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Energy, Forestry and Natural Resources Activities in the Africa Region

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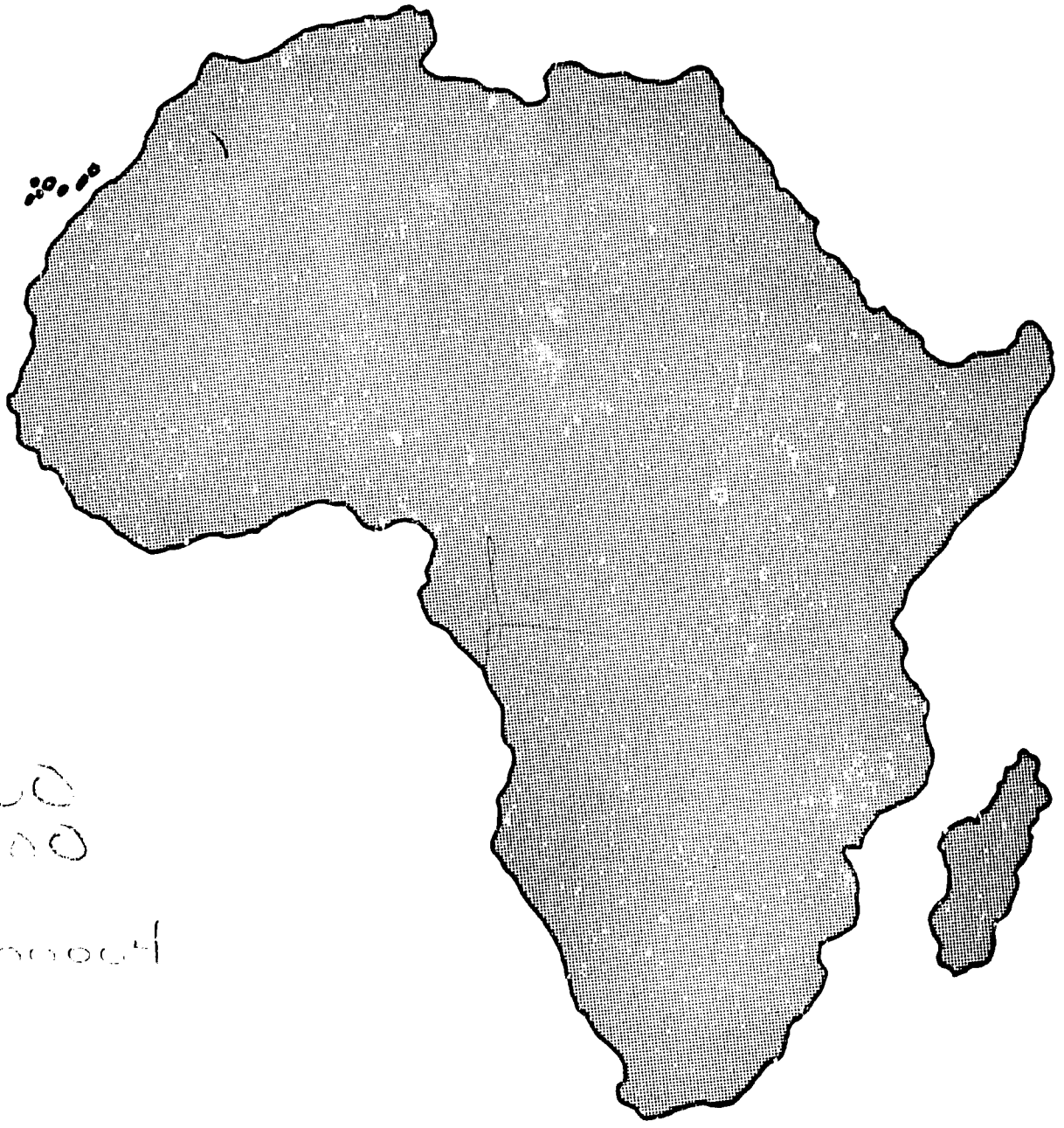

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Bureau for Africa
Agency for International Development

November 1986

ENERGY, FORESTRY & NATURAL RESOURCES ACTIVITIES IN THE AFRICA REGION

BUREAU FOR AFRICA
OFFICE OF TECHNICAL RESOURCES
AGENCY FOR INTERNATIONAL DEVELOPMENT
WASHINGTON, D.C.
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ARAWAK CONSULTING CORPORATION

SECTION 1.0: INTRODUCTION

The purpose of this compendium is to provide an overview of AID's project activities in Energy, Forestry and Natural Resources in the Africa Region. In addition to those projects which are either completely or predominantly concerned with these fields, certain other projects with important components closely related to this subject matter are also included. This document is intended to serve as a reference to AID/Washington Bureaus, Missions, Regional Offices, Congress and other federal agencies, international development and private voluntary agencies and other interested parties. Projects described herein have been developed in response to Congressional mandates and AID policies to address critical shortages in energy, fuelwood/forestry and natural resources confronting less developed countries (LDCs). Project efforts encompass a wide spectrum of activities. They are tailored to specific LDC needs, and are aimed at LDC assistance in the following fields: policy, planning, training and institutional support; technology development, testing and research; program evaluation; and data collection.

1.1 UPDATE FROM 1984

This document updates information on Africa Bureau energy, forestry and natural resource activities presented in the previous (January, 1984) volume of this compendium and describes new projects that have been initiated. Since the presentation of the 1984 compendium, activities in these areas have undergone considerable evolution. The fuelwood crisis in Africa has not lessened and environmental degradation continues virtually unabated. However, limited successes have also occurred. Lessons from AID and other donor-supported activities have helped define new and more effective approaches to addressing energy and natural resource problems.

For example, an Africa Bureau, Technical Resources Office-sponsored Forestry Program Evaluation Workshop held in Togo in 1984 helped identify new

approaches to tree-planting, relying much more extensively on providing small farmers with multi-purpose trees that would not only produce fuelwood for local consumption but would be economically attractive to the farmers as a source of food, fodder or poles. The emphasis is on fostering certain multi-purpose species which also increase agricultural productivity through protection against soil erosion, recycling of nutrients from deep soil layers and contributing to soil moisture retention.

