

UNITED STATES GOVERNMENT

Memorandum

Proj. No. W50164-2

Ad PD-AAC-221-61

41p.

TO : AA/AFR, Mr. Stanley S. Scott

DATE: February 26, 1976

FROM : AFR/ESA, Jerry Knoll

SUBJECT: Pre-Investment Study of the Agricultural Potential of Selected Marginal and Semi-Arid Lands

Problem: USAID/Kenya has submitted a proposal for a Pre-Investment Study of Marginal and Semi-Arid Lands in Kenya. Your approval of this proposal is requested herein. The issues and questions raised during the Project Committee Review have been resolved to the satisfaction of the committee. The study estimated at \$1.05 million will be financed from the special Foreign Disaster Assistance Act of 1974 and current year Program Support Funds.

Summary: The USAID proposes to fund: (1) a multi-disciplinary resource inventory team to assess the productive potential of two target areas through soil surveys and land use assessments integrated with analyses of socio-economic and other development factors, (2) a mid-point technical workshop for review of basic data followed by a GOK planning seminar to review and implement the results of the workshop and provide direction to the remainder of the resource inventory study, and (3) identification and design of projects discussed in the planning seminar and suggested by the results of the completed resource inventory. The estimated cost is \$1.05 million. The Scope of Work for the study is attached as Tab A.

Discussion: The study proposal grew out of serious drought conditions in Kenya in 1974 and was conceived to provide additional technical assistance to the Government of Kenya's Soil Survey Project which is being implemented with the cooperation of the Netherlands. The purpose of this project is to conduct a comprehensive land use and soil inventory of the entire country. A University of Arizona Team assisted the Mission in defining the target areas (semi-arid and marginal lands) for the component A.I.D. is financing and recommended appropriate socio-economic analyses to be conducted with the soils work to render a more balanced assessment of the agricultural potential of the target areas. Leonard Berry of Clark University assisted with the design of the study proposal and it is he who recommended the three phased pre-investment format which was adopted in the attached Scope of Work.



Upon obligation of the \$1 million provided under the special Foreign Disaster Assistance Act of 1974, recruitment action will be initiated to acquire the services of a project coordinator/manager and the needed soils specialists. The additional \$50,000 will be obligated when needed from current year program support funds. The project coordinator/manager will be recruited from the Consortium for International Development (CID). He will be responsible for laying the groundwork for the soils work and will ensure that the socio economic aspects of the proposal are closely integrated with the soil survey. With the exception of the soil scientists who will be recruited from the Soil Conservation Service, all other members of the resource team will be from CID as well.

Recommendation: That you approve the funding of the Mission proposal and authorize the attached approval cable to the field.

APPROVED *[Signature]*
 DISAPPROVED _____
 DATE 3/8/76

Attachments:

- Tab A - Scope of Services
- Tab B - Exchange of Cables
- Tab C - Approval Cable to the Field

Clearance:

AFR/DS:PLyman *[Signature]*
 AFR/DP:RHuesmann *[Signature]*
 PPC/DPRE:RBobel (draft)
 PPC/PDA:DMcClelland (draft)
 TA/AGR:GBeck (draft)
 AA/AFR DSBrown _____

PRE-INVESTMENT STUDY OF AGRICULTURAL POTENTIAL OF
SELECTED MARGINAL SEMI-ARID LANDS OF KENYA

REVISED DRAFT SCOPE OF WORK

December 5, 1975

William Johnson, Len Berry and Frank Abercrombie
USAID/Nairobi, Kenya

Revised by D. Weisenborn/H. Peterson, AFRD/DS, AID/W, 11/13/75

Richards, USAID/K, 11/28/75

SUMMARY OF FINDINGS

Scope of Work for a Pre-Investment Study of the Agricultural Potential of Kenya's Marginal-Semi-Arid Lands

The project area was defined to include Machakos-Kitui-Embu zone of marginal and medium potential lands, and parts of Baringo District. The general problem of these areas is a compound of environment and management. In each area there are distinctive local features which give rise to land production, conservation and management problems. In Machakos-Kitui-Embu production and conservation problems are arising because of the increase in numbers of farmers and lack of new technology and management to deal with land resources under these changing conditions. In Baringo major degradation of soil and vegetation has already taken place affecting not only the rangelands but also the lake resources and local irrigation schemes.

We propose to assist the GOK in the improvement of production and management in these areas as follows:

(i) Phase I: May, 1976 - April, 1977

Assistance in an assessment of the potential of the area through soil survey, range and land use assessment, integrated with an analysis of socio-economic, and other development constraints.

The soil survey will be carried out in cooperation with the Kenya Soil Survey Project and AID will offer to second 2 soil surveyors for this purpose. The other work would be carried out by a project team of 5 additional U.S. scientific personnel and 7 Kenyan counterparts; 24 man-months of consultant time would also be needed. The team would work in cooperation with Central Government, Provisional and District Officers. The output of Phase I will be two printed reports on the social, economic, institutional, and physical constraints to development in the selected areas and two printed soil survey reports in 500 copies.

A final review of Phase I and follow-up will take place in April, 1977.

(ii) Phase II: October, 1976

The purpose of Phase II is to review the basic data collected and analyzed by the Phase I team at the mid-point of the analysis from which problem areas can be determined.

The first step will be to hold a technical review workshop to identify the problem areas and possibly, projects which could be designed before the completion of Phase I. The workshop will be followed by a planning seminar to review and implement the results of the workshop and provide direction to the remainder of the Phase I analysis. GOK and AID officials and other donors will participate in the seminar.

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(iii) Phase III: November, 1976 - October, 1977

Phase III involves project definition and specification. This will be done in two stages: Stage I involving projects identified as result of the Phase II planning seminar and Stage II with projects identified after the completion of the Phase I analysis. AID will provide teams to assist in this process.

SCOPE OF WORK

I. Priority and Relevance

The GOK is making a serious effort to develop its agricultural and range resources as a means of increasing food production, improving socio-economic status of the Kenyan people, and maintaining an acceptable trade balance.

Kenya covers an area of about 144 million acres and has a human population of 13 million. While there are marked extremes in environment, conditions are generally favorable for a very productive livestock and agriculture industry. This is even true in the arid and semi-arid areas, which include about four-fifths of Kenya's land area.

Total range areas occupy 122 million acres, or more than 80 percent of Kenya's land area. Of this 7.5 million acres (3.4%) is in game parks and forest reserves. An additional 10 to 15 percent is being cultivated by subsistence farmers.

The GOK is convinced that the country possesses adequate replenishable natural resources to meet its food and foreign exchange requirements. However, periodic famine relief programs are required in West Pokot, Baringo, Laikipia (Mukagodo), Isiolo, Machakos, Kitui and parts of the Tana River District, with chronic food shortages in Turkana and part of Baringo where traditional production and management systems do not provide for drought years. During these periods the supply of milk, meat and cereal grains are insufficient.

