unit will be attached to Voinjama Hospital and headed by a medical doctor with experience in public health, tropical medicine and, if

1/ GOL has asked for a budget allocation of $150,000 for the 1st year for this purpose.

possible, Schistosomiasis. He will be assisted by a small laboratory and field staff. The terms of reference for the Schistosomiasis Surveillance Service would be:

a) To carry out an initial survey and to collect all relevant base line data on

- the prevalence and if possible the intensity of urinary schistosomiasis in all rice field workers employed on the Project and in all those who will work in the rice fields in future;

- the prevalence and if possible the intensity of urinary schistosomiasis in representative random samples of children and of the adult population in the Project area;

- the bionomics of the intermediate hosts of S. haematobium and possibly on the intermediate hosts of other species of schistosomes in the Project area, particularly those known to be pathogenic to man.

b) To carry out follow-up surveys to be performed at regular intervals and to perform the same examinations in all rice field workers as well as in random samples from children and adults examined during the initial surveys.

c) Based on the data obtained from the initial surveys and the follow-up examinations, a plan to control urinary schistosomiasis in the Project Area should be worked out in detail. This plan must be adapted to the changing pattern of morbidity and the ecological conditions of the disease in the Project Area.

d) Attention should be placed on the search for autochthonous transmission of intestinal schistosomiasis (S. mansoni). The intermediate host (Biomphalaria pfeifferi) of this more dangerous form of schistosomiasis has already been found during preparation in one creek which waters a rice field near Solumba.

22. Due to widespread incidence of water-borne disease in rural and semi-urban areas, GOL wishes to establish rural water supply and sewerage systems as a component of its overall rural development programs. Through bilateral assistance from the Federal Republic of Germany investigations, planning and feasibility studies were completed in six county towns for the supply of treated piped water and construction was undertaken in three of them (one of which is Voinjama). Apart from this a well-drilling program was conducted in the rural areas with UNDP assistance (LIR/73/021) and another UNDP/WHO study has recently been started to identify pilot projects in four rural communities. A large scale rural water supply program is beyond the

scope of the proposed project but PMU will appraise the situation in the project area and encourage local inhabitants to improve the water supply through wells constructed on a self help basis. PMU would work in close consultation with the Project Advisory Committee and local health authorities and, where necessary, supply materials and other assistance for well construction Project costs include US$0.1 million for this purpose.

LIBERIA

LOFA COUNTY RURAL DEVELOPMENT PROJECT

LAND TENURE

General

1. All land in Liberia is ultimately vested in the State; within this overall frame land usage rights are through either a tribal tenure system or private "ownership/lease" of land.

Tribal Tenure

2. All tribes are entitled to use as much public land as "tribal reserve" as they occupy and as they require for farming and other enterprises essential to tribal necessities 1/.

3. Within the "tribal reserve" land use is controlled by tribal law or custom. In general, land is allocated by the chiefs and clan elders to a family head upon demand -- provided he demonstrates a need for it and the ability to use it. Land use rights obtained in this manner are inheritable, but the possessing family may not sell or otherwise transfer usage rights or the land itself. Provided the land is not planted to tree crops, the council of tribal elders can remove usage rights from a family provided there is a particular alternative need or if the land is considered to be poorly farmed.

4. The planting of tree crops must have the prior approval of the council of elders and this approval indirectly conveys a more permanent right to land use because the trees themselves and the right to use them can be alienated by the original planter.

5. Although boundaries are not highly specific, land disputes do not appear to present a problem at this state of development or in the immediate future. This is because land is relatively plentiful and because the tribal systems are adequate in solving such minor disputes that occasionally arise. Any minor local disputes are referred to the clan chief's council; more serious local or inter-clan disputes are referred to the paramount chief's council who in turn can refer the more serious inter-clan or inter-tribal disputes to the County Superintendent as the representative of the President.

Private Ownership

6. There are two laws governing the acquisition of land for private ownership: firstly, under the "Aborigines Law" the tribe may make a petition for the division of tribal lands into family holdings. The government can grant deeds in fee simple, for each family, up to 10 ha, if the tribe becomes "sufficiently advanced."

1/ Liberia, Republic of: Code of Laws from 1956, Vol. I. Aborigines Law Charter 270

7. Under the "Public Land Law" the government can sell land to private individuals, the procedure for which is: the applicant obtains the consent of the tribal authorities -- for which he must make payment; the paramount or clan chiefs issue a respective certificate to the district commissioner who must satisfy himself that the land in question is not required by the tribe and is not otherwise owned or acquired; the the district commissioner then forwards his certificate to the county land commissioner who certifies that the land in question is neither privately owned nor encumbered; the applicant then pays the Bureau of Revenue for the value of the land, at a minimum rate of $0.50 per acre; finally the application documents and the payment receipt are forwarded to the President of the Republic for approval and deed.

8. The procedures of both laws are fairly complicated and little understood by the average small farmer who in any case sees little advantage in private ownership (more overall social security within the tribal system), thus private ownership is mainly limited to large plantations, relatively few general farm holdings and to non-agricultural use.

Other Relevant Land Laws

9. To accommodate any future need for Land Registration and Adjudication an appropriate instrument, the "Registered Land Law" (Chapter 8 of the Property Law) has recently been approved. According to the new law, the Minister of Lands and Mines will establish a national registry map survey system; the registration of land at county levels will be taken over by the "Registrar of Deeds;" in the National Archives, a section will be established headed by a "Chief Registrar of Land;" land adjudication will become the duty of the courts, the Chief Justice will appoint referees for adjudication, demarcation, claims, rights and interests in land, he will also appoint demarcation and recording officers as supervisors. The Minister of Lands and Mines will appoint survey officers, released from regular duties, to prepare any necessary survey documents for particular adjudication areas.

Land Tenure Pattern in the Project Area

10. The Agricultural Census of 1971 distinguished four categories: tribal ownership, squatter rights, owner-like possession and [illegible]. Squatter rights are part of the tribal system and are given to "strangers" within a tribal territory. The category "owner-like possession" is undefined, but appears to include tree crop planting under the tribal system [illegible] [illegible] as well as some private ownership. The land tenure situation [illegible] [illegible] [illegible]

(a) In the class size of less than 10 acres per holding, about [illegible] of all holdings farm 46% of all cropped land. Within this group 63% have tribalrights, 32% are squatters and 5% have owner-like possession.

(b) In the remaining class sizes 9% of the total holdings occupy 54% of all farmed land. In this group, owner-like possession represents 78% of the acreage with tribal rights and squatter rights accounting for 14% and 8%, respectively.

Project Support for Land Tenure Issues

11. As the present structure gives the type of security which the small farmer understands and trusts, major reform is considered unnecessary in the immediate future. However, it is recognized that future developments and investments in land by farmers may create an evolving situation where tribal law no longer becomes appropriate, in which case the new "Registered Land Law" (para 4) is an available instrument for reform. The weakest link in applying the "Registered Land Law" is likely to be in the preparation of survey documents.

12. The Project Management Unit will through its various divisions keep the land tenure situation under continuous review; through the County Superintendent and the Project Advisory Committee the PMU will assist local officers dealing with land matters. PMU will also develop records of swamps (particularly developed swamps) -- who uses them for what purposes -- such records being available to the appropriate authorities at such time as formal "registration" is considered desirable.

13. To assist in compiling swamp records and for other aspects including possible future needs of Land Adjudication/Registration teams, the Project includes its land planning section of PMU, the cost of surveyors and mapping assistants who will be transferred to the Government's survey team in the Lofa County, at the end of the post development period

14. Project will require GOL, through tribal land system, to grant project farmers adequate security of tenure to land permanently developed for at least ten years beyond the end of their development loan period providing land adequately farmed and loan conditions are adhered to.

15. Applicants for development loans would need to obtain prior confirmation from the tribal authorities that they have development rights to land proposed for development.

LIBERIA

LOFA COUNTY RURAL DEVELOPMENT PROJECT

Land Tenure Situation

Holding size class in acres	Number of holdings	Acreage	Percent of total: acres	Percent of total: hold.	Forms of possession in % of acreage: Owner-like possession	Rented from others	Tribal form of tenure	Squatter rights
- 0.50	613	212	0.5	7.5	-	-	39.2	60.8
0.50- 1.24	1,321	1,083	2.4	16.2	-	-	69.4	30.5
1.25- 2.49	1,976	3,637	8.0	24.2	3.3	-	63.3	33.3
2.50- 4.99	2,248	8,021	17.6	27.5	2.3	-	61.2	36.4
5.00- 9.99	1,249	8,019	17.6	15.3	5.3	1.9	65.3	27.5
Sub-total 0.0 - 9.99	7,407	20,972	46.1	90.7	3.5	0.7	63.3	32.4
10.00- 12.49	18	203	0.4	0.2	100.0	-	-	-
12.50- 24.99	437	7,727	17.0	5.3	42.5	-	32.8	24.7
25.00- 49.99	234	7,670	16.9	2.9	96.3	0.5	3.1	-
50.00-124.99	42	3,407	7.5	0.5	87.8	-	12.2	-
125.00-249.99	39	5,509	12.1	0.5	95.7	-	4.2	-
Sub-total 10-250	770	24.516	53.9	9.4	78.1	0.2	14.0	7.8
Total 0.00-249.99	8,177	45,488	100.0	100.1	43.7	0.4	36.7	19.1

Source: Census of Agriculture, op.cit.

ANNEX 3
Table 1

LIBERIA

Lofa County Rural Development Project

Farm Incomes

1. The project will assist participating farmers to adopt better technology on their farms and increase productivity. Improved upland and swamp rice, rehabilitated coffee and cocoa will have 70%, 133%, 150% and 114% higher yields respectively. Yield on new coffee plantings will be about 250% higher than the existing average yields while on new cocoa it will be about 200% higher (Annex 1 Table 2).

2. Project will induce better pricing and marketing policies and by removing some of the existing constraints in the marketing system enable producers to gain a better share of the final value of their products (Annex 8). Consequently, significant changes in farm incomes of the participating farmers in the project area are expected (Table 1). Alternative farm budgets have not been prepared as the variables for 'typical' farm models and budgets are too diverse to be meaningful. Crop budgets have therefore been prepared on a per ha basis to indicate the income changes that participating farmers might expect from each crop under the project (see Tables 2-8).

LIBERIA

LOFA COUNTY RURAL DEVELOPMENT PROJECT

Change in Average Farm Income in the Project Area*

		Net Return US$"million"	
		Without Development	With Development
Upland rice	5,600 ha	1.1	1.7
Sw[illegible] rice	500 ha 1/	.2	.4
Swamp rice	1,400 ha 2/	-	1.0
Coffee	500 ha 1/	.2	.3
Coffee	2,000 ha 2/	-	2.0
Cocoa	800 ha 1/	.2	.3
Cocoa	1,500 ha 2/	-	.8
Total	US$ million	1.7	6.5
Income per Family US$		213	813
Income per Capita 3/		43	163

* For 8000 participating farmers only. Excludes income from minor crops, other tree crops, fruits and vegetables.

1/ Existing under cultivation, and improved under the project.

2/ New acreage cultivated under project

3/ Assuming 5 members per family.

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LOFA COUNTY RURAL DEVELOPMENT PROJECT

1 ha Upland Rice (Improved Management)

Farm Budget and Cash Flow

	Year 0	Year 1	Years 2-4	Year 5
Seasonal Costs 1/	....	$	....	
Labor	210	222	222	222
Materials	5	74	48	54
Total Cost	215	296	270	276
Revenue	....	$	....	
Production (Paddy) Kg 2/	1,000	1,700	1,650	1,700
Value 214/ton	214	364	353	364
Net before Credit	0	68	83	88
Credit Receipts	-	74	36	54
Income before Repayment	0	142	119	142
Repayment 3/	-	81	40	59
Income after Repayment	0	61	79	83
Value of Family Labor	210	222	222	222
Net Income	210	283	301	305
Total Family Labor	210	222	222	222
Net Return M/Day	1.0	1.3	1.4	1.4

1/ See Tables 6 & 2 Annex I for basis of cost and yield.

2/ 50 Kg used for seed purposes.

3/ Seasonal loan repaid at the end of each season a) 10 percent interest rate.

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LOFA COUNTY RURAL DEVELOPMENT PROJECT

FARM BUDGET AND CASH FLOW

1 ha Swamp Rice (New Development) 1/

Single Crop
(US¢)

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9
	½ ha	1 ha							
Development Costs 2/									
Labour	373	43							
Materials	40	-							
Subtotal	413	47							
Seasonal Costs 2/									
Labour	80	200	245	255	262	265	265	265	265
Materials	45	90	90	90	90	90	90	90	90
Subtotal	125	290	335	345	352	355	355	355	355
Total Costs	538	337	335	345	352	355	355	355	355
Revenue 3/									
Production (Paddy) kg	900	2,000	3,000	3,300	3,500	3,500	3,500	3,500	3,500
Value $214/ton	193	428	535	642	706	749	749	749	749
Net Before Credit	(345)	91	200	297	354	394	394	394	394
Credit Receipts									
Development	340	-	-	-	-	-	-	-	-
Seasonal	45	90	90	90	90	90	90	90	90
Total Credit	385	90	90	90	90	90	90	90	90
Income Before Repayment	40	181	290	387	444	484	484	484	484
Repayments 4/									
Development	-	-	94	94	94	94	94	94	-
Seasonal	50	99	99	99	99	99	99	99	99
Total Repayment	50	99	193	193	193	193	193	193	99
Income After Repayment	(10)	82	97	194	251	291	291	291	385
Value of Family Labor	153	200	245	255	262	265	265	265	265
Net Income	143	282	342	449	513	556	556	556	650
Total Family Labor	153	200	245	255	262	265	265	265	265
Net Return/man day	.9	1.4	1.4	1.8	2.0	2.1	2.1	2.1	2.5

1/ 1/2 developed in year 1, 1/2 in year 2.
2/ See Table 8 Annex 1 for basi of Cost.
3/ For financial farmgate price. See Table 5 Annex 8. For yield assumption see Table 2 Annex 1
4/ Development repaid in 8 years with 2 years grace and interest capitalised at 10%.
Seasonal repaid en of year, 10% flat service charge.

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LOFA COUNTY RURAL DEVELOPMENT PROJECT

FARM BUDGET AND CASH FLOW

1 ha Swamp Rice (New Development) 1/

Double Crop

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9
Development Costs 2/									
Labour	373	47							
Materials	40	-							
Subtotal	413	47							
Seasonal Costs 2/									
Labour	194	398	418	438	452	458	458	458	458
Materials	90	180	180	180	180	180	180	180	180
Subtotal	284	578	598	618	632	638	638	638	638
Total Costs	697	625	598	618	632	638	638	638	638
Revenue 3/									
Production Paddy kg	1,620	3,600	4,500	5,400	5,950	6,300	6,300	6,300	6,300
Value 214/ton	342	770	963	1,156	1,273	1,348	1,348	1,348	1,348
Net Before Credit	(355)	145	365	538	641	710	710	710	710
Credit Receipts									
Development	340	-	-	-	-	-	-	-	-
Seasonal	45	90	90	90	90	90	90	90	90
Total Credit	385	90	90	90	90	90	90	90	90
Income Before Repayment	30	235	455	628	731	800	800	800	800
Repayment									
Development	-	-	94	94	94	94	94	94	-
Seasonal	50	99	99	99	99	99	99	99	99
Total Repayment	50	99	193	193	193	193	193	193	99
Income After Repayment	(20)	136	262	435	542	607	607	607	701
Value of family Labour	267	398	418	438	452	458	458	458	458
Net Income	247	534	680	873	994	1,065	1,065	1,065	1,159
Total Family Labour	267	398	418	438	452	458	458	458	458
Net Return p/manday	.9	1.3	1.6	2.0	2.2	2.3	2.3	2.3	2.5

1/ 1/2 ha developed in year 1, 1/2 in year 2.
2/ See Table 8 Annex 1 for basis of Costs.
3/ For derivation of financial farmgate prices see Table 5 Annex 8; for yield assumption see Table 2 Annex 1
4/ Development repaid in 8 years with 2 years grace and interest capitalized at 10%; seasonal repaid after one year a) 10%.

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LIBERIA

LOFA COUNTY RURAL DEVELOPMENT PROJECT

Farm Budget and Cash Flow

1 Ha Swamp Rice (Improved Management)

	Single Cropping						Double Cropping					
	Year 0 2/	Year 1	Year 2	Year 3	Year 4	Year 5	Year 0 2/	Year 1	Year 2	Year 3	Year 4	Year 5
	$											
Seasonal Costs 1/												
Labor	211	233	245	250	262	265	352	394	418	428	452	458
Materials	5	130	90	90	90	90	5	220	180	180	180	180
Total Costs	216	363	335	340	352	355	357	614	598	608	632	638
Revenue 2/												
Production (Paddy) Kg	1,500	1,900	2,500	2,800	3,300	3,500	2,700	3,420	4,500	5,050	5,950	6,300
Value $214	321	407	535	599	706	749	578	732	963	1,080	1,273	1,348
Net Before Credit	105	44	200	259	354	394	221	118	365	472	641	710
Credit Receipts	-	130	90	90	90	90	-	220	90	90	90	90
Income Before Repayment	105	174	290	349	444	484	221	338	455	562	731	800
Repayment 1/	-	143	99	99	99	99	-	242	99	99	99	99
Income After Repayment	105	30	191	250	345	385	221	96	356	463	632	701
Value of Family Labor	211	233	245	250	262	265	352	394	418	428	452	458
Net Income	316	263	436	500	607	650	573	490	774	891	1,084	1,159
Total Family Labor M/Day	211	233	245	250	262	265	352	394	418	428	452	458
Net Return M/Day	1.5	1.1	1.8	2.0	2.3	2.5	1.6	1.2	1.9	2.1	2.4	2.5

1/ See Table 7 Annex 1 for basis of Costs.
2/ For financial farmgate price see Table 5, Annex 8, for yield assumption see Table 2, Annex 1
3/ Seasonal loan repaid at end of year @ 10%.

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ANNEX 4
Table 4

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LOFA COUNTY RURAL DEVELOPMENT PROJECT

Farm Budget and Cash Flow

1 Ha New Cocoa

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13-30
						$							
Development Costs													
Labor	140	57	44										
Material	535	145	126										
Sub-Total	675	202	170										
Maintenance Costs													
Labor				52	70	90	110	120	120	120	120	120	120
Materials				119	20	21	24	28	28	28	28	28	28
Sub-Total				171	90	111	134	148	148	148	148	148	148
Total Cost	675	202	170	171	90	111	134	148	148	148	148	148	148
Revenue													
Production (Dry Bean) 2/	-	-	-	200	400	600	800	850	850	850	850	850	850
Value	-	-	-	138	277	415	554	588	588	588	588	588	588
Net Before Credit	(675)	(202)	(170)	(33)	187	304	420	440	440	440	440	440	440
Credit Receipts													
Development	535	145	126	-	-	-	-	-	-	-			
Seasonal	-	-	-	119	20	21	24	28	28	28	28	28	28
Total Credit	535	145	126	119	20	21	24	28	28	28	28	28	28
Income Before Repayment	(140)	(57)	(44)	86	207	325	444	468	468	468	468	468	468
Repayment													
Development	-	-	-	-	222	222	222	222	222	222	222	222	-
Seasonal	-	-	-	131	22	23	26	31	31	31	31	31	31
Total Repayment	-	-	-	131	244	245	248	253	253	253	253	253	31
Income After Repayment	(140)	(57)	(44)	(45)	(37)	80	193	215	215	215	215	215	437
Value of Family Labor	140	57	441	52	70	90	110	120	120	120	120	120	120
Income	-	-	-	7	33	170	306	335	335	335	335	335	557
Total Family Labor M/Days	140	57	44	52	70	90	110	120	120	120	120	120	120
Return M/Day	-	-	-	.44	.4	1.9	2.8	2.8	2.8	2.8	2.8	2.8	4.6

1/ See Table 12, Annex 1 for basis of Costs.
2/ For Yield assumption and financial farmgate prices see Table 2, Annex 1 and Table 5 (b) Annex 8 respectively.
3/ Development repaid in 12 years with 4 years grace and interest capitalized @ 10%.
Seasonal repaid each year @10%.

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LOFA COUNTY RURAL DEVELOPMENT PROJECT

Farm Budget and Cash Flow

1 Ha Rehabilitated Cocoa

	Year	0	1	2	3	4	5
		....		US Dollars	....		
Development Costs 1/							
Labor			84	-	-	-	-
Materials			112	-	-	-	-
Subtotal			196	-	-	-	-
Maintenance Costs							
Labor		50	-	93	91	90	90
Materials		5	-	30	26	34	23
Subtotal		55	-	123	117	124	113
Total Costs		55	196	123	117	124	113
Revenue 2/							
Production (dry beans)	(Kg)	280	400	600	600	600	600
Value $692/ton		193	277	415	415	415	415
Net Revenue before credit		138	81	292	298	291	302
Credit Receipts							
Development		-	112	-	-	-	-
Seasonal		-	-	30	26	34	23
Total Credit		-	112	30	26	34	23
Income before Repayment		138	193	322	324	325	325
Repayment /3							
Development		-	45	45	45	-	-
Seasonal		-	-	33	29	37	25
Total Repayment		-	45	78	74	37	25
Income after Repayment		138	148	244	250	288	300
Value of family labor		50	84	93	91	90	90
Net Income		188	232	337	341	378	390
Total family	(manday)	50	84	93	91	90	90
Net return per manday		3.8	2.8	3.6	3.7	4.2	4.3

1/ See Table 11, Annex 1 , for basis of Cost.
2/ See Table 2, Annex 1 for yield assumption and Table 5b Annex 8 for financial farmgate prices.
3/ Development repaid in 3 years at 10%; seasonal repaid each year, service charge 10%.

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LOFA COUNTY RURAL DEVELOPMENT PROJECT

Farm Budget and Cash Flow

1 Ha New Coffee Planting

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6-8	Year 9
Development Cost 1/	....	....	....	....	$	....	....
Labor	145	67	69	-	-	-	-
Materials	430	84	88	-	-	-	-
Sub-Total	575	151	157	-	-	-	-
Maintenance Costs							
Labor				97	142	147	147
Materials				144	144	144	144
Sub Total	-	-	-	241	286	291	291
Total Costs	575	151	157	241	286	291	291
Revenue 2/							
Production Clean Coffee Kg	-	-	-	300	900	1,000	1,000
Value $1028/ton	-	-	-	308	925	1,028	1,028
Net Before Credit	(575)	(151)	(157)	67	639	737	737
Credit Receipts							
Development	430	84	88	-	-	-	-
Seasonal	-	-	-	144	144	144	144
Total Credit	430	84	88	144	144	144	144
Income Before Repayment	(145)	(67)	(69)	211	783	881	881
Repayment 3/							
Development	-	-	-	-	294	294	-
Seasonal	-	-	-	158	158	158	158
Total Repayment	0	0	0	158	452	452	158
Income After Repayment	(145)	(67)	(69)	53	331	429	723
Value of Family Labor	145	67	69	97	142	147	147
Net Income	-	-	-	150	473	576	870
Total Family Labor M/Day	145	67	69	97	142	147	147
Net Return M/Day	-	-	-	1.5	3.3	3.9	5.9

1/ See Table 10 Annex 1 for basis of costs
2/ See Table 2 Annex 1 for yield assumption and Table 5a Annex 8 for financial farmgate prices.
3/ 4-year grace on development loan: Interest capitalized @ 10%. Repaid in the following 4 years, 10% service charge on seasonal loan, repaid at the end of a year.

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LOFA COUNTY RURAL DEVELOPMENT PROJECT

Farm Budget and Cash Flow

1 Ha Rehabilitated Coffee

Year /2	0	1	2	3	4	5	6-10
	....		US Dollars	....			
Development Costs 1/							
Labor		107					
Materials		193					
Subtotal		300					
Maintenance Costs							
Labor	75	-	102	112	127	137	137
Materials	5	-	139	136	144	144	144
Subtotal	80		241	248	271	281	281
Total Costs	80	300	241	248	271	281	281
Revenue 3/							
Production (clean coffee) kg	280	300	350	450	600	700	700
Value $1028/ton	288	308	360	463	617	720	720
Net before Credit	208	8	119	215	346	439	439
Credit Receipts							
Development	-	193					
Seasonal	-	-	139	136	144	144	144
Total Credit	-	193	139	136	144	144	144
Income before Repayment	208	201	258	351	490	583	583
Repayment /4							
Development	-	50	50	50	50	50	-
Seasonal	-	-	153	150	158	158	158
Total Repayment	-	50	203	200	208	208	158
Income after Repayment	208	151	55	151	282	375	425
Value of Family Labor	75	107	102	112	127	137	137
Net Income	283	258	157	263	409	512	562
Total Family Labor (mandays)	75	107	102	112	127	137	137
Net Return per manday	3.8	2.4	1.5	2.3	3.2	3.7	4.1

/1 See Table 9, Annex I for basis of costs
/2 Preproject situation.
/3 See Table 2, Annex 1 for yield assumption and Table 5a, Annex 8 for financial farmgate prices.
/4 Development repaid in 5 years at 10 percent. Seasonal repaid at each harvest; flat service charge 10 percent.

LIBERIA

LOFA COUNTY RURAL DEVELOPMENT PROJECT

INSTITUTIONS, ORGANIZATION AND STAFFING

A. Rural Development Authority

1. Introduction. It seems desirable to set up in Liberia a semi-autonomous Rural Development Authority (RDA) to:

(a) implement specific area programs/ projects in the small farm sector, with a degree of autonomy and flexibility; also with the capability of maintaining the initial development thrust in the post project period, through a system of self-financing;

(b) avoid the tendency, or possibility, of creating a succession of Project Management Units, which in many respects would duplicate, or compete with, each other for top management expertise, in training needs and in the source of their respective powers;

(c) influence Government's pricing policies to the extent that they may affect the small farmers; interests and consequent development;

(d) plan and coordinate a phased National Rural Development program, area by area, consistent with resource availability, manpower and logistical constraints and the diversity of ecological and social patterns in the respective areas; and

(e) create an institution through which donor agencies may channel rural development efforts in a cohesive and coordinated manner

Evolution of Roles

2. It is envisaged that the RDA would initially concentrate on small farmer productive farming systems, together with the necessary support services, but would also gradually evolve an institutional building role so that social services, road maintenance and decentralized local government became more effective, self-reliant and well coordinated (but without Government relinquishing major policy control).

3. This secondary role is envisaged as being effected more through influence than direct action, albeit RDA could well be a vehicle for channelling funds to "local councils", self-help social efforts, etc. influence of RDA towards this end will arise as the result of two main probabilities:

(a) demand for more or improved social services is likely to increase progressively and in line with increased income levels; lack of provision of such services becomes a constraint to maintining productivity; and

(b) certain instances will probably arise where the provision of a social service is a prerequisite in the motivation of farmers towards adopting improved production techniques.

4. Current Considerations. In considering the present situation and the desirability of a Rural Development Authority, the following should be kept in mind:

(a) successful implementation of the Lofa County project will require a Project Management Unit which:

(i) will be relatively expensive;

(ii) will take some considerable time put together as a team (including staff training);

(iii) will have a potential capacity, both in manpower and logistical support, well beyond the requirement of Lofa County taken in isolation--in the longer term; and

(iv) could and should be created with the object of implementing other RD projects in Liberia--particularly and initially in the "upper counties";

(b) development of smallholder farming systems through a combination of: extension (agricultural advice); on-farm verification trials; farmer training centers; seed multiplication; cooperative marketing, farm input and credit systems; together with necessary coordination of these activities, is unlikely to be achieved through an agency such as LPMC which (correctly) has a strictly commercial bias in all management functions and which should concentrate on efficient bulk marketing, bulk input supplies and possibly development of "nucleus estate" type of production--if it enters the production field at all;

(c) the ministries of the GOL are poorly structured to implement policy decisions themselves at the detailed planning and coordination level necessary in the small farm sector;

(d) the extremely small budgetary provisions made by the Ministry of Agriculture, and the lack of logistical support, make it extremely unlikely that direct Ministry action can or will exploit the potential of any initiated developments in their crucial "follow-up" phases; and

(d) in the longer term "ongoing" activities, following the initial thrust of development, should be self-financing and avoid the bureaucratic burdens inevitable in any support system which is extremely dependent on financial allocations from regular government revenues.

Establishing the Rural Development Authority

5. RDA will require establishment and will need to obtain its powers through the promulgation of a suitable Law or Ordinance. It will therefore be wise to thoroughly explore what its powers should be, the composition of a Board of Directors, and how RDA might maintain flexibility within such changing circumstances as can be forseen.

6. RDA's implementation organization would follow (and absorb) that of the Lofa County PMU. The Board of Directors would be the same composition as that of the Project Steering Committee (PSC) (Annex). It is recommended therefore that PSC and PMU be converted into a Rural Development Authority some eighteen months after project effectiveness. (This will allow a period to settle matters of detail requiring further examination). However, it is suggested that the Deputy Project Manager, PMU, (who should in any case be an Assistant, preferably Deputy Minister calibre)becomes Executive Chairman of RDA, the Project Manager becoming Chief Executive Officer (or General Manager), particularly for the Upper Lofa division, see below--thus creating an automatic time schedule of authoritative handover from what will probably be expatriate top management to indigenous control, but safeguarding continuity.