Efforts have also begun through a cooperative agreement jointly funded by ST and AFR with the International Council for Research in Agroforestry to establish agroforestry research networking in East Africa. This project is designed to promote agroforestry components and technologies as parts of sustainable African farming systems. Activities are also underway to assist African foresters in moving away from a "protection and enforcement role" toward a new attitude of working to encourage local farmers, pastoralists and others to manage their own natural resources on a sustainable basis. Emphasis is placed on programs in the areas of:

- Forestry research (agroforestry, fast-growing trees for fuelwood, forest management, improved seed, natural forest management practices; and
- Information dissemination (tree species, planting results, agroforestry methodology, etc.).

The overall need is to better articulate and coordinate AID's approach to Sub-Saharan Africa natural resources problems -- desertification, deforestation, soil degradation, and loss of biological diversity -- with its strategic goal of increased agricultural production.

With respect to fuelwood conservation, the focus has shifted away from stationary sand and clay stoves, toward the development and marketing of portable stoves which are manufactured and sold by traditional private

stove-makers and which incorporate principles of physics to improve energy efficiency. Fuel savings of 40 percent or more are common with these stoves. Such a program has been particularly effective in the Kenya, where the role of fuel-efficient charcoal stoves is now enhanced by private sector production and marketing of over 12,000 stoves per month. AID is helping promote private sector production and marketing of stoves across East and Southern Africa through a regional network managed by Kengo, a non-governmental organization based in Kenya.

AID has also supported the use of improved traditional charcoal production methods, through the Energy Initiatives for Africa (EIA) Project, and bilateral activities in the Sudan. Since the last compendium, there has also been a growing recognition that effective forestry interventions and efforts to address the fuelwood crisis also require a better understanding of fuelwood and charcoal supply and demand at the national and regional level. As a result, examination of fuelwood economics and markets is a major focus of the Energy Initiatives for Africa Project.

The Bureau's energy activities have also undergone considerable evolution. The Africa Bureau Energy Strategy completed in late 1984, links the Bureau's energy activities more closely to overall Bureau strategy to increase agricultural productivity and reduce natural resource degradation. Most of the renewable energy activities begun in the early 1980s are now completed. From these projects, important findings have emerged, which hopefully will be applied to future projects.

First, energy systems must be selected and introduced on the basis of local needs and local ability to pay for the technologies. In many cases, affordable and useful systems are not those typically classified as renewables. They include human- and animal-driven mechanical systems, as well as gasoline and diesel engines. More emphasis needs to be placed on private

sector manufacturing and servicing of these systems, as well as on comparative testing and evaluation of alternatives in selecting the most economical approach for various agricultural and rural development environments and needs. Selected renewable energy systems continue to receive support, including:

- Photovoltaics for remote domestic water-pumping, communication, emergency lighting, battery charging and refrigerated storage of medical vaccines;
- Use of micro-hydro for mechanical grain-grinding and power production; and
- Application of water-pumping windmills.

Second, given the fact that oil import bills continue to represent 20 to 50 percent of foreign exchange in many African countries, the Bureau Energy Strategy places an emphasis on helping host-countries improve investment decision-making in the energy sector, energy pricing analysis and reform, energy conservation, and the collection and analysis of energy supply-and-demand data needed for policy analysis and reform.

1.2 NEW INITIATIVES

A new energy initiative, directly tied to the effort to increase agricultural productivity is an AFR/TR-directed effort to improve the application and use of water-pumping/water-lifting systems in Africa. This activity is expected to yield materials which are useful to agricultural development officers, engineers, and economists working with water-pumping/lifting systems under field conditions. The activity will also promote incorporation of comparative technical/economic performance evaluation of water-pumping/water-lifting systems in selected irrigation and water-development projects and documentation of successes and lessons, particularly in the private sector and among NGOs.

The Bureau for Africa, with the support of an intra-Agency working group, is currently engaged in preparing a new AID Plan for Supporting Natural Resources Management in Sub-Saharan Africa. The objective of the Plan is to provide guidance to the Agency, its Bureaus and Field Missions to enable them to pragmatically integrate natural resources activities into the mainstream of agriculture and rural development programs. It will also assist the Agency in deciding how to optimally focus development resources in these broad areas and choose effective interventions targeted at priority problems and opportunities.

Since the last compendium, the Bureau has continued to maintain its program of congressionally-mandated environmental oversight, through the use of environmental officers in its Regional Offices in Nairobi, Kenya, and Abidjan, Ivory Coast, and in AID Washington. In addition, the Nairobi office has employed the full-time services of a pest management expert and sponsored a conference on pesticide management issues in Africa.

AID programs directly addressing the development and conservation of biological diversity in Africa have been modest to-date. The Bureau for Africa has, however, supported these conservation efforts indirectly through a broader program of agriculture and rural development, including reforestation and natural resources management which help to relieve the pressure on natural systems and areas. In response to a congressional mandate to conserve biological diversity, Africa programs and projects will strive to be more affirmative in this regard. Several projects which specifically deal with this important issue are underway including the Bururi Forest Project in Burundi, the Ruhengeri Resources Analysis and Management Project in Rwanda, and the proposed collaborative efforts with the World Wildlife Fund in Madagascar, the world's most significant area for biological diversity. Supported by a matching grant from AID (FVA/PVC), the World Wildlife Fund is also developing a series of projects to link natural resources conservation with development in East and Southern Africa.

Other notable AID-sponsored activities with important environment and natural resources components include:

- o Regional Remote Sensing Projects;
- o Famine Early Warning System; and
- o Environmental Training and Resource Management (ETMA).

The Africa Bureau draws on the technical expertise of other federal agencies--U.S. Forestry Service, Department of Energy, National Academy of Sciences, to name a few. AID has been able to mobilize technical experts for a broad range of activities. This approach has been fundamental in providing assistance and encouragement to LDC government agencies and institutions to assume a more active role in the planning and development of their own energy and natural resources. Collaboration with the Peace Corps has prompted design of projects utilizing volunteer expertise in implementing community level programs, primarily in fuelwood conservation and tree-planting activities. Agency agreements with U.S. universities have permitted AID to provide training programs for LDC participants, as well as to draw upon the academic community's technical expertise in planning, designing, and implementing programs.

As a result of these associations, U.S. private voluntary agencies, consulting firms and development specialists have benefited and expanded their roles by assisting AID in accomplishing its mission. Of note are the slow but continuing efforts to enlist the participation of African private enterprise, which by necessity, must become an integral part of the development process if LDCs are to assume a more constructive role in finding solutions to their national problems.