A major priority problem faced by the GOK is the identification, evaluation and quantification of its developable resources in order to judge to what extent it can in fact effectively respond to rural employment, national consumption and export requirements.

With established targets, a quantitative, narrative and graphic description of the country's natural resources, human resources and developed infrastructure, the GOK will be in a position to rationally allocate its own resources and make valid requests to donors to help fill resource gaps. With this information the GOK would be able to estimate the mix and volume of agriculture activities and outputs with given inputs, to assign priorities among industries and sub-sectors, among projects, and among project sites.

AID is in the process of making substantial commitments to the GOK in assistance in the development of both the livestock subsector and the food crop subsector. AID's interest coincides with that of the GOK in achieving the best utilization of resources for functions to assure development efficiency over the long term. An inventory of basic land resources provides a timeless base upon which to plan all land use.

As a follow on to PIO/T No. 615-164-3-50023 USAID negotiated contract No. AID/afr-C-1113 with the University of Arizona, Tucson, Arizona. A University of Arizona team subsequently submitted to AID/Kenya copies of the report, " A Proposal for Design of an Agricultural/Socio/Economic System for the Medium - Potential Lands of Kenya." GOK response to the above study proposal suggested that the terms of reference and scope of work for the pre-investment study be modified as follows:

- 1) The original request to USAID for this study emphasized the problems of environmental degradation in marginal lands of Kenya. The basic problem has been exacerbation of severe drought conditions in recent years. GOK would like to see the scope of work broadened beyond the narrow focus on agricultural lands of medium potential as defined by the University of Arizona Team to explicitly consider the issue of environmental degradation and desertification.
- 2) GOK proposed that initial efforts be concentrated in Machakos, Kitui, and those parts of Embu, Meru, Kirinyaga and Muranga Districts which display similar ecological conditions.

A second area of major concern centers on Baringo District and that part of Elgeyo Marakwet which comprises part of the Kerio Valley.

- 3) It remains the GOK expectation that this study will propose specific action programs for development and rehabilitation of the affected areas. GOK proposes a phased approach to the work of the study team. These phases are conceived in both functional and geographic terms. Functionally, the work could proceed from a regional overview whose purpose is to pinpoint major instances of environmental degradation and income inequities and to differentiate these in terms of long and short term solutions. Areas suitable for an intensive and immediate effort at rehabilitation could be identified and suitable projects formulated to reach the small producer on marginal lands.

A regional scale approach is required for two reasons:

- (a) To consider problems of a regional nature such as loss of soil fertility through erosion, surface water losses and availability, loss of productive forage species and deforestation, and
- (b) To identify socio-economic factors and supporting infrastructure investments (roads, water supplies, etc.), and public services required to realize such productive potential as may exist and provide an equitable standard of living to small producers on marginal lands.

- 4) The multiple use concept of land resource development is an important policy decision made by the Government of Kenya. The study should not be restricted in its consideration to food crops. Livestock are an important element in agricultural enterprises however the study area may be defined. It is proposed that a balanced examination of crops, livestock, forestry, wildlife and other land uses and their potential be examined. The purpose of this examination is to define production potential under alternative management systems.

II. Objectives

The broad objective of USAID/Kenya is to assist the Government of Kenya in formulating policies and procedures for orderly planning, implementation, management, and administration of programs which will enable small producers to become more self-sufficient in food production at the highest sustainable level.

III. Grantee

Republic of Kenya, Ministry of Finance and Planning.

IV. Project Description

A. Location

The project is divided into two geographical areas which will be treated as separate projects.*

The first area is Machakos, Kitui, and those parts of Embu, Meru, Kirinyaga, and Muranga Districts which display similar ecological conditions and comprise approximately 6,000,000 acres.

The second area of major concern centers on Baringo District and that part of Elgeyo Marakwet which comprises part of the Kerio Valley comprising approximately 1,500,000 acres.

B. Cultural Systems

1. Farming

- a. Dryland farming rainfed. The majority of the densely populated areas is devoted to small subsistence farmers producing primarily food crops; such as, maize, pigeon

*The project area may be expanded but will not require any additional U.S. - provided resources.

peas, and beans. Surplus production above household needs is marked as cash crops. Tillage is done both by hand and draft oxen. Most producers keep cattle for milk and draft purposes and small ruminants such as sheep and goats for sale and home consumption. During seasons of favorable precipitation two crops per year are produced due to the bimodal rainy seasons. One occurs from March through May and the second from mid-October to mid-December. However, one or both rainy seasons may not occur in any one year.

b. Irrigated Farming - Two major irrigation projects are present in the project area. Mweya in Embu District where some 6,000 small producers produce rice and sugar-cane, and the Njema flats in Baringo District where some 1,500 small producers produce onions and beans.

2. Livestock Production

In addition to the mixed farming area which includes production of cattle and small ruminants, the dryer areas are devoted primarily to production of livestock.

Two production systems exist:

a. Small individual livestock producers who are sedentary and produce cattle, sheep, and goats in combination or a few individuals who produce only one species. These individuals may produce food crops, such as beans, millet and sorghum, in favorable years. However, livestock production is the major enterprise.

b. Cooperative ranches - two types of cooperative ranches exist in the project area of which hired management and labor produce livestock for shareholders in the cooperative from which shareholders receive cash dividends. Shareholders cooperatives produce primarily cattle. The second type of cooperative is managed by a ranch manager but individual members of the cooperative tend their own livestock and receive their profits from the sale of their own livestock. These cooperatives produce both cattle and small ruminants probably in about equal quantities.

c. Project organization - the project is envisioned as an eighteen-month task; coordinated by the Ministry of Finance and Planning involving range management, soil conservation, livestock production, the planning units of the Ministry of

Agriculture, the Forestry Division of the Ministry of Natural Resources, and ground and surface water development in the Ministry of Water Development. The task force being provided by a joint AID/GOK team will work toward the task of identifying, strengthening and designing projects to develop and utilize human, institutional and land resources to their maximum sustainable output.

d. The approach - The approach is planned as three-phase program. Phase I conducted with USAID/Kenya - provision of personnel through a PASA with U.S. Department of Agriculture, Soil Conservation Service, and through contractual services to cover subject areas outside SCS competence or skills availabilities and to give leadership to the entire study effort.

Phase II conducted with USAID/Kenya provision of in-house personnel, the Phase I team, the GOK and other interested donors.

Phase III conducted with USAID/Kenya financing personnel to be obtained through a contract arrangement with a U.S. university, university consortium or qualified Kenyan nationals.

V. Beneficiaries

The beneficiaries of the project will include: (1) farmers and herdsmen who participate in projects designed by this activity, in particular, the small producer who does not have access to additional resources, (2) GOK, as resource information will be available as a timeless base for land use planning, (2) GOK officials trained in the application of this methodology in planning future project on similar lands, (4) GOK and affected people of the area in retarding the ever-increasing need for famine relief in the project area, (5) GOK, and the affected people of the project area in proper allocation of resources and development of infrastructure for equity reasons to the small producers of this marginal area.