7. The Law or Ordinance establishing RDA will need to include (amongst other issues) a scheduling system, whereby the Minister responsible (or possibly the President) has powers, merely by reference to the Ordinance, to schedule, or reschedule, from time to time:

(a) the land area (s) within which the Authority's powers are operative--each area would form a division (e.g. Lofa County area would be scheduled initially but subsequent rescheduling would include other areas as activities progressively expand);

(c) smallholder crops for which RDA may exercise its powers and direct its efforts, e.g. initially rice, cocoa and coffee (in Lofa County), but rescheduled to include other crops if desired as initial focus on these three becomes effective and allows diversification of effort;

(c) such livestock programs as may be desirable. It is envisaged that these will be deferred for some time.

(d) social components which RDA may support financially, logistically or administratively--initially these would include support to cooperatives, credit, etc. (N.B. The object of this scheduling system would be to avoid overburdening too soon, allowing strong focus on key issues and avoiding diffusion of effort and resources--particularly in the early years).

Finances

8. Whilst RDA will require some subventions from Government and on-lent funds from donor agencies, for initiation and development purposes (provision for the mechanics of which should be allowed for in drafting the Ordinance) nevertheless the financing of "maintenance" (post project) activities should be funded from revenues accruing the RDA and arising from development levies on such items as swamps usage for rice/vegetables. (This latter presupposes that a system of swamp registration would be built up during the development phase(s).

9. Whilst RDA would be allowed some discretion as to where it holds liquid assets, neverthless emphasis would be given to assist the development of local banking and savings institutions--or assisting the viability of a local branch of a major development bank.

10 Guideline Ordinances. In drafting the necessary Law/Ordinance setting up the Rural Development Authority efforts should be made to draw on the experience of other countries; e.g. there may well be merit in examining, for guideline purposes, the Special Crops (or Scheduled Crops) Ordinance that was applicable in Kenya in 1968 (may still be operative) and also examine how the successful Kenya Tea Development Authority derives its powers and financial structure.

B. Training

Summary

11. Results from long formal training courses cannot have any practical effect for some years--too late to meet immediate needs. A combination of on-the-job training with short courses in technical and

administrative aspects is feasible and the method recommended. Project organization should include a strong training element under the overall control of a very experienced officer (probably expatriate) to:

(a) assist operational officers with their "in-field" on-job training;

(b) establish a small but efficient interdisciplinary administrative training center in the project area;

(c) procure or produce extension aids and teaching materials;

(d) prepare curricula for short specialized technical training courses to be held at the Agricultural Extension Training Center (outside Monrovia) and arrange details and selection of trainees to attend these courses, and at CAES, Suakoko; and

(e) operate a farmer training center--sited jointly with the seed multiplication farm.

12. The Agricultural Extension Training Center, near Monrovia, needs an extra 15-bed dormitory specifically available to meet project needs.

13. Functioning of staff at the intermediary levels should be at least 30% above the strict project establishment needs. Training should be undertaken with a view to supplying staff beyond the Lofa area

14. Interdisciplinary understanding should be one of the objectives of the training program.

General

15. In the longer term, Liberia probably needs a School of Agriculture running two year courses, leading to Certificate Technicians (rather than current weak Extension Aides) for intermediate staffing of agricultural advisory services and allied support services in the small farm sector; i.e. a multi-disciplinary approach with its base in agriculture. Such a school will require time to set up, particularly as any curricula will need to be carefully designed to meet Liberia's specific needs. Several years will therefore elapse before it is practicable to anticipate a regular output of trained personnel via a progressive, fully integrated formal system.

16. In the short-term, it will be necessary to develop menpower skills through a combination of on-job training and short, more formal classroom courses in technical and administrative aspects. Such an approach presupposes three prerequisites: (a) an interdisciplinary field organization capable of absorbing trainees; (b) facilities and academic

personnel capable of teaching short courses of a specialized technical nature; and (c) administrative staff training facilities. None of these are fully available at present, but the Lofa County project would include components to provide the necessary framework.

The Agricultural Extension Training Center (AETC) near Monrovia

17. The Center is operated jointly by the Ministry of Agriculture and the University of Liberia. The Center has two classrooms, dormitories for 22 men and 18 women, catering facilities, etc., and administrative offices (used mainly by University personnel pending the construction of a planned Agricultural Faculty campus adjacent to the Center). Adjacent to the Center is a well equipped forestry school and laboratories. The Center carries out the growing of tree crops and swamp/irrigation rice cultivation on a small scale. The regular staff include several home economics instructors, two rice and vegetable instructors and a forestry instructor; however, provided prearrangements have been made, staff from the faculty of agriculture are also available. The Center was/is designed to cover short courses in Home Economics, Rural Youth, Forestry, Rice, Tree Crops and orientation courses for Peace Corps Volunteers. Apparently, current emphasis is placed on home economics, nutrition, etc.,--not deliberately, but due to poor coordination in the Ministry of Agriculture in specifying short course curricula and nominating trainees.

18. The Lofa County project provides for a design system for short (say six weeks) specific technical courses and the selection, transport and subsistence needs of trainees; including construction of an additional 15 bed dormitory to enable the Agricultural Extension Training Center to teach the technical needs of staff at the intermediary level. On-job trainee staff would be sent by the Project to the Center for one, two or even three short courses a year--on a progressive learning basis in tune with seasonal activities in the Project area.

19. On-job Training. The management and organizational structure of the project would be designed towards long term continuity (see para 1 (b) and 4 (a) (ii)) which would allow project implementation to provide the opportunity for on-job training covering a wide level of interdisciplinary understanding.

20. Staff Training Center. To cater for the administrative training requirements of all personnel the structure of the project would include a new (albeit small) Staff Training Center at Voinjama. The Center would provide courses in simple work programing techniques; the value of, need for and understanding of usage of reporting and feedback systems; elementary accounting--and the place a particular section of accounts has in the broader account system; stock inventory control system--and why; public relations techniques (especially for agricultural advisory staff and credit/cooperative workers; committee procedures--composition, objectives, minute recording, etc.).The Center would also run short orientation courses for new personnel. Courses at the Center would be short, not more than ten days, many being of the two to three day type but with periodic repetitions at slightly and gradually advanced levels. Divisional managers would assist the Center both in devising curricula and by giving short lectures.

21. Extension Aids and Teaching Materials. The combination of on-job training with short technical and administrative courses will demand the provision of high quality (simple subject matter) extension aids type of teaching materials and the officer responsible for overall training will place considerable emphasis on the procurement or production of these materials.

22. Farmer Training Center (FTC). Essentially, the extension agents form a part of a continuous farmer training system, however certain specifics (e.g. new swamp rice production technology) are better taught, in the early stages, to groups of farmers at a simply designed FTC. Courses at this sort of center would be short (about 10 days) and be in tune with current seasonal activities, i.e. a lesson learnt may be immediately put into practice. The courses should be of a practical nature--which implies farming activity at the Center itself, with the farming activity carried out with the same level/standards of tools, equipment and other resources that are readily available to farmers in general, i.e. it would be worse than useless to demonstrate good cultivation practices by even minor mechanical means if the farmer has to go home and use a hoe. It is strongly recommended that farmers and wives attend courses jointly. Course content can be partly combined and in part male or female specific consistent with local traditions.

23. Sitting of FTC with Seed Multiplication Unit. A proposed component of the project is parent seed multiplication--and, probably, tree crop seedlings. As seed multiplication will inevitable involve "farmer seed multipliers" and as logistics indicate economics of small dispersed seeding tree crop nurseries; it is recommended that parent seed multiplication and some minor seedling nursery activities be sited jointly with the Farmer Training Center. (Note, the Center can also be used for staff training aspects.) This Presupposes that the "seed multiplication farm" (initial parent seed) would not have sophisticated cultivation equipment, but the similar resources as available to "farmer seed multiplication". However, the seed cleaning/processing part of the multiplication system would be more sophisticated, preferably on another site where all seed (part of the input system) is processed whether from parent seed multiplication farm or from "farmer seed multipliers".

Funding of Trainees

24. On-job training, of the type suggested, would inevitably cause some logistical problems for management when staff members are away on courses, thus provision would be made for some duplication of personnel, related to "established" posts. Using the project area as a training ground also implies a steady drain of trained people to other projects/areas from the "established" cadre. Therefore, it is recommended that the project provides funding for at least 30% more staff annually at all intermediary levels than would be strictly necessary to fill "establishment" needs.

25. <u>Emphasis on Interdisciplinary Training</u>. Whilst in the initial stages, temptations to try and do too much at one time should be avoided, nevertheless the value derived from a ready understanding all project activities and problems warrants the wider curricular approach.

LIBERIA

LOFA COUNTY RURAL DEVELOPMENT PROJECT

Job Description and Qualifications - Project Manager

1. General. The Project Manager is the officer with overall responsibility for the execution of the project; he will also be the secretary of the Project Steering Committee (comprised of four senior ministers), which is the policy making body for the project; he will be responsible for ensuring close liaison and understanding between the project and related agencies of government particularly those operative in the Lofa County; as a member of the local Project Advisory Committee he will be required to attain full local participation in the project activities, advise on and assist local institutions that may complement or affect the successful attainment of project objectives.

2. Organization. Project activities have been divided into six functional divisions each headed by a senior officer and the initial sub-divisional activities have been outlined. The Project Manager will control, direct and coordinate the work of the respective senior divisional officers and suitably adjust, from time to time, sub-organizational aspects in the light of manpower limitations, logistical factors and priorities that may evolve during project implementation. The six functional divisions are:

(i) Finance: Including the control of and accountability for all project funds; procurement of contracts and supplies (including some under international bidding procedures); obtaining reimbursement of expenditure from the International Development Association, the American Agency for International Development and Government of Liberia contributions;

(ii) Agricultural Production: Includes the operation of an agricultural advisory service with allied field research trials (initially on rice, cocoa and coffee); seed production or procurement, and tree crops seedling nurseries;

(iii) Land Development: Including land-use planting: swamps development (water control); map production; feeder road alignments;

(iv) Commercial Operations: Including development and training of cooperatives, especially in respect of marketing and credit issue/recovery systems; liaison with bulk marketing and farm input supply agencies or enterprises;

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LOFA COUNTY RURAL DEVELOPMENT PROJECT

Job Description and Qualifications
Training and Development Controller

1. **General.** The Lofa Project aims at promoting increased productivity and improved living standards of small scale farmers in the area through a combination of advice, promotion of cooperatives and the provision of support services such as credit, farm input supplies and marketing systems. A large component of the Lofa Project is on-job staff training covering several disciplines, but with the main technical emphasis on agriculture and allied activities. The Training and Development Controller will be responsible for drawing up overall training plans, advising on training strategy, preparing technical course curricula and generally developing an on-job training system compatible with Liberia's needs, particularly for the Lofa Project and similar future projects of an agricultural/rural development nature.

Specific Duties

2. (a) Design and administer a small administrative staff training center at Voinjama, capable of running short courses for on-job trainees on a progressive learning basis. Course content would vary in sophistication from elementary to intermediary levels and would include programming techniques, reporting and feedback systems, accounting, stock inventory control, public relations (especially for agricultural advisory staff and credit/cooperative workers) and committee procedures;

(b) prepare curricula for suitable short specialized technical courses to be held at the Agricultural Extension Training Center (outside Monrovia) at CAES, Suakoko, the University of Liberia and at other existing training institutes. Liaise on technical training with the AETC, the University and other suitable bodies. Administer arrangements for the selection, transport, etc., of trainees attending such courses;

(c) advise and assist other senior divisional officers of the project on interdivisional on-job training matters. These include finance (accounts, stores, procurement, stores control, etc.,); commercial (cooperative/credit staff dealing with cooperative development, credit issues/recovery, marketing and small farm input supply systems); land development (land use, swamp water control, map production and feeder road alignments); agricultural production (advisory staff, field research, seed production and nurseries); performance audit and planning;

(d) prepare or procure suitable high quality (simple subject matter) extention aids and teaching materials;

(e) supervise the design and operation of a small Farmer Training Center; and

(f) advise and assist the Project Manager with the on-job training of deputies (counterparts) to senior positions in the project.

3. Reporting. The Training and Development Controller will be responsible to and subject to the direction of the Project Manager and will render to him such reports, plans, discussion papers and financial estimates as he, the Project Manager, may require.

Qualifications

4. (a) Technical Qualifications:

(i) Age preferably between 35 and 50 years;

(ii) a degree in agriculture and preferably with a post-graduate qualification in extension techniques;

(iii) practical experience of training in developing countries, preferably tropical Africa; and

(iv) practical administrative experience in a senior position with an agricultural, marketing or cooperative enterprise; or in a senior position within a government department or comparable agency.

(b) General Qualifications:

(i) Candidates must be in good health;

(ii) candidates must have demonstrated ability to form sound judgements and to work independently on their own initiative; and

(iii) candidates must be proficient in the English language.

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LOFA COUNTY RURAL DEVELOPMENT PROJECT

Job Description and Qualifications
Agricultural Manager

1. General. The Lofa Project aims at promoting the increased productivity and raising the living standards of small scale farmers in the project area through a combination of agricultural advice, promotion of cooperatives and the provision of support services such as credit, farm input supply and marketing systems. The Agricultural Manager will head that division of the project which promotes on-farm productivity and output quality. Initially, concentrating on rice, cocoa and coffee.

Specific Duties

2. (a) Establish and direct an agricultural advisory service in the project area. This service will have direct contact with farmers by demonstration and through the promotion of group activity, train farmers in the advantages of improved technology and encourage the adoption of suitable new productive practices;

(b) liaise with national research activities, plan and implement suitable field (at farmer level) verification trials with the object of establishing the most suitable crop varieties and production technology compatible with the climate, soils and social aspects of the project area;

(c) investigate, develop, and implement improved on-farm harvesting, crop storage and crop processing techniques;

(d) procure or produce and distribute the farmers' seed requirements; procure or produce tree crop seedlings and arrange distribution; encourage and supervise farmer group activity so that farmers may become self-sufficient in seed multiplication and tree crop seedlings in the longer term;

(e) in liaison with the Commercial Division of the project (cooperatives, credit supply and marketing) and in accordance with annual plans prepare estimates of farm input supply requirements; and marketable surpluses;

(f) with the advice and assistance of the Training and Development Controller, plan and implement an on-job training program for divisional staff members. Assist the training division in devising suitable short administrative staff training courses and in the preparation of curricula for technical courses to be held outside the project area;

(g) liaise with the Training Division on the operation of a farmers training center;

(h) liaise with the Land Development Officer on swamp development land use planning; and

(i) prepare monthly, quarterly and annual work plans together with financial estimates, manpower and logistical requirements.

3. Reporting. The Agricultural Manager will be responsible to and subject to the direction of the Project Manager and will render to him such reports, plans, discussion papers and estimates as he, the Project Manager, may require.

Qualifications

4. (a) Technical Qualifications:

(i) Age preferably between 35 and 50 years;

(ii) a degree in agriculture, also a post-graduate qualification (or substantial practical experience in tropical crops, particularly rice, cocoa and coffee and oil palm;

(iii) practical administrative experience at a senior level in operating extension service, or comparable experience with an agricultural enterprise;

(iv) practical experience in conducting research experiments in a deve oping country, preferably tropical Africa; and

(v) candidates should have an understanding of farm production economics, farm management and farming systems and agricultural finance.

(b) General Qualifications:

(i) Candidates must be in good health;

(ii) candidates must have demonstrated ability to form sound judgements and to work independently on their own initiative;

(iii) candidates must be proficient in the English language;and

(iv) it is important that candidates have a sense of tact and diplomacy.

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LOFA COUNTY RURAL DEVELOPMENT PROJECT

Staff Requirements

	Annual Cost (US$ '000)	Year 1	2	3	4	5	Post Development Requirements 6	7 onwards	Trained senior staff available
1. PMU - Voinjama									
Project manager	45.0	1	1	1	1	1			-
Deputy	10.0	1	1	1	1	1			1
Administrative manager	40.0	1	1	1	1	1			-
Deputy	9.0	1	1	1	1	1			1
Finance manager	40.0	1	1	1	1	1			-
Deputy	9.0	1	1	1	1	1			1
Performance audit/planning	40.0	1	1	1	1	1			-
Deputy	8.0	1	1	1	1	1			1
Planning aides	2.0	1	1	1	1	1			-
Bookkeeper/cashier	2.5	3	3	3	2	2			1
Bookkeeping assistants	2.0	2	2	2	2	2			3
		3	3	3	3	3			2
									3
Monrovia									
Procurement officer	4.0	1	1	1	1	1			1
2. Training									
Training development officer	40.0	1	1	1	1	1			-
Deputy	8.0	1	1	1	1	1			1
Instructors	5.0	2	2	2	2	2			2
Superintendents	3.5	2	2	2	2	2			2
Matrons	2.0	2	2	2	2	2			2
3. Land Planning									
Land use officer	40.0	1	1	1	-	-	-	-	-
Deputy	6.0	1	1	1	1	1	-	-	1
Surveyors	4.5	3	3	3	3	-	2	2	1
Mapping assistant	2.5	2	2	2	2	-	2	2	-
4. Agriculture									
Production manager	40.0	1	1	1	1	1	-	-	-
Deputy	9.0	1	1	1	1	1	-	-	1
Field experiments officer	5.0	1	1	1	1	1	-	-	1
Field experiments asst. officer /1	2.5	3	3	3	3	3	1	1	2
Extension agent	6.0	1	1	1	1	1	1	1	-
Extension field supervisors	2.5	2	3	5	7	5	5	4	3
Extension aides	2.0	33	64	100	138	70	70	58	80
Nurseries officer	3.0	-	1	1	1	1	1	1	-
5. Cooperative and Credit									
Commercial manager	45.0	1	1	1	1	1	-	-	-
Co-op/credit manager	40.0	1	1	1	-	-	-	-	-
Co-op/credit officers	5.0	4	6	4	4	4	1	1	5
Co-op/credit field supervisors	2.5	3	3	4	5	3	3	3	2
Co-op/credit [illegible] officers	2.0	14	32	50	69	35	30	30	39
6. Roads and Transport									
Road supervisor	5.0	1	1	1	1	1	1	1	-
Workshop foremen	3.0	1	1	1	1	1	1	1	-
Grader operator	2.5	1	1	1	1	1	1	1	-
Pickup driver	1.5	2	2	2	2	2	1	1	-
Mechanics	2.0	6	8	8	8	8	3	2	6
Foremen	2.0	1	1	1	1	1	1	1	-
TOTAL		109	164	219	276	164	124	110	161

/1 One officer for each crop.

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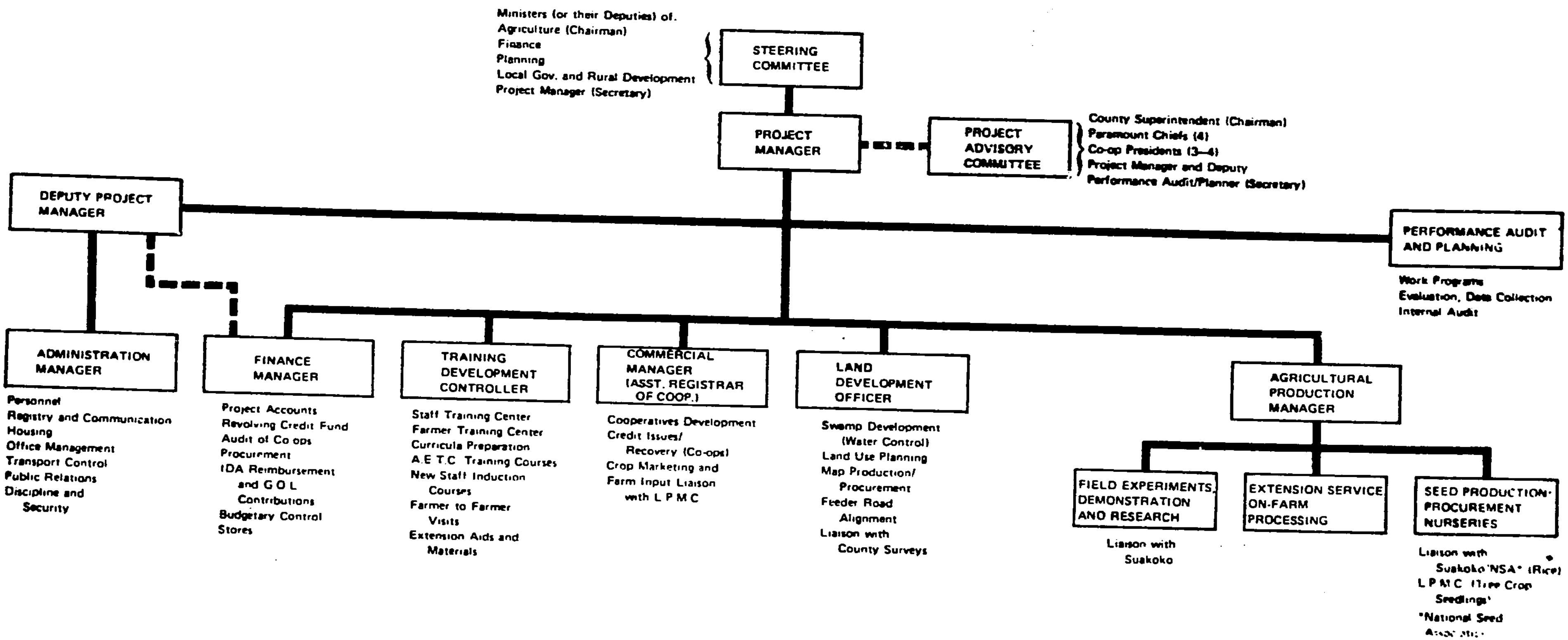
LOFA COUNTY RURAL DEVELOPMENT PROJECT
Organization Chart



World Bank - 9716

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LOFA COUNTY RURAL DEVELOPMENT PROJECT

Cooperatives

A. Background

1. In 1936 the Liberian National Legislature amended chapter two of the Association Law to create a Government Agency for promotion of Cooperatives. However, the Act was never implemented and the Cooperative movement was dormant until 1970 when the Ministry of Agriculture created a Cooperative, Credit and Marketing Division, within its organizational structure. The Division is headed by a Director, who is also the Registrar of Cooperative societies, and has three sections, each headed by an Assistant Director, with the following responsibilities:

(a) Cooperative Section: To encourage and educate farmers' to form Cooperative Societies for agricultural development, to register such societies in Liberia, and to supervise and guide their operations including audit of their accounts.

(b) Credit Section: To provide individual and cooperative credit to farmers and coordinate credit activities between the government credit programmes, and other financial institutions.

(c) Marketing Section: To assist producers in marketing produce, protect them from exploitation of middlemen and assist the Ministry of Commerce and Liberian Produce Marketing Company in formulating prices for Agricultural Produce.

2. The first Cooperative Society was registered on April 19, 1971. By the end of 1972 there were 11 registered societies, 47 (31 farmers cooperatives and 16 credit societies) at the end of 1973 and 62 (40 farmers cooperatives and 22 credit societies) at the end of 1974. Presently there are about 8,900 members of Farmer Cooperatives and 4,000 in Credit societies. In addition, the Voinjama District Farmers Cooperative Society has established a rural savings Bank (opened November 1, 1974) and its daily turnover ranges between $5,000 - $10,000. As of January 18, 1975, it had 140 accounts and deposits amounted to $27,500.

3. The Cooperative, Credit and Marketing Division is grossly understaffed, ill equipped and poorly funded even to perform its supervisory role. The present staff consists of 12 field cooperative officers, assigned to only five counties, and two supervisors, none of whom have appropriate qualifications, training and background. Fortunately, the Cooperative movement has

received help from 7 peace corps volunteers as supervisors, managers and accountants. Most of these volunteers receive 2 months training and orientation in Liberia on cooperative matters. Cooperative members have played a largely passive role, management being in the hands of the few leaders in the area.

4. Cooperatives in Liberia are primarily active in marketing of Agricultural products, mostly export crops and rice. They are sole licensed buying agents of LPMC which places them in a quasimonopolistic position for coffee, cocoa and palm kernel production. (see Annex 8). Their involvement in providing direct farm support for technological change has been limited except for the Intofawor Farmers Cooperative which has been actively involved in implementation of the Foya Rice Project. The Gbandi Farmers Cooperative has also been involved in a limited scale in distribution of farm inputs (during 73-74 about 25 tons of fertilizer and 22,000 lbs of seed rice) to farmers in the AGRIMECO cleared areas.

B. Cooperatives in the Project Area

5. In Lofa County there are six Cooperatives four of which are in the project area:

- The Intofawor Farmers Cooperative Society Ltd., Foya Airfield (1190 members on December 31, 1974).
- The Voinjama District Farmers Cooperative Society Ltd., Voinjama (1428 members on January 17, 1975).
- The Gbandi Farmers Cooperative Society Ltd., Kolahun, (747 members on January 21, 1975).
- Zorzor District Farmers Cooperative, Zorzor (approximately 350 members)

The financial position of these societies at the end of 1974 was as follows:

Financial Position of the 4 Cooperatives in the Project Area (1974 Audit)

$'000

Cooperative	Assets	Surplus	Reserve	Turnover
Intofawor farmers Coop	583.4	41.8	10.5	876.2
Voinjama District farmers Coop	104.6	77.1	19.3	1,364.3
Gbandi farmers Cooperatives	52.0	16.4	4.1	-
Zorzor District farmers Coop	15.1	2.5	.6	49.9
All Coops in Liberia	883.3	203.7	50.9	3,138.5

Source: Ministry of Agriculture

6. Except for Zorzor District Cooperatives, the societies in the Project area are generally better than those in other counties. However the trading surpluses are largely due to the export crop marketing monopoly of the Cooperatives in the project area (see para 4.) and LPMC commissions, handling and transport allowances. They also receive LPMC credit facilities for marketing operations: Intofawor received $70,000 and Gbandi $60,000, information (on others not obtained) for the 1973-74 marketing season.

The Cooperatives are building warehouses on their own initiative. Intofawor Cooperative already owns a 144' x 36 warehouse (besides a small rice mill and two power tillers); Voinjama Cooperative is constructing a 60' x 160' x 24' warehouse with its own resources and the Gbandi Cooperative is completing construction of a 144' x 36' x 16' warehouse with an LBDI loan.

C. Project Proposals for Cooperatives

7. To involve existing institutions in project implementation the four Cooperatives in the area would be responsible for:

(a) mobilizing the interest and participation of farmers and organizing them into small village groups or cooperatives;

(b) organizing an effective system for delivery of inputs to participating farmers and credit distribution and recovery;

(c) providing assembly, storage, transportation and handling and other marketing functions particularly for export crops.

8. The four cooperatives in the project area are geographically well distributed and participating farmers will have to be members of either Zorzor, Voinjama, Kolahun or Foya; however, at a later stage, the two other societies in the County (Bopolu and Gbarma District Farmers Cooperatives) may also be included.

9. The management and staff of the district cooperatives in the project area will have to be expanded and trained to handle the increased volume of inputs, credits and marketing. As this cannot be provided by the MA (see para 3.), this will be undertaken by the commercial manager, who would be designated as an Assistant Registrar of Cooperatives, in conjunction with the training and development controller of the PMU.

10. Initially four coop/credit officers, the coop/credit field supervisors and field officers will be trained in management, organization, communication budgeting, accounting and other aspects of cooperative development by an experienced coop training officer. The curricula would include formal as well as on-the-job training and instruction. The coop/credit officers would then move into the district cooperatives to train the management and staff in the various aspects of management and organization of cooperatives with emphasis on input and credit distribution, credit recovery, different

aspects of produce marketing including collection, storage, transportation and grading.

11. The coop/credit field officers in conjunction with the district cooperatives staff and the agricultural extension staff of the PMU will organize village level cooperatives and train farmers on the various aspects of cooperative input and credit services and marketing.

12. The PMU would, through its cooperative and credit division, provide guidance, supervision and assistance in day-to-day management of the cooperatives including finances and coordinate the activities of the four district cooperatives.

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LOFA COUNTY RURAL DEVELOPMENT PROJECT

Farm Inputs and Credit

A. Present Situation

Inputs

1. Except for a few large farmers and participants in the Foya Rice Project, most farmers in the project area follow traditional cultivation methods and use very few purchased inputs. Inputs are distributed by private traders but even progressive farmers have great difficulty in obtaining improved seeds, fertilizers, pesticides and technical advice. To offset this deficiency the Ministry of Agriculture has been trying to provide inputs and services through Cooperatives (fertilizer, seeds and mechanized cultivation), LPMC (tree crop seedlings, fertilizer and some field extension services) and AGRIMECO (mechanized land clearing, ploughing and sowing).