Figure 1 depicts obligations from FY 1982 through FY 1986 for planned (authorized), active and completed (during FY85 or FY86) Africa Bureau projects having energy, forestry and natural resources components. However, most projects cannot be classified exclusively into one sector or subsector, but rather carry out activities in other areas such as agriculture, health and

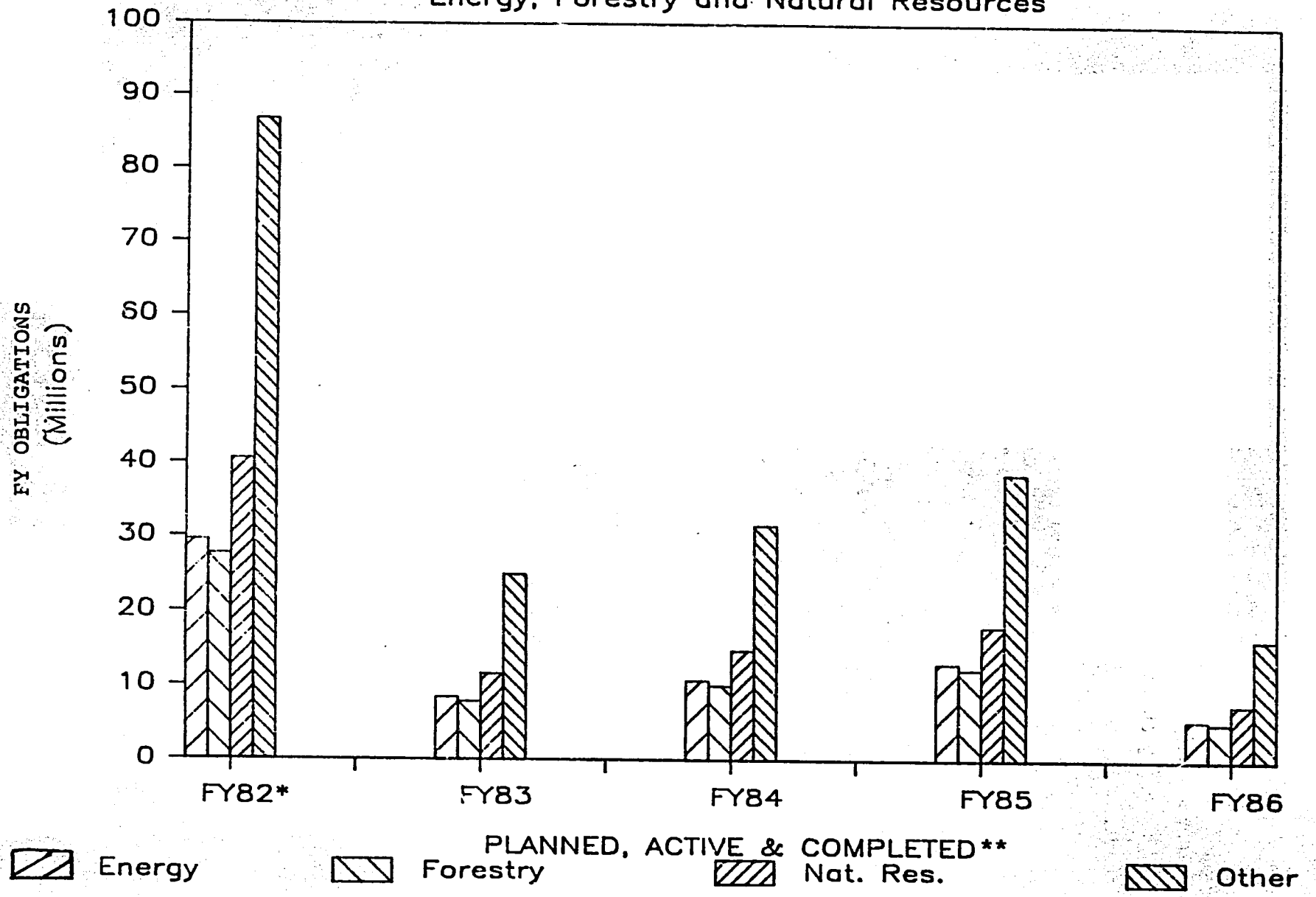
education, as well. The percentage of fiscal year obligations allocated to energy, forestry and natural resources relative to other areas is also depicted in Figure 1. These figures were derived from the percentage of the total life of project funding allocated to each component (energy, forestry and natural resources).

Figure 2 depicts obligations from FY 1982 through FY 1986 for planned (authorized), active and completed (during FY85 or FY86) centrally funded projects having energy, forestry and natural resources components.

