AIRGRAM

DEPARTMENT OF STATE

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DATE SENT
Oct. 22, 1969.

FROM - LAGOS

SUBJECT - NON-CAPITAL PROJECT PAPER (PROP)

REFERENCE -

Country: Nigeria — Project No. 620-11-120-773

Submission Date: — Original: Yes

Project Title: Soil and Water Conservation

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

Physical Implementation Span: FY 1972 through FY 1972

Gross Life of Project Financial Requirements:

U.S. Dollar	$1,436,000
U.S. Owned Local Currency	$ 1,000
Cooperating Country Cash Contribution (2/69 Ex. Rate $=0.35714)	$2,127,000
Other Donor - Nil	
Total	$3,564,000

PAGE 1 OF 10 PAGES

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AID AND OTHER CLEARANCES
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AID-5-39 (11-65)

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I. SUMMARY DESCRIPTION

Due to lack of understanding of the importance and need for soil conservation, lack of technical knowledge and staff trained to carry out a soil and water conservation program, soil erosion and water losses are progressively affecting larger areas throughout Nigeria at a time when growing population is creating pressure on arable land. The solutions to these problems were beyond the capacities of the organizations involved in soil and water conservation to solve and a diligent effort reveals that no non-AID resources are available to finance the assistance required.

Among the agriculture sector goals identified in the FY71 Country Field Submission are the expanded production of export and superior food crops and the development of institutions which support growth in agricultural production. Consistent with these goals and in view of the problems discussed in the preceding paragraph, USAID has been offering assistance to the Federal Ministry of Agriculture and Natural Resources (FMANR) and the six northern states to (1) develop within the Federal Government an institution capable of (a) training middle level state personnel, and (b) guiding and rendering technical assistance to the states in all matters pertaining to soil and water utilization and conservation and (2) using a Federally run institution, train a cadre of personnel for the states capable of planning and carrying out basic soil and water conservation practices. The latter goal is an interim one. It is expected that eventually degree level training in soil and water conservation will be available in Nigeria. This, however, is beyond the scope of this project.

In assessing the relevance of a project such as this to the achievement of our primary sector goal of increasing production, it should be borne in mind that, if successful, the most significant results will appear over a period of time longer than that covered by the CFS. Considerable time will be required to develop a cadre of senior personnel capable of carrying out a program sizeable enough to have a marked impact on production. In addition, certain GON policy changes, i.e. increase in prices to farmers, improved coordination between agencies such as state extension, Ahmadu Bello University (ABU), and the SCS must be implemented in order to create the land values[1] and public and private attitudes necessary to encourage private conservation measures on a large scale.

In the past, assistance was given with pilot soil conservation projects to demonstrate techniques of conservation applicable in Nigeria. The increased crop production from these pilot areas as compared with adjacent plots is evidence of the economic value of using simple conservation measures.

This project is concentrated in the old Northern Region which was divided into six states in April 1968. The creation of six new ministries spread thin such personnel as had received limited on the job training, creating a need for technical backstopping which the states themselves are not in a position to provide. To fill this gap, the Federal Ministry of Agriculture and Natural Resources (FMANR) established a soil conservation branch. A PASA team from

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USDA/SCS has been working with the FMANR as well as the states and local Authorities to develop operating units with trained personnel to function in the northern states.

PASA personnel are: (1) assisting the Federal Government to establish a soil and water conservation service, (2) training technicians needed to carry out SC activities, (3) developing technical guides with standards and specifications for conservation measures applicable to Nigeria, and (4) coordinating activities with state extension services to create an awareness on the part of ministry personnel and farmers of the dangers of present farming methods and the benefits that can be achieved from conservation practices. In addition, a program of practical participant training is being carried out to provide the trained Nigerian staff needed by the Federal SCS.

1/ The term "land values" as used here refers to the productive value of the land to the user, not a price at which the land might be sold. While it may not be possible to assign a quantitative value to land as here described, it is nevertheless true that land must have value to the user if private conservation measures are to be carried out.