Credit

2. Large commercial farmers (many of whom are government employees who are absentee landlords) producing export crops and livestock products appear to have little difficulty in obtaining credit from Commercial Banks or LBDI. However, both these sources apply lending criteria which cannot be met by small farmers. LBDI and the principal banks are based in Monrovia and there are few, if any, rural branches due to poor communications, the prohibitive cost of transporting money, shortages of trained and qualified local staff, and insufficient business. GOL attempted to remedy the problem of credit for small farmers by establishing the Agricultural Credit Corporation in 1957 but this failed.

3. Some short term interest free credits for seasonal inputs (fertilizer and seeds), repayable after harvesting, are being channelled through the district cooperatives by the Ministry of Agriculture. (See Annex 6 para 4). LPMC provides coffee and cocoa seedlings at heavily subsidized prices (5¢ each) and on extended credit bearing 10% interest per annum, repayable in ten equal instalments after a 4-year grace period. MA has requested LPMC to provide tree crop farmers with fertilizer free of charge, funded from the Agricultural Development Fund maintained by LPMC from export crop proceeds.

4. The services of AGRIMECO (clearing, ploughing and swoing) in the Foya Rice Project are provided under a combined seasonal investment credit package. Funds are provided by the Ministry of Agriculture and investment loans have to be repaid over 10 years. When operations began no clear credit arrangements were made between participants (farmers, the cooperatives, AGRIMECO and the Ministry of Agriculture), the credit repayment situation is confused and credit recovery has been unsatisfactory.

5. Except for the limited operation of cooperatives and credit unions, there are no credit facilities for small farmers and traders, professional money lenders and relatives are the major sources of consumption and invesment credit, and, in many cases, the loan is repaid in kind.

B. Proposed Project Arrangements

Inputs

6. Credit and physical inputs (fertilizers, chemicals, sprayers, improved tools, coffee and cocoa seedlings, improved rice seeds, and some equipment for land development) will be supplied to participating farmers through the four principal district cooperatives, the village cooperatives/groups, and LPMC under PMU supervision.

The village cooperatives/groups will estimate input requirements in their areas, initially with assistance from extension and coop/credit field staff. These requirements will be collated by the respective district cooperatives and forwarded to the Cooperative and Credit Division of the PMU. The PMU Commercial Manager will arrange procurement through LPMC for fertilizers and other imported inputs. LPMC will be responsible for importing the inputs, warehousing at Monrovia, and transportation and delivery to district cooperatives for which they will receive 10% commission. Tree crop seedlings (coffee and cocoa) will be supplied by LPMC under contract. Improved varieties of breeder rice seed will be supplied by CAES at Suakoko which will then be multiplied by the National Seed Association and/or by selected farmers in the area. The supply of seedlings and seeds will be under the control of the Agricultural Production Division of the PMU.

7. All inputs will be delivered to the participating farmers by district cooperatives through village cooperatives/groups for which service Districts Cooperatives will mark up the inputs' landed cost at Voinjama (ex LPMC) by 5%, in addition to appropriate local transport costs. Farmers will therefore pay the full commercial landed cost, including handling and incidental charges for all farm inputs.

8. The four district cooperatives will be responsible for storage of inputs. In addition to their own warehouses there is sufficient additional warehouse space in central localities which can be temporarily hired. At village distribution points farm houses will initially have to be used for storage. However, it is expected that village coops will build simple structures on a self-help basis with the assistance of the PMU,if required.

9. Participating farmers will be supplied with handtools (sickles, cutlasses, knives and hoes) and for cocoa farmers knapsack sprayers. Since farmers tend to prefer traditional handtools imported ones may be unacceptable,in which case PMU would attempt to get tools manufactured locally. The project proposes swamp development by manual labor with the help of mechnical hand winches and other handtools. Mechnical hand

winches will be rented to farmers by PMU's Land Planning Division and credit would be provided for hired labor, if required. However, if labor or other constraints impede manual land development PMU would clear swamps mechanically and recover the cost from farmers.

10. Participating farmers may puchase inputs for cash at a discount from cooperatives; alternatively these inputs and other services (such as mechanical land clearing when considered necessary) will be avilable on credit . Cash will only be granted for hired labor for new swamp development.

11. Within this general framework two types of credit will be available:

(a) short term seasonal credit repayable after each harvest with a flat service charge of 10%. This would primarily cover rice seed and fertilizers for upland and swamp rice, replacement tools and sprayers, and chemicals and fertilizers for coffee and cocoa; and

(b) long term investment credit repayable in 3-12 years (depending on the crop being developed) with interest compounded @ 10% per annum. This would cover tools, hired labor and/or rental of land clearing equipment for swamp rice; and tools, sprayers, seedlings chemicals and fertilizers for coffee and cocoa during the crop development period. For project crop development this would be the first three years for coffee and cocoa plantings and the first year for rehabilitated cocoa and coffee. Terms of development loans would be as follows:

(i) for rehabilitated coffee and cocoa 5-years and 3 years respectively;

(ii) for new coffee and cocoa 8-years and 12-years respectively with a four year grace period during which interest would be capitalized; and

(iii) for new swamp rice, 8 years with a one year grace period during which interest would be capitalized.

Credit Administration Arrangements

12. Development and seasonal credit would be provided through a revolving credit fund to be established and financed by the project under a trust agreement, between IDA and GOL to be administered by the LBDI on behalf of GOL. The fund would be built up by the development and incremental seasonal input supplied to farmers through the coops which would

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LOFA COUNTY RURAL DEVELOPMENT PROJECT

Marketing, Markets and Prices

A. Introduction

1. Marketing of Agricultural Produce in the project area is considerably influenced by certain locational aspects. The project area is bordered by Guinea and the Sierra Leone in the north and northeast while a thinly populated tropical rainforest in the south (where population density is only 1-10 persons per sq mile as opposed to 25-100 persons in the project area) virtually isolates it from the rest of the country. This physical isolation coupled with rudimentary transportation links, creates negative effects on the market potential for food crops and other perishables and semi-perishables. On the other hand, nearness to the borders of Sierra Leone and Guinea, in the absence of effective preventive measures by the respective governments and as a result of spatial price differential, leads to considerable exchange of agricultural produce between the project area and those two countries. Proper pricing and marketing policies therefore assume importance in ensuring stability in the market supply and demand, market prices as well for farm resource allocation in the project area.

B. Agricutural Market Structure and Organization in the Project Area

Marketing

2. The marketing system in the project area consists of the following institutions and functionaires:

- Liberian Produce Marketing Corporation (LPMC) and its Licensed Buying Agents,
- the four cooperatives in Voinjama, Kolohun, Foya and Zorzor,
- individual and groups of private traders.

Market structure and organization in the project area varies according to whether the crop is for domestic consumption (rice, paddy, corn, groundnuts, palm oil, fruits and vegetables) or primarily for export (coffee, cocoa, palm kernels and piassava). Except for paddy/rice, in which case the LPMC competes with other traders in the free market, all the non-export crops are marketed through the traditional channels without any institutional interference with respect to price and/or quantity. However, in the case of the export crops, LPMC has an export monopoly, establishes monthly prices in consultation with the GOL and is obliged to purchase all quantities offered at those prices.

3. LPMC was founded in 1962 as a semi-governmental corporation, with 50% of the shares held by GOL and half to the Danish East Asiatic Company. LPMC headquarters, six large warehouses (adequate to handle 50,000 tons) and one palm kernel mill are located in Monrovia. At its main outstation at Voinjama, there are 3 warehouses (capacity about 1,700 tons) one 2-ton per hour rice mill, one 1-ton coffee huller and a small hand-hydraulic press for oil palm processing. LPMC also owns and manages a 14 ha oil palm farm, a 15 ha cocoa farm and a 36 ha coffee farm. Since the beginning of 1974 LPMC has taken over the Tree Crop Program in the country and during that year raised 14,000 oil palm seedlings, 57,000 coffee seedlings and about 1.2 million cocoa seedlings. The selling price of the seedlings were a nominal 5 cents for coffee and cocoa and 30 cents for oil palm; long term credit is extended to farmers for these purchases (see Annex 7). LPMC now contemplates supplying fertilizer to the tree crop farmers free of cost.

4. For the collection and assembly of produce from the farmers, LPMC employs Licensed Buying Agents (LBA). In 1974 these numbered 42 in all of Liberia (27 cooperatives and 15 private traders) and 6 in Lofa County (5 in the project area; 4 cooperatives and one private company). In addition, LPMC buys from all others (except Lebanese traders) who deliver produce to its warehouses in Voinjama. Nearly 40% of paddy and 25% of cherry coffee received at Voinjama were from these other sources. The cooperatives are appointed as LBA on recommendations from the Cooperative, Credit and Marketing Division of the MA while the private traders are appointed on verification of their credentials by the LPMC. All LBA's receive a fixed ad valorem buying commission in addition to handling and transport charges 1/. Suppliers other than the LBA's are not entitled to such commission. The cooperatives get crop financing advances, but the trader-LBA's do not.

5. When compared with other West African marketing boards, LPMC's margin between "producer" payments and export earnings appear to have been excessive (see para 12). Available information shows that in the past LPMC had profits that were far in excess of what was stipulated in its agreement with the GOL -- a maximum of 10% of fob value of exports as profits and overhead expenses. During 1965/69 this margin was 13.6 to 16 percent of fob turnover, for 1971 and 1972 it was 14 and 15 percent, respectively. Between 1963 and 1969 LPMC's total profits amounted to over US$3 million. During 1974 the gross income before taxes and transfer to price stabilization and development fund was over US$3 million.

6. The cooperatives lack an organized network of purchasing points and they, therefore, accept produce mainly at their warehouses. The Foya cooperative operates a small outstation, the Gabandi cooperative operates one at Bolahun (Massambolhun) and recently the Voinjama cooperative has started to collect produce from villages using its own transport (producer pays half of the transport cost). Under these conditions only the farmers who live in the vicinity of the cooperative headquarters and/or those who have transport facilities at their disposal are able to deliver their products directly to the cooperatives. For a large number of farmers, however,

1/ Present commission: coffee and palm kernel 6%, cocoa 8%, paddy 4%, of the producer price.

it is not possible to sell directly to the cooperatives and they have to rely on intermediaries, who are sometimes known as sub-agents of the cooperatives. These sub-agents usually assemble the collected produce in their own stores, from where it is sent either to the cooperatives and/or the Voinjama outstation of the LPMC, or in the case of palm kernels, clean coffee and cocoa directly to the LPMC warehouse in Monrovia. The cooperatives deliver their cherry coffee and rice to the LPMC warehouse in Voinjama whereas clean coffee, palm kernels and cocoa are sent directly to Monrovia. Except for the small purchases, payment is made by the Monrovia office against warehouse receipts and way bills issued by Voinjama outstation. Final produce inspection (both quality and quantity) is done at Monrovia.

7. Table 2 shows LPMC purchases of coffee, cocoa and palm kernel in the project area during 1968-74. Measured against the purchases in the whole of Liberia, coffee purchases in the project area were about 50%, cocoa 30%, and palm kernel 30%. However, when assessing these purchases, the clandestine border trade with Guinea and Sierra Leone should be taken into consideration, particularly for coffee and cocoa. The phenomenon is more perceptible in the case of coffe , and in certain years in the past higher prices in Liberia attracted as much as 40% of the total quantities purchased by LPMC in the area.

Storage

8. At present, storage functions in the project area are undertaken by farmers, the sub-agents, cooperatives and in particular by the LPMC. Farmers store the rice intended for their own consumption in the attic of the kitchen, where it is dried by warmth and smoke and is kept reasonably free from pests. Cocoa and coffee are delivered direct to the cooperatives or the sub-agents, who store the products only during the small transition period which is necessary for collecting and assembling enough products. Up to now cooperatives have stored produce in small rented structures. However, the coops at Foya, Voinjama and Kolohun have undertaken construction of their own warehouses (see Annex 6). The bulk of the storage facilities in the project area is provided by the LPMC; warehouse facilities at Voinjama are used mainly for the storage of cherry coffee and rice. The LPMC outstation in Voinjama has three warehouses with a total capacity of about 12,000 m^3; this corresponds to a storage capacity of about 28,000 bags of rice (about 1,700 tons).

Processing

9. The traditional method of on-farm processing of cherry coffee by handpounding with mortar and pestle is a labor intensive process, and results in poor quality coffee. The price differentials between clean and cherry coffee determines the incentives or disincentives for the farmers to process cherries themselves. Until June 1972, price of clean coffee was about 70% higher than cherries and coffee was delivered almost exclusively as clean coffec during this period. During the harvesting season in 1972-73, the price relation between clean and cherry coffee was 12¢:10.5¢ and this resulted in large deliveries of cherries (2,230 tons) as opposed to very little (only

about 300 tons) during 1973-74 when the price relationships were 25¢:12.5¢ per lb. Several economic reasons justify a policy of disincentives for traditional processing of cherries:

(a) on-farm processing is inefficient and leads to quantitative and qualitative losses;

(b) on-farm processing is labor intensive and diverts family labor from other more productive farm activities. With the proposed farm development activities participating farmers in the project area will have very little labor available for propper processing of cherries on the farm;

(c) large scale smuggling distorts local supply-demand relationship, prices and as such proper farm resource allocation. Relative price discrimination against clean coffee can act as a disincentive for smuggling because of relative transportation difficulties for cherries; and finally

(d) proper utilization of the LPMC coffee mill would reduce the LPMC's overhead costs on coffee trading account, the savings from which could then be passed on to the producers.

10. After harvest cocoa is fermented and dried by the farmers themselves which, though is the cheapest method, can result in poor quality cocoa. Improper fermentation, drying and storage results in a large proportion of slaty beans and other quality deteriorations arising from fungal and insect attacks. Liberian cocoa suffers price deductions of 2-5% on world market due to such quality problems.

11. Rice is cultivated primarily for subsistence with only a small marketed surplus. According to the 1971 agricultural census, only about 15% of the farmers sold rice occasionally. The paddy rice for the farmers' own consumption is processed primarily by handpounding with mortar and pestle. As this operation is time-consuming, an increasing number of small rice mills have begun to spread throughout Lofa. At present about 24 of these mills are in the area. Most are old Engleberg huller mills, although a few of the newer ones are equipped with modern rubber roll shellers. Capital investments, overhead and variable expenses are relatively low but the low conversion rates, which in most cases do not amount to more than 55%, renders the industry uneconomic for the nation. Indication of a proliferation of these mills in the countryside are found in the fact that during 1974 about 50 such small mills were sold in Monrovia and dealers expect to sell another 100 during 1975. There is no rural preference for parboiled rice, and the technique of parboiling is not widely known to the producers/processors.

C. Constraints in the Present Marketing System

12. The market for export crops is characterized by a monopolist (LPMC) buying from a large number of individual farmers through a small number of non-competing entities (LBA's) at a predetermined price. Therefore market power is totally concentrated in the hands of the buyers and the prices that producers receive are purely institutional rather than market-generated. In such a situation deprivation of the producers is a likely outcome and that is precisely what has happened in Liberia in the past. LPMC purchase prices have not only been too far below the world market prices (Tables 3 and 4), but the actual prices received by the producers have been even lower by as much as 20% resulting from the following situations:

(a) due to transport difficulties farmers cannot bring their produce to the cooperatives' warehouses and are obliged to sell to the sub-agents and/or other itinerant traders. These sub-agents offer lower prices to cover their operating expenses and profit;

(b) the sub-agents usually buy in volume measures which the farmers cannot relate to LPMC prices and invariably this turns to the farmers' disadvantage;

(c) in the absence of standardized and easily understood grading systems, the sub-agents are able to make unjustified deductions on pleas of quality deficiencies. Even cooperatives do not pay full LPMC prices to the producers who bring their produce to the warehouses on such quality considerations, a practice which they justify on grounds of protecting themselves against such deductions by LPMC;

(d) lack of effective dissemination of market information and supervision. It is doubtful whether a remote farmer knows the prevailing LPMC producer prices.

13. In 1973 a new price formula for coffee, cocoa and palm kernels was prepared. This price system is oriented towards prices that the LPMC obtains in the world markets, from which the following deductions are made: the operational and overhead costs of LPMC, the transfers for a newly established Reserve for Price Stabilization, subsidies to the Funds for Agricultural Development and LPMC profits. The residual is the producer price to be paid to the farmer. Conceptually this pricing formulae can assure the producers a stable and satisfactory share in the final value of their products. However, since this share is a residual value, its effectiveness requires that (a) components of the deductions are not excessive and economically unjustifiable; (b) the costs of operational inefficiencies of the LPMC and its agents are not passed on to the producers; (c) the farmers are actually paid the full established price and, finally, (d) a reasonable part of the statutory deductions for agricultural development funds are made available for farther agricultural development of the areas where the produce originated.

D. Project Proposals for Marketing Improvement

14. The project will result in a considerable increase in the marketable surplus of coffee, cocoa and paddy. At full maturity, an additional volume of about 11,000 tons of paddy, 2,500 tons of clean coffee (excluding smuggled quantities) and about 2,000 tons of dry cocoa beans will have to be channeled through the marketing system. No major changes in the existing institutional structure of the marketing system is considered necessary but within the broad framework the following modifications of marketing and pricing policies are proposed:

(a) Producer Prices: For coffee and cocoa the producer prices should be at least 60% of the fob Monrovia sales income, i.e., world market price less freight, insurance and overseas selling commission. Fob sales value would be calculated on the basis of a weighted average of the previous shipping periods adjusted by projected domestic and world price situations for the next shipping period. Such prices would be announced well ahead of the harvest but would be under constant review during the shipping season. If there are adverse changes in the world prices, the announced producer prices would be maintained by withdrawal from the price stabilization fund, but if world prices show sustained upward movement, appropriate revision in the producers' price would be effected.

Paddy and/or rice will continue to be in the private sector but LPMC would operate a price support program, the support price being an equivalent of the import substitution value.

Price differentials between clean coffee and cherry coffee shall be maintained at a level that would discourage home processing by producers.

In order to encourage quality improvements appropriate price differentials for quality differences would be enforced for all commodities.

(b) Marketing Practices: The four cooperatives in the project area would endeavor to buy directly from the producers as far as possible. The village cooperative/groups should be the media for attaining this objective. If necessary, the project would assist in the construction of small cooperative stores/ collection points in the villages. If sub-agents are used, the cooperatives should be made responsible for paying them adequate handling and transport allowances and ensures that the sub-agents do not underpay the farmers to cover such expenses. In order to dilute the quasi-monopoly position of the cooperatives, and the commitant inefficiencies, the LPMC may consider appointing more LBA's, on comparable terms and conditions, from amongst reputable private traders.

The Voinjama outstation of the LPMC should be strengthened to enable it to inspect, accept and settle payments for all produce that are offered at their warehouses.

(c) Marketing Infrastructure: In order to reduce transportation costs and facilitate produce mobility, the farm-to-market roads would be properly maintained (see Annex 2). The LPMC in collaboration with the cooperatives and active guidance from the PMU, would take steps to effectively disseminate market in formation in the villages, institute simple and easily understood procedures for grading of produce and impart necessary training to the producers in this regard, introduce a standardized system of weights and take such other steps as are necessary for the improvement of the overall marketing environment.

E. Market Prospects and Prices

Coffee and Cocoa

15. Liberia is not yet considered to be a major coffee and cocoa producer of the world. During 1973-74, its total coffee and cocoa exports amounted to less than 2% of the world production. The incremental production envisaged in the project for these commodities is so insignificant in terms of world production that it will not have a measureable effect on the supply and price situation.

Liberia's export of coffee has increased nearly 50% between 1968 and 1973, from about 4,600 tons to nearly 6,800 tons. Liberia is a member of the International Coffee Organization (ICO). In recent times the ICO has been in a flux. During the 1973 season, all economic clauses in the agreement were suspended; there was no quota restriction and the LPMC was able to substantially unload its coffee stocks. However, in 1974 a meeting of the producing countries alloted a minimum export quota of about 7,700 tons to Liberia. If the ICO is able to renegotiate a new agreement and reimpose the quota system, Liberia can still expect a 10% annual increase in its export quota due to its low export volume. The estimated increase in project output of coffee will still remain well within this annual 10% increase in quota and therefore no marketing difficulties are anticipated. If marketing difficulties due to quota restrictions should arise, they could be overcome by reducing the flow of smuggled coffee from neighboring countries which constitute about 20%-25% of Liberia's total supply of clean coffee.

Liberia is not a member of the International Cocoa Agreement (ICA) and therefore is not limited by quota restrictions. Cocoa exports from Liberia have shown considerable fluctuation in recent years. According to IBRD projections, the rate of growth in world cocoa production (1971-80) is about 3.8% per year which is higher than the anticipated rate of growth in demand in 1972 constant prices. Given Liberia's insignificant share in the world market, no market difficulties will be faced by the incremental production of cocoa. However, Liberian cocoa suffers a discount penalty in the world market due to quality deficiencies arising from improper processing, and storing. With proper quality improvement, she should be able to find a better export market and earn more revenue in the future.

Rice

16. Rice is the main staple food in Liberia. The annual per capita consumption is estimated at about 146 kg. Domestic production in the past increased at an annual rate of about 1.4% and lagged behind the growth of population. Under these circumstances, Liberia had to import on an average about 40,000 tons of clean rice from aborad between 1967-1973. The rate of self-sufficiency fluctuated between 74% and 80% over these years.

Imported rice is mainly parboiled low grade American rice with 35% broken. In spite of the relatively low quality, imported rice is preferred by the urban population. The rural areas in Liberia are largely self-sufficient and only a small proportion of the local rice reaches the markets and interregional trade.

Assuming a population growth rate of 2.8% per annum, the total demand for clean rice in Liberia is estimated at about 225,000 tons in 1980. The incremental production of about 7,400 tons of clean rice will therefore find a ready domestic market and will reduce Liberia's dependence on imported rice.

Prices

17. According to IBRD commodity forecasts, in 1975 constant dollars, the prices of cocoa and rice in 1980 will be 25% and 27% lower than those prevailing during 1975, while coffee prices will go up by about 31%. The respective spot New York prices in 1980 for coffee and cocoa are $1,830.0 and $1,260.0 respectively, and $275.0 for Thai 5% broken rice fob Bankok. The estimated economic and financial farmgate prices are presented in Table 5.

ANNEX 6
Table 1

LIBERIA

LOFA COUNTY RURAL DEVELOPMENT PROJECT

Summary Statement of Income of Liberia Produce Marketing Company 1971-74

	1971	1972	1973	1974
	--Year ended September 31-			
	..............US$ '000...............			
Income				
Trading Profit from Produce	1,338	1,305	2,799	2,255
Profit from Palm Kernel mill	-	65	400	2,736
Other Income	-	-	112	239
Total Income	1,338	1,370	3,311	5,230
Expenses				
Operating and Warehousing	345	459	478	467
Administration and General Expenses	261	414	300	326
Depreciation of Fixed Assets	83	83	73	107
Provision for doubtful debts	-	-	13	-
Agricultural Development expenses	364	346	347	-
Total Income	1,053	1,301	1,208	900
Gross Income	285	69	2,103	4,330
Transfer of Funds				
Price Stabilization	-	-	-	1,093
Agricultural Development	-	-	695	1,359
Total Transfer	-	-	695	2,452
Taxes	-	-	532	623
Net after Taxes	285	69	876	1,050

Source: Report of Auditors, Winney Murray & Company.

LIBERIA

LOFA COUNTY RURAL DEVELOPMENT PROJECT

LPMC Purchases of Coffee, Cocoa and Palm Kernel in the Project Area 1/
(tons)

Year	Coffee (Clean)	Cocoa (Dry Bean)	Palm Kernel (Dry Kernals)
1968/69	3,260	-	4,055
1969/70	2,280	878	4,292
1970/71	2,660	938	4,955
1971/72	2,760	865	3,404
1972/73	2,400	639	3,612
1973/74 1/	1,300	1,236	3,059

1/ Excluding Zorzor area. LPMC became involved in rice marketing only in 1972 and it still plays a minor role in this respect. During 1972-73 the Voinjama outstation bought only 90 tons and in 1973-74 470 tons of paddy.

LIBERIA

LOFA COUNTY RURAL DEVELOPMENT PROJECT

Liberian Marketing Corporation's Producer and Export Prices
(in US$ per long ton)

	1966/67	1967/68	1968/69	1969/70	1970/71	1971/72	1972/73	1973/74
Coffee								
a. Unit Producer Price	409	403	384	364	380	470	560	560
b. Unit Export Price	667	682	655	748	847	854	985	1,020
- in percent of Producer Price	163%	169%	171%	206%	229%	182%	176%	182%
Cocoa								
a. Unit Producer Price	358	358	382	403	409	336	403	582
b. Unit Export Price	542	616	775	836	602	471	615	1,028
- in Percent of Producer Price	151%	172%	203%	207%	147%	140%	153%	177%
Palm Kernels								
a. Unit Producer Price	93	102	93	98	100	92	87	157
b. Unit Export Price	133	167	133	147	134	124	- 1/	261
- in Percent of Producer Price	143%	164%	143%	150%	134%	135%	-	166%
Total Export Earnings against Producer Price Payments	154%	160%	140%	186%	173%	173%	170%	198%

1/ No PK exported but LPMC exported processed kernel oil amounting to $1.7 million. During 1973-74 the total export earning were $5.3 million from kernel oil.

ANNEX 8
Table 3

LIBERIA

LOFA COUNTY RURAL DEVELOPMENT PROJECT

LPMC Purchase Prices

	Robusta Coffee ¢/lb Clean Coffee	Cocoa ¢/lb Dry Beans	Palm Kernels ¢/lb Dry Kernels
1967-68	18	16	4
			4½
1968-69	18	16	4-3/4
		17	4
1969-70	18	17	4½
	15	18	4
1970	15	18	4½
1971	17	18	4½
		15	
1972	17	15	4½
	12	18	4
1973	12	18	4
	25	26	7
1974	25	26	7
	30	36	9
1975	30	36	9

Note: LPMC started paddy purchasing in 1972 when official price was 5¢ per lb. Present price is 10¢/lb.

LIBERIA

LOFA COUNTY RURAL DEVELOPMENT PROJECT

Economic and Financial Farmgate Prices

Clean Coffee

	1980		1985	
	Economic	Financial	Economic	Financial
	US$ per Long Ton			
Spot New York 1/	1,830	1,830	1,898	1,898
- Insurance and Freight 2/	90	90	90	90
- Overseas Selling Commission 3/	37	37	37	37
FOB Monrovia	1,703	1,703	1,769	1,769
- Port Expenses 4/	10	10	10	10
- LPMC Costs 5/	183	183	190	190
- Transport to Freeport 6/	20	28	20	28
- Ag. Dev. Fund 7/	-	119	-	124
- Price Stabilization Fund 8/	-	85	-	88
- LPMC Profit 9/	-	136	-	142
Value at Voinjama	1,490	1,142	1,549	1,187
- Farmers Marketing Costs 10/	38	114	39	119
Farmgate prices: Clean coffee:	1,452	1,029	1,510	1,068
In term of cherry	829	586	861	609

1/ Based on IBRD price projections for washed Guatemalean coffee in 1975 Constant Terms less 4% to reflect quality differences for Liberian coffee
2/ LPMC data.
3/ 2% of spot New York price.
4/ Harbour dues, warfage, inspection etc.
5/ 11% of FOB Monravia value.
6/ Transport from Voinjama to freeport, US$28 per ton. Only 70% considered as economic costs, the other 30% reflecting taxes, profits etc.
7/ 7% of FOB Monravia value.
8/ 5% of FOB Monravia value.
9/ 8% of FOB Monravia value.
10/ 10% of financial value at Voinjama; 2/3 traders' profit and 1/3 is considered as economic costs.

LIBERIA

LOFA COUNTY RURAL DEVELOPMENT PROJECT

Economic and Financial Farmgate Prices

Cocoa Bean

	1980		1985	
	Economic	Financial	Economic	Financial
	US$ per long Ton			
Spot Newy York/Europe 1/	1,260	1,260	1,277	1,277
- Insurance and Freight 2/	85	85	85	85
- Overseas Setting Commission 3/	25	25	25	25
FOB Monravia	1,150	1,150	1,167	1,167
- Port Expenses 4/	10	10	10	10
- LPMC Costs 5/	112	112	112	112
- Transport to Freeport 6/	20	28	20	28
- Ag. Dev. Fund 7/	-	81	-	82
- Price Stab. Fund 8/	-	58	-	58
- LPMC Profit 9/	-	92	-	93
Value at Voinjama 10/	1,008	769	1,025	784
- Farmer's Marketing Costs 10/	26	77	26	78
Farmgate Price	982	692	999	706

1/ Based on IBRD price projections for dry Cocoa beans in 1975 Constant term.
2/ LPMC data.
3/ 2% of spot New York/Europe price.
4/ Harbour dues inspection fees etc.
5/ 10% of FOB Monravia Value.
6/ Transport from Voinjama to Freeport @ US$28 per ton. Only 70% considered as economic costs, the other 30% accounting for taxes, profits.
7/ 7% of FOB Value.
8/ 5% of FOB Value.
9/ 8% of FOB Value.
10/ 10% of financial value at Voinjama; 2/3 trader's profit and only 1/3 considered as economic costs.