FIGURE 1

AFRICA BUREAU PROJECTS WITH

Energy, Forestry and Natural Resources

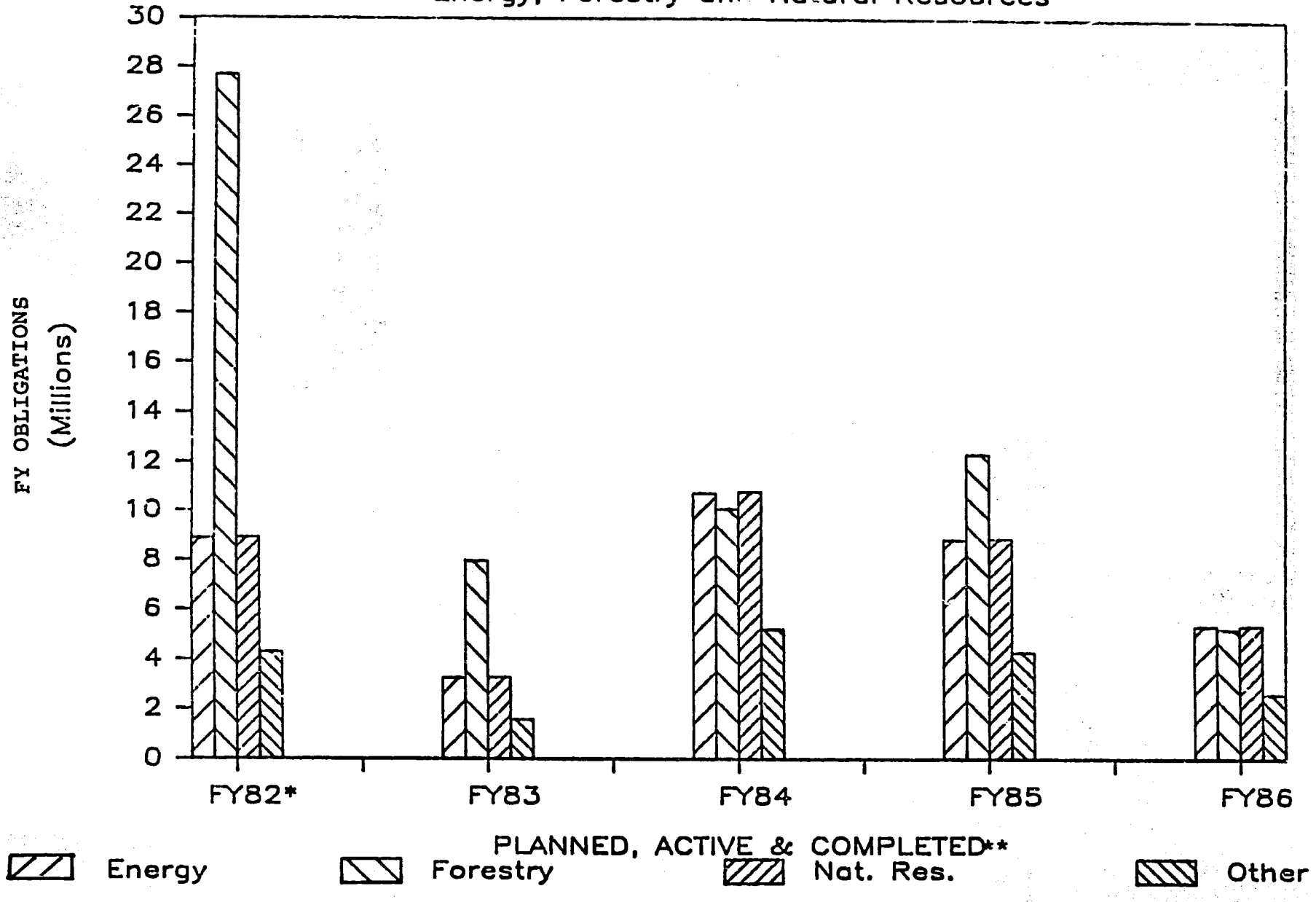


*FY82 figures are cumulative **Completed during FY 1985 or FY 2986
Other includes education, agriculture and health
See Appendix B, Table B.1

FIGURE 2

CENTRALLY FUNDED PROJECTS WITH

Energy, Forestry and Natural Resources



*FY82 figures are cumulative
**Completed during FY 1985 or FY 1986
Other includes education, agriculture and health

See Appendix B, Table B.1

SECTION 2.0: BACKGROUND

The U.S. Agency for International Development has provided assistance to developing countries in the areas of energy, forestry and natural resources for a number of years. The discussion which follows describes the legislative mandate that provides the legal basis for AID's involvement in this sector, as well as the Africa Bureau's policy and programs.

2.1 LEGISLATIVE SETTING

Congressional concern with international natural resources conservation and development has increased markedly over the last decade. U.S. foreign assistance programs began incorporating environmental concerns in the late 1970s when a series of amendments to the Foreign Assistance Act defined the Agency for International Development's mandate in the areas of environment and natural resources.

Through the various provisions of this act, the U.S. Congress has given AID a clear mandate to assist developing countries in meeting their energy and natural resources needs through increased production and conservation (Sec. 103, 106, 107, 118).

In 1977 section 102 was amended to add environment and natural resources to areas of development AID should address. In addition in 1977 section 118 on "Environment and Natural Resources," was added, authorizing AID to fortify the "capacity of less developed countries to protect and manage their environment and natural resources" and to "maintain and where possible restore the land, vegetation, water, wildlife, and other resources upon which depend economic growth and well-being, especially that of the poor."

In 1978 section 118 was amended, requiring AID to carry out country studies in the developing world to identify natural resource problems and institutional mechanisms to solve them. Section 103 was amended the same year to emphasize forestry assistance, acknowledging that deforestation (with its attendant species loss) constituted an impediment to meeting basic human needs in developing countries. In Section 103 (b)(3) of the FAA it states that:

> "The Congress recognizes that the accelerating loss of forests and tree cover in developing countries undermines and offsets efforts to improve agricultural production and nutrition and otherwise to meet the basic human needs of the poor. Deforestation results in increased flooding, reduction in water supply for agricultural capacity, loss of firewood and needed wood products, and loss of valuable plants and animals. In order to maintain and increase forest resources, the President is authorized to provide assistance to forestry projects which are essential to fulfill the fundamental purposes of this section. Emphasis shall be given to community woodlots, agroforestry, reforestation, protection of watershed forests, and more effective forest management."*

Another provision of this Act, Section 106 underscores the purpose and value of foreign assistance to LDCs and finds that they are undermined by the inability of many developing countries to satisfy their energy requirements. In order to alleviate the acute energy problems and concomitant unfavorable balance of payments confronting less developed countries (LDCs) energy assistance is authorized to include "data collection and analysis, the training of skilled personnel, research on and development of suitable energy resources, and pilot projects to test new methods of energy production."**

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*Sec. 101 of the International Development Cooperation Act of 1979 (Public Law 96-53; 93 Stat. 359).

**Sec. 304(c) of the International Security and Development Cooperation Act of 1980 (Public Law 96-533; 94 Stat. 3146).

This mandate is further delineated by Section 106 (b)(1)(A)(2) authorizing foreign assistance agencies to focus on:

> "cooperative programs with developing countries in energy production and conservation through research on development and use of small-scale, decentralized, renewable energy sources for rural areas carried out as integral parts of rural development efforts in accordance with Section 103 of this Act. Such programs shall also be directed toward the earliest practicable development and use of energy technologies which are environmentally acceptable, require minimum capital investment, are most acceptable to and affordable by the people using them, are simple and inexpensive to use and maintain, and are transferable from one region of the world to another. Such programs may include research on and the development, demonstration, and application of suitable energy technologies (including use of wood); analysis of energy uses, needs, and resources; training and institutional development; and scientific interchange."*

Simultaneously, trends in the degradation of natural resources have highlighted the need to provide further assistance to strengthen the capacity of developing countries to protect and manage their environment and natural resources. Accordingly, in Section 118 (c)(1)(A) of the FAA, Congress has mandated that foreign assistance programs must now prepare and take into account environmental impact statements and assessments of:

> "any program or project...significantly affecting the environment of any foreign country."**

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*Sec. 304(c) of the International Security and Development Cooperation Act of 1980 (Public Law 96-533; 94 Stat. 3146).