VI. Project Design

- A. Phase I Resource Inventory Analysis and Evaluation - May, 1975 - April, 1977.

1. Activity

a. Human, Institutional and Land Resource Inventory, Analysis and Evaluation in Selected Areas of marginal and medium potential lands of Kenya.

2. Objectives

a. Assist the Government of Kenya to identify, evaluate, and quantify its developable resources and establish targets for development in the project area.

b. To develop quantitative, narrative and graphic descriptions of the project area's natural resources, human resources and developed infrastructure.

c. To identify core problem areas such as population, migration patterns, erosion, desertification, water availability, afforestation, credit, production technology, marketing, extension, education, institutional infrastructure and potential cultural constraints.

d. To identify supporting investments such as roads, soil conservation measures, water supplies, and public services required to realize potential production on the project area.

e. To train a cadre of Kenyan technicians in the methodology utilized in Phase I as a planning tool for future development.

3. Project Goals

To provide and implement an integrated analysis to generate alternative development strategies designed to increase livestock and crop production and incomes for small farmers and thus improve their quality of life.

4. Project Outputs

a. In cooperation with the Kenyan Soil Survey, to complete by April, 1977 an exploratory (Order 5) soil survey of the selected areas at a scale of 1:250,000.

b. Concurrently with the soil survey, to collect vegetative, crop, and livestock data in sufficient detail and quantity to assess their potentials for production on the various kinds of soils at different levels of technology (traditional, modern).

- c. Concurrently with the soil survey, to collect climatic and hydrologic (both surface and ground water) data with the present resource use, and assess the potential for development for future requirements, and alternative uses.
- d. An analysis of the major social and economic constraints to obtaining the development potential in the selected areas.
- e. An analysis of the current and probable future migration patterns associated with the project areas and how they impact on population changes.
- f. To prepare a report based on the analyses in (a) - (e) above of the present and potential production systems including:

- (1) cash crops
- (2) food crops
- (3) mixed farming including livestock
- (4) range livestock
- (5) forestry
- (5) fish and wildlife

Drawing on available data from Mission and other sources, basic data will be provided and reviewed on the present production capabilities and the social, economic, and technical constraints to increased production including:

- (1) marketing system
- (2) agricultural education
- (3) environmental considerations
- (4) land tenure
- (5) population pressures
- (6) agricultural credit
- (7) agricultural research
- (8) institutional and infrastructure needs
- (9) animal and human health considerations
- (10) social and cultural factors

- g. To prepare and publish, cooperatively with the Kenya Soil Survey, 500 copies of a report on the exploratory soil survey and evaluation, including: soil descriptions and laboratory data; soil classification; soil potential assessments for alternative uses; exploratory soil survey maps at a scale of 1:250,000. Included as an annex, to this report will be summaries of the report listed in (f) above.

h. To provide opportunity for technical training, both on-the-job and academic training, for Kenya personnel in order to assure the presence of experts in sufficient numbers to achieve GOK goals of development project identification and design.

5. Project Description

a. The problem - the general problem of the semi-arid lands is a compound of resource limitations and the use and management of the resources, both present and past. Rapidly rising population has increased the pressure on the land with resultant degradation of the natural vegetation, giving rise to widespread and serious erosion. Thus, while demands for production rise, the capability of the land to yield food and fiber is declining. The rural standard of living appears not to have risen significantly in spite of conscientious efforts to improve the efficiency of agriculture. In any one area the specific problem relates to various local environmental and socio-economic forces. Therefore, it is important to study and assess each major area as a separate sub-project, each with its distinctive array of problems and possible solutions. Two major areas are (i) the Machakos-Kitui-Embu area, which may need to be further sub-divided, and (ii) the Baringo-Kerio Valley area. Each will be briefly characterized below.

(i) Machakos-Kitui-Embu Area

The parts of these districts included in the project generally have less than 30 inches average annual rainfall, and a significant proportion have 20 inches or less.

A great variety of soil and topographic conditions characterize this area, with attendant variability in potential for production and in susceptibility to erosion. Soil erosion is already a serious problem in many places, and the vegetative cover has deteriorated to a level far below its potential.

Population growth in the area has stimulated cultivation and intensive grazing on marginal lands. Part of the considerable population increase resulted from migration

from overcrowded high potential lands onto less populous but fragile marginal and medium-potential lands.

Ninety percent of the Machakos District is classified as medium or low-potential lands, yet the average population density is 58 per square kilometer (150 per square mile). Here 78 percent of the farmers are cultivating small holdings, some perhaps too small to yield a decent living under current technology.

During the past six years the population has grown by 113,000 bringing eight more people to each square kilometer. In the next five years, it is estimated that another 13 people will need to be supported by each of the District's 114,000 square kilometers.

Up until now no major changes in land use and management techniques have been introduced to enable the farmers to cope with these problems.

The result is accelerating deterioration of the land resource base and steady impoverishment of the people.

(ii) Baringo-Kerio Valley Area

This area ranges in average annual rainfall from a maximum of about 150 inches in the highlands to as low as 20 inches in the floors of the Rift Valley and Kerio Valley.

A considerable part of the uplands have very shallow, stony soils over hard rock. A variety of rather clayey soils occupy some hilly lands and valley sides. The river flood plain and low terrace and the delta area south of Lake Baringo have deep soils on nearly level topography. Most of the soils appear to be highly susceptible to erosion.

The Baringo and Elgeyo Marakwet areas are similar to the Machakos and Kitui districts in several ways -- they are marginal agriculture lands; they are characterized by subsistence farming with livestock (principally sheep and goats) being important for smallholders; and thus, have relatively low economic activity; maize, cotton, pulses and oilseeds are

significant crops; increasingly, subsistence-oriented shifting cultivation reflects rising population pressure. Baringo, like Machakos and Kitui Districts, was classified in the 1973 IBRD Agriculture Sector Survey, as a "Category B" area (see pg. 33, Volume I of the Survey report) on which the GOK should center emphasis on incremental agriculture development efforts to improve income distribution. "Category B" areas were characterized as having both a population problem, i.e. high density (about 250 per km²) and considerable unexploited production potential along with large numbers of small-holders. Elgeyo Marakwet -- referred to in the World Bank sector study as "Keriyo Marakwet" was included in Category A -- characterized as being in the same ecological zones as Category B but having much lower population density (90 per km²) and low economic activity, including comparatively few cash crops being grown -- however, this district is specifically identified as being one which could shift to Category B. Categories A and B are both considered by the IBRD to be areas of concentration for GOK development activities in contrast to the wealthier, more developed districts in Category C which are felt to be able to progress with the present level of Government assistance.

Continued overgrazing aggravated by locusts has resulted in severe deterioration of the grass cover in medium and low zones. Sloping lands have suffered erosion, much of it serious. One consequence is the aggravated siltation of Lake Baringo itself, with deleterious effect both on fishing and tourism.