LIBERIA

LOFA COUNTY RURAL DEVELOPMENT PROJECT

Economic and Financial Farmgate Prices
(Import Subtitution Value)

Clean Rice

	1980 Economic	1980 Financial
	-------- US$m/ton	---------
Spot Bangkok 1/	275	275
+ Insurance and freight 2/	50	50
+ Overseas buying Commission 3/	10	10
CIF Monravia	335	335
+ Importers Margin 4/	14	42
+ Import Tax 5/	-	12
+ Port Expenses 6/	10	10
Value at Monravia	359	399
- Transport to Monravia 7/	20	28
Value at Voinjama	339	371
Value in Paddy equiv. 8/	227	249
- Milling Costs 9/	3	10
- Bags 10/	1	5
+ Value of Bram 11/	4	4
	227	238
- Farmers Marketing Costs 12/	6	24
Farmgate Price	233	214

1/ Based on IBRD price projections for Thai 5% broken rice in 1975 term discounted by 15% for Liberian rice.
2/ LPMC data
3/ 4% of FOB Bangkok price.
4/ 12.5% of CIF Monravia price; 2/3 in importers profit 1/3 costs.
5/ In 1975 50 cents per 100 kg.
6/ Harbour dues, inspection etc.
7/ From Voinjama to Monravia @ US$28 ton; 70% considered economic costs, the rest taxes, profits, etc..
8/ Assuming 67% conversion rate.
9/ 1/3 considered economic costs, 2/3 profit, taxes, etc...
10/1/5 considered economic costs as the bag gets used several times.
11/6% of paddy weight in bran. Market price US$3.00 per 100 lbs.
12/1/4 considered economic costs, 2/3 traders' profit.

LIBERIA

LOFA COUNTY RURAL DEVELOPMENT PROJECT

Project Financing
(US$ '000)

	Total Project Costs	Foreign Exchange Costs	Local Costs	Financing: IDA Foreign Exchange Costs	Financing: IDA Local Costs	Financing: USAID Foreign Exchange Costs	Financing: USAID Local Costs	Financing: GOL Local Costs	Financing: Farmers Local Costs
Buildings and construction materials	435.0	261.0	174.0	198.0	142.0	63.0	32.0	-	-
Vehicles	613.3	490.0	123.3	380.0	-	110.0	20.1	103.2	-
Equipment	632.8	500.0	132.8	450.0	-	44.0	11.0	121.8	-
Salaries and wages	4,668.7	1,895.0	2,773.7	1,410.0	-	485.0	650.6	2,123.1	-
Vehicle Operating Expenses	902.0	630.0	272.0	630.0	272.0	-	-	-	-
Development operational costs	785.0	150.0	635.0	128.0	615.0	22.0	20.0	-	-
Subtotal	[illegible],036.8	3,926.0	4,110.8	3,202.0	1,029.0	724.0	733.7	2,348.1	-
Farm inputs	3,288.6	1,360.0	1,928.6	-	-	1,360.0	296.8	1,631.8	-
Hired labor	420.0	-	420.0	-	-	-	420.0	-	-
Farm family labor	1,025.0	-	1,025.0	-	-	-	-	-	1,025.0
Consultants	100.0	100.0	-	60.0	-	40.0	-	-	-
LBDI branch establishment costs	150.0	90.0	60.0	90.0	60.0	-	-	-	-
Subtotal	[illegible].020.4	5,47[illegible].0	7,944.4	3,352.0	1,089.0	2,124.0	1,450.5	3,979.9	1,025.0
Contingencies - physical	[illegible]	274.0	3[illegible].0	168.0	51.0	106.0	70.0	200.0	75.0
- price	[illegible],309.6	2,000.0	2,3[illegible].6	1,220.0	120.0	780.0	469.5	1,720.1	-
Total	[illegible]	7,750.0	[illegible],250.0	4,740.0	1,260.0	3,010.0	1,990.0	5,900.0	1,100.0

ANNEX 9
Table 1

LIBERIA

LOFA COUNTY RURAL DEVELOPMENT PROJECT

Project Costs

(US$ '000)

	Year 1	2	3	4	5	Total	Foreign Exchange %	Foreign Exchange Cost	Local Cost	IDA Finance	USAID Finance
Buildings and construction materials	280.0	65.0	[illegible]	35.0	-	435.0	60	261.0	174.0	198.0	63.0
Vehicles	323.8	69.5	[illegible]	90.6	28.0	613.3	80	490.0	123.3	380.0	110.0
Equipment	344.2	225.[illegible]	[illegible]	20.0	10.0	632.8	80	560.0	132.8	456.0	44.0
Salaries and wages	788.2	938.8	[illegible]	1,0[illegible].8	790.3	4,668.7	41	1,895.0	2,773.7	1,410.0	485.0
Vehicle operating expenses	127.2	179.9	2[illegible].3	138.2	179.9	902.0	70	630.0	272.0	630.0	-
General services	198.0	131.0	[illegible]	152.0	125.0	785.0	19	150.0	635.0	128.0	22.0
Subtotal	2,061.4	1,609.[illegible]	[illegible]	1,590.6	1,133.2	8,036.8	49	3,926.0	4,110.8	3,202.0	724.0
Farm inputs	33.8	487.[illegible]	[illegible]	901.8	1,216.0	3,288.6	41	1,360.0	1,928.6	-	1,360.0
Hired labor	-	45.0	[illegible]	120.0	180.0	420.0	-	-	420.0		-
Farm family labor	6.6	137.[illegible]	[illegible]	332.3	372.7	1,025.0	-	-	1,025.0	-	-
Subtotal	40.4	669.[illegible]	[illegible]	1,324.1	1,768.7	4,733.6	-	1,360.0	3,373.6	-	1,360.0
Consultants	10.0	30.[illegible]	[illegible]	30.0	-	100.0	100	100.0	-	60.0	40.0
LBDI branch establishment costs	80.0	70.[illegible]	-	-	-	150.0	60	90.0	60.0	90.0	
Subtotal	2,191.8	2,379.[illegible]	[illegible]	2,9[illegible].7	2,901.9	13,020.4	42	5,476.0	7,544.4	3,352.0	2,124.0
Contingencies - physical	109.2	[illegible]	[illegible]	[illegible]	156.5	670.0	[illegible]	274.0	396.0	168.0	[illegible]
- price	344.0	[illegible]	[illegible]	[illegible]	1,456.6	4,309.6	47	2,000.0	2,309.6	1,220.0	[illegible]
Total Project Costs	2,645.0	3,02[illegible]	[illegible]	[illegible]	4,515.0	18,000.0	43	7,750.0	10,250.0	4,740.0	[illegible]

ANNEX 9
Table 1

LIBERIA

LOFA COUNTY RURAL DEVELOPMENT PROJECT

Project Costs

Building and Construction Materials
(US$ '000)

	Unit Cost	1	2	3	4	5	Total	Foreign Exchange %	Foreign Exchange Cost	Local Cost	IDA Financed Foreign Exchange	USAID Financed Foreign Exchange
1. P M U /Administration and Finance												
Office improvements and alterations		20.0					20.0	70	14.0	6.0	14.0	
House alterations and improvements		50.0					50.0	70	35.0	15.0	35.0	
Sub-Total		70.0					70.0	70	49.0	21.0	49.0	-
2. Training												
Dormitory block, AETC Johnsonville, Monrovia	65.0	65.0					65.0	70	45.0	20.0	-	45.0
Staff training center (15 beds) Voinjama	30.0	30.0					30.0	50	15.0	15.0	15.0	-
Farmer training center (15 beds) Kolahun	15.0	15.0					15.0	33	5.0	10.0	5.0	-
Sub-Total		110.0					110.0	59	65.0	45.0	20.0	
3. Agriculture												
Sundry small buildings at experimental and demonstration farms etc.		15.0	10.0	-			25.0	50	13.0	12.0	13.0	-
Sub-Total		15.0	10.0				25.0	50	13.0	12.0	13.0	-
4. Co-operative/Credit												
Materials for small village stores, etc.			10.0	10.0	10.0		30.0	50	15.0	15.0	15.0	-
Sub-Total			10.0	10.0	10.0		30.0	50	15.0	15.0	15.0	-
5. Roads and Transport												
Materials for small bridges and culverts, etc.		20.0	15.0	15.0	10.0		60.0	70	42.0	18.0	42.0	-
Workshop		15.0					15.0	60	9.0	6.0	9.0	-
Sub-Total		35.0	15.0	15.0	10.0		75.0	68	51.0	24.0	51.0	-
6. Shistosomiasis Surveillance Unit												
Office/laboratory		25.0					25.0	70	18.0	7.0	-	18.0
Sub-Total		25.0					25.0	70	18.0	7.0	-	18.0
7. Wells												
Construction materials		25.0	30.0	30.0	15.0		100.0	50	50.0	50.0	50.0	
Sub-Total		25.0	30.0	30.0	15.0		100.0	50	50.0	50.0	50.0	
TOTAL		280.0	65.0	55.0	35.0		435.0	60	261.0	174.0	198.0	63.0

LOFA COUNTY RURAL DEVELOPMENT PROJECT

Project Costs - Vehicles
(US$ '000)

	Unit Cost	Year 0 /1	Year 1	Year 2	Year 3	Year 4	Year 5	TOTAL	Foreign Exchange %	Foreign Exchange Cost	Local Cost	IDA Financed Foreign Exchange	USAID Financed Foreign Exchange
I. PMU/Administration/Finance													
Saloon Cars - 2000 c.c.	5.0	(2) 10.0	(1) 5.0	-	(2R) 10.0	-	-	25.0					
Personnel Carriers	5.4	(1) 5.4	-	-	(1R) 5.4	-	-	10.8					
Pick-up - 1500 c.c.	4.0		(1) 4.0	-	-	(1) 4.0	-	8.0					
Four-wheel drive Vehicle	9.0	-	(1) 9.0	-	-	-	-	9.0					
Motor Cycles	0.7		(1) 0.7	(1) 0.7	-	-	-	1.4					
Sub-Total		15.4	18.7	0.7	15.4	4.0		54.2	80	40.0	14.2	40.0	-
II. Training													
Personnel Carriers	5.4		(2) 10.8	-	-	(1R) 5.4	-	16.2					
Pick-ups 1500 c.c.	4.0	-	-	(1) 4.0	-	-	-	4.0					
Sub-Total		-	10.8	4.0	-	5.4	-	20.2	80	16.0	4.2	16.0	-
III. Land Planning													
Four-wheel drive vehicle	9.0	-	(1) 9.0	-	-	-	-	9.0					
Pick-ups - 1500 c.c.	4.0	-	(2) 8.0	-	(1) 4.0	-	-	12.0					
Motor Cycles	-		(1) 0.7	(1) 0.7	(1R) 0.7	-	-	2.8					
Sub-Total			17.7	0.7	4.7	0.7	-	23.8	80	20.0	3.8	20.0	-
IV. Agriculture													
Four-wheel drive vehicle	9.0	-	(1) 9.0	-	-	-	-	9.0					
Pick-ups - 1500 c.c.	4.0	-	(2) 8.0	(1) 4.0	-	(2R) 8.0	-	20.0					
Motor Cycles	0.7	-	(30) 21.0	(40) 28.0	(70) 49.0	(80) 35.0	(30) 21.0	154.0					
Sub-Total		-	38.0	32.0	49.0	43.0	21.0	183.0	80	144.0	39.0	144.0	-
V. Co-op Credit													
Saloon Car - 2000 c.c.	5.0	-	(1) 5.0	-	-	-	-	5.0					
Personnel Carrier	5.4	-	(1) 5.4	-	-	(1R) 5.4	-	10.8					
Pick-ups	4.0	-	(2) 8.0	(2) 8.0	(2) 8.0	(2R) 8.0	-	32.0					
Motor Cycles	0.7	-	(15) 10.5	(20) 14.0	(35) 24.0	(20) 14.0	(10) 7.0	69.5					
Bicycles	0.1	-	(3) 0.3	-	(3) 0.3	-	-	0.6					
Sub-Total		-	29.2	22.0	32.3	27.4	7.0	117.9	80	100.0	17.9		100.0
VI. Roads													
Pick-ups - 1500 c.c.	4.0	-	(1) 4.0	(1) 4.0	-	(1R) 4.0	-	12.0					
Grader	40.0	-	(1) 40.0	-	-	-	-	40.0					
Sub-Total			44.0	4.0	-	4.0	-	52.0	80	40.0	12.0	40.0	-
VII. Schistosomiasis Unit													
Personnel Carrier	5.4	-	-	(1) 5.4	-	(1) 5.4	-	10.8					
Motor Cycles	0.7	-	-	(1) 0.7	-	(1) 0.7	-	1.4					
Sub-Total		-	-	6.1	-	6.1	-	12.2	80	10.0	2.2		10.0
Spares for Vehicles		-	150.0	-	-	-	-	150.0	80	120.0	30.0	120.0	-
TOTAL		-	323.6	69.5	101.4	90.6	28.0	613.3	80	490.0	123.3	380.0	110.0

/1 For financial and [illegible], Year 0 expenditure is added to Year 1.

ANNEX [illegible]
Table 4

LIBERIA

LOFA COUNTY RURAL DEVELOPMENT PROJECT

Project Costs - Equipment

(US$ '000)

	Unit Cost	Year 0 /1	1	2	3	4	5	Total	Foreign Exchange %	Foreign Exchange Cost	Local Cost	IDA Financed FE Cost	USAID Financed [illegible]
I. PMU Administration/Finance													
12 Typewriters	0.4	(2) 0.8	(6) 2.4	(4) 1.6	-	-	-	4.8	80	3.8	1.0	-	-
50 Desk calculators	0.2	(5) 1.0	(25) 5.0	(20) 4.0	-	-	-	10.0	80	8.0	2.0	-	-
Radio communication (set)	5.0	5.0	-	-	-	-	-	5.0	80	4.0	1.0	-	-
Sundry equipment		2.0	3.0	-	-	-	-	5.0	80	4.0	1.0	-	-
Other furnishings/equipmt.		10.0	45.0	-	-	-	-	55.0	80	44.0	11.0	-	-
Subtotal		18.8	55.4	5.6	-	-	-	79.8	80	63.8	16.0	63.8	-
II. Training													
Dormitory kitchen equipment		-	20.0	-	-	4.0	-	24.0	60	16.0	8.0	-	-
Training aids		-	10.0	-	4.0	-	-	14.0	80	11.2	2.8	-	-
Audio-visual aids		-	15.0	5.0	10.0	5.0	5.0	40.0	80	32.0	8.0	-	-
Sundry, furniture, etc.		-	5.0	5.0	-	-	-	10.0	50	5.0	5.0	-	-
Subtotal		-	50.0	10.0	14.0	9.0	5.0	88.0	73	64.2	23.8	64.2	-
III. Land Development													
Mapping and surveying equipment, and sundries		-	10.0	5.0	-	-	-	15.0	80	12.0	3.0	-	-
IV. Agriculture													
Mechanical hand winches	0.6	-	(25) 15.0	(16) 10.0	-	-	-	25.0	80	20.0	5.0	-	-
Miscellaneous laboratory and field trial eqmt.		-	10.0	10.0	5.0	5.0	5.0	35.0	80	28.0	7.0	-	-
Special risk allowance /2		-	150.0	150.0	-	-	-	300.0	80	240.0	60.0	-	-
Subtotal		-	175.0	170.0	5.0	5.0	5.0	360.0	80	288.0	72.0	288.0	-
V. Coop and Credit													
Pocket calculator	0.1	-	10.0	8.0	2.0	-	-	20.0	80	16.0	4.0	-	-
Sundries		-	5.0	5.0	-	-	-	10.0	80	8.0	2.0	-	-
Subtotal		-	15.0	13.0	2.0	-	-	30.0		24.0	6.0	-	24.0
VI. Roads													
Tools and miscellaneous		-	5.0	5.0	-	-	-	10.0	80	8.0	2.0	-	-
Workshop equipment		-	15.0	10.0	-	-	-	25.0	80	20.0	5.0	-	-
Subtotal		-	20.0	15.0	-	-	-	35.0	80	28.0	7.0	28.0	-
VII. Schistosomiasis													
Laboratory equipment		-	-	5.0	10.0	5.0	-	20.0	80	16.0	4.0	-	-
Sundries and furniture		-	-	2.0	2.0	1.0	-	5.0	80	4.0	1.0	-	-
Subtotal		-	-	7.0	12.0	6.0	-	25.0	80	20.0	5.0	-	20.0
TOTAL		-	[illegible]	225.6	33.0	20.0	10.0	632.8	79	500.0	132.8	456.0	[illegible]

/1 For financial and project costs, Year 0 expenditure is added to Year 1.

/2 Provision for mechanical land development in case of labor constraints.

Annex [illegible] Table [illegible]

LIBERIA

LOFA COUNTY RURAL DEVELOPMENT PROJECT

Project Costs

Salaries and Wages

(US$ '000)

	Annual Cost	0 (1/2 year)	1	2	3	4	5	Total	Foreign Exchange %	Foreign Exchange Cost	Local Cost	IDA Financed FE Cost	USAID Financed FE Cost
1. PMU/Administration/Finance													
Project manager	45.0	(1) 25.0	(1) 45.0	(1) 45.0	(1) 45.0	(1) 45.0	(1) 45.0	250.0	100	250.0	-	250.0	-
Deputy	10.0	(1) 5.0	(1) 10.0	(1) 10.0	(1) 10.0	(1) 10.0	(1) 10.0	55.0	-	-	55.0	-	-
Administrative manager	40.0	-	(1) 40.0	(1) 40.0	(1) 40.0	(1) 40.0	(1) 40.0	200.0	100	200.0	-	200.0	-
Deputy	9.0	-	(1) 9.0	(1) 9.0	(1) 9.0	(1) 9.0	(1) 9.0	45.0	-	-	45.0	-	-
Finance manager	40.0	-	(1) 40.0	(1) 40.0	(1) 40.0	(1) 40.0	(1) 40.0	200.0	100	200.0	-	200.0	-
Deputy	9.0	-	(1) 9.0	(1) 9.0	(1) 9.0	(1) 9.0	(1) 9.0	45.0	-	-	45.0	-	-
Performance audit/planning	40.0	-	(1) 40.0	(1) 40.0	(1) 40.0	(1) 40.0	(1) 40.0	200.0	100	200.0	-	200.0	-
Deputy	8.0	-	(1) 8.0	(1) 8.0	(1) 8.0	(1) 8.0	(1) 8.0	40.0	-	-	40.0	-	-
Planning assistants	2.0	-	(3) 6.0	(3) 6.0	(3) 6.0	(2) 4.0	(2) 4.0	26.0	-	-	26.0	-	-
Bookkeeper/cashier	2.5	-	(2) 5.0	(2) 5.0	(2) 5.0	(2) 5.0	(2) 5.0	25.0	-	-	25.0	-	-
Bookkeeper assistants	2.0	-	(3) 6.0	(3) 6.0	(3) 6.0	(3) 6.0	(3) 6.0	30.0	-	-	30.0	-	-
Radio operator	1.5	(1) 0.5	(1) 1.5	(1) 1.5	(1) 1.5	(1) 1.5	(1) 1.5	8.0	-	-	8.0	-	-
Clerks	1.5	-	(4) 6.0	(4) 6.0	(4) 6.0	(4) 6.0	(4) 6.0	30.0	-	-	30.0	-	-
Secretaries	1.8	(1) 0.9	(4) 7.2	(4) 7.2	(4) 7.2	(4) 7.2	(4) 7.2	36.9	-	-	36.9	-	-
Drivers	1.0	(1) 0.5	(4) 4.0	(4) 4.0	(4) 4.0	(4) 4.0	(4) 4.0	20.0	-	-	20.0	-	-
Messengers	0.8	(1) 0.4	(4) 3.2	(6) 4.8	(6) 4.8	(6) 4.8	(6) 4.8	22.8	-	-	22.8	-	-
Monrovia													
Procurement officer	4.0	(1) 2.0	(1) 4.0	(1) 4.0	(1) 4.0	(1) 4.0	(1) 4.0	22.0	-	-	22.0	-	-
Secretary clerk	1.8	(1) 0.9	(2) 3.6	(2) 3.6	(2) 3.6	(2) 3.6	(2) 3.6	18.9	-	-	18.9	-	-
Radio operator	1.8	(1) 0.8	(1) 1.8	(1) 1.8	(1) 1.8	(1) 1.8	(1) 1.8	9.8	-	-	9.8	-	-
Messenger	1.0	(1) 1.0	(2) 2.0	(2) 2.0	(2) 2.0	(2) 2.0	(2) 2.0	10.5	-	-	10.5	-	-
Flat servants	1.0	(2) 1.0	(2) 2.0	(2) 2.0	(2) 2.0	(2) 2.0	(2) 2.0	11.0	-	-	11.0	-	-
Driver	1.2	(1) 0.6	(1) 1.2	(1) 1.2	(1) 1.2	(1) 1.2	(1) 1.2	6.6	-	-	6.6	-	-
Subtotal		38.1	254.5	256.1	256.1	254.1	254.1	1,313.0	65	850.0	463.0	850.0	-
2. Training													
Training development officer	40.0	(1) 20.0	(1) 40.0	(1) 40.0	(1) 40.0	(1) 40.0	(1) 40.0	220.0	100	220.0	-	220.0	-
Deputy	8.0	-	(1) 8.0	(1) 8.0	(1) 8.0	(1) 8.0	(1) 8.0	40.0	-	-	40.0	-	-
Instructors	5.0	-	(2) 10.0	(2) 10.0	(2) 10.0	(2) 10.0	(2) 10.0	50.0	-	-	50.0	-	-
Superintendents - training centers	3.5	-	(2) 7.0	(2) 7.0	(2) 7.0	(2) 7.0	(2) 7.0	35.0	-	-	35.0	-	-
Matrons - training centers	2.0	-	(2) 4.0	(2) 4.0	(2) 4.0	(2) 4.0	(2) 4.0	20.0	-	-	20.0	-	-
Cooks - training centers	1.5	-	(2) 3.0	(2) 3.0	(2) 3.0	(2) 3.0	(2) 3.0	15.0	-	-	15.0	-	-
Helpers	0.8	-	(4) 3.2	(4) 3.2	(4) 3.2	(4) 3.2	(4) 3.2	16.0	-	-	16.0	-	-
Clerks	1.5	-	(3) 4.5	(3) 4.5	(3) 4.5	(3) 4.5	(3) 4.5	22.5	-	-	22.5	-	-
Secretary	1.8	-	(1) 1.8	(1) 1.8	(1) 1.8	(1) 1.8	(1) 1.8	9.0	-	-	9.0	-	-
Messenger	0.8	-	(2) 1.6	(2) 1.6	(2) 1.6	(2) 1.6	(2) 1.6	8.0	-	-	8.0	-	-
Drivers	1.0	-	(2) 2.0	(2) 2.0	(2) 2.0	(2) 2.0	(2) 2.0	10.0	-	-	10.0	-	-
Subtotal		20.0	85.1	85.1	85.1	85.1	85.1	445.5	49	220.0	225.5	220.0	-
3. Land Planning													
Land development officer	40.0	-	(1) 40.0	(1) 40.0	(1) 40.0	-	-	120.0	100	120.0	-	120.0	-
Deputy	6.0	-	(1) 6.0	(1) 6.0	(1) 6.0	(1) 6.0	-	24.0	-	-	24.0	-	-
Surveyor	4.5	-	(3) 13.5	(3) 13.5	(3) 13.5	(3) 13.5	-	54.0	-	-	54.0	-	-
Mapping assistant	2.5	-	(2) 5.0	(2) 5.0	(2) 5.0	(2) 5.0	-	20.0	-	-	20.0	-	-
Clerk	1.5	-	(1) 1.5	(1) 1.5	(1) 1.5	(1) 1.5	-	6.0	-	-	6.0	-	-
Secretary	1.8	-	(1) 1.8	(1) 1.8	(1) 1.8	(1) 1.8	-	7.2	-	-	7.2	-	-
Driver	1.0	-	(1) 1.0	(1) 1.0	(1) 1.0	(1) 1.0	-	4.0	-	-	4.0	-	-
Messenger	0.8	-	(2) 1.6	(2) 1.6	(2) 1.6	(2) 1.6	-	6.4	-	-	6.4	-	-
Subtotal		-	70.4	70.4	70.4	30.4	-	241.6	50	120.0	121.6	120.0	-

Salaries and Wages (cont'd)
(US$ '000)

	Annual Cost	0 /1 (1/2 years)	1	2	3	4	5	Total	Foreign Exchange %	Foreign Exchange Cost	Local Cost	IDA Financed FE cost	USAID Financed FE Cost
4. **Agriculture**													
Agricultural production manager	[illegible]	(1) 20.0	(1) 40.0	(1) 40.0	(1) 40.0	(1) 40.0	(1) 40.0	220.0	100	220.0	-	220.0	-
Deputy	[illegible]	(1) 4.0	(1) 9.0	(1) 9.0	(1) 9.0	(1) 9.0	(1) 9.0	49.0	-	-	49.0	-	-
Extension agent	[illegible]	-	(1) 6.0	(1) 6.0	(1) 6.0	(1) 6.0	(1) 6.0	30.0	-	-	30.0	-	-
Extension field supervisors	[illegible]	-	(2) 5.0	(3) 7.5	(5) 12.5	(7) 17.5	(5) 12.5	55.0	-	-	55.0	-	-
Extension aides	[illegible]	-	(33) 66.0	(64) 128.0	(100) 200.0	(138) 276.0	(70) 140.0	810.0	-	-	810.0	-	-
Field experiment officer	[illegible]	-	(1) 5.0	(1) 5.0	(1) 5.0	(1) 5.0	(1) 5.0	25.0	-	-	25.0	-	-
Field experiment assistant	[illegible]	-	(3) 7.5	(3) 7.5	(3) 7.5	(3) 7.5	(3) 7.5	37.5	-	-	37.5	-	-
Nurseries officer	[illegible]	-	(1) 3.0	(1) 3.0	(1) 3.0	(1) 3.0	(1) 3.0	15.0	-	-	15.0	-	-
Headmen	[illegible]	-	(2) 2.0	(4) 4.0	(4) 4.0	(4) 4.0	(4) 4.0	18.0	-	-	18.0	-	-
Laborers	[illegible]	-	(10) 6.0	(20) 12.0	(10) 12.0	(10) 12.0	(10) 12.0	54.0	-	-	54.0	-	-
Driver	[illegible]	(1) 0.5	(2) 2.0	(2) 2.0	(2) 2.0	(2) 2.0	(2) 2.0	10.5	-	-	10.5	-	-
Subtotal		24.5	151.5	224.0	301.0	382.0	241.0	1,324.0	17	220.0	1,104.0	220.0	-
5. **Cooperative/Credit**													
Commercial manager	45.0	-	(1) 35.0	(1) 45.0	(1) 45.0	(1) 45.0	(1) 45.0	215.0	100	215.0	-	-	215.0
Co-op/Credit manager	40.0	-	(1) 30.0	(1) 40.0	(1) 40.0	(3/12) 10.0	-	120.0	100	120.0	-	-	120.0
Co-op/Credit officer	5.0	-	(4) 15.0	(6) 30.0	(6) 30.0	(4) 20.0	(4) 20.0	115.0	-	-	115.0	-	-
Co-op/Credit senior field officer	3.0	-	(2) 3.0	(3) 9.0	(4) 12.0	(5) 15.0	(3) 9.0	48.0	-	-	48.0	-	-
Co-op/Credit field officer	2.0	-	(17) 17.0	(32) 64.0	(50) 100.0	(69) 138.0	(35) 70.0	389.0	-	-	389.0	-	-
Secretary/clerks	[illegible]	-	(13) 4.0	(5) 9.0	(6) 10.8	(5) 9.0	(5) 9.0	41.8	-	-	41.8	-	-
Drivers	[illegible]	-	(2) 1.5	(2) 2.0	(2) 2.0	(2) 2.0	(2) 2.0	9.5	-	-	9.5	-	-
Messengers/sweepers	[illegible]	-	(2) 1.6	(2) 1.6	(2) 1.6	(2) 1.6	(2) 1.6	8.0	-	-	8.0	-	-
Subtotal		-	107.1	200.6	241.4	240.6	156.6	946.3	35	335.0	611.3	-	335.0
6. **Roads and Transport**													
Road supervisor	[illegible]	-	(1) 5.0	(1) 5.0	(1) 5.0	(1) 5.0	(1) 5.0	25.0	-	-	25.0	-	-
Grader operator	[illegible]	-	(1) 2.5	(1) 2.5	(1) 2.5	(1) 2.5	(1) 2.5	12.5	-	-	12.5	-	-
Pickup driver	[illegible]	-	(1) 1.5	(1) 1.5	(1) 1.5	(1) 1.5	(1) 1.5	7.5	-	-	7.5	-	-
Laborers	[illegible]	-	(4) 4.0	(4) 4.0	(4) 4.0	(4) 4.0	(4) 4.0	20.0	-	-	20.0	-	-
		-	13.0	13.0	13.0	13.0	13.0	65.0	-	-	65.0	-	-
Workshop foreman	[illegible]	-	(1) 3.0	(1) 3.0	(1) 3.0	(1) 3.0	(1) 3.0	15.0	-	-	15.0	-	-
Mechanics/tradesmen	[illegible]	-	(6) 12.0	(8) 16.0	(8) 16.0	(8) 16.0	(8) 16.0	76.0	-	-	76.0	-	-
Laborers	[illegible]	-	(7) 7.0	(9) 9.0	(9) 9.0	(9) 9.0	(9) 9.0	43.0	-	-	43.0	-	-
Storeman	[illegible]	-	(1) 2.0	(1) 2.0	(1) 2.0	(1) 2.0	(2) 2.0	10.0	-	-	10.0	-	-
Subtotal			37.0	43.0	43.0	43.0	43.0	209.0	-	-	209.[illegible]	-	-
7. **Schistosomiasis**													
Medical doctor	[illegible]	-	-	(1) 50.0	(1) 50.0	(1) 50.0	-	150.0	100	150.0	-	-	150.0
Senior laboratory technician	[illegible]	-	-	(1) 2.1	(1) 2.1	(1) 2.1	(1) 3.0	9.3	-	-	9.3	-	-
Junior laboratory technician	[illegible]	-	-	(1) 1.5	(1) 1.5	(1) 1.5	(1) 1.5	6.0	-	-	6.0	-	-
Laboratory assistants	[illegible]	-	-	(2) 2.4	(2) 2.4	(2) 2.4	(2) 2.4	9.6	-	-	9.6	-	-
Secretary/clerk	[illegible]	-	-	(1) 1.8	(1) 1.8	(1) 1.8	(1) 1.8	7.2	-	-	7.2	-	-
Driver	[illegible]	-	-	(1) 1.0	(1) 1.0	(1) 1.0	(1) 1.0	4.0	-	-	4.0	-	-
Messenger	[illegible]	-	-	(1) 0.8	(1) 0.8	(1) [illegible]	(1) [illegible]	[illegible]	-	-	[illegible]	-	-
Subtotal			-	[illegible]	[illegible]	[illegible]	10.5	[illegible]	[illegible]	150.[illegible]	[illegible]	-	150.[illegible]
TOTAL		-	788.2	938.8	1,056.6	1,094.8	790.3	4,668.7	41%	1,895.0	2,773.[illegible]	1,410.0	485.0

/1 For financial and project [illegible] expenditure is added to Year 1.