**Sec. 307 of the International Security and Development Cooperation Act of 1981 (Public Law 97-113; 95 Stat. 1533).

Moreover, in carrying out project activities, Section 107 of the FAA provides Congressional guidance on the subject of appropriate technology by stating that:

> "special emphasis [shall be placed] on the use of relatively smaller, cost-saving, labor-using technologies that are generally most appropriate for the small farms, small businesses, and small incomes of the poor."*

2.2 AFRICA BUREAU'S ENERGY, FORESTRY, AND NATURAL RESOURCES POLICY AND PROGRAM

The Africa Bureau Strategic Plan provides the most recent statement of Bureau policy in the interrelated fields of energy, forestry and natural resources.** It constitutes a comprehensive and integrated statement of the Bureau's programming strategy and approach to the problem of energy and environmental degradation. Energy and environmental concerns are explicitly recognized as significant elements of overall development strategy and are seen as being directly related to problems in agricultural development. The general strategy or framework as presented in the plan places an emphasis on:

- Policy dialogue;
- Increased contribution that the private sector can make to African development;
- The necessity of donor coordination;
- The recognition that, although any country's development program must be a blend of direct action and institutional development, the Africa Bureau's assistance strategy will emphasize institutional development; and
- Agriculture as the sector in which donor activity can most quickly have a positive impact on the most individual lives, as well as on economic growth.

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*Sec. 107 of the International Development and Food Assistance Act of 1978 (Public Law 95-424; 92 Stat. 947).

**Africa Bureau Strategic Plan, May 6, 1983, p. 47.

Complementary to these areas of primary concern, training efforts are continuing in the U.S. as well as in in-country and third-country, which augment LDC planning capacity and expertise.

In compliance with legislative mandates a significant element of AID's policy is to provide assistance and leadership in collaboration with other donors, U.N. specialized agencies, other U.S. government agencies, U.S. land grant institutions, and private voluntary organizations. The Africa Bureau has increasingly assumed a leading role in collaboration with other donors in the areas of energy, forestry/fuelwood and natural resources. In 1980, Belgium, Canada, France, United Kingdom, Federal Republic of Germany, Italy and the United States joined together in an association now called "Cooperation for Development in Africa" (CDA). As the lead country for the CDA Forestry and Fuelwood Technical Committee, the U.S. continues to work with CDA members and African governments to encourage exchange of information on in-country project experiences and thereby strengthen national capability for sector planning.

The Africa Bureau continues to assist LDCs in developing a capacity to forecast and plan for natural disasters, to carry out natural resource inventories and land use planning projects, to measure and monitor ecological change through techniques such as remote sensing, and to manage resources through activities such as river basin studies, dune stabilization and other anti-desertification measures, and regional development. These activities are implemented through the bilateral, regional and centrally funded projects which are reported on in subsequent sections of this report.

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*Ibid, p. 50.

SECTION 3.0: ORGANIZATION OF THIS DOCUMENT

The projects presented in this document are organized into four sections: (a) Bilateral, (b) Sahel Regional, (c) Africa Regional Regional, and (d) Centrally Funded (i.e., the Bureau for Science and Technology, the Bureau for Food and Voluntary Assistance including PL-480, and the Office of the Science Advisor). In addition, a series of indices and summary tables are provided as appendices to this document.

Appendix A provides an index of projects in the Africa region* by country. It lists the title, project number and page number for all projects that have activities in each country, including bilateral, regional, centrally funded and PL-480.

Appendix B provides a list of all Bureau for Africa projects and all centrally funded projects with activities in the Africa Region by fiscal year. It provides project number, title, country, managing bureau and obligations in each fiscal year. In addition, summary totals by fiscal year are also provided.

Appendix C lists projects by sector/subsector and activity (purpose code). It provides the project number, title, country, managing bureau, as well as the percent of the total LOP and associated amount for each sector/subsector and activity within each project. Summary totals are also provided.

Appendix D lists planned, active and completed projects by technology.

Appendix E provides a list of acronyms used in this compendium.

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*For purposes of this report, "Africa" is defined as the countries covered by AID's Bureau for Africa, i.e. Sub-Saharan Africa.

3.1 BILATERAL PROJECTS

This section describes bilateral projects funded by the Africa Bureau in the areas of energy, forestry and natural resources. The following information explains the organization of this section and assists in interpreting the data.

Bilateral project summaries are categorized by country in alphabetical order, and comprise the first section of this report. Within each country, the projects are grouped by project number in ascending order. Included are projects that are operational (designated as "active" on project sheets), planned, and completed (during fiscal year 1985 or 1986). Project status and length of project are designated in the upper right corner of the data summary sheets.

3.2 SAHEL REGIONAL PROJECTS

This section describes the Sahel Regional projects. Typically, these projects address concerns common to the Sahelian region and may operate in one or more of the following eight countries: Mauritania, Cape Verde Islands, Senegal, Chad, Burkina Faso, Niger, The Gambia, and Mali. The focus of these projects has been the reversal of the conditions caused by the Sahelian drought of 1968-1974.

3.3 AFRICA REGIONAL PROJECTS

This section describes the Africa Regional projects. These activities are designed with an Africa-wide perspective, while taking into consideration specific LDC constraints, and may be operative in one or more countries within the Africa region.

Due to the regional approach fundamental to these projects, they are presented as a group. Within this section, the projects are listed by project number in ascending order. Sources and definitions explaining the various informational categories found in the data summary sheets are described in Section 3.5(a).

3.4 CENTRALLY FUNDED PROGRAMS

Centrally-funded programs include basic and applied research, development and testing of appropriate technology, private enterprise activities, private voluntary organizations and international disaster assistance. These programs are funded centrally because of their global focus, and because of efficiencies possible from consolidated central management. They:

- Supply technical expertise to AID regional bureaus and field missions worldwide to assist developing countries in specialized fields such as agricultural production and rural development, population planning, nutrition, renewable and conventional energy, disaster utilization of private enterprise to achieve development objectives;
- Seek new solutions to development problems by financing experimental projects and pilot programs, developing and exploring new applications of science and technology and private enterprise, and evaluation the success of past initiatives;
- Provide guidance and impetus to the Agency's private sector development initiative;
- Support non-governmental development activities through assistance to private voluntary organizations and other development and population intermediaries;
- Provide emergency relief and rehabilitation assistance to other countries stricken b natural disasters and other emergencies; and
- Provide assistance for human capital development, particularly through participant training programs.