Some success is being had in irrigation development, the largest being the Perkerra Scheme. If reliable water supplies can be developed at reasonable cost, there appear to be additional lands that could be irrigated profitably.

Major resource needs of the area are soil and water management for erosion control, reseeding of poor-condition range, brush control, livestock management for maintenance and improvement of the range resources, identification of lands suitable for irrigation and rain-fed farming, and improvement of stream and Lake Baringo water quality.

b. Background -

(1) Area: Approximately 6 million acres in the Machakos-Kitui-Embu area and approximately 1-1/2 million acres in the Baringo-Kerio Valley area.

(2) Base Map: False-color F imagery derived from Landsat II multispectral data, scale 1:250,000, augmented by high and low-altitude aerial photography as may be available and useful. Complete 1:500,000 panchromatic airphoto coverage of 1961 is available, as well as 1:100,000 print laydowns from the same photography.

c. Procedure -

(1) Preliminary: The Kenya Soil Survey has a collection of manuscript and published information on the soils, geology, vegetation and topography of Kenya. Additional maps and reports on these subjects will be assembled along with existing information on climate, hydrology, wildlife, domestic animals, game animals, crops, present land use, population, types of rural enterprise, socio-economic conditions and the administrative infrastructure.

(2) Field: Using the methods of the Kenya Soil Survey, natural soil bodies will be identified, classified, and delineated on the 1:250,000 base maps. The classification includes placement of the different kinds of soils in classes of the U.S. Soil Taxonomy.

Detailed procedures for making resource interpretations (potentials for production of food and fiber and for alternative uses) are described in handbooks and memoranda of the Soil Conservation Service, USDA. Pertinent documents will be provided for the use of the resource inventory team. In addition, the Kenya Soil Survey synthesizes "Land Suitability Evaluations" following the methodology of the Expert Consultation in Wageningen, 1973 ^{1/}.

^{1/} Expert consultation on Land Evaluation for Rural Purposes, FAO-International Institute for Land Reclamation and Improvements, Wageningen, the Netherlands. October, 1972.

The pattern and extent of the major kinds of soils in each resource area will be determined and recorded. Interpretations will be developed for each kind of soil, including estimates of yields of the adapted cultivated crops, range grasses, and trees following defined management practices, and potentials for other possible uses, such as wildlife habitat, recreation, rural-and-urban planning, and others. Animal health, hydrology, and socio-economic problems will be assessed in relation to potentials for alternative land uses of the various resource areas.

In each area particular problems in resource use will need special attention. In Machakos-Kitui-Embu particular concerns include: patterns of population influx and their consequences, potentials and constraints of present farm management and rural economic systems, effectiveness of current soil conservation methods and problems related to the acceptance of new technology-Katumani maize for example.

In Baringo District the situation regarding Lake Baringo needs more detailed assessment and the potential of the Perkerra irrigation scheme is also an important issue bearing on future production potentials in the district. Population pressures and deforestation of forested areas are also significant issues requiring study.

The Njema flats area seem to provide a possible site for irrigated agriculture although it is clear that there are both environmental and socio-economic problems involved in their development.

The Kenya Soil Survey Project, under the direction of W.G. Sombroek, Project Manager, and N.N. Nyandat, Project Co-Manager, is in the third year of its five-year term. Seven Netherlands soil scientists and 14 Kenyan soil scientists and assistants, along with clerical staff are assigned to the Project. Substantial progress has been made in surveying high-potential areas (scale 1:100,000) and lower potential (drier) areas (scale 1:250,000). The Project includes a plan to survey all the other areas of Kenya by exploratory techniques at a scale of 1:500,000, as a basis for preparation of a 1:1 million general soil map of the entire country. In the mapping program soils, geology, vegetative cover and condition, topography, land form, erosion, and present land use are identified and recorded.

Soil Conservation Service soil scientists will be detailed to the Kenya Soil Survey Project to assist and accelerate the 1:250,000 survey and evaluation of the two project areas. Field work will be initiated in the Machakos-Kitui-Embu area, and will proceed next to the Baringo-Kerio Valley area. U.S. personnel detailed to the Kenya Soil Survey Project will be technically responsible to the K.S.S.P. Project Manager, and will be administratively responsible to the overall team leader. In addition to the normal soil survey field operations, USAID soils personnel will prepare the text of the soil survey report.

The economic viability and agricultural potential of each area will be analyzed in conjunction with causes and impacts of the changing population patterns. This analysis will include production systems (both existing and viable alternatives), marketing systems, input delivery and utilization by small farmers and herdsmen, institutions that serve the agricultural system and how they relate to the existing and potential constraints of development.

The physical infrastructure in the areas will be analyzed in relation to its impact upon the environmental viability of the areas.

The overall objective of the study will be an integrated analysis based upon the new resource inventory and assessment which sheds new insights into the development of the arid and semi-arid areas of Kenya. The study must include a dynamic focus which will relate to the increasing population and to the increase in the use of marginal lands in order that its results will have relevance to future as well as current conditions in the areas.

(3) Training component: Training will be provided for Kenyan counterparts to the team. This training may consist of academic training at U.S. universities if personnel evaluations indicate that this is necessary to the project implementation. Most of the training, though, will be accomplished through close working relationships on the project itself. By observation and participation counterparts will learn and understand

the procedures and will come to appreciate the uses and limitations of the integrated inventory and analysis of the total resource potential for development.

Inasmuch as there are already 14 Kenyan counterparts assigned to the Kenya Soil Survey Project, it is expected that their training needs will probably be met without additional assistance from USAID.

(4) Time frame: The resource inventory team will assemble in Nairobi by May 1, 1976 and the field work and both manuscripts will be completed by April 30, 1977. The project coordinator should be in Nairobi by mid-March 1976.

The draft of the text of the Machakos-Kitui-Embu soil survey report will be prepared by November 15, 1976; the Baringo-Kerio Valley soil survey report by April 15, 1977.

The two soil survey reports will be published in editions of 500 copies each by October 31, 1977.

The resource inventory team will work closely with a project identification and design team that will be on location by about October 1976. The resource inventory team will be available to assist in some phase of project area identification and design.

Resource Inventory and Evaluation Team

6. Staff Requirements

a. Full Time Staff (12 Months)

(1) <u>U.S. Personnel</u>	(2) <u>Kenyan Counterparts</u>
1 Project Coordinator	1 Project Coordinator
2 Soil Scientists	7 Soil Scientists
1 Range Conservationist	1 Range Conservationist
1 Tropical Agronomist	1 Tropical Agronomist
1 Agricultural Engineer	1 Agricultural Engineer
1 Rural Sociologist - Development Specialist	1 Rural Development Specialist
1 Agriculture Economist	1 Soil Conservationist
	1 Rural Development
	1 Agriculture Economist

b. Consultants

U.S., Kenya or Other Specialists

1 Tropical Forester	1 Agricultural Education/ Research Specialist
1 Hydrologist	1 Population/Health Specialist
1 Livestock Production Specialist	1 Civil Engineer
1 Marketing & Storage Specialist	1 Tropical Veterinarian

c. Support Staff

(a) Office:	1 Secretary (Supervisor) Class III-5)
	4 Typists (Class IV-5)

7. Vehicles

5 All-terrain vehicles.

Fuel, lubricants, repairs and maintenance of vehicles.