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NONCAPITAL PROJECT PLANNING (OBLIGATIONS IN $000)

Table 1
Page 1 of 2
COUNTRY: Nigeria Project Title: Soil & Water Conservation

PROP DATE Oct. 1969
Original X
Rev. No.
Project No. 773

Fiscal Years	Ap	L/C	Total	Cont[1/]	Personnel Serv. AID	Personnel Serv. PASA	Personnel Serv. CONT	Participants U.S. Agencies	Participants CONT	Commodities Dir U.S.	Commodities CONT Ag.	Other Costs Dir U.S.	Other Costs CONT Ag.
Prior through Act. FY 69	TC	G	798	43	45	479		42		128		61	43
Oper. FY 70	TC	G	204		1	130		33		8		32	
Budg. FY 71	TC	G	211		1	135		33		8		34	
B + 1 FY 72	TC	G	223		1	176				4		42	
Total Life			1,436	43	48	920		108		148		169	43

1/ Memorandum (nonadd) column

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II. SETTING

In the previous section it was noted that lack of understanding of the importance of conservation plus a lack of knowledge of the technique of a soil and water conservation program, are contributing to a loss of productive agricultural land.

In the FAO report, Agricultural Development in Nigeria, 1965-1966, 1969, Nigerian soils are classified as follows:

	Soil Classes	Percentage
Very high productivity	1	-
	2	5.52
Medium productivity	3	31.72
	4	46.45
Very low productivity	5	16.31

When one considers that class four and five are not suitable for cultivation, there remains only about 37 percent of Nigerian soils that are reasonably suitable for agriculture under present methods of farming. The same report states that using modern soil management practices, soil classes would be as follows:

Soil Classes	Percentage
1	3.42
2	45.53
3	30.27
4	9.73
5	11.05

With proper soil management practices the percentage of land suitable for crop production would be increased to about 79 percent. In view of growing population and the need for ever increasing agricultural production, the significance of a comprehensive soil and water conservation program is obvious.

The former Northern and Western Regions have long recognized the need for a program to conserve their soil and water resources. USAID supported the former regional governments' requests for surveys. Lloyd (USAID) made a study in 1962; and Patten et al (SCS) (1967). In addition an FAO/ICA team made a study in 1960; the FAO report of 1966 is mentioned above.

A PASA Agreement was signed and a team of four USDA/SCS advisors arrived in the first quarter of FY 1966. The team developed a number of demonstrational training projects in the north on as wide a variety of soil and water conservation problems as possible to collect information for developing technical guides and standards for controlling the problems encountered.

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These pilot projects provided visible examples of some of the means of controlling water and set up cropping areas using soil conserving methods. Such demonstrations were valuable in developing local recognition of the type of work needed and provided limited on-the-job training for ministry and Local Authority employees. From this work, a technical guide with standards and specs for thirty-five practices have been developed and 58 field level men have been trained.

With the formation of six states out of the Northern Region in 1968 there came a recognition that the states would have to have a technically competent body to call upon for assistance if a SC program is to continue. It was decreed that the Federal Ministry of Agriculture and Natural Resources (FMANR) would assume this responsibility. As a result of the interest of the Permanent Secretary of FMANR, a Federal SCS has been established and staff is being brought on board. The following steps have been taken:

1. The meteorological service has been moved from the Federal Ministry of Communications to FMANR.

2. An administrative officer was appointed to be in charge of FMANR activities in the north and to start developing an organization.

3. A site at Jos was selected for training field supervisors; the training of 11 field supervisors is underway.

4. Essential commodities are being applied.

5. Plans are being made that provide for inventorying the land and water resources of Nigeria, and for the development and conservation of those resources.

It is anticipated that the Federal SCS will be staffed by personnel well trained in the various specialties needed to carry out effective conservation and management programs, i.e. engineers, soil scientists, hydrologists, meteorologists, etc. Some will be resident at the Kaduna headquarters and will be available to the states upon request. Others, particularly as the institution develops will be permanently located in one or another of the states. A third contingent will be located at the Jos training site.

A problem exists in the state ministries as to where soil conservation activities fit. Each of the six states has an irrigation section that could easily be expanded to include soil and water conservation. State support of the Training Center indicates their interest in having trained staff available. Mobilization of this potential should be encouraged and developed. Kwara State has indicated they will have a section called Irrigation and Soil and Water Conservation Section. The Perm Sec. for NN believes soil and water conservation will fit best with Extension in his ministry.