The centrally funded project summaries comprising this section of the report are illustrative of activities made available to African countries through worldwide efforts. It should be noted that centrally funded projects which have no past, current or planned activities in Africa are excluded from this compendium. Further, project summaries focus primarily on those activities taking place in African countries.

3.4(a) Bureau for Science and Technology

In the sectors covered by the Bureau for Africa, Office of Technical Resources (AFR/TR), assistance is augmented by the Bureau for Science and Technology (S&T), primarily from the Directorate for Energy and Natural Resources (ST/EN), which is comprised of the Office of Energy (ST/EY) and the Office of Forestry, Environment and Natural Resources (ST/FNR), as well as from the Directorate for Food and Agriculture.

These offices support a variety of projects whose aim is to provide solutions to LDC constraints in the sectors of energy, forestry/fuelwood and natural resources. Specifically, funding and technical assistance is provided for: workshops, conferences and seminars; studies, plans and policy recommendations designed to increase the capability of LDCs to manage their land, water and energy resources; academic and non-academic training to increase skilled manpower and institutional capability; research and research networking, and project activities to provide an empirical basis for developing solutions to problems confronting LDCs worldwide.

3.4(b) Office of Science Advisor

The Office of Science Advisor has the mandate to take advantage of breakthroughs and advances in the frontier sciences and to explore potential areas of new and particularly innovative technologies tat are related to international development. Simultaneously, the office seeks to strengthen the

capacity of less developed countries (LDCs) to use these new technologies. The program emphasizes innovation in areas such as biotechnology, genetic engineering, tissue culture, immuno-chemistry, biological control of disease-carrying organisms, the development of new food or tree crops, and so forth.

3.4(c) Bureau for Food for Peace and Voluntary Assistance (PL-480)

This section of the report focuses on bilateral assistance provided to LDCs through the Bureau for Food for Peace and Voluntary Assistance in the areas of energy, forestry and natural resources in Africa. Reinforcing activities in these areas are centrally administered by the Offices for Food for Peace (FVA/FFP) and Private Voluntary Cooperation (FVA/PVC). Program assistance has the dual purpose of providing food aid to the world poor and needy as a means to combat hunger and malnutrition and, through sales of agricultural commodities, to augment LDC public revenues which can be channelled into priority development programs.

It has been noted that, "Public Law 480 Food Programs have long been important instruments of development far beyond the narrow confines of short-term nutritional and food supply supplementation per se."* Assistance can take a variety of forms by marshalling food aid resources to bring about necessary policy reforms in institutional, human capital and physical infrastructure development in recipient countries. As evidenced from this report, the application of food aid resources have immeasurably strengthened activities in forestry/fuelwood and soil and water conservation, principally through Food for Work programs.

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*A Comprehensive Summary of U.S. AID Forestry-Related Assistance to Developing countries"; AID/ST/FNR/F; January 1982, p. 56.

A brief explanation of PL-480 Title I, II and III enactments is provided below.

Title I Self-Help Measures

Title I authorizes the sales of PL-480 agricultural commodities for credit on low-interest and extended-repayment terms. As part of theagreement for concessional sales of U.S. farm products, recipient countries must agree to undertake specific and measurable Self-Help Measures* and use of sales proceeds to augment food production. Effective use of Title I proceeds includes compliance with three basic criteria:

- Conceptual multi-year programming of Title I for development purposes as specified in Section 413 of PL-480;
- Deposit of commodity sales revenues in special accounts for their subsequent disbursement for discrete development-related projects with verifiable benchmarks for annual evaluation; and
- Consecutive-year food allocation levels contingent on satisfactory performance.

Title II Direct Distribution Programs

For the most part, Title II is a grant program for specifically targeted groups: maternal-child health centers, school feeding programs, Food for Work projects and for emergency and disaster relief. These programs are administered by U.S. private voluntary organizations (PVOs), the World Food Program, and by government-to-government programs. Under the provisions of Title II Section 206, after distribution to needy individuals, recipient

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*Note that there are other U.S. Title I assistance programs in Africa but they have not been included as they do not support activities in the areas relevant to this study, i.e., energy, forestry/fuelwood and natural resources.

countries may sell PL-480 grant commodities and apply the local currency sales proceeds to projects which address the causes of the need for food assistance. However, activities in forestry/fuelwood and environment are more likely to be supported through the Food for Work programs administered by PVOs and the World Food Program.

Private Voluntary Agencies: Food for Work (FFW). Some of the agricultural commodities administered through PVOs are used as remuneration for labor in development-related projects. In Africa, Food for Work Programs (FFW) are administered by the Catholic Relief Services. CRS-sponsored projects with a forestry/fuelwood and/or natural resources component are described in this report.

World Food Program: Food for Work (WFP/FFW). A variety of programs are administered by the United Nations/Food and Agriculture Organization (UN/FAO) World Food Program to which the United States and eleven other major donors pledge food, transportation and monetary contributions. The Food for Work Program activities in which food is used as remuneration for work in forestry/fuelwood and natural resources are reported in the following program summaries. Information categories include: Country/Project No. and Title; total cost to the World Food Program; duration of the project and the U.S. contribution as of January 1984. Conclusions cannot be made as to AID's total contribution to the WFP since activities reported are limited to Food for Work Programs directed at forestry/fuelwood and natural resources.

FVA/PVC. The Bureau for Food for Peace and Voluntary Assistance, Office of Private and Voluntary Assistance (FVA/PVC) supports the work of over 30 American organizations to carry out the following objectives:*

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*FY84 ABS, FVA/PVC; p. 5.

- To increase the economic development impact of AID-supported PVO activities through increased program integration and focusing resources on field programs;

- To discourage undue PVO dependence on U.S. Government financing for their international development program;

- To reduce administrative cost to both AID and PVOs of AID-funded PVO programs by simplifying and standardizing management and administrative procedures to the maximum extent possible, as well as creating a central focal point for PVO relationships within the Food for Peace and voluntary Bureau Assistance (FVA); and

- To insure that AID funds are used in ways that reflect AID's legislative mandate, yet do so in a way that calls into play such unique capabilities of voluntary agencies as their knowledge of the local situation and their programming and managerial flexibility.