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LOFA COUNTY RURAL DEVELOPMENT PROJECT

Project Costs - Vehicle Operating

(US$ '000)

	Annual cost/vehicle	Year 0	1	2	3	4	5	Total	Foreign Exchange %	Cost	Local Cost	IDA Financed FE Cost
I. PMU Administration Finance												
Saloon cars	2.5	2.5	7.5	7.5	7.5	7.5	7.5	40.0				
Personnel carrier	3.3	1.6	3.3	3.3	3.3	3.3	3.3	18.1				
Pickups	2.3	-	2.3	2.3	2.3	2.3	2.3	11.5				
4-WD vehicle	4.6	-	4.6	4.6	4.6	4.6	4.6	23.0				
Motorcycles	0.6	-	0.6	0.6	0.6	0.6	0.6	5.4				
Subtotal		4.1	17.7	17.7	17.7	17.7	17.7	98.0	70	70.0	28.0	70.0
II. Training												
Personnel carrier	3.3	-	(2) 6.6	6.6	6.6	6.6	6.6	33.0				
Pickups	2.3	-	-	(1) 4.0	4.0	4.0	4.0	16.0				
Subtotal		-	6.6	10.6	10.6	10.6	10.6	49.0	70	30.0	19.0	30.0
III. Land Planning												
4-WD vehicle	4.6	-	4.6	4.6	4.6	4.6	4.6	23.0				
Pickups	2.3	-	4.6	4.6	6.9	6.9	6.9	29.9				
Motorcycles	0.6	-	0.6	1.2	1.2	1.2	1.2	5.4				
Subtotal		-	9.8	10.4	12.7	12.7	12.7	58.3	70	40.0	18.3	40.0
IV. Agriculture												
4-WD vehicle	4.6	-	4.6	4.6	4.6	4.6	4.6	23.0				
Pickups	2.3	-	4.6	6.9	6.9	6.9	6.9	32.2				
Motorcycles	0.6	-	18.0	42.0	60.0	48.0	45.0	213.0				
Subtotal		-	27.2	53.5	71.5	59.5	56.5	268.2	70	190.0	78.2	190.0
V. Coop/Credit												
Saloon car	2.5	-	2.5	2.5	2.5	2.5	2.5	12.5				
Personnel carrier	3.3	-	3.3	3.3	3.3	3.3	3.3	16.5				
Pickups	2.3	-	4.6	9.2	13.8	13.8	13.8	55.2				
Motorcycles	0.6	-	9.0	21.0	33.0	25.0	20.0	108.0				
Subtotal		-	19.4	36.0	52.6	44.6	39.6	192.2	70	130.0	62.2	130.0
VI. Roads												
Pickup	2.3	-	2.3	4.6	4.6	4.6	4.6	20.7				
Grader	10.0	-	10.0	10.0	10.0	10.0	10.0	50.0				
Subtotal		-	12.3	14.6	14.6	14.6	14.6	70.7	70	50.0	20.7	50.0
VII. Schistosomiasis Unit												
Personnel carrier	3.3	-	-	3.3	3.3	6.6	-	13.2				
Motorcycles	0.6	-	-	0.6	0.6	1.2	-	2.4				
Subtotal		-	-	3.9	3.9	7.8	-	15.6	70	10.0	5.6	10.0
VIII. Car Allowances for Senior Staff												
Divisional heads	2.5	-	(7) 17.5	(8) 20.0	(8) 20.0	(7) 17.5	(6) 15.0	90.0				
Deputy	2.0	-	(6) 12.0	(6) 12.0	(6) 12.0	(6) 12.0	(6) 12.0	60.0				
Subtotal		-	29.5	32.0	32.0	29.5	27.0	150.0	70	110.0	40.0	110.0
TOTAL		4.1	123.1	179.9	216.8	198.2	179.9	902.0	70	630.0	272.0	630.0

Annex X
Table 7

LIBERIA

LOFA COUNTY RURAL DEVELOPMENT PROJECT

Project Costs
(US$ '000)

	Unit Cost	Year 0	1	2	3	4	5	Total	Foreign Exchange %	Foreign Exchange Cost	Local Cost	IDA Financed FE Cost	USAID Financed FE Cost
1. PMU Administration/Finance													
Rent - Staff house	[illegible].0	([illegible]) 5.0	([illegible]) [illegible].0 /1	-	(10) 30.0	(9) 27.0	(8) 24.0	146.0	-	-	146.0	-	-
- Offices	8.0	-	1[illegible].0	-	8.0	8.0	8.0	40.0	-	-	40.0	-	-
- Staff accommodation, Monrovia	7.[illegible]	7.[illegible]	2.0	7.0	7.0	7.0	7.0	37.0	-	-	37.0	-	-
Office expenditure (all divisions)		3.[illegible]	50.0	60.0	70.0	60.0	[illegible]0.0	293.0	20	60.0	233.0	60.0	-
Subtotal		1[illegible]	133.0	67.0	115.0	102.0	87.0	[illegible]	12	60.0	456.0	60.0	-
2. Training													
Operating costs including boat:													
Staff training center at Voinjama			6.0	8.0	8.0	6.0	5.0	33.0					
Farmer training center at Kolahun			4.0	7.0	7.0	5.0	4.0	27.0					
Course fee transport and subsistence													
CAES Suakoko			5.0	7.0	7.0	4.0	3.0	26.0					
AETC Johnsonville, Monrovia			5.0	13.0	10.0	7.0	5.0	37.0					
Training aids, films, etc.		3.0	5.0	5.0	5.0	5.0	2.0	25.0					
Subtotal		3.0	25.0	37.0	37.0	27.0	19.0	148.0	20	28.0	120.0	26.0	-
3. Land Planning - miscellaneous			10.0	5.0	5.0	3.0	2.0	25.0	50	13.0	12.0	13.0	-
4. Agriculture - miscellaneous			10.0	10.0	10.0	8.0	6.0	44.0	50	22.0	22.0	22.0	-
5. Cooperative/Credit - miscellaneous			5.0	5.0	5.0	5.0	5.0	25.0	50	13.0	12.0	-	13.0
6. Roads and Transport - miscellaneous			2.0	2.0	2.0	2.0	2.0	10.0	50	5.0	5.0	5.0	-
7. Schistosomiasis - drugs and laboratory materials			-	5.0	5.0	5.0	2.0	17.0	50	9.0	8.0	-	19.0
TOTAL		13.0	1[illegible]	131.0	179.0	152.0	125.0	785.0	19	150.0	635.0	128.0	22.0

/1 First two years rent in advance.

[illegible]
Table 9

LIBERIA

LOFA COUNTY RURAL DEVELOPMENT PROJECT

Illustrative Cash Flow for Government of Liberia

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13-20	Year 21-40	Year 41-50
Inflow of Funds															
IDA credit	1,500.0	1,500.0	1,000.0	1,000.0	1,000.0										
USAID Loan	300.0	800.0	1,500.0	1,500.0	900.0										
Revenue from indirect tax 1/	-	-	4.0	15.0	31.0	75.0	156.0	227.0	327.0	412.0	467.0	505.0	530.0	[illegible]	[illegible]
LPMC Dividend 2/	-	1.9	6.0	12.2	20.9	46.0	87.0	134.5	191.7	236.0	250.0	256.0	256.0	[illegible]	[illegible]
Total Inflow	[illegible]	2,301.9	2,510.0	2,527.2	1,951.9	121.0	243.0	361.5	518.7	648.0	717.0	761.0	786.0	[illegible]	[illegible]
Outflow of Funds															
Project Costs	2,635.0	2,870.0	3,300.0	3,980.0	4,115.0										
Project Maintenance Costs 3/	-	-	-	-	-	500.0	420.0	420.0	420.0	420.0	420.0	420.0	420.0	[illegible]	[illegible]
Less: Development Fund Levies	-	(3.3)	(10.4)	(21.4)	(36.6)	(80.6)	(152.5)	(253.3)	(335.4)	(413.6)	(437.2)	(446.7)	(448.6)	[illegible]	[illegible]
Total Outflow	2,635.0	2,866.7	3,289.6	3,958.6	4,078.4	419.4	267.5	166.7	84.6	6.4	(17.2)	(26.7)	(28.8)	[illegible]	[illegible]
Net Inflow (Outflow)	(835.0)	(564.8)	(779.6)	(1,431.4)	(2,126.5)	(298.4)	24.5	194.8	434.0	641.6	734.2	787.7	814.8	[illegible]	[illegible]
Debt Servicing															
IDA credit - Principal											60.0	60.0	60.0	[illegible]	[illegible]
Interest 4/	5.6	16.9	26.3	33.8	41.3	45.0	45.0	45.0	45.0	45.0	43.0	43.0	43.0	[illegible]	[illegible]
USAID Loan - Principal											166.6	166.6	166.6	[illegible]	[illegible]
- Interest 5/	3.0	14.0	37.0	67.0	91.0	100.0	100.0	100.0	100.0	100.0	88.5	88.5	88.5	[illegible]	[illegible]
Subtotal	8.6	30.9	63.3	100.8	132.3	145.0	145.0	145.0	145.0	145.0	358.1	358.1	358.1	[illegible]	[illegible]
Net Annual Inflow (outflow) after debt servicing	(843.6)	(595.7)	(842.9)	(1,532.2)	(2,258.8)	(443.4)	(120.5)	49.8	289.0	496.6	376.1	429.6	456.7	[illegible]	[illegible]
Cumulative	(843.6)	(1,439.3)	(2,282.2)	(3,[illegible])	(6,673.2)	(6,516.6)	(6,637.1)	(6,587.3)	(6,298.3)	(5,801.7)	(5,425.6)	(4,996.0)	(1,342.4)	6,237.6	[illegible]

1/ 12% of all net incremental farm income (financial farmgate value of project output) lagged by 2 years.
2/ 4% of Fob Monrovia value of project coffee and cocoa output (based on 50% GOL equity share on the 8% LPMC profit margin), lagged by one year.
3/ 7% of Fob Monrovia value of project coffee and cocoa output.
4/ IDA interest has been calculated at 3/4 of 1% on outstanding balance Yrs. 1-10 and averaged over Yrs. 11-50.
5/ USAID interest has been calculated at 2% on outstanding balance Yrs. 1-10 and averaged over Yrs. 11-40 at 3%.

LIBERIA

LOFA COUNTY AGRICULTURAL DEVELOPMENT PROJECT

Project Costs
(US$ '000)

Farm Inputs - Summary YEARS	1	2	3	4	5	Total	Foreign Exchange %	Foreign Exchange Cost	Local Cost	IDA Financed	USAID Financed
Fertilizer - Development	7.0	43.0	100.2	179.3	209.8	539.3	80	430.0	109.3	-	-
Seasonal (Incremental)	9.0	45.1	80.4	112.8	248.2	495.5	80	400.0	95.5	-	-
Sub-total	16.0	88.1	180.6	292.1	458.0	1,034.8	80	830.0	204.8	-	830.0
Rice Seed	3.8	16.0	29.2	40.6	52.2	141.8	10	20.0	121.8	-	20.0
Seedlings (Coffee and Cocoa)	3.9	314.8	348.7	443.9	533.4	1,644.7	10	160.0	1,484.7	-	160.0
Tools and Sprayers	9.3	60.4	80.8	109.9	149.5	409.9	80	320.0	89.9	-	320.0
Agricultural Chemicals	0.8	2.3	5.1	8.7	15.2	32.1	80	30.0	2.1	-	30.0
Shade Trees (Coffee)	-	5.5	5.5	6.6	7.7	25.3	-	-	25.3	-	-
	33.8	487.1	649.9	901.8	1,216.0	3,288.6	41	1,360.0	1,928.6	-	1,360.0
Farm Development Labor - Hired	-	45.0	75.0	120.0	180.0	420.0	-	-	420.0	-	-
Family	6.6	137.1	206.3	302.3	372.7	1,025.0	-	-	1,025.0	-	-
	6.6	182.1	281.3	422.3	552.7	1,445.0	-	-	1,445.0	-	-
TOTAL	40.4	669.2	931.2	1,324.1	1,768.7	4,733.6	-	1,360.0	3,373.6	-	1,360.0

LIBERIA

LOFA COUNTY RURAL DEVELOPMENT PROJECT

Economic Rate of Return and Sensitivity Analysis

1. The annual incremental costs and benefits used in calculating the economic rate of return to the project are given in Tables 1 and 2 and a summary of the sensitivity analysis in Table 3. The following assumptions were used in the calculations:

(a) the economic life of the project is assumed to be 30 years from project year 1 and no residual value is attributed after that period. All development activities (new planting/replanting coffee and cocoa, swamp reclamation, improvement in swamp and upland rice cultivation) will be initiated and substantially completed by the end of project development period, 1980;

(b) project costs (see Table 1);

(i) all identifiable taxes and duties on goods and services are excluded;

(ii) price contigencies are excluded but physical contingencies (at 5% of base costs) have been included during the economic life of the project (30 years);

(iii) an amount of US$.9 million invested in different aspects of training and institution building have been excluded, as these are regarded as technical assistance for subsequent projects;

(iv) all material farm inputs (seeds, fertilizers agricultural chemicals, tools and equipment) have been costed at full landed price in the project area plus all distribution and handling costs;

(v) all family and hired labor were costed at 50 percent of the estimated wage rate ($1.00 per manday) to reflect average opportunity cost and productivity in the area;

(vi) the extension coverage of agriculture and coop/credit officers gradually reverts to a normal staffing level during the post-project period on the grounds that the improved technology by then will be adequately diffused and the coops would be capable of handling the farm inputs and credit system.

(c) Benefits

(i) yields and production assumptions are given in Annex 1;

(ii) the value of project milled rice output is treated as foreign exchange savings (import substitution) and the value of coffee and cocoa as foreign exchange earnings;

(iii) prices have been based on IBRD projections for 1980 in 1975 constant dollars (Annex 8); and

(iv) no additional benefits due to road improvement/development are taken into consideration.

2. Results of the economic analysis based on the above assumptions are presented in Table 3.

LIBERIA

LOFA COUNTY RURAL DEVELOPMENT PROJECT

Calculation of Economic Rate of Return

Economic Costs
(US$ '000)

Years	1	2	3	4	5	6	7	8	9	10	11-30
Investment Costs											
Buildings and Construction Materials	280	65	55	35	-	-	-	-			
Vehicles	324	70	101	91	28	-					
Equipment	344	226	33	20	10	-					
Salaries and Wages	788	939	1,057	1,095	790	-					
Vehicle Operating Expenses	127	180	217	198	180						
General Services	198	131	179	152	125						
Farm Inputs - Development	20	507	656	922	1,135	536	243				
Farm Inputs - Seasonal	37	206	511	939	1,632	1,822	1,853	2,076	2,055	2,055	2,055
Consultants	10	30	30	30	-	-	-	-	-	-	-
LBDI Branch Establishment	80	70	-	-	-	-	-	-	-	-	-
Post-Project Recurrent Costs											
Salaries and Wages						300	300	300	300	300	300
Vehicle Operating Expenses						50	50	50	50	50	50
Miscellaneous						20	20	20	20	20	20
+ Replacements						25	25	25	25	25	25
Total	2,208	2,424	2,839	3,482	3,900	2,753	2,491	2,471	2,450	2,450	2,450
Less Investment Costs on Training		300	300	300							
	2,208	2,124	2,539	3,182	3,900	2,753	2,491	2,471	2,450	2,450	2,450
Less Present Onfarm Costs	28	121	287	511	790	790	790	790	790	790	790
Present Extension Services	40	40	40	50	60	60	60	60	60	60	60
Incremental Project Costs	2,140	1,963	2,212	2,621	3,050	1,903	1,641	1,621	1,600	1,600	1,600
with 5% Physical Contingency	2,247	2,061	2,323	2,752	3,202	1,998	1,723	1,702	1,680	1,680	1,680

LIBERIA

LOFA COUNTY RURAL DEVELOPMENT PROJECT

Calculation of Economic rate of Return

Value of Project Output	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12-30
Total value with project 1/												
Coffee	21	60	116	196	522	1,226	2,045	2,979	3,687	3,787	3,787	3,787
Cocoa	19	67	145	251	464	638	831	1,121	1,338	1,497	1,613	1,637
Paddy	85	449	1,118	2,084	3,363	3,548	3,750	3,905	3,984	4,016	4,016	4,016
Total	125	576	1,379	2,531	4,349	5,412	6,626	8,004	9,009	9,300	9,416	9,440
Total value without project 2/												
Coffee	16	41	73	112	160	160	160	160	160	160	160	160
Cocoa	11	32	42	108	173	173	173	173	173	173	173	173
Paddy	42	177	428	767	1,181	1,181	1,181	1,181	1,181	1,181	1,181	1,181
Total	69	250	543	987	1,514	1,514	1,514	1,514	1,514	1,514	1,514	1,514
Increment value	56	326	836	1,544	2,835	3,898	5,112	6,490	7,495	7,786	7,902	7,926

1/ Based on economic farmgate values of coffee $1,429/mt, cocoa $966/mt and paddy $233/mt. See Tables 5a, 5b, 5c, Annex 8 for calculation of economic prices.

2/ Assuming that without project measures on marketing, cooperatives and pricing policies, crop value will be about 20% lower than estimated project prices (coffe $1,143/mt, cocoa $773/mt, and paddy $186/mt.

LIBERIA

LOFA COUNTY ROAD DEVELOPMENT PROJECT

Economic rate of return and sensitivity analysis

% of Original Estimates

Costs	Benefits	Rate of Return* A	Rate of Return* B
100	100	30.5%	27.2%
110	90	24.8%	21.3%
110	80	21.8%	18.1%
120	80	19.6%	15.8%
100	80	24.2%	20.7%
100	- 1/	18.9%	15.8%
100	100 2/	30.4%	27.0%

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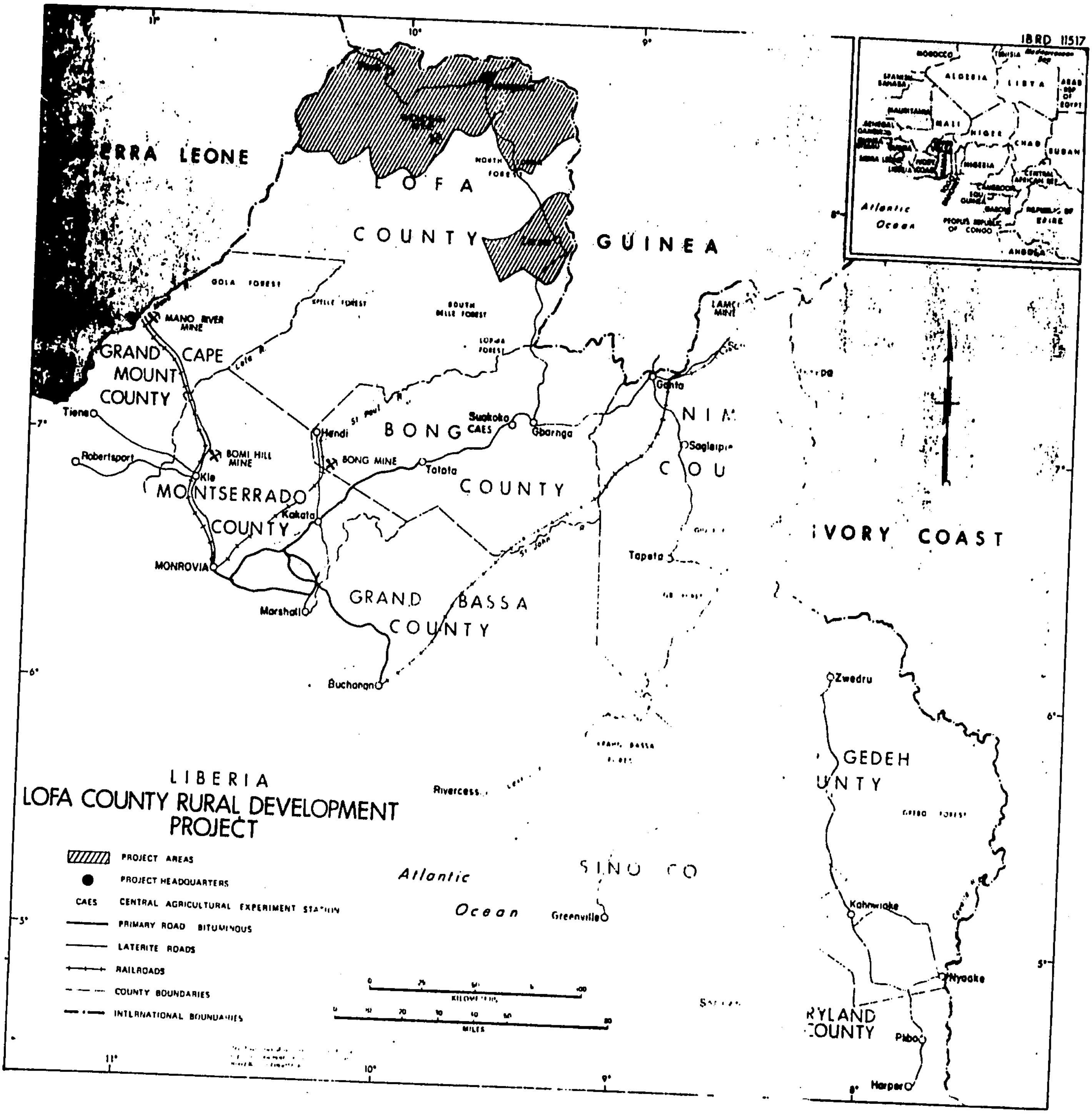
* A-Labour shadow waged at $0.50 per m/day
B-Labour estimated at full wage $1.00 per m/day

1/ Two year delay in project benefits and subsequently at 90% of estimated benefits.

2/ Assuming a project life of 25 years.


IBRD 11517
SIERRA LEONE
LOFA
COUNTY
GUINEA
GOLA FOREST
MANO RIVER MINE
GRAND CAPE MOUNT COUNTY
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Robertsport
BOMI HILL MINE
Kle
MONTSERRADO COUNTY
Kakata
MONROVIA
Marshall
Hendi
BONG MINE
Totota
Suakoko CAES
Gbarnga
BONG
COUNTY
Ganta
Saglepie
GRAND BASSA COUNTY
Buchanan
Tapeta
IVORY COAST
Zwedru
GEDEH
Kahnwieke
Nyaake
Pleebo
Harper
Rivercess
Greenville
Atlantic Ocean
LIBERIA
LOFA COUNTY RURAL DEVELOPMENT PROJECT
PROJECT AREAS
PROJECT HEADQUARTERS
CAES CENTRAL AGRICULTURAL EXPERIMENT STATION
PRIMARY ROAD BITUMINOUS
LATERITE ROADS
RAILROADS
COUNTY BOUNDARIES
INTERNATIONAL BOUNDARIES
MILES
ALGERIA
LIBYA
MALI
NIGER
CHAD
SUDAN
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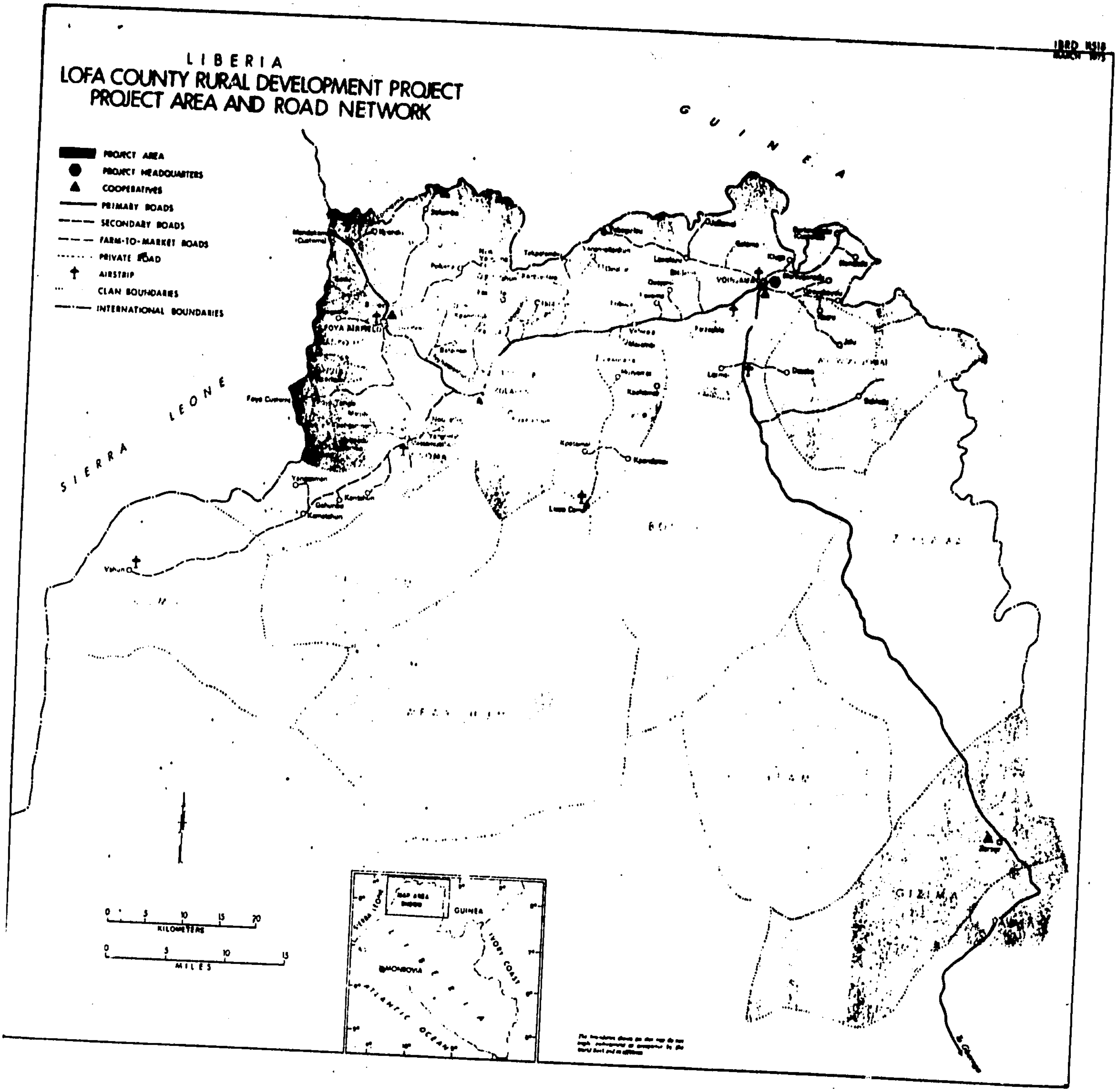


LIBERIA
LOFA COUNTY RURAL DEVELOPMENT PROJECT
PROJECT AREA AND ROAD NETWORK
PROJECT AREA
PROJECT HEADQUARTERS
COOPERATIVES
PRIMARY ROADS
SECONDARY ROADS
FARM-TO-MARKET ROADS
PRIVATE ROAD
AIRSTRIP
CLAN BOUNDARIES
INTERNATIONAL BOUNDARIES
GUINEA
SIERRA LEONE
VOINJAMA
FOYA
KILOMETERS
MILES
MONROVIA
IVORY COAST
ATLANTIC OCEAN

SPECIAL AID CONSIDERATIONS

1. Farmer Participation.

Given the numerous technologies and services being introduced and the diversity of farmer cultivation patterns, maximum farmer participation in local development planning and implementation is essential. Emerging rural development concepts place a renewed emphasis on human factors in development planning and management. An AID working paper on rural development concludes that capturing the benefits of a "participatory process" is "perhaps the most difficult yet the most promising and important of the new approaches."1/ Benefits expected include: higher local commitment and higher expenditures of energies and resources; better information for planning and decision making at all levels.