8. Office Equipment and Supplies

- 5 Typewriters, electric
- 3 Desks, secretary's, with typewriter shelf
- 2 Desks, typist's
- 3 Chairs, secretary's
- 1 Photocopying machine with paper and other operating supplies - usual supplies of writing tablets, typing paper, carbon sets, official stationary, paper clips, pencils, ball-point pens, erasers, typewriter ribbons, and file folders
- 1 Combination safe for classified materials
- 4 File Cabinets, steel 4-drawer, standard letter-size
- 5 Desks, steel, standard office
- 5 Chairs, steel standard office
- 1 Table, conference, 4' x 8'
- 8 Chairs, steel, straight, for conference table
- 3 Calculators, electronic, portable, with rechargeable batteries and chargers
- 1 Table, draftsman
- 1 Stool, draftsman
- 1 Table light, portable, 220V.
- 1 Set drafting instruments
- 6 Sets Lettering pens, sizes 000 to 2.
- 1 Set of draftsman's scales, triangles, and T-square - supply of paper, transparent plastic overlay material, pencils, erasers, and ink
- 1 Lamp, fluorescent, draftsman, 220V.
- 2 Chairs, typists

9. Field Equipment

- 4 Spades, drain, 16" blades
- 4 Shovels, round-nose, long handle
- 4 Augers, soil, bucket type, 5' with 5' extensions
- 2 Pick-axes
- 4 Hammers, geologist
- 2 Levels, hand, Abney
- 2 Compasses, hand, forester type
- 2 Boards, map, plywood, 2' x 2'
- 1 Kit, soil-testing, portable (for field and office use)
- 2 pH meters, battery operated, pocket size with spare batteries and spare electrodes
- 1 Increment borer, forester
- 2 hoops, measuring (range specialist)
- 2 Clippers, grass (for grass sampling)

9. cont'd

- 4 Tapes, measuring, steel, 8', pocket
- 1 Balance, metric, for weighing vegetative samples
- 4 Tents
- 2 Stoves, portable, gasoline
- 2 Lamps, gasoline
- 6 Folding chairs
- 2 Tables, folding, for field camps
- 6 Flashlights, battery operated
- 6 Cans, gasoline, 5-gallon
- 6 Cans, water, 5-gallon

10. Aerial Photographs and Landsat Multispectral Imagery for Mapping:

Landsat II Multispectral Imagery, false-color infrared, scale 1:250,000; 6 scenes, to be quartered so as to make 24 sheets (D.O.S.).

1 set high altitude airphotos as may be available (U.S.).

11. Illustrative Budget

a. Staff

(1) <u>Full-Time U.S. Personnel (12 Months)</u>	<u>\$</u>
1 Project Coordinator (GS-14)	75,000
2 Soil Scientists (GS-13)	140,000
1 Range Conservationist (GS-13)	70,000
1 Tropical Agronomist (GS-13)	70,000
1 Agricultural Engineer (GS-13)	70,000
1 Agricultural Economist (GS-13)	70,000
1 Rural Sociologist/Development Special	70,000

Sub-Total \$565,000

(2) Consultants

- 1 Tropical Forester (3 mo.)
- 1 Hydrologist (4 mo.)
- 1 Livestock Production Specialist (4 mo.)
- 1 Marketing/Storage Specialist (3 mo.)
- 1 Agriculture Education/Research Specialist (3 mo.)
- 1 Population/Health Officer (3 mo.)
- 1 Civil Engineer (2 mo.)
- 1 Tropical Veterinarian (2 mo.)

Total of man-months at rate
\$138/working day

Sub-Total \$86,100

Recruitment

The U.S. Soil Conservation Service will be requested to recruit under a PASA the services of the two soil scientists and the range conservationist. Under its PASA the SCS may also recruit through U.S. Department of Agriculture resources the Agriculture Economist and Agriculture Engineer. All PASA experts must be acceptable to AID. One of these experts will be designated the Deputy Project Coordinator.

AID will recruit separately under a contract with a private firm, preferably an eligible IQC or AID quick-response contractor, the Project Coordinator, the Tropical Agronomist, the Rural Sociologist/Development Anthropologist and any other full-time or consultants needed. These latter two specialists are expected not to be available through the USDA.

The Project Coordinator is also seen as being recruited through outside sources. The reasons for this are that he must be someone of broad educational background and experience and strong leadership capabilities who can pull together the various technical skills included in the Phase I team so as to produce the comprehensive and complex report envisaged as being the outgrowth of a study which entails, as this one does, both highly technical work in the area of soil and more general socio-economic subjects. He will receive support and some guidance from the USAID Project Manager. Selection of a specific individual will rest considerably on the candidate's ability, preferably demonstrable from his background and

experience, to pull the disparate elements of this study into a cohesive and integrated whole and to guide team members in their work so that they can both produce the study components for which they are responsible and contribute to formulation of integrated proposals for development of Kenya's semi-arid and marginal lands.

(3) Support Staff

1 Secretary - supervisor	6,400
4 Typists	13,400
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Sub-Total	\$ 19,800

b. Per Diem and Allowances:

(1) Full-time Inventory Team 1,000 man-days @ \$35 p.d.	35,000
(2) Consultant Staff 720 man-days @ \$35 p.d.	25,200
	<hr/>
Sub-Total	\$ 60,200

c. Equipment and Supplies:

(1) Office Equipment and Supplies	10,000
(2) Field Equipment	3,000
(3) Aerial Photographs and multispectral Imagery:--	
Landsat MSS Imagery	500
Airphoto print laydowns, 1:100,000, 40 sheets	200
High-altitude airphotos	500
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Sub-Total	14,200

d. Supporting Work - Outside Contracts

(1) Cartographic work for preparation of soil maps for publication (U.S. Soil Conservation Service, Cartographic Division)	6,000
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(2) Laboratory Analysis of Soil Samples (Kenya National Agricultural Laboratories if possible; otherwise a U.S. Soil Conservation Service Soil Survey Laboratory or U.S. university Laboratory.)	
Laboratory Analysis	30,000
Sub-Total	<u>\$ 36,000</u>
e. Printing and Binding:	
500 copies each of two soil survey reports	20,000
f. Consultant's Travel:	
U.S. - Nairobi round trips (8)	14,000
Sub-Total	<u>\$ 34,000</u>
TOTAL	<u><u>\$815,300</u></u>

g. Government of Kenya Contribution

(1) Staff

a. Full-time Staff

- 1 Project Coordinator, Planning Division
- 1 Range Conservationist - Range Management
Division, Ministry of Agriculture
- 1 Tropical Agronomist - Crops Division,
Ministry of Agriculture
- 1 Water Engineer, Range Water Section,
Ministry of Water Development
- 1 Agricultural Economist, Planning Division,
Ministry of Agriculture
- 7 Soil Scientists, Kenya Soil Survey,
Ministry of Agriculture
- 1 Rural Development Specialist
- 1 Soil Conservationist