III. STRATEGY

To achieve project objectives, a two-pronged program is being developed. Advisory assistance is being provided to the FMANR in the development of a soil conservation division which will train state SC personnel and provide consultancy services for the states. In addition, selected senior individuals are being trained in the U.S. to assume leadership roles in the Federal organization. Involvement of the respective state extension services is fostered to provide awareness of SC measures and to insure wide contacts with farmers.

There are three possible alternatives to this approach:

1. Creation within each of the states of units capable of handling all phases of soil conservation activities;

2. Creation within the FMANR of a unit which would be responsible for actual implementation of soil conservation programs in all of the states, and

3. development of the capacity to provide technical backstopping to state or federal programs within one or more of the universities.

The first alternative is impractical. The states, particularly the northern states, do not have the skilled manpower to develop SC services sufficient unto themselves. Training the personnel necessary to fully staff each of state services would be an inefficient use of resources.

With regard to the second and third alternatives, the decisions are basically for the Nigerians to make. The general pattern to date has been for the Federal Government to steer clear of operational involvement in agricultural programs. We see no particular disadvantage to this approach. The possibility of university (ABU) involvement in soil conservation has received some attention. A study just completed of non-degree schools in the north (in which USAID/MSU staff participated) recommended discussion between ABU and the FMANR regarding the soil conservation center at Jos. The USAID supports this rather tentative conclusion.

The tables on land classification in the preceding section give some idea of the magnitude of the problem involved and the potential of good soil and water management to contribute to increasing the productivity of the land. It is not expected that optimum soil management practices will be in general use by the project phase-out date. Rather, it is hoped that the institutions which promote good management and conservation practices will be far enough along to enable them to continue to develop without further external assistance.

There is an obvious relationship between this and other USAID financed projects and closer contacts are being fostered. The most obvious example is extension. At the present stage of development, particularly in the north, there is much to be said for introduction of simple management and conservation concepts through the extension service. Accordingly, close coordination with extension personnel is being encouraged and materials on soil conservation suitable for use by extension personnel are being developed in cooperation with the Extension Research Liaison Service. All of the trainees now enrolled at the Soil Conservation Center are state extension or Local Authority employees.

IV. PLANNED TARGETS, RESULTS AND OUTPUTS

To reach the project goal of developing a viable federal organization capable of providing advisory services to the states and training middle-level personnel, certain targets must be met.

1. Train middle level state staff at Soil Conservation Center - approximately 18 per year;

2. Develop capability within Federal SCS to conduct training specified in number 1 above. It is anticipated that a staff consisting of a soil scientist, an engineer and a soil conservationist will be required. This target will be accomplished through the participant training program and follow up advisory assistance from USAID/SCS advisors;

3. Develop technical guides:

   a. develop soil conservation service technical standards and specifications - 54;

   b. develop soils and site information section of the guide - 1;

   c. develop land use and land alternatives section - 1;

4. Develop within the Federal Government an institution capable of guiding and rendering expert assistance to the states in all matters pertaining to soil and water utilization and conservation as well as carrying out the type of training discussed in 1 above. This will be accomplished by providing advisory services and training 13 participants as indicating below 1/:

Field of Study	Planned Departure Date
Engineering, Soil Conservation	7/69
" " "	7/69
Agronomy	1/70
Soils	7/70
Hydrology	7/70
Meteorology	7/70
Engineering, Soil Conservation	7/70
Agronomy, Conservation	7/70
Soils	7/70 (2 participants)
Engineering, Soil Conservation	7/71 (2 participants)
Agronomy, Conservation	7/71

Technical divisions will be organized at the Kaduna headquarters of the Federal service during FY 70 and 71 and positions filled as trained staff becomes available. These divisions will include:

1. Soils
   a) Soil Survey section
   b) Aerial photograph section

2. Water
   a) Surface
   b) Ground
   c) Meteorology

3. Plant Science
   a) Agronomy
   b) Range
   c) Woodland

4. Engineering
   a) Operation
   b) Mechanical

5. Planning.

A definitive staffing pattern has not as yet been developed and it is not expected that all divisions will be fully staffed up by project phase out. Rather it is expected that a nucleus staff (perhaps 13 or 14) will be on board and will be able to carry out the basic functions indicated above with a minimum of assistance, if any.

