

**AIRGRAM**

U.S. AIR MAIL

PD. AAC-154-B1 6690124-2

DP Distribution: R Steen  
12-17-70

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Prop Review Tues 12-22-70  
Resulted in decision: should be done on smaller scale, less expensive & postponed for a year to FY 73 nothing constructive was decided.

For each address check one ACTION INFO

TO - AID/W TOAID A- 353

DEC 11 AM 7 59

DATE SENT  
12/15/70

FROM - MONROVIA

SUBJECT - Preliminary Project Proposal (PPP)

REFERENCE -

Country Liberia Project No. 669-11-120-124

Submission Date: 3 Dec 1970 Original x Revision No.       

Project Title: Soils Technology

U.S. Obligation Span: FY 1972 through FY 1975

Physical Implementation Span: FY 1972 through FY 1976

Gross Life-of-project financial requirements:

U.S.	\$1,609,000	} 25%
Cooperating Country	400,000	

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DRAFTED BY MNReed/jrh	OFFICE AG	PHONE NO 39	DATE 12/3/70	APPROVED BY: William C. Wild, Jr., DIR
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AID AND OTHER CLEARANCES  
AD:DLvintow  
PR:JKelly

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**I. SUMMARY**

The Government of Liberia has requested USAID to undertake a Soils Technology Project designed to increase agricultural production by improving the GOL capability for rational planning in the agricultural sector. Project aims include: the preparation of a reconnaissance soil survey report; the publishing of a national system of soils classification; recommendations for productive land-use based on survey results; and, the development of a GOL Soils Technology Section in the Department of Agriculture capable of carrying out a continuing soils program.

This GOL project results in part from an AID financed study, "A Soil Survey Program for Liberia," undertaken early in 1970 by Mr. David Slusher of the U.S. Department of Agriculture. Mr. Slusher's report was well received by the GOL Department of Agriculture, and AID is now being asked to assist in implementing the report's recommendations.

The proposed Soils Technology project represents the Mission's initial effort to implement its sectoral strategy in the emphasis area of agriculture. A full discussion on the rationale underlying that strategy was included in Liberia's 1972 CFS. The Submission also documented the relationship between the Soils project and other project elements which will be proposed during FY 1971.

**II. SUMMARY OF FINANCIAL REQUIREMENTS**

<u>U.S. CONTRIBUTIONS</u>		<u>GOL CONTRIBUTIONS</u>	
FY 72	714,000*	CY 71	85,000
FY 73	397,000	CY 72	105,000
FY 74	378,000	CY 73	115,000
FY 75	120,000	CY 74	75,000
Total U.S.	<u>1,609,000</u>	Total GOL	<u>400,000</u>

Gross life of project financial requirements: \$1,609,000

\* 21 months funding

**III. SETBACK**

About three-fourths of Liberia's population is dependent upon subsistence farming. The GOL's agricultural plan calls for moving an increasing number of these rural people into the cash economy over the next decade. Through the Department of Agriculture, the GOL hopes to generate small increases in production from a very large number of Liberians by making known to them improved methods of cultivation.

There are several obstacles to effectively implementing this plan, but perhaps none is more serious than the lack of good information on the soils of Liberia. Since World War II several studies have been undertaken on the subject of Liberian soils - the most notable of which was compiled by William Reed in 1951. 1/ These studies tend to be of limited value at the present time because of the scope and the time factor involved.

1/ A copy is being forwarded to AID/W under separate cover.

Lacking an adequate body of systematized information on Liberian soils, Department of Agriculture officials have given priority status to the soils area. These are the officials who in 1969 were instrumental in making development of small farms a primary objective of national policy. They are quite aware that Department objections on increased small-farm production will not materialize unless greater attention is focused on adapting crops to soils. They also realize that the average Liberian farmer cannot be expected to experiment on a trial/error basis. If the traditional farmer's approach is to be modified, he must be induced to do so - in part, by tried-and-proven information received through the extension service of the Department of Agriculture. If costly and embarrassing mistakes are to be avoided, more accurate soils data will have to be obtained.