The actual implementation of the project will depend to a great extent upon the philosophy and operational style of the Project Management Unit. The members of the PMU must be selected partly on the basis of their approach to "bottoms up" development involving maximum farmer participation and involvement in the process of local project planning and implementation. This can best be achieved through the effective utilization of the various "feed-back" components of the project but especially the farmer co-operatives, farmer advisory groups, etc. In addition, the PMU is expected to rely on the Performance Audit and Planning Unit, consultants, university students, and others as appropriate to conduct operational research on economic, social and cultural subjects relating to the development of PMU approaches and work-plans for effectively engaging farmers in the development process.

The farmers' groups to be organized under the cooperatives will provide an important vehicle for farmer participation. Farmers' groups will be responsible for the delivery of farm inputs from the cooperative to the farmers, for the delivery of farm produce to the cooperatives and for group credit repayments. Members of the farmer groups will also sit on the village level Credit Advisory Committees which play an important role in the issuance of farmer credit. Local people will be further represented by the Project Advisory Committee to the PMU, composed of traditional local leaders.

The PMU will encourage local participation as appropriate in the following activities:

1/ "Conceptual Overview of Rural Development" Working Group on the Rural Poor, 1974, A.I.D., p. 44.

a. Farmer credit -- To enhance prospects for repayment, loosely organized village level groups (15-30 farmers) are to assume group responsibility for credit repayment. In order to effectively assume joint responsibility for their debts, farmers are to be provided the knowledge and authority they require to motive such responsible group behavior.

b. Village planning -- With numerous development activities and alternatives available to the village (upland rice improvement, swamp rice improvement, new swamp paddy development, coffee and cocoa improvement or new development, etc.), village level comprehension and planning will be emphasized. Local decisions, based partly on consultation with technical experts, are needed about what crops and techniques are to be applied in the village: where, how, by whom, for whom, when, in what quantity. Maximum local participation and group consensus in the decision making process should improve village level planning.

c. Swamp rice development -- The development of new swamp rice areas is to be carefully coordinated and planned between outside technicians and village groups to reconcile what is technically feasible with what is socially desirable and equitable. Village level decisions about what land is to be developed, by whom and for whose benefit may not be simple, given questions of ownership or usufruct rights and labor constraints.

d. Coffee and cocoa development -- In planning the development of coffee and cocoa, care will be taken to assure that seedlings and technologies benefit small farmers. Villager decisions are required on the extent to which small farm labor availability allows for the development and maintenance of these labor intensive tree crops and consequently what individuals are to attempt new or expanded cultivation.

e. Farm inputs -- The village groups are responsible for receiving farm inputs at the district cooperative and delivering them to farmers. Local understanding and organization will be needed.

f. Produce marketing -- The village groups are also responsible for delivering farm produce to the cooperative buying stations. Again local understanding and organization will be needed.

g. Extension/Experimentation -- Farmer extension agents will be used where possible to lower costs and provide more rapid dissemination and acceptance of new methods. Village level decisions will be sought about which farmers are to receive in-residence training or are to be assigned to cooperate directly with project personnel on extension, research, training and other technical matters.

2. Farm Credit Interest Rates/Cooperative Financing.

Farm credit interest rates should allow an adequate margin for funding the credit operations of the co-operatives and for funding the scheduled capitalization of the revolving credit fund. Without an adequate margin, the credit operations of the co-operatives and the capitalization of the revolving credit fund would be jeopardized. Yet, these interest rates should not be excessive. In determining interest rates the IBRD was cautious not to diverge from normal GOL farm support and credit policy. (See pages 22 - 23 of the text). For example, at the Foya rice project in Lofa County, farmers pay 10 percent annual interest on Agrimeco land clearance loans. The Liberian Produce Marketing Corporation (LPMC) sells coffee and cocoa seedlings to farmers below cost. Other GOL sponsored agricultural activities offer services and commodities at similar low prices and rates. Therefore, the IBRD initially established annual rates of 10 percent on development loans and 12 - 15 percent on seasonal loans.

At present, the four cooperatives are operating solidly in the black on their marketing (produce buying and selling) operations with a total net revenue of $165,000 annually and total financial assets of $755,000.

Under the project, cooperative revenue sources will include a three percent margin on credit issued to farmers; a minimum five percent markup on the landed costs of farm inputs, in addition to an appropriate markup to cover local transport costs; and a five percent commission on all produce purchased as an agent of the LPMC. Since the four cooperatives have engaged to only a very limited extent in activities other than produce marketing, it is difficult to isolate and project operating costs and revenues for their future farmer credit operations. Based on IBRD experience, the three percent margin on credit operations, amounting to a total of about $65,000 annually for the four cooperatives by 1980, should be sufficient to handle the bookkeeping and accounting involved. The cooperative charge of five percent (or more as determined by the PMU) plus transport costs on farm inputs will cover administration, transportation and handling costs for the physical commodity inputs. The farmer directly pays these costs when he purchases farm inputs at the full landed price, including the cooperative margins. The overall administrative costs of the cooperatives' credit operations will depend on the amount of credit turnover (resulting from farmer demand for inputs and credit), the success of farmer groups in assuming credit responsibilities, and the efficiency of cooperative management. For example, Village Credit Cooperative Advisory Committees' competence in assuming the bulk of credit disbursal and collection responsibilities will proportionally reduce the administrative costs of the cooperatives.

A factor complicating the calculation of the cooperatives' credit program operating costs during the development period, is the subsidization of the cooperatives via PMU supplied personnel, PGV personnel, and free PMU guidance and training, etc. In practice, credit operations may even be subsidized with the monopoly profits from the cooperatives' marketing operations.

Default by farmers in loan repayment will be closely monitored. Experience in repayment in the Sierra Leone Eastern Area Project has been very favorable with practically no default and many development loans being repaid ahead of schedule.

The 2% margin going to the Liberian Bank for Development and Industry (LBDI) is considered sufficient to cover LBDI's trusteeship responsibilities in view of other support to the LBDI, including nearly $200,000 in start up costs provided by the IBRD, and the tangible and intangible benefits of being the first commercial bank in an agriculturally developing region. The margins to the cooperative and to the LBDI are to be reviewed periodically by the IBRD supervisory missions beginning in year 2 of the project.

AID will seek an assurance from the GOL that the farm credit interest rate will be evaluated in light of experience at the end of year 2 with a view to revision of the rate, if needed, to cover costs and allow for the scheduled capitalization of the revolving credit fund. (Reference Annex 18, "Covenants." In the meantime, until cooperative operating costs become known, the project calls for flexibility in allowing the PMU to set the cooperative operating margin (above farm input landed costs) as required to meet cooperative operative costs, (Reference p. 21, paragraph 6.15).

The project will create a revolving credit fund for farm credit. The fund will be governed by a trust deed arrangement and administered by LBDI on behalf of the GOL. The fund will charge the farmers co-operatives interest at 7 percent per annum. The co-operatives would in turn lend to the farmers at 10 percent leaving a 3 percent margin to cover credit administration and bad debts. LBDI would receive a 2 percent commission on disbursed credit leaving a 5 percent to be credited to the revolving credit fund. The revolving credit fund will be negotiated between the IBRD, the GOL and the AID. The Agreement will provide for the use of revolving fund assets to expand credit programs for traditional small farmers. The AID agreement will establish conditions precedent to disbursement for the credit portion of the project, which provide for execution of a Revolving Credit Fund agreement between the GOL and LBDI acceptable to AID.

3. Disbursement/Procurement.

Implementation of this project will be the responsibility of the GOL through the Project Management Unit, acting as an agent for the Ministry of Agriculture (MOA), with necessary surveillance and approvals required jointly by the IBRD/IDA and AID. AID implementation responsibility will be exercised jointly by USAID/Liberia and AID/W, coordinated with the IDA as appropriate. AID and IDA financing will not be comingled; separate line items have been identified for each financing source, and the procurement procedures of each donor will be used in connection with its financing. AID foreign procurement would be limited to Code 000 + 941 sources (U. S. and LDC).

AID financing of PMU local cost expenditures, (local staff salaries, support costs, consultants and elements of the farm credit program, etc.) will be disbursed to GOL, probably to the Ministry of Finance (MOF). AID disbursement to the MOF would be on the basis of quarterly advances based on projections of AID financed local expenditure during the upcoming quarter. These projections would be derived from the annual project budget and quarterly cash flow forecasts submitted by the PMU to the Project Steering Committee. An initial AID advance of $100,000 to the GOL will be required. Suitable arrangements for periodic replenishments of the MOF account and for the utilization of AID financing in connection with the consultants, local staff, and general support costs will be established with the GOL when detailed implementation arrangements are worked out.

4. Construction.

AID financing for construction and equipping of the dormitory block and the schistosomiasis laboratory/office will require review and approval by AID engineers of plans and specifications, bidding procedures, and contract awards. The applicable capital project guidelines for construction services may not be used in view of the extremely small size of the construction, the expectation that a Liberian contractor will be utilized, and the fact that the project is considered technical assistance in nature rather than capital assistance.

5. Role of Women.

While this project is not designed to directly address the role of women in development, it nevertheless will have a significant effect in this regard. In Lofa Country, as in most of West Africa, the role of women in agricultural production is fully as involved and important as that of men.

Most of the tasks connected with food production are performed by women--estimates for the Lofa region range about 65%. This project will increase individual productivity in terms of $/manday by approximately 50% for upland rice cultivation, the predominent type of cultivation in the area, The agricultural system in the area is that of shifting cultivation: small pieces of land are cultivated for about two years before being leftfallow. Then new plots must be cleared by felling trees or removing bush or grass cover. Tree felling is nearly always done by men or boys but women conduct the subsequent operations: removal and burning of the felled trees; sowing or planting in the ashes; the weeding of the crop; the harvesting and carrying in the crop for storing or immediate consumption. Permanent swamp rice cultivation will change this pattern, allowing much more productive use of time. Farmer training programs at the Kolahun farmer training center will normally be conducted for married couples since this method of training has shown to be the most effective. Wives receive the same agricultural training as husbands.

Perforce, the credit availabilities, agriculture inputs, improved marketing, and rural development activities in the project will directly impact on the women in the project areas. Because of the importance of the women's role in Lofa County agricultural production, AID will seek assurances from the GOL during negotiations that qualified women will be actively recruited and trained at all levels as PMU staff and project beneficiaries.

6. Environmental Statement.

Potential health hazards exist regarding the spread of water-borne disease. It is the opinion of the project appraisers that only schistosomiasis is potentially harmful enough to warrant project expenditures at this time, and the project provides for the creation and maintenance of a schistosomiasis surveillance unit which will establish necessary data and measurement procedures to monitor the possible spread of this disease and others and to develop control measures, if needed. In addition, AID will seek assurance from the GOL that it will undertake schistomiasis control and eradication measures. The means available to the GOL to carry out such steps is being provided by the AID financed Lofa County Health Outreach Project.

Since one of the long range objectives of the project is to increase the agricultural output of the small farmer, it will be necessary to instruct him in the use of fertilizers and pesticides. The agricultural advisors will be well versed in the use of farm chemicals and in their effects on the environment, and they will insure that the small farmer is properly trained.

One of the stipulations in the use of pesticides is that only those presently approved for use in the United States will be considered. For example Malathion and similar pesticides which are relatively non-toxic to mammals and degrade in a relatively short time to harmless compounds will be used. DDT and other long active chlorinated hydro-carbons will only be used spareingly under supervision of the PMU if necessary for some specific application. Dialdrin, Aldrin and similar insecticides which degrade into toxic chemicals will not be imported under any circumstances.

The only adverse impact fertilizers have on the environment is when they are leached out of the soil into a water stream. A large number of experiments carried out by the Tennessee Valley Authority (TVA) have indicated that nitrogenous fertilizers in the ammoniacal form such as urea and ammonia and phosphates are normally not leached from soils. Fertilizers in the form of nitrates, which are now rarely produced for economic reasons, and which do leach out will not be used in this project.

7. Technical Assistance Nature of Project

The project committee feels the project is more akin to a technical assistance project than a capital assistance project. Forty-nine percent of project financed inputs represent farm support services (extension services, etc. comprised mostly of salary and training costs); farm inputs represent 36 percent; technical services (outside consult-ants) two percent; price contingencies 31 percent; and physical contin-gencies five percent; while infrastructure represents only 13 percent of total costs.

"A Capital Project is defined as the construction, expansion, equipping, or alteration of a physical facility or facilities financed by AID dollar assistance of not less than $100,000 (including related advisory, managerial and training services) and not undertaken as part of a project of a predominantly Technical Assistance character." 1/ The same AID Manual Order, paragraph C, "Distinction Between Capital Assistance and Technical Assistance" states that "Technical Assistance" is the process through which AID assists cooperating countries in developing human skills and attitudes and in the creation and support of institutions necessary for social, economic, and political growth and development." Recommendation: That the project be determined by AssistantAdministrator for Africa as being "essentially technical assistance in character".

8. Five Year Financing.

Project financing is required over a five year period. Section 110(b) of the Foreign Assistance Act provides that disbursement should not exceed 36 months for certain categories of projects. According to AID Manual orders, the 36 limitation is intended to apply only to bilateral capital projects. Since this project is not a bilateral project and may not be a "capital project" (Reference No. 7 above), it is eligible for longer term financing. The principle justifications for five year financing include: 1) IBRD project design calls for a five year development period as most appropriate for this project. Implementation plans and economic, financial and technical analysis and donor assistance have all been planned on this five year basis. 2) The integrated rural development nature of the project requires the development of technical andorganizational capability on the part of illiterate farmers which may not be attainable in three years. Recommendation: Approve five years AID financing as scheduled in Annexes 9 and 16.

9. Evaluation.

Project performance will be routinely monitored by USAID/L against the Project Paper including the development schedules, the Objectively Verifiable Indicators and the Project Performance Tracking System (PPT). Project performance evaluation will be performed periodically, usually about twice a year, by IBRD Supervisory Missions to which AID will be invited to provide one or more participants. These missions evaluate performance against the project design document and the implementation workplans developed by the PMU managers.

1/ AID Manual Order 1201.1 Attachment A dated 9-23-66, paragraph A.1.

For AID evaluation of project purpose attainment as specified in the logical framework, purpose level objectively verifiable indicators (OVI) are specified in some detail on Annex 11., Table 1., attached. OVI's include measures of a. Incremental production increase by crop b. Productivity increases by crop and c. Related hectarages.

The Project Performance Tracking System (PPT), currently being applied to all Liberian projects, will provide an additional guide to evaluation as well as implementation. A project performance network will be maintained in USAID/Liberia, AID/W, and the Regional Economic Development Services Office (REDSO) in Abidjan, Ivory Coast. See Annex 13 for a more comprehensive discussion of the PPT.

TABLE 1

PURPOSE LEVEL EOPS OBJECTIVELY VERIFIABLE INDICATORS

(For rice, coffee and cocoa -- targeted incremental annual production, productivity increase, and hectares by 1980.)

	Upland Rice Improved	Swamp Rice Rehabilitated	Swamp Rice New	Coffee Rehabilitated	Coffee New	Cocoa Rehabilitated	Cocoa New
Incremental Annual Production 1/ (MT) 2/	3,920	736	3,429	250	150	200	60
Productivity 3/ (kg/ha)	from 1,000 kg/ha to 1,700 kg/ha	from 1,500 to 3,500	3,300	from 280 to 700	1000 4/	from 280 to 600	850 4/
Number hectares improved or developed 5/	5,600 ha.	1,400	500	2,300	500	1,500	800
No. farmers 6/	y1-200 y2-930 y3 - 1710 y4-2300 y5 - 2860 Total 8000						

1 / Increase in production "with project" compared to "without project".
2 / For detailed incremental production estimates see PP Annex G., "Economic Analysis," Tables 1-3.
3 / For detailed productivity estimates, see PP Annex G., Table 4.
4 / Expected yield by year 6-8.
5 / For detailed land development and improvement targets, see PP Table 2.
6 / A portion of the 8000 farmers undertaking upland rice improvement are expected to also undertake swamp rice, coffee and cocoa improvement or new development.

AID 1020-28 (1-73)
SUPPLEMENT 1

ANNEX 12

PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

(INSTRUCTION: THIS IS AN OPTIONAL FORM WHICH CAN BE USED AS AN AID TO ORGANIZING DATA FOR THE PAR REPORT. IT NEED NOT BE RETAINED OR SUBMITTED.)

Life of Project:
From FY 75 to FY
Total U.S. Funding 5
Date Prepared:

Project Title & Number: Upper Lofa County Rural Development

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
Program or Sector Goal: The broader objective to which this project contributes: (A-1)	Measures of Goal Achievement: (A-2)	(A-3)	Assumptions for achieving goal targets (A-4):
..o improve the welfare of rural people in the traditional sector through integrated rural development.	An average 380% increase in small farm income to about US $813 per participating farm in the project area by full development.	Studies conducted by the PMU Performance/Audit and Planning Unit on farm budgets in the project area.	Village cooperatives and village leadership fuction to encourage equity in the distribution of farm inputs and credit, particularly for coffee and cocoa. Land tenure rights can be conferred on individuals or communities so as to provide necessary incentives without generating social resentment and economic inequity. The GOL provides effective political and administrative support for the project, particularly the small farm and equity aspects, i.e., increasing production on the 46% of the cropped land in Lofa County cultivated by 91% of the farmers. Effective demand for rice will match production levels attained in the project area.

1020-28 (1-73)
PLEMENT 1

PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

Life of Project:
From FY 75 to FY 80
Total U.S. Funding $5.0M
Date Prepared:

Project Title & Number: Upper Lofa County Rural Development Project

PAGE 2

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
Project Purpose: (B-1)	Conditions that will indicate purpose has been achieved: End-of-Project status. (B-2)	(B-3)	Assumptions for achieving purpose: (B-4)
To increase agricultural production and productivity in Upper Lofa County, primarily on small farms	1. Annual incremental value of production in target area of $2.8M. by 1980 and $7.9M by full development. 2. For rice, coffee and cocoa, see annual targets for: a) incremental annual production by crop, b) number of hectares realizing targeted productivity increases, by crop. (Ref: Annex 11.) 1/ Constant 1975 dollars.	1. PMU operational records a. no. farmers participating. b. Productivity gains c. no. ha. 2. LPMC produce marketing records. 3. Random sample studies by PMU Performance/Planning Unit.	1. Crop farmgate prices maintained projected levels, i.e. about 66% of Monrovia f.o.b. value. 2. The project-introduced technology is suitable or very quickly adaptable to the micro-environmental condition existing in the project area. 3. LPMC has the financial resources and administrative capability to purchase and handle/store/transport the marketed incremental production. 4. Farmers, in the numbers anticipated are willing to modify their cultivation methods andapply the new technologies on the areas anticipated. 5. The Ministry of Public Works will develop and maintain farm to market roads as planned under the IBRD/AID Second Highway Project.

AID 1020-28 (1-73)
SUPPLEMENT 1

PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

Project Title & Number:

Life of Project:
From FY ___ to FY 80
Total U.S. Funding ___
Date Prepared:

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
Project Outputs: (C-1)	Magnitude of Outputs: (C-2)	(C-3)	Assumptions for achieving outputs: (C-4)
1. Training program for PMU staff; extension, credit/coop personnel. 2. Farmer training program. 3. Extension system established.	1.a. Construction of 15/20 bed dormitory at AETC, Johnsonville.* b. Construction of staff training center at Voinjama. c. All extension, credit/coop other technical PMU staff receive technical training at AETC center Johnsonville. 1/ 2/ d. All PMU staff receive programatic administrative training at Voinjama center. 1/ 2/ 2. a. construction of farmer training center and model farm at Kolahun. b. trained farmers 3/ 3.a. 145 extension supervisors working with farmers by Y4.	PMU records on construction and training. PMU records on construction and training. PMU records on extension program	The University of Liberia can conduct an effective rice, coffee, cocoa training program at the AETC for Project Management (PMU) staff. Liberia extension agents can be motivated to work effectively with farmers.
4. Cooperative/credit system established.*	4.a. Four district cooperatives operating in-kind farm credit programs.	PMU and cooperative records on loans to farmers and repayments.	Individual farmer's debts incurred under previous development activities are cleared before the farmer participates under this project.

1/ Operational schedules such as the training schedule, credit disbursements schedule, etc. are projected in project design but subject to modification where appropriate by project managers.

2/ For more detailed quantification of outputs in terms of numbers of PMU staff to be trained. See "IBRD Appraisal" Annex f, Table 1. "Staff Requirements". Training should be about 30 percent above annual PMU staff requirements for each group of staff.

3/ To be determined by PMU staff.

AID 1020-28 (1-72)
SUPPLEMENT 1

PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

Project Title & Number:

Life of Project:
From FY 75 to FY 8_
Total U.S. Funding
Date Prepared:

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
Project Outputs: (C-1)	Magnitude of Outputs: (C-2)	(C-3)	Assumptions for achieving outputs: (C-4)
4. Cooperative/credit system established. (Continued)	b. 800 farmers have borrowed $3.6M. (See Annex 7, Table 1, Illustrative Revolving Credit Fund). 1/		-Farmers understand and are willing to accept group responsibilities for credit repayment.
	c. Village cooperative loan repayment on schedule (See Annex 7, Table 1 1/		-Cooperative savings program can be strengthened and expanded with consequent greater farmer commitment savings and loan institution and increased financial capital for further agricultural development lending.
	d. Revolving fund growth on schedule (See Annex 7, Table 1.)	Liberia Bank for Development and Industry records and loans to cooperatives and repayment.	
5. Land Development	5.a. New swamp rice land, coffee and cocoa land cleared and developed; 500 ha., 2,300 ha., and 1,500 ha. respectively. (See page 9, Farm Development Schedule)	PMU records; observation.	-"out-migration" will not jeopardize the "group responsibility" loan repayment system. - Farmer resistance to swamp rice does not constitute a serious constraint.
6. Input supply system established. *	6.a. Inputs ordered by cooperatives through PMU arrive on schedule in project area. 1/	PMU records -- input requisitions compared to input receipts.	- The Liberia Produce Marketing Corporation (LPMC) will deliver farm inputs on schedule as contracted by the PMU.

AID 1020-28 (1-73)
SUPPLEMENT 1

PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

Project Title & Number:

Life of Project:
From FY 75 to FY 8?
Total U.S. Funding $5.0?
Date Prepared:

NARRATIVE SUMMARY Project Outputs: (C-1)	OBJECTIVELY VERIFIABLE INDICATORS Magnitude of Outputs: (C-2)	MEANS OF VERIFICATION (C-3)	IMPORTANT ASSUMPTIONS Assumptions for achieving outputs: C-4
6. Input supply system established. (Contined.)	6.b. Input are delivered to farmers on schedule through district and village cooperatives. 1/	District coop records of inputs physically received by village cooperatives.	
7. Marketing of incremental produce.	7.a. District cooperatives increase annual produce purchases.	Coop purchase records.	
	b. Village coops organize gathering an' transportation of village produce.	On-site verification.	
8. Shistosomiasis surveillance system.*	8.a. Laboratory constructed, equipped and staffed at Voinjama.	Shistosomiasis Unit records	Health services will be provided as planned in the project area under the AID Rural Health project.
	c. Studies conducted of disease incidence and severity over time.	Studies exist.	
9. Farm to market roads built.	9.a. 100 km. of new roads constructed with PMU funds by MOPW. Roads maintained.	PMU and MOPW road construction/maintenance agreement	
	b. PMU small road maintenance unit established and performing emergency road repair.	On-site observation.	
10. Research.	Farm trials conducted on fertilizer response, etc. as scheduled by the PMU	Agr. Production Unit research plans and activity reports.	Close coordination is effected with the national rice research station (CAES) at Suokoko.

AID 1020-28 (1-73)
SUPPLEMENT 1

PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

Project Title & Number: ____

Life of Project:
From FY 75 to FY 80
Total U.S. Funding $5.0M
Date Prepared: ____

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
Project Outputs: (C-1)	Magnitude of Outputs: (C-2)	(C-3)	Assumptions for achieving outputs: (C-4)
11. Rice seed multiplication.	Breeder seed in sufficient quality and quantity to meet project needs.	PMU records of seed requirements and sources of supply.	The National Seed Association will deliver quality breeders to the PMU as contracted.
	Seedlings sufficient to meet project needs.	Same as above.	LPMC will deliver quality seedlings to the PMU as contracted.

*Outputs for which AID is sole or principle contributor.

AID 1020-28 (1-73)
SUPPLEMENT 1

PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

Project Title & Number:

Life of Project:
From FY 75 to FY 80
Total U.S. Funding $5.3M
Date Prepared:

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
Project Inputs: (D-1)	Implementation Target (Type and Quantity) (D-2)	(D-3)	Assumptions for providing inputs: (D-4)
USAID A. Cooperative/Credit Division. 1. Personnel Commercial manager Coop/Credit Manager Other line staff Clerical 2. Commodities Vehicles and maintenance cars/trucks/pickups motorcycles office equipment	A. $1.13 million	PMU Personnel records PMU Supply records	Qualified Staff can be recruited to fill these positions.
B. Farm inputs 1. Commodities -- rice seed, seedlings, fertilizers, chemicals, tools, shade trees, hired labor contingency	B. $2.08 million		
C. Shistosomiasis Surveillance Unit	C. $0.27 million		A public health doctor can be recruited.

Note: See detailed breakout of AID inputs in Annex 16.

AID 1020-28 (1-73)
SUPPLEMENT 1

PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

Life of Project:
From FY 75 to FY 80
Total U.S. Funding $5.0M
Date Prepared:

Project Title & Number:

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
Project Inputs: (D-1)	Implementation Target (Type and Quantity) (D-2)	(D-3)	Assumptions for providing inputs: (D-4)
D. Dormoritory block & Equipment	D. $.1 million		
E. Prefinance for key staff	E. $.1 million*		
F. Contingencies	F. $1.45 million		
	*reimburseable by World Bank		

D 1020-28 (1-73)
PPLEMENT 1

PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

Life of Project:
From FY 75 to FY 80
Total U.S. Funding $5.0M
Date Prepared:

roject Title & Number:

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
Inputs	Conditions that will indicate - has been achieved:	(B-3)	Assumptions for achieving
IBRD - $6.0 million			
A. Vehicles and equipment-operation and maintenance.	A. $0.84 million		
B. Construction/Civil Works	B. $0.34 million		
C. Staff	C. $1.4 million		
D. Administrative/operating costs	D. $1.7 million		
E. LBDI assistance	E. $0.2 million		
F. Consultants	F. $0.1 million		
G. Contingencies (coffee/cocoa)	G. $1.5 million		

Note: For detailed breakout of IBRD inputs, see Annex 9. "Project Financing".

AID 1020-28 (1-73)
SUPPLEMENT 1

PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

Life of Project:
From FY 75 to FY 80
Total U.S. Funding $5.0M
Date Prepared:

Project Title & Number:

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
Project Inputs: (D-1)	Implementation Target (Type and Quantity) (D-2)	(D-3)	Assumptions for providing inputs: (D-4)
GOL - $5.9 million			
A. Vehicles	A. $0.1 million		
B. Equipment	B. $0.1 million		
C. Salaries	C. $2.1 million		
D. Farm inputs	D. $1.6 million		
E. Contingencies	E. $1.9 million		

PART II: LOGICAL FRAMEWORK NARRATIVE DESCRIPTION

1. Goal.

The project goal to improve the welfare of rural people in the traditional sector through integrated rural development is a derivation of the broad national goal "Integrated rural development through balanced regional planning and growth in agriculture ..." as enunciated and expanded upon by the National Planning Council and other GOL agencies. Purpose achievement, i.e., increased rice, coffee and cocoa production on small farms, will contribute to goal attainment, provided goal level assumptions are valid.