Matching Grants (MG), PVC's primary form of grant support and international development activities of PVOs, require a dollar-for-dollar PVO contribution. One example of such a grant is the Cooperative for American Relief Everywhere (CARE) matching grant (938-0216). In 1981 a three-year $2.7 million Matching Grant was awarded to fund village reforestation projects in seven countries: Ecuador, Guatemala, Cameroon, Niger, Mali, Bolivia and Uganda. At the conclusion of this project a follow-up matching grant (938-0267) to CARE for $8.5 million was awarded for FY 1985 - 1989. The grant is aimed at carrying on some of the earlier activities and applying this model to primary health care and microenterprise development activities.

Title III Development Program Assistance

Title III is a multi-year agreement financed under Title I but amended to authorize conversion of the Title I loan to a grant through the "full loan forgiveness" clause. Under this agreement commodities

and/or salesproceeds are used to implement agreed upon development activities and are to be distinguished from Title I Self-Help Measures. There are relatively few Title III agreements worldwide due to the increased monitoring and evaluation required.

3.5 DATA SOURCES AND DEFINITIONS

The following section describes the ways in which data are presented in this document. General definitions (Section 3.5(a)) relate to all projects, except PL-480. Section 3.5(b) describes the information provided by centrally funded project summaries, and Section 3.5(c) describes information provided for PL-480 project summaries.

3.5(a) General Definitions

A classification scheme developed by the Bureau for Africa, Office of Technical Resources, Agriculture and Rural Development (ARD) Functional Information System (FIS) was used to classify projects into sector and subsector categories (with the exception of PL-480 projects). In addition, the FIS coding scheme was employed in classifying projects by purpose.

Neither PL-480 nor centrally funded projects were classified by project purpose. Data sources and definitions for centrally funded and PL-480 projects are described in Section 3.5(b) and 3.5(c) respectively.

Because few projects can be completely classified into any one category, the percent of the total life of project (LOP) funding associated with each sector, subsector and activity (purpose category) was designated for each project.

Sector/Subsector. The codes which were used to classify projects by sector and subsector are described in the following section.

SECTOR	SUB-SECTOR	
AGR Agriculture		
AGR	CRR	Crops-Rainfed
AGR	CRI	Crops-Irrigated
AGR	CRL	Crops-Rainfed and Livestock
AGR	CIL	Crops-Irrigated and Livestock
AGR	CRO	Crops-Rainfed and Irrigated
AGR	CAL	Crops-Rainfed, Irrigated and Livestock
AGR	LIV	Livestock
AGR	FOR	Forestry (see next page for definition)
AGR	FIS	Fisheries
AGR	NSS	No Specific
AGR	NRE	Natural Resources (Other Than Forestry--see next page)
AGR	ALL	All Subsectors
ENY Energy (see next page for definitions)		
ENY	FOF	Fossil Fuels
ENY	REN	Renewable
ENY	FUW	Fuelwood
ENY	POW	Power
ENY	NSS	No Specific Subsector
IND Industry		
IND	FOD	Food Manufacturing
IND	FME	Fabricated machinery/equipment
IND	OMI	Other Manufacturing industries
IND	OTI	Other industries
IND	NSS	No Specific subsector
EDU Education		
EDU	VOT	Vocational (Technical institutions, etc.)
EDU	NSS	No specific subsector
TRA Transport		
TRA	RRO	Roads/bridges
TRA	NSS	No specific subsector
COM Commerce		
HLT Health		

POP Population

CMS Community Services

BUD Budgetary Support

PSU Program Support

REF Refugees/Disaster

In identifying the projects having energy, forestry or natural resources components, the following sector or subsector definitions were utilized.

- Forestry: Any activity that bears directly on the establishment, management, harvesting, manufacturing, and other uses of woody plants and shrubs for materials. This excludes wood or charcoal stoves testing projects that have no fuelwood production component. Stoves projects that are integrated with tree-growing activities are included and the forestry percentage is calculated on the basis of the funding allocated to the wood production activities.

- Energy: Renewable Energy--testing, demonstration or dissemination of technologies which utilize direct solar, wind, or hydro resources.

  Fossil Fuel--activities involving the use or conservation of oil, gas, coal, shale, tar sands and peat.

  Fuelwood--fuelwood conservation activities, including wood and charcoal stove development design and testing. This excludes tree planting.

  Power--the construction or operation of large-scale thermal power generating plants.

  No Specific Subsector--activities relating to all energy sources (such as energy conservation and planning).

o Natural Resources: Planning, management and protection of natural resources. Activities include land conservation, watershed management, mapping, remote sensing, land use planning, soil management, anti-deserti- fication measures, rangeland management, water quality improvement, pollution/waste management, and other environmental studies or educational programs.

Activity/Purpose Categories/Definitions.

The following project purpose codes were used in classifying projects:

CODE	PURPOSE/CATEGORIES/DEFINITIONS
PPA	Planning and Policy Analysis--To conduct or improve the capacity for conducting economic planning and analyses of policy issues. Includes data collection/processing.
TDE	Technology Development--To conduct or to improve the capacity for conducting research on improved technologies for production or consumption.
TTR	Technology Transfer--To extend or to improve the capacity for extension/diffusion/transfer of improved technologies for production and consumption.
HRD	Human Resources Development--To improve or to strengthen the capacity to improve training, education and institutional development.
MKT	Marketing--To improve or to strengthen the capacity to improve the assembly, handling, storage, transport and distribution of commodities and products.
INP	Input Supply--To provide or to strengthen the capacity for the provision of physical inputs for production and consumption.
CRE	Credit--To provide or to strengthen the capacity for the provision/delivery of credit for production and consumption.

CON — Construction--To construct basic facilities or infrastructure (transport communications, power, water supply/waste disposal systems).

LTE — Land Tenure--To improve or to strengthen the capacity to improve access to and/or ownership of land, water and other resources.

RED — Resource Development--To improve or to strengthen the capacity to improve the supply of natural resources through activities such as crop production, tree planting or livestock husbandry.

SEC — Sector Support--To provide balance of payments support for national or sector economic development. Included are Commodity Import Programs, Sector Grants, and so forth.

Country/Project Number/Title. In some cases, the project number is followed by one of three abbreviations. They are:

- Accelerated Impact Program (AIP);
- Improved Rural Technology (IRT); and
- Operational Program Grant (OPG).

An AIP is regional umbrella program that supports small ($500,000 or less) pilot projects and meets the following criteria: (a) introduces a new technology; (b) provides for participation by local institutes and beneficiaries; and (c) provides for transfer of productive skills and knowledge to beneficiaries. (There are Sahel and Africa regional AIPs). An IRT is another regional umbrella program that funds small projects ($100,000 or under) in technology innovations undertaken by local organizations in such areas as agriculture, food processing, village water supplies, energy, construction and health. An OPG is a general program that provides limited

grants to PVOs, which can be approved in the field, and are usually for a maximum three-year duration.