#### IV. STRATEGY

USAID/Liberia's assistance to Liberian agriculture is aimed at supporting one of the GOL's main stated objectives, i.e., increasing the traditional farmer's economic opportunities in order to increase his participation in the affairs of the society. The amount of AID's assistance to the country's agricultural sector is to be determined largely by the GOL's commitment to the sector as evidenced in the annual budget. Recent signs - such as an 8% increase during 1970 in Development Budget expenditures for agriculture - seem to indicate favorable GOL action in this regard. As a result the Mission proposes that assistance be provided the GOL for the Soils Technology project on a phased basis.

During the first phase of the Soils project a team of five US soils scientists will assist Liberian co-workers in conducting a reconnaissance-soils survey designed to indicate land capabilities and use potentials. The survey will focus on the more populated areas of Liberia with the intent of identifying soils of potential productivity. The operation will cover grid areas within 10 miles on either side of the existing roads 1/ and take into account the GOL's priority development needs. Towards the end of the first year of operation a U.S. socio-economist would be furnished to help identify those areas potentially in need of farm roads. Recent studies in Liberia have indicated that new farm roads tend to stimulate economic activity beyond that foreseen prior to construction.

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1/ There are approximately 1,050 miles of paved and gravel roads in Liberia at present.

During the first phase of operation assistance would be provided to GOL soils laboratory at Suakoko so as to increase its capability for handling soil determinations and testing soil samples for fertilizer recommendation.

AID financing of the second phase of the Soils Technology Project will be contingent on GOL interest and performance during the initial stage. A decision concerning the continuance of AID support will be made midway through the second year of operation. If the determination is negative the contract team will concentrate on expediting completing the requirements of the limited reconnaissance survey. If the decision is to move ahead, plans for the second phase will be implemented. These plans call for: the reconnaissance mapping of an additional 10-mile segment on either side of existing roads - thereby encompassing approximately 50% of the land in Liberia; an intensified effort at delineating land-use capability; and the continued development of the Soil Technology section within the Department of Agriculture.

#### V. PLANNED TARGETS, RESULTS, AND OUTPUTS

The overall objective of this Soils Technology project is to assist the GOL in developing agricultural production by fully exploiting Liberia's soils resources. Specific targets are as follows:

##### A. The Preparation of a Reconnaissance Soil Survey Report

The reconnaissance survey will result in the compilation of a map (1:500,000 scale) which will show the location of Liberia's soils-groupings that occur in a repeating landscape pattern. The approximate extent of each soil grouping will be portrayed together with relationships to other soil-groupings. The reconnaissance map will facilitate national and regional planning by showing the component percentage of each soils-grouping and the degree of suitability that grouping contains for various uses. The reconnaissance map will serve as the basis for more detailed surveys as agricultural planning extends to the local and farm level.

##### B. The Publishing of a National Soils Classification System

In preparing the soils survey report, a national system of soils classification will be agreed upon for utilization in all subsequent soils activity. In addition to providing a basis for future mapping, this national classification system will permit a more ready application of agronomic research on tropical soils from other countries to the Liberian setting. By the end of the project the reconnaissance survey report, complete with

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maps, laboratory data and text will be adopted and published as the official classification of the soils of Liberia.

C. The On-going Evaluation of Soils Suitability for Specific GOL Purposes

In addition to the official classification reports, interim reports will be prepared on selective soils-situations of interest to the GOL. This on-going interpretation of the accumulating scientific data will enable the GOL to plan more rationally its use of land for developmental purposes. For example, the selection of new road sites could be based on projected population shifts resulting from more desirable soils and conditions.

These interim reports will also permit the Department of Agriculture to disseminate more accurate agricultural information to the Liberian farmer through its extension service. The field studies will assist in determining the crops that should be grown, the methods of cultivation to be employed, the amount of fertilizer to be used and the yields to be expected, and the potential for irrigation.

D. The Development of a Soils Technology Section in the GOL Department of Agriculture

Project personnel, at the request of the Secretary of Agriculture, will be involved in the development of a GOL Soils Technology Section. The effort will be to establish within the proposed section the competence to (a) carry out soils survey/evaluation studies and (b) manage an efficient Soils Technology service. A combination of overseas and on-the-job training will be used to inculcate the required skills and desired attitudes. The intent will be to leave in Liberia, at project termination, an organizational structure capable of supporting Liberia's needs in the area of Soils Technology.