For participating farms, average net farm incomes should increase by about 380% from $213 to $813 annually by full development.

Key assumptions are: 1) The project is conducted so that farm inputs and credit are equitably distributed and not skewed to the larger farmers; 2) The GOL, working through local leaders, e.g. paramount chiefs, can arrange to confer appropriate land tenure rights consistent with local land traditions without creating economic inequity or social resentment and 3) The GOL will exercise the political will to fully support small farmer oriented rural development.

2. Purpose.

To increase agricultural production and productivity in Upper Lofa County, primarily on small farms.

The total net incremental value of production 1/ of rice, coffee and cocoa in the project is expected to be US$5.6 million by 1980 and US$36.4 million by full development in 1985. Incremental annual production would be 7,300 MT rice (milled) 2,500 MT coffee and 1,600 MT cocoa by full development 1985 onwards. Purpose level objectively verifiable indicators show: 1) the incremental annual production by crop by 1980 2) the targeted productivity increases by crop 3) the number of hectares improved.

Important assumptions relate to the necessity to maintain farmer incentives, the suitability of the technological package being introduced, marketing of produce, willingness of farmers to modify cultivation methods on a significant portion of their land, and the maintenance of the farm to market road network.

3. Outputs.

Project outputs relate primarily to the establishment of the several "service systems" needed to motivate, guide and provide farmers with the knowledge, organization and means to apply improved agricultural technologies. Principle outputs include: Trained PMU staff; farmer training programs and facilities; an operational extension system; a credit system; an input supply system; land development; a marketing system; a shistosomiasis surveillance system; and other -- 100 km. of farm to market roads; research field trials; seed multiplication; seedling nurseries; and village wells.

Outputs are considered achieved only when the systems are not only in place but are actually performing as planned. Hence, objectively verifiable indicators are designed to show not only the "establishment" but the "performance" of each system.

Important assumptions include: 1) Training -- the University of Liberia and the AETC with assistance as appropriate have the capability to conduct effective training in rice, coffee, and cocoa; 2) Extension -- extension agents can be induced to work effectively with farmers; 3) Credit -- old debts are cleared or otherwise not comingled with credit under this project; farmers accept group responsibility for credit repayment; farmer savings programs can be strengthened; out-migration will not jeopardize group repayment; 4) Land development -- farmer resistance to swamp rice cultivation is not a serious constraint; 5) Farm inputs -- the LPMC will deliver farm inputs to the project area on schedule; 6) Research -- close coordination will be effected with CAES.

4. Inputs.

AID financed inputs include personnel, commodities, vehicles and equipment to establish the Cooperative/Credit Division of the PMU; farm inputs, principally fertilizer and seed; personnel, vehicles and equipment for the shistosomiasis unit; construction of a dormitory block; prefinance for three key PMU staff and contingencies.

IMPLEMENTATION/PROJECT PERFORMANCE TRACKING (PPT)

The Upper Lofa County Rural Development Project has been selected by Africa Bureau for application of the Project Performance Tracking (PPT) system.[1/] The attached Annex 13 Table 1., "Project Performance Network," lays out a preliminary network of Critical Performance Indicators (CPI) to serve as a guide for implementation and for evaluation. CPIs are described in a CPI narrative, also attached.

The Project Performance Tracking System (PPT) should serve as a tool for the USAID/L project backstop in monitoring project activities and perhaps in discretely influencing and assisting the senior PMU managers in their planning.

The Project Performance Network attached must be considered largely illustrative until it is reconciled with PMU implementation plans and timetables. Three stages are recommended for the refinement of this Project Performance network:

a. Development during the project design stage of a preliminary PPT network including about twenty Critical Performance Indicators (Table 1.).

b. Preliminary revision of the PPT network by the USAID/L project backstop based on discussions with senior PMU managers about one month following their arrival.

c. Reconciliation of PPT network with the PMU implementation schedules, probably within the first six months of the PMU's managers' arrival.

Step b. provides for an early interchange of implementation concepts for the mutual benefit of the USAID mission and the project managers. The PPT covers all project components, not just AID financed activities.

An estimated AID financial plan based on the estimated project costs in Annexes 9 and 16 calls for annual AID financing (including contingencies) as follows: FY 76 - US$360 thousand; FY 1977 - $770 thousand; FY 78 - $1,050 thousand; FY 79 - $1,330 thousand and FY 80 - $1,490 thousand. Actual AID disbursements will be based on the annual project budget and the quarterly cash flow forecasts developed by the PMU and approved by the GOL.

1/ TOAID CIRCULAR A-234 "Project Tracking/Reporting and Financial Data Requirements Proposals", 4-19-75.

SAMPLE FORM

country:	project no:	project title:	date:		apprvd:
LIBERIA		UPPER LOFA COUNTY RURAL DEVELOPMENT	5/15/75	5/2 /75 original 5/15 /75 revision #	

CPI NARRATIVE

1. 7/75 — Conditions Precedent Are Met
   - -Both Bank and AID conditions precedent are met.
   - -3 PMU senior staff members hired by GOL (project manager, training development controller, agricultural manager).
   - -GOL would not permit AGRIMECO to carry out any mechanized land clearing activities in Foya and Kolahun after December 31, 1975.
   - -GOL would establish a special PMU bank account with either LBDI or a commercial bank with an initial payment of $100,000, with guaranteed drawdown procedures, and 3 months advance payments by GOL in accordance with approved annual budgets.

2. 9/75 — Project Steering Committee Formed
   - -GOL will establish a committee consisting of the Ministers of Agriculture (Chairman) Finance, Planning, Local Government, and Rural Development (or their deputies) to coordiante and supervise the project.

3. 12/75 — Institutional Arrangement made with LPMC or Other Organization for Input Purchase
   - Institution chosen
   - Policies and procedures clearly identified for scheduling and ordering both in-country (seedling, seed, etc) and foreign (tools, machinery, fertilizer, etc.) inputs.

4. 12/75 — System Developed to Show Shift from Tribal to Free Simple Land Tenure System

   Documentation provided by GOL for specific system; sequence, timing, procedures, registration legislation to be instituted or followed for change of land ownership system. Both GOL and tribal farmers must demonstrate knowledge of this change. Applicants for development loans must show confirmation from tribal authorities that they have development rights prior to loan approval.

5. 6/76 — Dormitory for Housing Project Trainees Constructed

   Construction of one 15 bed dormitory block and equipping completed according to specified architectural and safety standards within allocated budget at Johnsonville.

6. 7/76 — Inputs are In Place at Four District Cooperatives

   ______ pounds of 15-15-15 fertilizer
   ______ vehicles, _____ tools, ____ equipment
   ______ coffee and cocoa seedlings
   ______ pounds of HYV rice seed
   ______ chemicals
   are all at the 4 District Cooperatives and ready to be distributed to the farmers.

7. 6/76 — LBDI Branch Bank is Established
   - LBDI branch bank is operational with credit procedures clearly documented,

country: LIBERIA	project no.:	project title: UPPER LOFA COUNTY RURAL DEVELOPMENT	date: 5/15/75	/ / original / / revision #	approved:

CPI NARRATIVE

7 continued

in Voinjama
- Bank begins administration of project revolving credit account

8. 7/76

Farmers are Members of Cooperatives
-Results are presented to PMU from 4 cooperatives regarding:
- number of farmers who are members
- length of membership
- type of farmer or land ownership
- type of cropping

9. 6/76

Small Farmers Participate in Project
- Credit applications received
- for labor
- for seed
- for machinery, tools, equipment

10. 1/77

Arrangements made for Establishment of Semi-Autonomous Rural Development Authority (RDA) by GOL

Specific plans for creation of the RDA developed by the GOL with number of members, job descriptions, duties, functions; organizational lines, financing and remuneration; recruiting methods delineated, specification for autonomy incorporated; above mutually acceptable to GOL, AID and IDA

11. 6/77

Rural Development Authority is Established and Absorbs PMU and PSC

RDA has powers, responsibilities and financing mutually acceptable to GOL,

11 continued

AID and IDA
- Begins administering project:
- PMU executive staff has transferred to RDA
- PSC members appointed to RDA board of Directors.
- RDA Executive Chairman is of Assistant Minister rank - (first chief executive becomes PMU Manager)
- Partial financing from Agricultural Development Fund and from MA extension services budgetary allocation.

12. 3/77

Land Developed

______ hectares of land developed in Phase I project area
- cleared
- drained
- planted and maintained
  - rice
  - coffee
  - cocoa

13. 12/77

Credit is Repaid

No greater than 10% default rate on all credit repayments is maintained

14. 3/78

Land Developed

______ hectares of land developed in Phase ______ of project area.

____ cleared
____ drained
____ planted and maintained
____ ____ rice
____ coffee
____ cocoa

SAMPLE FORM

country: LIBERIA	project no:	project title: UPPER LOFA COUNTY RURAL DEVELOPMENT	date: 5/15/75	/ / original / / revision #	approved:

CPI NARRATIVE

15. 12/76 **Schistosomiasis Unit is Operational**
- Key staff is on board
- Key equipment is on hand and functioning
- Plan for surveillance has been implemented
- first reports have been sent to PMU statistical unit.
- Labratory constructed

16. 6/77 **Small Farmers Participate in Project**
- Increase to ______ small farmers participating in project from first year
- Apply for credit
- clear and plant land

___ cooperative members
___ bring produce to coops.

17. 6/78 **Small Farmers Participate in Project**
(ditto 16 with new targets)

18. 6/79 ditto

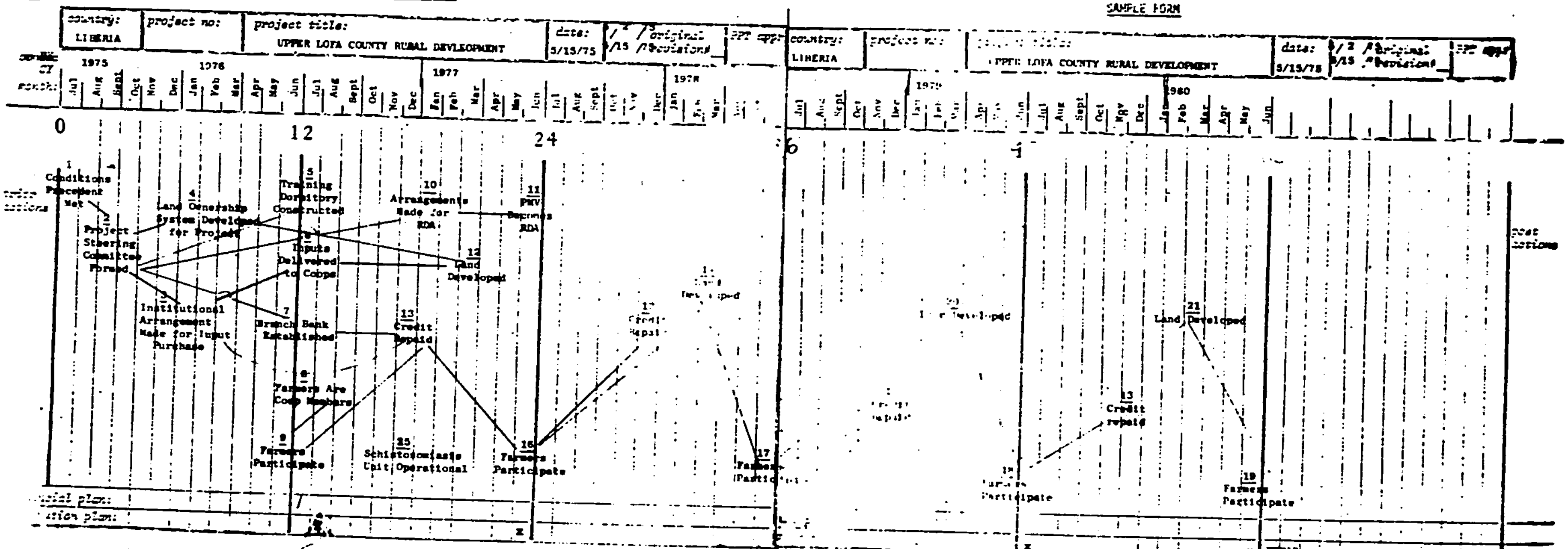
19. 6/80 ditto

20. 3/79 **Land Developed**
ditto 14 new targets

21. 3/80 **Land developed**
ditto new targets

Annex II. Table 1.

SAMPLE FORM



PROJECT PERFORMANCE NETWORK

SAMPLE FORM

PROJECT PERFORMANCE NETWORK

CHECKLIST OF STATUTORY CRITERIA

In the right-hand margin, for each item, write answer or, as appropriate, a summary of required discussion. As necessary, reference the section(s) of the Capital Assistance Paper, or other clearly identified and available document, in which the matter is further discussed. This form may be made a part of the Capital Assistance Paper.

The following abbreviations are used:

FAA - Foreign Assistance Act of 1961, as amended.

FAA, 1973 - Foreign Assistance Act of 1973.

App. - Foreign Assistance and Related Programs Appropriation Act, 1974.

MMA - Merchant Marine Act of 1936, as amended.

BASIC AUTHORITY

1. FAA § 103; § 104; § 105; § 106; § 107. Is loan being made

a. for agriculture, rural development or nutrition;	Yes. Directly supports agricultural production and rural development.
b. for population planning or health;	Yes. The project contains a Schistosomiasis Unit to control the disease.
c. for education, public administration, or human resources development;	Yes. Extensive small farmer human resource development is involved. Several thousand farmers will be trained at training centers and on the farm in crop development, farm credit etc. Nearly 300 project management staff will be trained in administrative and technical subjects related to rural development, crop development, credit, cooperative, extension, etc.

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d. to solve economic and social development problems in fields such as transportation, power, industry, urban development, and export development;	Yes, Agricultural export earningswill be enhanced, (Ref.PP para 8.02). Small rural feeder roads will provide farmer access to local markets.
e. in support of the general economy of the recipient country or for development programs conducted by private or international organizations.	Yes. The project is to serve as a prototype for national rural development. The IBRD is major donor.

COUNTRY PERFORMANCE

Progress Towards Country Goals

2. FAA § 201 (b) (5), (7) & (8); § 208

A. Describe extent to which country is:

(1) Making appropriate efforts to increase food production and improve means for food storage and distribution.	Rice self sufficiency by 1980 is the national agri cultural goal of highest importance. Agricultural budget is increasingly channeled to this use. The Liberian Produce Marketing Corporation (½ private ownership and ½ GOL ownership) has greatly increased food storage and marketing capability.
(2) Creating a favorable climate for foreign and domestic private enterprise and investment.	Liberia follows an "open-door" policy toward foreign agricultural and industry.
(3) Increasing the public's role in the developmental process.	The government's policy of Liberianization of the economy requires foreign companies to train local people at all levels of management and operation.

(4) (a) Allocating available budgetary resources to development.

The GOL expenditure for agricultural development has gone from 2% of GOL budget in 1968-70 to 10% in 1975.

(b) Diverting such resources for unnecessary military expenditure (See also Item No. 20) and intervention in affairs of other free and independent nations.) (See also Item No. 11).

GOL has minimal expenditure on military.

(5) Making economic, social, and political reforms such as tax collection improvements and changes in land tenure arrangements, and making progress toward respect for the rule of law, freedom of expression and of the press, and recognizing the importance of individual freedom, initiative, and private enterprise.

Liberia's record in this respect has been satisfactory.

(6) Willing to contribute funds to the project or program.

GOL is providing US $5.9 million (33 percent) of project costs.

(7) Otherwise responding to the vital economic, political, and social concerns of its people, and demonstrating a clear determination to take effective self-help measures.

This project is

evidence of the GOL's concern to take self help measures and address the vital concerns of the rural poor.

B. Are above factors taken into account in the furnishing of the subject assistance?

Yes.

Treatment of U.S. Citizens and Firms.

3.	FAA § 620 (c). If assistance is to government, is the government liable as debtor or unconditional guarantor on any debt to a U.S. citizen for goods or services furnished or ordered where (a) such citizen has exhausted available legal remedies and (b) debt is not denied or contested by such government?	We are not aware of any such case.
4.	FAA § 620 (e) (1). If assistance is to a government, has it (including government agencies or subdivisions) taken any action which has the effect of nationalizing, expropriating, or otherwise seizing ownership or control of property of U.S. citizens or entities beneficially owned by them without taking steps to discharge its obligations toward such citizens or entities?	No.
5.	FAA § 620 (o); Fishermen's Protective Act. § 5. If country has seized, or imposed any penalty or sanction against, any U.S. fishing vessel on account of its fishing activities in international waters,	No.
	a. has any deduction required by Fishermen's Protective Act been made?	No.

b. has complete denial of assistance been considered by A.I.D. Administrator? — No.

Relations with U.S. Government and Other Nations

6. FAA § 620 (a). Does recipient country furnish assistance to Cuba or fail to take appropriate steps to prevent ships or aircraft under its flag from carrying cargoes to or from Cuba? — No.

7. FAA § 620 (b). If assistance is to a government, has the Secretary of State determined that it is not controlled by the international Communist movement? — Yes.

8. FAA § 620 (d). If assistance is for any productive enterprise which will compete in the United States with United States enterprise, is there an agreement by the recipient country to prevent export to the United States of more than 20% of the enterprise's annual production during the life of the loan? — Loan will not finance any such enterprise competitive.

9. FAA § 620 (f). Is recipient country a Communist country? — Yes.

10.	FAA § 620 (i). Is recipient country in any way involved in (a) subversion of, or military aggression against, the United States or any country receiving U.S. assistance, or (b) the planning of such subversion or aggression?	No.
11.	FAA § 620 (j). Has the country permitted, or failed to take adequate measures to prevent, the damage or destruction, by mob action, of U.S. property?	No.
12.	FAA § 620 (l). If the country has failed to institute the investment guaranty program for the specific risks of expropriation, inconvertibility or confiscation, has the A.I.D. administration within the past year considered denying assistance to such government for this reason?	Not applicable (N.A.)
13.	FAA § 620 (n). Does recipient country furnish goods to North Viet-Nam or permit ships or aircraft under its flag to carry cargoes to or from North Viet-Nam?	No.
14.	FAA § 620 (q). Is the government of the recipient country in default on interest or principal of any A.I.D. loan to the country?	No.

15.	FAA § 620 (t). Has the country severed diplomatic relations with the United States? If so, have they been resumed and have new bilateral assistance agreements been negotiated and entered into since such resumption?	No.
16.	FAA § 620 (u). What is the payment status of the country's U.N. obligations? If the country is in arrears, were such arrearages taken into account by the A.I.D. Administrator in determining the current A.I.D. Operational Year Budget?	Shares paid up.
17.	FAA § 481. Has the government of recipient country failed to take adequate steps to prevent narcotics drugs and other controlled substances (as defined by the Comprehensive Drug Abuse Prevention and Control Act of 1970) produced or processed, in whole or in part, in such country, or transported through such country, from being sold illegally within the jurisdiction of such country to U.S. Government personnel or their dependents, or from entering the U.S. unlawfully?	No.
18.	FAA, 1973 § 29. If (a) military base is located in recipient country, and was constructed or is being maintained or operated with funds furnished by U.S., and (b) U.S. personnel carry out military operations from such base, has the President determined that the government of recipient country has authorized regular access to U.S. correspondents to such base?	N.A.

Military Expenditures

19. FAA s 620 (s). What percentage of country budget is for military expenditures? How much of foreign exchange resources spent on military equipment? How much spent for the purchase of sophisticated weapons systems? (Consideration of these points is to be coordinated with the Bureau for Program and Policy Coordination, Regional Coordinators and Military Assistance Staff (PPC/RC).)

Liberia is considered to use minimal budgetary expenditure for military purposes and equipment.

Conditions of The Loan

General Soundness

20. FAA s 201 (d). Information and conclusion on reasonableness and legality (under laws of country and the United States) of lending and relending terms of the loan.

Terms are reasonable and legal.

21. FAA s 201 (b) (2); s 201 (e) Information and conclusion on on activity's economic and technical soundness. If loan is not made pursuant to a multilateral plan, and the amount of the loan exceeds $100,000, has country submitted to A.I.D. an application for such funds together with assurances to indicate that funds will be used in an economically and technically sound manner?

The Project Paper (PP) contains thorough economic and technical analysis and concludes that the project is sound. This project is a multi-national donor financed project with the IBRD being the principle donor. Liberia made the assistance request, including a request for U.S. participation directly to the IBRD.

22. FAA s 201 (b) (2). Information and conclusion on capacity of the country to repay the loan, including reasonableness of repayment prospects.

See PP paragraphs 7.14 - 7.15 for a financial evaluation of debt service capacity. There are reasonable prospects of repayment.

23. FAA s 201 (b) (1). Information and conclusion on availability of financing from other free-world sources, including private sources within the United States.

The IBRD is the major donor. We are not aware of that other free-world sources are prepared to contribute to the loan on these terms. No free world private source is prepared to make this type of loan.

24. FAA s 611 (a) (1). Prior to signing of loan will there be (a) engineering, financial, and other plans necessary to carry out the assistance and (b) a reasonably firm estimate of the cost to the United States of the assistance?

Yes.

25. FAA s 611 (a) (2). If further legislative action is required within recipient country, what is basis for reasonable expectation that such action will be completed in time to permit orderly accomplishment of purpose of loan?

The IBRD and AID will seek assurances in the loan agreement during negotiations with the GOL that needed legislative changes will be made by December 31, 1976. In consultation with the IBRD, the GOL has indicated its willingness in this regard.

26. FAA s 611 (e). If loan is for Capital Assistance, and all U.S. assistance to project now exceeds $1 million, has Mission Director certified the country's capability effectively to maintain and utilize the project?

N.A.

Loan's Relationship to Achievement of Country and Regional Goals

27. FAA s 207; s 113
Extent to which assistance reflects appropriate emphasis on; (a) encouraging development of democratic, economic, political, and social institutions; (b) self-help in meeting the country's food needs; (c) improving availability of trained manpower in the country; (d) programs designed to meet the country's health needs;

(a) Project requires emphasis on democratic economic institutions (farmers cooperatives and groups) at the local level.
(b) An estimated US$1.1 million self-help farm labor contribution is required for project implementation. (c) About 300 Liberians will be trained at all levels in extension work, in credit/cooperative work etc. in addition to the thousands of farmers trained. (d) a schistosomiasis health unit will train local people in disease control.

	(e) other important areas of economic, political, and social development, including industry; free labor unions, cooperatives, and Voluntary Agencies; transportation and communication; planning and public administration; urban development, and modernization of existing laws; or (f) integrating women into the recipient country's national economy.	Cooperatives (Annex 6) transportation, planning and public administration (Annex 5) and integrating women into the country's national economy are emphasized.
28.	<u>FAA § 209</u>. Is project susceptible of execution as part of regional project? If so why is project not so executed?	No.
29.	<u>FAA § 201 (b) (4)</u>. Information and conclusion on activity's relationship to, and consistency with, other development activities, and its contribution to realizable long-range objectives.	Project is closely related to the Lofa County Rural Health Outreach Project, the IBRD/AID Second Highway Loan, the IBRD Community Education project and a proposed rural development project in Bong County which all contribute to long-range rural development objectives.
30.	<u>FAA § 201 (b) (9)</u>. Information and conclusion on whether or not the activity to be financed will contribute to the achievement of self-sustaining growth.	Growth is self-sustained within the project up to full development in 1987. Beyond the project, self-sustained growth should be generated thru increased rural saving and investment in further profitable agricultural activities.
31.	<u>FAA § 209;</u> Information and conclusion whether assistance will encourage regional development programs.	This loan is not directed toward a regional problem.

32. FAA s 111. Discuss the extent to which the loan will strengthen the participation of urban and rural poor in their country's development, and will assist in the development of cooperatives which will enable and encourage greater numbers of poor people to help themselves toward a better life.

Project success depends on greatly strengthening the participation of urban and rural poor via the vehicle of farmers' cooperatives and farmers' groups. (Ref. PP 2.12, 6.12 - 6.13, Annex 6 and Annex 11, No. 1.)

33. FAA s 201 (f). If this is a project loan, describe how such project will promote the country's economic development taking into account the country's human and material resources requirements and relationship between ultimate objectives of the project and overall economic development.

Description of how the project will promote the country's economic development is included in the PP. (Ref. PP 8.01 - 8.07; Annex 10)

34. FAA s 281 (a). Describe extent to which the loan will contribute to the objective of assuring maximum participation in the task of economic development on the part of the people of the country, through the encouragement of democratic, private, and local governmental institutions.

Besides local involvement in cooperatives, local participation is required in a Rural Advisory Committee comprised of tribal leaders, and throughcredit advisorycommittees including local farmers. The project finances the start up of the first private Bank in the area to provide financial services to the project area. (Ref: Annex 11, No. 1)

35. FAA s 281 (b). Describe extent to which program recognizes the particular needs, desires, and capacities of the people of the country; utilizes the country's intellectual resources to encourage institutional development; and supports civic education and training in skills required for effective participation in governmental and political processes essential to self-government.

The project concept is based on meeting the basic agricultural needs of the rural poor. Agricultural development will be largely self help. Technical and administrative training will be provided for over 300 Liberians including high level officials who will take over project management. Thousands of farmers will be trained in/inputs, credit, coops and marketing. the use of farm

36. FAA § 201 (b) (3). In what ways does the activity give reasonable promise of contributing to the development of economic resources, or to the increase of productive capacities?

The project will stimulate increased agricultural production in the county (Ref. PP 8.01 - 8.05)

37. FAA § 601 (a). Information and conclusions whether loan will encourage efforts of the country to: (a) increase the flow of international trade; (b) foster private initiative and competition; (c) encourage development and use of cooperatives, credit unions, and savings and loan associations; (d) discourage monopolistic practices; (e) improve technical efficiency of industry, agriculture and commerce; and (f) strengthen free labor unions.

(a) Project will increase coffee and cocoa exports and increase the flow of imported farm inputs, mainly fertilizer. (b) Farmers' initiative will be strengthened by new productive opportunities. (c) Cooperatives and coops will be encouraged. (d) The Produce Marketing Corp. (a monopoly) will be directed to offer higher farmgate prices (e) Produce marketing will be improved through private initative and commerce at the village level.

38. FAA § 619. If assistance is for newly independent country, is it furnished through multilateral organisations or plans to the maximum extent appropriate?

N.A.

Loan's Effect on U.S. and A.I.D. Program

39. FAA § 201 (b) (6). Information and conclusion on possible effects of loan on U.S. economy, with special reference to areas of substaitial labor surplus, and extent to which U.S. commodities

and Commodities /technical assistance will be obtained from AID Geographic Code 0 (U.S.) and 941 (selected free world). It is anticipated that the U.S. will provide the bulk of such goods and services.

and assistance are furnished in a manner consistent with improving the U.S. balance of payments position.

40. <u>FAA § 202 (a)</u>. Total amount of money under loan which is going directly to private enterprise, is going to intermediate credit institutions or other borrowers for use by private enterprise, is being used to finance imports from private sources, or is otherwise being used to finance procurements from private sources.

All of the AID loan is going directly to private enterprise except approximately U.S. $800,000 which goes directly into salaries for local and international staff.

41. <u>FAA § 601 (b)</u>. Information and conclusion on how the loan will encourage U.S. private trade and investment abroad and how it will encourage private U.S. participation in foreign assistance programs (including use of private trade channels and the services of U.S. private enterprise).

Most goods and services financed under the AID loan will be from AID Geographic Code 0 and 941.

42. <u>FAA § 601 (d)</u>. If a capital project, are engineering and professional services of U.S. firms and their affiliates used to the maximum extent consistent with the national interest?

N.A.

43. FAA § 602. Information and conclusion whether U.S. small business will participate equitably in the furnishing of goods and service financed by the loan.	The bulk of U.S. supplied goods and services (mainly fertilizer) are likely to be supplied by medium to large trading companies. Normal AID procurement procedures will be followed.
44. FAA § 620 (h). Will the loan promote or assist the foreign aid projects or activities of the Communist-Bloc countries?	No.
45. FAA § 621. If Technical Assistance is financed by the loan, information and conclusion whether such assistance will be furnished to the fullest extent practicable as goods and professional and other services from private enterprise on a contract basis. If the facilities of other Federal agencies will be utilized, information and conclusion on whether they are particularly suitable, are not competitive with private enterprise, and can be made available without undue interference with domestic programs.	Technical assistance provided under the loan is expected to come mainly from private enterprise sources on a contract basis. Services may be provided through the USDA Field Extension Service without interference with domestic programs.

Loan's Compliance with Specific Requirements

46. FAA § 110 (a); § 208 (e). In what manner has or will the recipient country provide assurances that it will provide at least 25% of the costs of the program, project, or activity with respect to which the Loan is to be made?	The GOL will provide assurances in the Loan Agreement to provide $5.9M. in project financing (33% of total project costs).