168 Man-Months @ \$285 \$ 48,380

b. Consultants - 3 months

1	Population/Health Officer, Ministry of Health	
1	Marketing Officer, Ministry of Agriculture	
1	Tropical Veterinarian, Veterinary Services, Ministry of Agriculture	
1	Tropical Forester, Forestry Division, Ministry of Natural Resources	
1	Soil Conservationist, Farm and Land Management Unit, Ministry of Agriculture	
1	Hydrogeologist - Special Studies, Ministry of Water Development	
1	Livestock Production Specialist, Livestock Production Division, Ministry of Agriculture	
24	Man-Months @ \$400	<u>9,600</u>
	Sub-Total	\$ 57,980
(2)	5 All-Terrain Vehicles	40,000
	Fuel, lubricants, repairs and maintenance of vehicles	<u>21,000</u>
	Sub-Total	\$ 61,000
(3)	Office Space	
	Six (6) Offices - 12 months	10,000
(4)	Equipment	
a.	Office Equipment - Supplies	2,000
b.	Field Equipment	3,000
c.	Maps and Publications	500
	sub-Total	<u>5,500</u>
	TOTAL	<u>\$134,480</u>

Phase II Technical Review Workshop and Planning Seminar

October, 1976

1. Activity

Review of basic data collected and analyzed by the Phase I team from which problem areas can be determined. To the extent possible, the feasibility of projects addressing preliminary problem areas identified in the first half of Phase I will be evaluated for selected intervention in the management, treatment and utilization of human, institutional and land resources in the project areas. While one would not expect to be able to identify full scale rural development type projects at the mid-point of the analysis, there may be obvious problems which emerge and can be addressed.

The process will involve two phases: a review at the technical level in a workshop of Phase I research and a planning seminar involving Kenyans at the policy level, AID officials and other interested donors.

2. Project Objectives

- a. Conduct a technical review workshop to identify those problem areas which might be considered for projects at the mid-point of the analysis.
- b. Conduct a planning seminar to consider results of the technical workshop and provide future direction to the remainder of Phase I

3. Project Goals

- a. To review the early findings of the Phase I team and translate these findings into identifiable problem areas.
- b. To identify potential interventions in present production systems and institutional structures which will enable small producers to optimize their output through selection of production systems and adoption of management practices in the production of agricultural produce which will maximize yields over a sustained period of time.
- c. To specifically address the problem of environmental deterioration and to discuss this in terms of how it relates to proposed or potential interventions into production systems.
- d. Based on (a) above define a series of projects which can be designated before Phase I is completed. Care will be exercised at this stage in order not to define projects which anticipate the results of the remainder of Phase I.

e. To prepare guidelines for design of projects utilizing baseline data gathered in Phase I.

4. Project Description

a. The Problem

This phase is specifically designed to review and evaluate the results and progress of the Phase I team at the mid-point of the analysis and to provide future direction to the remainder of the analysis.

b. Proposed Action

(1) Preliminary - conduct a one-day briefing session for team members chaired by Planning Division of Ministry of Finance and Planning and participated in by other concerned heads of divisions of Ministry of Agriculture and Ministry of Natural Resources.

(2) Review the early findings of the Phase I team in a technical workshop.

(3) Output of technical workshop should be an evaluation of the Phase I effort to date and the identification of projects which might be designed at this stage.

(4) Oral presentation by the working groups to a planning seminar chaired by the Planning Division of Ministry of Finance and Planning and representatives of the heads of divisions of other concerned ministries, AID officials and other donors.

(5) Modification of findings of the working groups to include changes or recommendations from GOK officials attending the oral presentations and recommendations for direction of analysis in the remainder of Phase I.

(6) Presentation to the Ministry of Finance and Planning of the preliminary projects identified and defined from which GOK will place priorities on projects to be implemented and find suitable donors for their design and implementation.

c. Time Frame

(1) The technical workshop will begin on/about October 3, 1976.

(2) Planning seminar will begin October 24, 1976.

- (3) October 24, 1976, introduction and discussions of the findings of the technical workshop.
- (4) November 7, 1976, submission of the seminar conclusions for GOK review and selection of those activities to be presented to USAID and other donors.

5. Staff Requirements

a. U.S. Personnel

- (1) USAID/Kenya Director (Coordinator).
- (2) USAID/Kenya Program Officer.
- (3) USAID/Kenya Technical Services Staff Development Officer.
- (4) USAID/Kenya Technical Services Staff Project Manager.
- (5) AFR/DS Project Design Officer.
- (6) REDSO Project Development Officer.

b. GOK Personnel

- (1) Head, Planning, Ministry of Finance and Planning.
- (2) Head, Range Management, Ministry of Agriculture.
- (3) Head, Livestock Production, Ministry of Agriculture.
- (4) Head, Soil Conservation, Ministry of Agriculture.
- (5) Head, Planning, Ministry of Agriculture.
- (6) Head, Forestry, Ministry of Natural Resources.
- (7) Special Studies, Ministry of Water Development.

c. Phase I Team

(1) U.S. Personnel

Project Coordinator
Soil Scientist
Range Conservationist
Tropical Agronomist
Agricultural Engineer
Agricultural Economist
Hydrogeologist
Livestock Production
Specialist
Rural Sociologist/
Development Specialist

(2) GOK Personnel

Project Coordinator
Soil Scientists
Range Conservationist
Tropical Agronomist
Water Engineer
Rural Development Specialist
Tropical Forester
Soil Conservationist
Agricultural Economist

d. Supporting Staff

1 USAID Secretary
1 Secretary (Supervisor) Project Identification Team

e. Other Donor Personnel

6. Equipment and Supplies

a. Vehicles 5 vehicles from resource
inventory and evaluation
3 charter mini-buses

b. Rental Conference and work area

7. Budget

a. USAID Contributions

(1) Staff --	
USAID - Direct Hire	other costs
USAID - PASA	" "
USAID - Contract	" "
	Sub-Total NONE

(2) Per Diem and Allowances

a) USAID direct-hire

3 x 2 days = 6

3 x 25 " =75

81 Days @ \$35 p.d. = \$2,835

(3) Vehicle Rental

3 Mini-buses

5 days = 15 days @ \$25 375

(4) International Travel 1,700

1 direct-hire AFR/DS

(5) Rental of Conference Area 4,000

TOTAL \$8,910

b. GOK Contributions

(1) Staff

A. Seven senior staff 2 days each \$ 200

B. Nine counterparts 25 days each 2,090

(2) Per Diem Allowances

7 x 2 days = 14

9 x 25 Days=225

239 Days @ \$20 4,780

TOTAL \$7,070

Phase III Project Design

November, 1976 - October, 1977

1. Activity

Based on priorities established and a specific request from the GOK, the first stage of Phase III will involve the design of those projects identified in Phase II. Following the completion of Phase I, additional projects will be identified and designed as the second stage of Phase III. Additional team(s) will be provided by USAID contract and counterpart GOK officials for the design of these projects.