VI. COURSE OF ACTIONA. Pre-Project Activity

Once AID/W has approved this preliminary proposal, an experienced Soils Scientist should be dispatched to Liberia on a 30-day TDY basis - as recommended in the 1972 CFS. His scope-of-work will consist of the following:

1. Assessing the adequacy of existing physical facilities at the Susakoko Soils Laboratory and recommending required modifications to the Secretary of Agriculture. *Cost of modifications under this project?*
2. Making an inventory of soils survey equipment "on-hand" and "needed" to enable the Mission to place timely commodity orders. 1/
3. Assisting the Department of Agriculture in selecting: (a) the Liberian co-workers required to accomplish the limited GDL/USAID reconnaissance survey, and (b) the participants (two) who will be sent to the U.S. (Sept. 1971) for graduate training in Soils Genesis, Morphology and Classification.
4. Reviewing the base maps and related materials developed by the Geological Survey and Appraisal Team to gauge the extent of their usefulness during the reconnaissance soils survey. This determination will permit a more accurate assessment of the magnitude of aerial surveying that may be required in the proposed project.
5. The Soils technician will bring into sharper focus the project phases and outline appropriate conditions precedent which should be met by the GDL prior to AID initiating either phase of the project.

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1/ Under Project 669-51-190-101 after PROP approval.

## B. Project Activity

### First Phase

After the GOL has satisfied the initial conditions precedent, a contract will be negotiated with a U.S. University (or State Conservation Service) providing for five soils scientists and one socio-economist. On the arrival of the contract members in Liberia, four field survey teams will be established with a U.S. scientist assigned to each team. The teams will be assigned to specific regions of the country with responsibility for implementing the four-year program of work - in distinct two-year stages.

The teams will forward survey data to the Senior Soils Technician (U.S.) located at Suakoko, who will be responsible for compiling the data in final form. As the field survey progresses, a committee of GOL specialists in Tree Crops, forestry and Agronomy, will be formed to examine the accumulating data and make recommendations on suitable land-use. The sixth U.S. team member, a socio-economist, will serve as an advisor to the land-use committee.

At the close of the project's first year, three additional Liberian team members will be selected for graduate work in soils in the U.S. - based on their performance during the field survey operations and their leadership potential.

### Second Phase

During the second phase the four field survey teams will continue reconnaissance mapping and classification of soils by extending beyond the ten-mile limit into the more remote areas along the 1500 miles of earth roads in the hinterlands of Liberia. The teams will intensify their efforts to delineate land use capabilities and make agricultural production predictions from the soil survey results.

More sophisticated in-service training programs will be initiated for the members of the soils technology section with emphasis placed on soils combination detection and the relevancy of soils information for the average farmer. In addition on-the-job training will be provided by the U.S. technicians for the participants who return from training abroad (2 individuals will return at the beginning of the third year and three at the beginning of the last year) of the project. UNCLASSIFIED

During the last six months of the project team members will concentrate on readying field survey data for final publication. The technicians will also assist University of Liberia staff in incorporating soil science courses into the curriculum of the College of Agriculture and Forestry.

WESTERFIELD

Encls: Table 1 (Pages 9 & 10)

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Fiscal Years	Ap	L/G	Total	Cont <sup>1/</sup>	Personnel Serv.		Participants		Commodities		Other Costs	
					AID PASA	CONT	U.S. Agencies	CONT	Dir & U.S. Ag.	CONT	Dir & U.S. Ag.	CONT
Prior through Act. FY 71												
Oper. FY 72	TC	G	714	614		614	15		80			5
Bklt. FY 73	TC	G	397	362		362	20		10			5
B + 1 FY 74	TC	G	378	348		348	20		5			5
B + 2 FY 75	TC	G	120	85		85	20		5			10
All Subs.												
Total Life			1,609	1,409		1,409	75		100			25

<sup>1/</sup> Memorandum (nonadd) column.

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**Table 1**  
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Exchange Rate: \$1 = \$1 US Dollar

Project No. 669-11-120-124

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Calendar Year	AID Controlled <u>Local Currency</u>		Other Cash Contributions Cooperating Country	Other Donor Funds (\$ Equiv.)	Food for Freedom Commodities		
	U.S.- Owned	Country Owned			Metric Tons (000)	CCC Value & Freight (\$000)	World Market Price (\$000)
Prior through Act. CY 70							
Oper. CY 71			85				
Budg. CY 72			105				
B + 1 CY 73			115				
B + 2 CY 74			95				
All Subs.							
Total Life			400				

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