47.	FAA § 112. Will loan be used to finance police training or related program in recipient country?	No.
48.	FAA § 114. Will loan be used to pay for performance of abortions or to motivate or coerce persons to practice abortions?	No.
49.	FAA § 201 (b). Is the country among the 20 countries in which development loan funds may be used to make loans in this fiscal year?	
50.	FAA § 201 (d). Is interest rate of loan at least 2% per annum during grace period and at least 3% per annum thereafter?	Yes.
51.	FAA § 201 (f). If this is a project loan, what provisions have been made for appropriate participation by the recipient country's private enterprise?	Local private enterprise will ordinarily be expected to provide construction services on minor construction jobs, i.e., the dormitory ($65,000) the Schistosomiasis office/lab ($25,000); to provide certain other local cost goods, and to engage in the transport of produce.
52.	FAA § 604 (a). Will all commodity procurement financed under the loan be from the United States except as otherwise determined by the President?	Yes.

53.	FAA § 604 (b). What provision is made to prevent financing commodity procurement in bulk at prices higher than adjusted U.S. market price?	Normal AID procurement procedures will be followed.
54.	FAA § 604 (d). If the cooperating country discriminates against U.S. marine insurance companies, will loan agreement require that marine insurance be placed in the United States on commodities financed by the loan?	N.A.
55.	FAA § 604 (e). If offshore procurement of agricultural commodity or product is to be financed, is there provision against such procurement when the domestic price of such commodity is less than parity?	N.A.
56.	FAA § 604 (f). If loan finances a commodity import program, will arrangements be made for supplier certification to A.I.D. and A.I.D. approval of commodity as eligible and suitable?	N.A.
57.	FAA § 608 (a). Information on measures to be taken to utilize U.S. Government excess personal property in lieu of the procurement of new items.	Excess property is not suitable for this project.

58. FAA s 611 (b); App. s 101. If loan finances water or water-related land resource construction project or program, is there a benefit-cost computation made, insofar as practicable, in accordance with the procedures set forth in the Memorandum of the President dated May 15, 1962?

Yes. (Ref: PP Annex 10, Internal Rate of Return)

59. FAA s 611 (c). If contracts for construction are to be financed what provision will be made that they be let on a competitive basis to maximum extent practicable?

Construction contracts over $25,000 will be let on a competitive basis according to AID capital project guidelines.

60. FAA s 612 (b); s 636(h). Describe steps taken to assure that, to the maximum extent possible, the country is contributing local currencies to meet the cost of contractual and other services, and foreign currencies owned by the United States are utilized to meet the cost of contractual and other services

All $5.9M. GOL contribution will finance local cost. The $2.0M local costs financed by the AID loan are local cost requirements beyond the financial ability of GOL to provide.

61. App. s 113. Will any of loan funds be used to acquire currency of recipient country from non-U.S. Treasury sources when excess currency of that country is on deposit in U.S. Treasury?

No.

62. FAA s 612 (d). Does the United States own excess foreign currency and, if so, what arrangements have been made for its release?

No.

63. FAA s 620 (g). What provision is there against use of subject assistance to compensate owners for expropriated or nationalized property?

No, only project costs will be financed.

64. FAA s 620 (k). If construction of productive enterprise, will aggregate value of assistance to be furnished by the United States exceed $100 million?

No.

65. FAA s 636 (i). Will any loan funds be used to finance purchase, long-term lease, or exchange of motor vehicle manufactured outside the United States or any guaranty of such transaction?

No.

66. App. s 103. Will any loan funds be used to pay pensions, etc., for military personnel?

No.

67. App. s 105. If loan is for capital project, is there provision for A.I.D. approval of all contractors and contract terms?

N.A. However, the loan agreement will provide for AID approval of contractors and contract terms on AID financed construction.

68. App. s 107. Will any loan funds be used to pay UN assessments?

No.

69. App. s 108. Compliance with regulations on employment of U.S. and local personnel. (A.I.D. Regulation 7). — Yes.

70. App. s 110. Will any of loan funds be used to carry out provisions of FAA s s 209 (d)? — No.

71. App s. 114. Describe how the Committee on Appropriations of the Senate and House have been or will be notified concerning the activity, program, project, country, or other operation to be financed by the Loan. — This project was described in the FY 1975 Congressional presentation, page 61. Congressional notification will be made the week of June 9, 1975.

72. App. s 601. Will any loan funds be used for publicity or propaganda purposes within the United States not authorized by Congress? — No.

73. MMA s 901. b; FAA s 640 C.

(a) Compliance with requirement that at least 50 per centum of the gross tonnage of commodities (computed separately for dry bulk carriers, dry cargo liners, and tankers) financed with funds made available under this loan shall be transported on privately owned U.S.-flag commercial vessels to the extent that such vessels are available at fair and reasonable rates. — Yes.

(b) Will grant be made to loan recipient to pay all or any portion of such differential as may exist between U.S. and foreign-flag vessel rates? — No.

74. <u>Section 30 and 31 of PL 93-189 (FAA of 1973).</u> Will any part of the loan be used to finance directly or indirectly military or paramilitary operations by the U.S. or by foreign forces in or over Laos, Cambodia, North Vietnam, South Vietnam, or Thailand? — No.

75. <u>Section 37 of PL 93-189 (FAA of 1973)</u>; App. s. 111. Will any part of this loan be used to aid or assist generally or in the reconstruction of North Vietnam? — No.

76. <u>App. s 112</u>. Will any of the funds appropriated or local currencies generated as a result of AID assistance be used for support of police or prison construction and administration in South Vietnam or for support of police training of South Vietnamese? — No.

77. <u>App. s 604</u>. Will any of the funds appropriated for this project be used to furnish petroleum fuels produced in the continental United States to Southeast Asia for use by non-U.S. nationals? — No.

DRAFT

LOAN AUTHORIZATION

A.I.D. Loan No.: ____________________
Provided under: FAA Sec. 103. Food and Nutrition
For: Liberia Upper Lofa County Rural Development

Pursuant to the authority vested in the Administrator of the Agency for International Development ("A.I.D.") by the Foreign Assistance Act of 1961, as amended, and the delegations of authority issued thereunder, I hereby authorize the establishment of a loan pursuant to Section 103 of said Act to the Government of Liberia (Borrower) of not to exceed Five Million United States dollars ($5,000,000) to assist in financing the United States dollar and local currency costs of goods and services for the Upper Lofa Country Rural Development Project and subject to the following terms and conditions:

1. Terms and Repayment and Interest

   (a) Borrower shall repay the loan to AID in United States dollars within forty (40) years from the date of the first disbursement under the loan, including a grace period of not to exceed ten (10) years.

   (b) Borrower shall pay to AID in United States dollars interest at the rate of two percent (2%) per annum during the grace period and three percent (3%) per annum thereafter on the outstanding disbursed balance of the loan and any due and unpaid interest accrued thereon.

2. <u>Other Terms and Conditions</u>

(a) Except for ocean shipping, goods and services financed under the Loan shall have their source and origin in Liberia or countries included in AID Geographic Code 941, provided, however, that marine insurance may be financed under the Loan only if it is obtained on a competitive basis and any claims thereunder are payable in freely convertible currencies. Ocean shipping financed under the Loan shall be procured in any country included in AID Geographic Code 941, not including Liberia.

(b) The Loan shall be subject to such other terms and conditions as AID may deem advisable.

____
Assistant Administrator
Bureau for Africa

____
Date

SUMMARY — AID FINANCED PROJECT COSTS
(US$ 000)

ANNEX 16
Table 1

	Year 1	Year 2	Year 3	Year 4	Year 5	Total AID Financed
1. Construction (Training facility)	65.0					65.0
2. Credit/Coops	156.3	240.6	280.7	273.0	168.0	1,129.2
3. Farm Development (Inputs)	26.2	228.8	379.3	579.2	861.2	2.075.5
4. Schistosomiasis Unit	25.0	77.7	76.6	76.7	12.5	268.5
	272.6	547.1	736.6	928.9	1,041.2	3,528.2
5. Consultants						40.0
						3,568.2
6. Contingencies						
- Physical						176.0
- price						1,255.8
						5,000.0

AID FINANCED PROJECT COSTS
(US$ 000)

ANNEX 16
Table 2 p 1 of 3

	Unit Cost	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Total AID Financed	Foreign Exchange %	Foreign Exchange Cost	Local Cost
1. Building and Construction											
Dormitory block, AETC Johnsonville, Monrovia	65.0		65.0					65.0			
Total			65.0					65.0	70	45.0	20.0
2. Credit and Coop											
Vehicles											
Saloon Car 2000 cc	5.0		(1)5.0					5.0			
Personnel Carrier	5.4		(1)5.4			(1R) 5.4		10.8			
Pick up	4.0		(2)8.0	(2) 8.0	(2) 8.0	(2R) 8.0		32.0			
Motor Cycles	0.7		(15)10.5	(20)14.0	(35)24.0	(20)14.0	(10) 7.0	69.5			
Bicycles	0.1		(3)0.3		(3) 0.3			0.6			
Sub Total			29.2	22.0	32.3	27.4	7.0	117.9	80	100	17.9
Equipment											
Pocket calculator	0.1		10.0	8.0	2.0			20.0	80	16.0	4.0
Sundries			5.0	5.0				10.0	80	8.0	2.0
Sub Total			15.0	13.0	2.0			30.0		24.0	6.0
Salaries and Wages											
Commercial Manager	45.0		(1) 35.0	(1)45.0	(1) 45.0	(1) 45.0	(1) 45.0	215.0	100	215.0	
Co-op/Credit Manager	40.0		(1) 30.0	(1)40.0	(1) 40.0	(3/12) 10.0		120.0	100	120.0	
Co-op/Credit Officer	5.0		(4) 15.0	(6)30.0	(6) 30.0	(4) 20.0	(4) 20.0	115.0			
Co-op/Credit senior field officer	3.0		(2) 3.0	(3) 9.0	(4) 12.0	(5) 15.0	(3) 9.0	48.0			
Co-op/Credit field officer	2.0		(17) 17.0	(32)64.0	(50)100.0	(69)138.0	(35) 70.0	389.0			
Secretary/Clerks	1.8		(13) 4.0	(5) 9.0	(6) 10.8	(5) 9.0	(5) 9.0	41.8			
Drivers	1.0		(2) 1.5	(2) 2.0	(2) 2.0	(2) 2.0	(2) 2.0	9.5			
Messengers/Sweepers	0.8		(2) 1.6	(2) 1.6	(2) 1.6	(2) 1.6	(2) 1.6	8.0			
Sub Total			107.1	200.6	241.4	240.6	156.6	946.3	35	335.0	

AID FINANCED PROJECT COSTS
(US$ 000)

	Unit Cost	Year 0 _/	Year 1	Year 2	Year 3	Year 4	Year 5	TOTAL AID Financed	Foreign Exchange %	Foreign Exchange Cost	Local Cost
Operating Costs											
Miscellaneous expense including food, course fee, training aids, transport, subsistance at AETC, CAES, Voinjama, Kolahun, other misc.			5.0	5.0	5.0	5.0	5.0	25	50	13.0	12.0
Sub Total			5.0	5.0	5.0	5.0	5.0	25	50	13.0	12.0
TOTAL			156.3	240.6	280.7	273.0	168.0	1,129.2			
3. **Farm Inputs** _/											
Fertilizer - Development			7.0	43.0	100.2	179.3	209.8	539.3	80	430.0	109.3
Seasonal (Incremental)			9.0	45.1	80.4	112.8	248.2	495.5	80	400.0	95.5
Sub Total			16.0	88.1	180.6	292.1	458.0	1,034.8	80	830.0	204.8
Rice Seed			.38	1.6	2.9	4.1	5.2	14.2	10	14.2	
Seedlings (coffee and Cocoa)			.4	31.5	34.9	44.4	53.3	164.5	10	164.5	
Tools and Sprayers			9.3	60.4	80.8	109.9	149.5	409.9	80	320.0	89.9
Agricultural Chemicals			0.8	2.3	5.1	8.7	15.2	32.1	80	30.0	2.1
Sub Total			26.2	183.8	304.3	459.2	681.2	1,655.5	41	1,358.7	296.8
Farm Development Labor - Hired				45.0	75.0	120.0	180.0	420.0			420.0
Total			26.2	228.8	379.3	579.2	861.2	2,075.5		1.358.7	716.8
4. **Schistosomiasis**											
Surveillance Unit											
Building and Construction											
Office/laboratory			25.0					25.0			
Sub Total			25					25	70	18.0	7.0

AID FINANCED PROJECT COSTS
(US$ 000)

ANNEX 16
Table 2 p 3 of 3

	Unit Cost	Year 0 _/	Year 1	Year 2	Year 3	Year 4	Year 5	Total AID Financed	Foreign Exchange %	Cost
Vehicles										
Personnel Carrier	5.4			(1) 5.4		(1) 5.4		10.8		
Motor Cycles	0.7			(1) 0.7		(1) 0.7		1.4		
Sub Total				6.1		6.1		12.2	80	10.0
Equipment										
Laboratory equipment				5.0	10.0	5.0		20.0	80	16.0
Sundries and furniture				2.0	2.0	1.0		5.0	80	4.0
Sub Total				7.0	12.0	6.0		25.0	80	20.0
Salaries and Wages										
Medical doctor	50.0			(1) 50.0	(1) 50.0	(1) 50.0		150.0	100	150.0
Senior laboratory technician	2.1			(1) 2.1	(1) 2.1	(1) 2.1	(1) 3.0	9.3		
Junior laboratory technician	1.5			(1) 1.5	(1) 1.5	(1) 1.5	(1) 1.5	6.0		
Laboratory assistants	1.2			(2) 2.4	(2) 2.4	(2) 2.4	(2) 2.4	9.6		
Secretary/clerk	1.8			(1) 1.8	(1) 1.8	(1) 1.8	(1) 1.8	7.2		
Driver	1.0			(1) 1.0	(1) 1.0	(1) 1.0	(1) 1.0	4.0		
Messenger	0.8			(1) 0.8	(1) 0.8	(1) 0.8	(1) 0.8	3.2		
Sub Total				59.6	59.6	59.6	10.5	189.3	100	150.0
Operating Cost										
Lab materials				5.0	5.0	5.0	2.0	17.0	50	9.0
Total			25	77.7	76.6	76.6	12.5	268.5		

_/ For financial and project costs, year 0 expenditure is added to year 1.

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SUBJECT

AMEMBASSY FREETOWN XXXXXXXXX USUN X

1975 MAY 7 AM 11

DATE SENT

FROM - XXXXXXXX MONROVIA
E.O.11652 N/A
SUBJECT - INTEGRATED RURAL DEVELOPMENT- EASTERN AREA PROJECT, SIERRA LEONE
REFERENCE - AIDTO CIRCULAR A-183 (Working Group on the Rural Poor - Papers on Regional Planning).
FOR: Samuel H. Butterfield, TA/RD

1. The World Bank's Integrated Agricultural Development Pro[illegible] the Eastern Area of Sierra Leone could be one of the more exci[illegible] down-to-earth and dynamic projects of its kind in Africa. [illegible] attached second Annual Report is excellent and well worth stu[illegible]. Unfortunately, only few copies were printed and extra copies [illegible] available. AID/W is requested to reproduce the report (sugg[illegible] copies) for distribution in Washington, Freetown (5 copies) and USAID/L (10 copies).

2. The Eastern Area Project is of particular interest to USAID/L for many reasons, but particularly because of its close proximity to Upper Lofa County in Liberia (also largely populated by people of the Mende Tribe) where AID, the World Bank and UNDP are collaborating with the Government of Liberia in planning a multi-million dollar integrated rural development project. Headquarters for the Eastern Area Project are located at Kenema which is easily accessible either by road or by commercial daily flights from Freetown. Peter Daniells, USAID/L General Development Officer, accompanied by Mr. Allan Larson, Economic Officer, American Embassy, Freetown, recently spent two days visiting the project area and meeting with senior Project Management Unit (PMU) staff members. Altogether it was most stimulating experience and a visit highly recommended to all others interested in the problems of reaching the rural poor.

4 Hs. sent TA/UDS - 5-14-75

DRAFTED BY	OFFICE	PHONE NO.	DATE	APPROVED BY:
PKDaniells:ck	NARDA (DS)	60	4/24/75	Stanley J. Siegel, Director

PAGE 1 OF PAGES 4

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3. The project area is very large and gives emphasis to the production of palm oil, cocoa, coffee and above all, rice, Sierra Leone's staple food crop. Among the many items of particular interest and reasons for visiting the IDA Eastern Area Project are the following:

a) All agricultural development activities have been kept to the most simple and basic levels possible. There is no use of tractors or other mechanized equipment.

b) Farmers who show interest in participating in the program are brought into the PMU's Training Center for two days, about fifty farmers at a time, where the principles and methods of swamp drainage and rice cultivation are demonstrated in the adjoining Demonstration Farm. Having adequate water control in the Demonstration Farm there is normally rice to be seen at all stages of development from the nursery through to harvesting. PMU staff members explain the credit program, the extension service and other advantages of participation.

c) The PMU has introduced various innovative methods of maintaining active contact with farmers, of which there are approximately 3,000 participating in the program at the moment. A Farmer's Advisory Committee and a Farmer's Working Committee each perform a valuable function in gaining feedback and insight to PMU activities and policies. They also play a vital role in winning and holding the farmers' confidence, one of the most difficult tasks faced by the PMU staff.

d) With two years experience in project implementation, the importance of the role of women in agricultural development is becoming increasingly apparent. Women are found to be very much involved in farming and in the credit program, particularly. While some of them are classified as farmers, all of them are influential in one way or another in the decision making process. A special program for women was organized recently by the PMU with the assistance of the local Kenema Social Welfare Department in an attempt to find new ways of involving women in the development process. The experiment was successful and has encouraged PMU to repeat and elaborate on this type of program.

e) The importance of "crop extraction" road construction is vividly evident in the project area.

f) The PMU Report is honest in reporting conditions and problems which had not been anticipated in the original project planning. For example it had not been anticipated that the use of even small amounts of fertilizer in the drained swamps would result in the pollution of drinking water supplies. PMU is now faced with the challenge of developing new water supply systems. Another problem of far more complex proportions is the need to find suitable ways of adding value to the product of the farmers' labor and to prevent the middle-man from reaping excessive profits from the farmers increased productivity.

g) Possibly of greatest interest in the Eastern Area Project experience is the organization and management of the credit program. Thus far the program has achieved remarkable success with 100% repayments on loans with many being paid off one or even two years ahead of time. The PMU is now thinking of setting up a Farmers Finance Company to stimulate savings and replace the present concept of a revolving credit fund.

h) A traditional weakness in project planning by the World Bank is the Bank's insistence on setting up an autonomous or semi-autonomous agency (i.e. PMU) to run the project. While this admittedly provides greater control over project implementation, it also sets up institutional machinery outside of the regular Government bureaucracy which is difficult for the Government to take over at the time of project phase-out. It also and frequently has the tendency to attract the more competent and highly qualified personnel away from the Government Ministries. In the case of the Eastern Area Project the problem of phase-out is anticipated with the appointment of Mr.. C. B. Sesay in October, 1974, who serves in the dual capacity as Deputy Project Manager and Provincial Agricultural Officer. In his latter capacity he is able to coordinate the work of six Agricultural Officers, ten Senior Agricultural Instructors (or Extension Agents) a number of Assistant Agricultural Instructors and a small party of six experts from Mainland China who are working on rice and vegetable production. In the longer term the IDA Eastern Area Project will be absorbed by the PAO.

4. For those interested in project evaluation the Eastern Area Project has yet to introduce an evaluation plan which will provide a meaningful assessment of the Project's impact on sociological, as well as economic factors. The FMU recognizes need for such a plan, particularly as a management tool for more effective execution of project plans and policies.

5. USAID/L understands the World Bank is negotiating an expansion and extension of the Eastern Area Project. It is believed that the expansion of the Eastern Area Project will include new activities in the fields of education and health and the introduction of Service Centers (or cooperatives) to focus on the problems of storage and processing. The extension will involve initiation of a similar project in the Northern Area of Sierra Leone. It would be most useful and greatly appreciated if AID/W could obtain two copies of the Bank's project proposal for transmittal to our Embassy in Freetown and USAID/Liberia.

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CONDITIONS AND COVENANTS

The IDA credit agreement will contain the conditions of effectiveness and assurances contained in paragraph 9.01. Both the IDA and AID agreements will contain cross default clauses. While the conditions of IDA and AID are not identical, both institutions will consult informally on the status and progress in meeting the several conditions and covenants. In addition to the usual loan agreement requirements, AID will seek the following conditions precedent and covenants from the GOL during negotiation of the Loan Agreement:

A. Conditions Precedent to initial disbursement.

1. An executed copy of the IDA credit agreement.

2. Evidence that the IDA conditions of effectiveness have been satisfied.

3. Appointment of a project manager acceptable to AID.

4. GOL establishment of a special PMU Bank account with either LBDI or a commercial bank with an initial payment of $100,000.

B. Conditions Precedent to disbursement for the credit portion of the project.

1. Arrangements for establishment by the GOL of a LBDI Branch at Voinjama to provide banking services and administration for the project Revolving Credit Fund.

2. Execution of a Revolving Credit Fund agreement between the GOL and LBDI acceptable to AID.

3. Evidence of adequate organizational and financial planning to insure that the cash flow requirements and operating margins of the cooperatives and Revolving Credit Fund are sufficient to meet the purposes of the project.

4. Appointment of a Cooperative Training Officer acceptable to AID.

5. Appointment of the Manager of the Cooperative and Credit Division acceptable to AID.

C. Condition Precedent to disbursement for construction.

1. Formulation of construction plans and engineering specifications, selection of a construction contractor and execution of a construction contract acceptable to AID with a firm or firms acceptable to AID, supervised in a manner acceptable to AID.

D. Condition Precedent to disbursement of funds for the Schistosomiasis Control Unit.

1. Appointment of a Schistosomiasis Control Officer acceptable to AID.

E. Covenants

1. Within two years of project effectiveness, the GOL and AID will assess the adequacy of the farmer credit interest rates in covering overhead, bad debts and inflation and in allowing the scheduled capitalization of the Revolving Credit Fund, with a view to adjusting the interest rate if necessary to cover costs and build up the Fund as planned.

2. GOL and AID will explore in more detail the potential environmental health hazards of the project with a view to the possible expansion of the Schistosomiasis Unit functions or to incorporating other disease prevention or control measures into the project as appropriate.

3. The GOL assign responsibility to the Ministry of Health, through the Voinjama Hospital and other local health officials in the project area, to apply the schistosomiasis control and curative measures as developed by the PMU schistosomiasis unit and mutually accepted by the GOL and AID.

4. The GOL shall consult with AID regarding the raising of interest rates on savings deposits, and adjusting policies and procedures as appropriate to determine the feasibility of effectively mobilizing greater local savings.

5. That the GOL include appropriate numbers of qualified women in the project as PMU staff and project participants/beneficiaries.

AID EXPERIENCE

AID agricultural development efforts in Liberia have met with limited success.[1/] The following extracts are from USAID/L notes reflecting the USAID experience with certain small holder related agricultural development activities:

a. Agricultural extension -- In the late 50's, USOM maintained four or five extension stations (Voinjama, Gbanga.), which later formed the basis for an MOA extension service. In 1968, the service was largely inoperative. Reasons: Lack of trained personnel, logistic support, adequate supervision, resources and research.

b. RAD - GBANGA (Rural Area Development) -- USAID project to develop Gbanga rural area with 8-10 man USAID advisory team. In 1968, counterparts were still in the field with little or no activity in the program which was subsequently out entirely from the GOL budget.

c. Gbedin Rice Project -- A resettlement scheme combining wet rice cultivation and upland dry farming. Land clearing schemes were largely unsuccessful. In 1968, from a maximum of 125 resettled farmers, evolved down to 70 + Modest success and high yields achieved under direct Taiwanese supervision. Irrigated area expanded very slowly due to need for water, requiring costly dam.

The present project attempts to overcome, through integrated rural development, the numerous economic, technical, institutional and social constraints encountered by those earlier attempts.

AID's experience with small farmers credit was evaluated along with other relevant farm credit theory and experience during the 1973 Spring Review of Small Farmer Credit. The "AID Guidelines on Project and Program Planning for Small Farmer Credit" resulted from the review. A comparison of the Lofa project credit program with the AID Guidelines reveals several project strengths and a few possible weaknesses. Strengths include: Profitable development opportunities exist requiring additional credit; cultural factors (risk adversion, etc.) appear to allow for the use of credit; credit administration is to be augmented through new banking facilities and improved cooperative skills; local participation (village coops) offers promise for greater equity, more local motivation and responsibility and greater economics of scale (lower costs) in credit administration. The guidelines would seem to suggest vis a vis the Lofa Project that emphasis is needed on: maximizing the role of local farmers, applying a realistic interest rate and specifying clearly the target group.

1/ Page 81 "The U.S. Experience", DAP, USAID/Liberia, December 1974

Economic Analysis

Economic and Financial Status of the GOL

Liberia's GDP at current prices rose to $500 million in 1974 from $461.1 million in 1973, an 8.5% increase, compared with an 8.5% increase, compared with an 8.6% average increase during the 1970-1973 period. Real GDP per capita, however, declined by 12.1% in 1974 to a level of $178.0, based on 1964 dollars due to population growth (3.3%) and inflation (19.5%), this GDP per capita level, nonetheless, remains among the highest in Africa.

Sharp increases in the price of iron ore, Liberia's major export, resulted in a near record balance-of-trade surplus of $110.9 million. Exports rose by $76.3 million, or by 23.5%, in 1974 over 1973 levels. Imports during this same period rose by $95.9 million, or by 49.6%, due mainly to increased fuel costs. The majority of Liberia's imports are the export sector iron mines, rubber and palm oil plantations, lumber and other operations which have recently been able to pass on most of price increases of their imports in higher export prices. It should be noted, however, that the impressive trade surpluses continue to be offset by sizeable outflows of profits and factor payments (which near $100 million a year). Since Liberia maintains no controls over merchandise movements in or out of the country, it is difficult to estimate the balance of payment position with any degree of precision; however, the net foreign assets of the banking system- the main balance of payment indicator-declined by $4.0 million in 1974. This deficit was in contrast to the $7.8 million

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increase in foreign assets registered in 1973.

Government revenues from all sources increased by almost 21% during 1974, reaching $108.6 million, while budget expenditures were $108.4 million. The rise in revenue was mainly attributable to import duties which, based on <u>ad valorem</u> rates, reflected higher import prices. Other revenue gains were made in income taxes, non-resident taxes and maritime revenues. In 1975, the national budget projects revenues at $113.0 million, plus an additional $4.0 million to be drawn from reserves, permitting expenditures of $117.0 million. To this can be added an expected $21.0 million in external assistance (grants and loans) which will bring expenditures to approximately $1[illegible] million. If iron ore prices continue to remain high, total available resources could possibly be as high as $150.0 million in 1975. In addition external assistance in 1975 may exceed $30.0 million, bringing government resources up to $160 million.

The GOL's fiscal position in 1974 reflected general continued stability despite the fact that the increase cost of imports, particularly petroleum, placed Liberia slightly on the red side of the balance-of-payments ledger, i.e. $4 million, from its black position in 1973 of $7.8 million. Debt services payments as a percentage of current revenues, however, continued to diminish in 1974, dropping to 21.1% from 25.7% and 22.9% respectively in 1972 and 1973. Similarly, the amount of outstanding external debt decreased from $182.2 million in 1972 to $164.5 at the end of 1974.

External debt servicing outlays (principal and interest) and debt service ratios, during the past five years and projected through 1979, are reflected in the table below.

In projecting the debt service ratio, it is assumed that the majority of new debts will have the same terms as those recently contracted by the GOL, including a grace period of seven years. Export growth is projecte[illegible] to increase at an average annual rate of 7.8% during the period 1974-1979, which is down from the exceedingly high average annual increase of 17.3% for the period 1970-1974. The export projectio[illegible] are based on EMB/ECON estimates and assume a gradual increase in th[illegible] demand for iron ore, stability and price for rubber and an increasing demand for timber.

LIBERIA'S DEBT SERVICE BURDEN
(U.S. Million)

Year	Debt Service (Principal & Interest)	Actual Exports of Goods and Services	Ratio of Debt Se[illegible] to Export o[illegible] Goods and Se[illegible]
1970	20.6	213.7	9.6
1971	21.0	224.0	9.3
1972	20.8	244.4	8.5
1973	19.8	324.0	6.1
1974	22.9	400.3	5.7
	Projected Debt Service (Principal & Interest)	Projected Exports of Goods and Services	
1975	23.2	465	5.0
1976	25.0	500	5.0
1977	28.0	525	5.3
1978	30.0	550	5.4
1979	33.0	580	5.7

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Under such assumptions, the debt service ratio is projected to remain relatively stable during the period, rising only fractionally. The projected relative stability of the debt service ratio is further based on the assumption that the GOL's current policy of reducing reliance on short-maturity, hard-term suppliers' credit will continue, an assumption which may be somewhat optimistic.