2. Objectives

- a. Utilize basic data provided by the Phase I study as a means of designing projects oriented toward relieving present constraints in production in the project area.
- b. Utilize base data provided by the Phase I study as a means of monitoring changes in the ecological, social and economic aspects of the project area.
- c. To design a series of projects for GOK's consideration and consequent implementation with GOK and donor resources.

3. Goals

- a. To review the findings of the Phase I team and the scopes of work provided by the project identification team on core problem areas for which projects are to be designed for interventions in the present production system.
- b. Design projects with the specific purpose of relieving constraints to production by small producers by providing the following:
 - (1) Extension information as to the incentives in cooperating in an integrated program to remove technical and managerial constraints.
 - (2) The necessary inputs such as technical assistance, development construction, equipment, credit, improved seed, fertilizer, and improved animals. Provision for effective delivery systems must be made.

(3) Information as to the proper land use which can be sustained at the highest level by production of the best suited crops and livestock under improved management and inputs within the smallholder's capability.

c. Design within each project a monitoring system, based on the resource inventory and evaluation report as the base starting point, of the impact the project has on the social, economic, and environmental trends and changes.

d. Design projects for the restoration and rehabilitation of lands to their productive capability through mechanical treatment, reseeding, and afforestation.

e. Design projects to incorporate into the production system improved management practices, such as contour farming, strip cropping, green manuring, fallow, rotational grazing, and fodder conservation.

f. Incorporate into the project design mechanisms for improved storage and marketing of produce and the supply of necessary inputs, such as tools, equipment, seeds, fertilizer, insecticides, improved breeds through artificial insemination, or supply of superior sires.

g. Design within the projects the conservation of water resources through management practices to prevent excessive runoff and erosion on catchment areas for surface storage for household and livestock purposes. Investigation and development of groundwater supplies primarily for household purposes, but secondarily for livestock.

4. Project Description

a. The Problem

(1) Conceive, identify and design projects based upon the results of Phases I and II.

b. Proposed Action

(1) Procedure

(a) Stage 1 - Design of projects resulting from Phase II planning seminar. Stage 2 - Identification and design of projects resulting from final reports of Phase I teams.

(b) Assign specific teams to design projects in those priority areas and disciplines selected by the GOK. These are anticipated to include the following:

- (i) Production systems to include food crops with cash crops and livestock production.
- (ii) Livestock production systems to include the proper mix of species to properly utilize the available forage and conserved fodder.
- (iii) Farm and ranch planning to include the necessary development and rehabilitation through mechanical and management treatments.
- (iv) Reforestation of water sheds and land suited primarily to the production of fuel timber and poles.
- (v) Water conservation and development for household and livestock purposes.
- (vi) Extension, credit, commodity procurement, storage and marketing of produce.

c. Some members may represent a specific discipline on more than one design team. The following are anticipated:

- (i) livestock production
- (ii) agriculture engineer
- (iii) credit specialist
- (iv) storage and marketing
- (v) rural sociologist
- (vi) financial analyst

d. Design of specific projects for resource areas which will include a description of the project area, to include descriptions of the basic land, animal, crops, vegetation, human, and climatic conditions present.

e. Design of specific projects for resource areas which will include the following:

- (i) The proposed interventions, and mechanisms and organizational structures necessary to implement these changes.
- (ii) The proposed inputs with estimated units and costs per unit.
- (iii) The expected outputs with incremental yields and value per unit of increase.
- (iv) Financial analysis.
- (v) Administrative structure.
- (vi) Administrative structure necessary to assure continued operation of the projects or programs.
- (vii) A monitoring system with quantifiable benchmarks for measuring project achievements and effectiveness
- (viii) Reference should be made to an unpublished document produced by the AID Africa Bureau, Office of Development Services, "Guidelines to Project Design of a Range/Livestock Project" by George B. McLeroy and Frank Abercrombie.

5. Staff Requirements (Illustrative)

Flexibility of staff requirements presented in this scope of work will of necessity have to be maintained to reflect results of Phases I and II and Stages I and II of Phase III. In effect Stages I and II of Phase III will require teams to be in the field during two different time periods, i.e. November 1976 - April 1977 and May - October, 1977.

a. U.S. Personnel

- (1) Team Leader, USAID/Kenya Project Manager.
- (2) Assistant Team Leader, USAID/Kenya Program Officer or her designee.
- (3) Team A. Range Livestock (Consultants).
 - (a) Range Conservation Planner
 - (b) Livestock Production Specialist

- (c) Agriculture Engineer
 - (d) Tropical Veterinarian
 - (e) Livestock Marketing Specialist
- (4) Team B. Arid Lands Crop Consultants
- (a) Tropical Agronomist
 - (b) Agricultural Engineer (Conservation)
 - (c) Farm Conservation Planner
 - (d) Storage and Marketing Specialist
- (5) Team C. Forestry Development
- (a) Tropical Forester
 - (b) Agriculture Engineer
 - (c) Nursery Specialist
- (6) Consultants to serve on Teams A, B, and C.
- (a) Agriculture Economist (Financial Analyst)
 - (b) Hydrogeologist
 - (c) Rural Sociologist (Rural Development Specialist)
 - (d) Extension Specialist
 - (e) Credit and Cooperatives Specialist
 - (f) Project Development Officer, REDSO
 - (g) Project Design Officer, AFR/DS
- b. GOK Personnel (Counterparts to teams)
- (1) Team Coordinator (Planning Unit, Ministry of Agriculture)
 - (2) Range Conservationist
 - (3) Livestock Production Specialist
 - (4) Water Engineer
 - (5) Rural Sociologist
 - (6) Tropical Agronomist
 - (7) Extension Specialist
 - (8) Soil Conservationist
 - (9) Forester
 - (10) Veterinarian
 - (11) Livestock Marketing Specialist
 - (12) Credit and Cooperative Specialist
 - (13) Hydrogeologist

c. Supporting Staff

- (1) Secretary (Supervisor) (Class III-5)
- (2) Typist (Class IV -5)

6. Budget

USAID Contributions

a. Staff

- (1) Direct hire \$ 1,200
 - AFR/DS Project Design 3,150
 - International Travel
 - Per Diem 90 Days Each

- (2) 17 Consultants 60 days each
 - Salary @ \$138/working day(52) 122,012
 - International Travel \$1,200 each 20,400
 - Per Diem 60 days each @ \$35 35,700

- (3) Supporting Staff
 - 1. Secretary 3 months 1,600
 - 2. Typist 3 months each 1,675