1/ All trainees will receive 12 months of practical training with the USDA/SCS. They will be selected from among holders of a Bachelor's degree from a Nigerian or U.S. university.

V. COURSE OF ACTION

The FY 1971 PBS gives summary estimates of USAID and cooperating country inputs which will be necessary to achieve project targets.

The PASA team leader is assigned to the headquarters of the Federal Soil Conservation Service at Kaduna where he works in an advisory capacity with senior staff responsible for providing consultancy services to the states and operating the Soil Conservation Training Center at Jos for training state personnel in conservation planning and application of practices. More specifically, he advises and assists in matters concerning training of personnel - both state and federal -, cooperation with other government and non-government institutions, i.e. states, AHU, etc. engaged in related activities, and development of an organization to carry out the functions with which the Federal SCS is charged.

There are also two PASA advisors at the training center developing a one-year course involving a combination of classroom and practical training. They also advise state personnel on implementation of a conservation program which involves planning, design, and layout of conservation measures and training of field personnel. The fourth PASA advisor is stationed in Maiduguri where he is assisting North-East State officials to carry out soil conservation demonstrations and training. Upon completion of his tour in November, 1969 a third advisor a soil scientist, will be added at the training center.

Two participants, both engineers, now in training are scheduled to return during the summer of 1970. At least one will be assigned on a relatively permanent basis to the Soil Conservation Training Center at Jos. The PASA Conservation Engineer now providing instruction at the Center will provide orientation and guidance to the returned participant for a period of up to a year. As soon as feasible, the PASA Engineer's attention will be turned toward development of an engineering section within the Federal service. He will continue to advise states with conservation engineering problems. Five additional participants will be sent for 12 months of practical training with the U.S. SCS in the summer of 1970. Upon their return we anticipate the gradual disengagement of PASA personnel from the training school. They will then become more involved in the development of the various sections of the Federal organization. However, PASA personnel assigned to the headquarters staff will be available to provide advisory assistance with the training programs as well as advising and assisting the staff in their cooperative programs with the states.

PASA staff stationed at Jos will pay particular attention to following up with graduates of the training Center. The first class of 11 is scheduled to return to their states of origin in March 1970. It will be particularly important to work both with the states and with the graduates themselves to ensure that training is being properly utilized. Arrangements have already been made to carry out this follow up program.

A draft publication on erosion control has been prepared by FASA personnel in cooperation with the Extension Research Liaison Section. When finalized it will be published by ERLS for use of state agricultural workers. FASA personnel will assist the Federal service in developing additional publications concerning soil and water problems.

No soil conservation training is available in Nigeria at either undergraduate or graduate level. For this reason a program has begun of selecting graduating FALs and agriculture graduates of Nigerian universities for soil conservation training under the participant training program. Two such participants are currently in training. Others will be sent. Upon their return, some will be assigned to the Training Center at Jos and some to headquarters staff in Kaduna.

It is our understanding that the Federal Soil Conservation Service eventually hopes to be able to station on a permanent basis staff in various specialities in each of the six northern states as well as the Jos training site. This goal, however, will not be realized within the time frame of this project. On the other hand, it is reasonable to expect that it will be possible to train sufficient staff to ensure that a federal institution is in existence which is capable of providing expert advisory services to the states on request and training state personnel in basic conservation principles and procedures. The overall problem of reversing the deteriorating condition of Nigerian soil and water resources will not be solved by the project phase-out date, but the Nigerians should be in a better position to tackle the problem themselves.

The phase out date of this project is currently scheduled for FY 1972. It is not clear as yet whether the objectives stated in this document can be achieved by this date. Much will depend upon whether qualified participants can be found quickly and in the numbers needed. The scarcity of trained agriculturalists in the northern states where soil conservation activities are concentrated is an impediment. We are, however, encouraging the FMANR to consider recruitment of graduates from ABU and Ibadan as well as Ife to ensure that needed staff are brought on board as quickly as possible. In addition, the Mission would want to evaluate utilization of personnel trained at Jos before determining whether it is advisable to recommend an extension of the phase out date.

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