Sub-Total \$ 185,737

- b. Vehicle Rental
- 5 Vehicles All-Terrain 60 days
 - 300 days @ \$25 \$ 7,500
 - 6 Charter air flights 3,000

Sub-Total \$ 10,500

- c. Office Space
- 6 Rooms 60 days \$ 25,000

- d. Equipment and Supplies
- (1) Office Equipment and Supplies \$ 3,000
 - (2) Field Equipment 1,500
 - (3) Rental Camp Equipment 4,000
 - (4) Maps, Aerial Photography 300
 - (5) Publications 200

Sub-Total \$ 9,000

TOTAL \$ 230,237

e. GOK Contributions

(1) Staff 26 man-months	\$ 6,500
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(2) Equipment and Supplies	
(a) Field Equipment	1,000
(b) Maps, Publications	300
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Sub-Total	\$ 1,300
TOTAL	<u>\$ 7,800</u>

USAID TOTAL BUDGET

PHASE I	\$ 815,300
PHASE II	8,910
PHASE III	230,230
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	\$1,054,440*

GOK TOTAL BUDGET

PHASE I	\$ 134,480
PHASE II	7,070
PHASE III	7,800
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	\$ 149,350

* Excess over \$1,000,000 to be financed under bilateral project funds or AID/W design funds with final determination of source and amount to be made during Phase III.



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PPC/DPRE:JWELTY (DRAFT)
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TAGS:

SUBJECT: SEMI-ARID LANDS OF KENYA - REVISED DRAFT

1. PROJECT COMMITTEE MET JANUARY 21 TO REVIEW SUBJECT PAPER. COMMITTEE FOCUSED ON STUDY DESIGN AND RAISED QUESTIONS OF PHASING AND IMPLEMENTATION REQUIRING MISSION REPLY TO FACILITATE PROCESSING OF AUTHORIZATION.
2. PROJECT PHASING QUESTIONED. PROPOSAL ALLOWS 6 MONTHS FOR MACHAKOS/EMBU AREA (MAY 76 - OCT. 76) AND 5 MONTHS FOR BARINGO-KERIO VALLEY (NOV. 76 - MAR. 77) ALTHOUGH MACHAKOS 6 MILLION ACRES WHILE KERIO ONLY 1.5 MILLION. COMMITTEE

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QUERIES THIS TIME/RESOURCE ALLOCATION AND SUGGESTS RESCHEDULE AS INDICATED IN PHASING CHART.

3. WORKSHOP/SEMINAR (PHASE II) SCHEDULED OCTOBER 76 UPON COMPLETION OF MACHAKOS FIELD STUDIES BUT PRECEDING COMPLETED DRAFT REPORT (NOV. 76). NO WORKSHOP/SEMINAR SEEN PLANNED UPON COMPLETION OF KERIO FIELD STUDIES. COMMITTEE SUGGESTS FOLLOWING WORKSHOP/SEMINAR SCHEDULE: (1) MAY 76 TO DISCUSS START UP PROBLEMS AND PROVIDE INITIAL GUIDANCE TO RESOURCE INVENTORY STUDY (2) JAN. 77 WITH COMPLETED DRAFT OF

MACHAKOS AREA (3) JUNE 77 COORDINATED WITH COMPLETION OF KERIO VALLEY.

4. UPON AUTHORIZATION OF FUNDS AND RECEIPT PIO/TS, AID/W WILL UNDERTAKE RECRUITMENT/CONTRACTING FOR PROJECT COORDINATOR AND SOIL SCIENTISTS. SOCIO-ECONOMIC PERSONNEL WILL BE SELECTED FOLLOWING STEPS OUTLINED PARA 5 BELOW. AID/W PROCEEDING ON ASSUMPTION SOCIO-ECONOMIC MEMBERS OF INVENTORY TEAM WILL BE RECRUITED FROM SINGLE NON-GOVERNMENT SOURCE. GIVEN TIME AND COST OF MISSION PROPOSAL, IUC NOT APPROPRIATE AND REGULAR SOLICITATION/SELECTION PROCEDURES WILL BE FOLLOWED. TO FACILITATE PROCESSING, REQUEST MISSION CABLE DRAFT PIO/TS IMMEDIATELY.

5. PROJECT COORDINATOR SHOULD ARRIVE IN KENYA SOONEST. HIS IMMEDIATE RESPONSIBILITIES TO INCLUDE:

1) REVISION AND CLARIFICATION OF PROJECT DOCUMENT ALONG LINES SUGGESTED PARAS 2 AND 3 ABOVE;

2) ESTABLISH ADMINISTRATIVE BASE AND COORDINATION WITH KSSP TO INSURE SMOOTH ARRIVAL OF SOIL SCIENTISTS AND EARLY INTEGRATION OF THEIR SURVEY WORK;

3) SELECT COMPOSITION OF RESOURCE INVENTORY TEAM (INCLUDES ALL BUT TWO SCS SOIL SCIENTISTS) AND PREPARE SCOPES OF WORK PRIOR TO THEIR SELECTION;

4) ADMINISTRATION AND FIELD SUPERVISION OF RESOURCE INVENTORY TEAM AND SOIL SCIENTISTS;

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5) COORDINATION OF FIELD WITH KSSP, AND CONDUCT INITIAL WORKSHOP/SEMINAR;

6) REVIEW COMPOSITION OF DESIGN TEAMS AND PREPARE THEIR SCOPES OF WORK.

IN BRIEF, COORDINATOR WILL MANAGE ENTIRE PROJECT, BE RESPONSIBLE FOR COMPOSITION OF INVENTORY AND DESIGN TEAMS, SUPERVISE THEIR FIELD WORK, COORDINATE RESOURCE INVENTORY, WORKSHOP/SEMINAR, AND DESIGN TEAMS. AID/W ASSUMES (MISSION SHOULD CONFIRM) PROJECT COORDINATOR WILL BE DIRECTLY RESPONSIBLE TO AND SUPPORTED BY MISSION.

6. SOIL SCIENTISTS TO BEGIN WORK AT SOONEST AND NOT WAIT FOR ARRIVAL OF OTHER MEMBERS OF RESOURCE INVENTORY TEAM.

PHASING CHART

MONTH	PHASE I	PHASE II	PHASE III
MAY 76	PROJECT COORDINATOR	INTRO SEMINAR	-
JUNE 76	BEGIN MACHAKOS SOIL STUDY	"	-
AUG 76	INVENTORY TEAM IN FIELD	"	-
JAN 77	COMPLETE MACHAKOS SOIL STUDY	WORKSHOP/SEMINAR IN COUNTRY	DESIGN TEAM
FEB 77	START KERIO SOIL STUDY	"	-
APR 77	COMPLETE KERIO SOIL STUDY	"	-
JUNE 77	RESOURCE INVENTORY COMPLETE	WORKSHOP/SEMINAR	-
OCT 77	SOIL STUDIES PUBLISHED	"	-
FEB 78	----	----	DESIGN EFFORT COMPLETED KISSINGER

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