Appropriation Category (App. Cat.). A project can be funded out of more than one AID funding account, as is noted for some projects. The abbreviations may differ from those currently in use; new abbreviations are noted below in parentheses:

CODE TITLE/DEFINITION

SH (SDP) Sahel Development Program;

SD (SDA) Selected Development Activities (Technical Assistance, Energy, Research, Reconstruction)

FN (ARDN) Agriculture, Rural Development and Nutrition;

PH (PP) Population Planning and Health;

ESF (ES) Economic Support Fund;

MRA (RP) Migration and Refugee Assistance (State Department funds).

Obligations by Fiscal Year. Project summary sheets provide past, current, and projected budgetary data by fiscal year (October 1 - September 30), in thousands of dollars, for:

- FY82, FY83, FY84 and FY85--These figures reflect actual obligations by fiscal year and are obtained from the Office of Financial Management's Project Accounting Information System Documents (PAIS). FY82 figures are cumulative from the first year of obligation, through FY82.

- FY86 figures are from the FY 1987 Congressional Presentation (March 1986). Estimated funding figures for the current Operating Year Budget (OYB) are subject to change in the course of the year depending on project circumstances and bureau budgetary conditions.

Project Status. "Planned" indicates that a PID and/or a Project Paper exists. If the project does not appear in the ABS FY 87, the project has been excluded from this report. "Active" indicates that funds have been authorized and activities, including start-up, are on-going. "Completed" indicates that project activities were completed during fiscal year 1985 or 1986.

Length of Project/PACD.

The first entry indicates the date the project was initially obligated, and usually corresponds to commencement of project activities; this is followed by the PACD or Project Assistance Completion Date on which activities are scheduled to end. The length of project, although not explicitly indicated, can be determined from the beginning and ending dates.

LOP. Represents the total Life of Project funding. Totals are in thousands of dollars.

AID Inputs. AID inputs, including personnel, training, commodities, construction, other and inflation/contingencies were based on the initial distribution of the total LOP in the Project Paper. In cases where total LOP changed (as reflected in the FY 1987 Congressional Presentation), the amounts in each category were increased in proportion to the original percent allocated to each category.

Contractor/Grantee. An effort has been made to list the primary contractor(s) or grantee, followed by any other sub-contractors, address and telephone number(s). This category is not intended to provide an exhaustive list of contractors utilized in accomplishing project goals.

AID Contact. Identifies the office from which the project is administered, project officer and/or advisor, and address.

Project Purpose, Summary, AID-Financed Inputs, Major Outputs. Descriptors are taken from the Project Paper, and describe projects as originally designed; in some cases, modifications have been incorporated.

Host Country and Other Donor Contributions. Information refers to financial contributions to the project by the host country and other donors.

Other Donor Activities. Provides information related to the technology and/or thrust of the AID project. In the case of regional and central projects, this section may also include donors' projects in the region.

Project Status. This is a descriptive narrative of project activities and accomplishments within the last year and for the most part does not include evaluative information. It is based on a combination of sources, including conversations with project and desk officers, technical resources staff, contractors/grantees, visiting field officers and Quarterly Implementation Reports (QIR).

Project Documents and Reports. Three types of documents are referenced:

- Project Identification Document (PID);
- Project Paper (PP); and
- General Reports.

The PID is usually a brief description of the project submitted by the field mission to AID/W to determine project feasibility. If the PID is approved, the PP is written including an analysis of social, economic, technical, environmental and institutional feasibility, an implementation and

a financial plan. If the PP is approved, the project is authorized, a Project Agreement is signed with the host country government, and the funds are obligated. The authorization date is provided in the status narrative, except in a few cases wherein the obligation date is substituted. In a few cases, the Project Review Paper (PRP), which is an intermediate step between the PID and the PP is listed for older projects. General reports, usually of a technical nature. emanating from the project or closely associated with it are also listed where available.

3.5(b) Centrally Funded (Excluding PL-480)

Data summaries are organized in the same manner as the rest of the projects, i.e., by project number, in ascending order. For the most part, sources and definitions provided for the bilateral and regional projects are applicable to this section, with the following exceptions:

Africa-Specific Activities. This category includes countries impacted by the project.

Project Purpose Code. A breakdown of the total LOP by project purpose has been provided.

Status. Status is restricted to activities in African countries only, and may include studies, training, conferences, seminars or other forms of intervention.

AID Contact. In the case of the S&T Bureau, projects are administered centrally. The project officer's name and address at AID headquarters is provided.

3.5(c) Bureau for Food for Peace and Voluntary Assistance (PL-480)

The information in this section was derived from a report by Peg Clemen entitled, "Food Aid and Forestry: Ongoing and Recently Terminated PL-480 Supported Forestry Projects Worldwide," January 15, 1984. All figures are those which were effective as of January 1984. Information about PL-480 programs includes: (a) country/project number; (b) title; (c) total cost (when available); (d) duration of the project, U. S. contribution, and (e) a brief description of the activity.

PROJECT	SECTOR/SUBSECTOR/ACTIVITY			%
633-0209	ENY	REN	TDE	30
Botswana	ENY	REN	TTR	30
Renewable Energy	ENY	REN	PPL	10
Technology (BRET)	ENY	REN	HRD	10
	ENY	FUW	TDE	10
	ENY	FUW	TTR	5
	ENY	FUW	HRD	5

APP. CAT.	OBLIGATIONS BY FISCAL YEAR ($000) THROUGH ACTUAL FY82	FY83	FY84	FY85	ESTIMATED FY86
ES	3,304	--	--	--	--

PROJECT STATUS	LENGTH OF PROJECT/PACD
Completed	9/80 - 9/85

AID INPUTS	($000)
Personnel	896
Training	311
Commodities	887
Construction	266
Other	129
Inflation/Contingencies	815
Total LOP	3,304

CONTRACTOR

Associates in Rural Development (ARD)
110 Main Street
Burlington, VT 05401
(802) 658-3890

AID CONTACT

Will Elliott, Project Dev. Off.
Botswana (ID)
Department of State
Washington D.C. 20520

PURPOSE

To introduce village renewable energy technologies (RETs) which are inexpensive and easily replicated, and to promote the widespread use of these RETs, which can reduce Botswana's dependence on vulnerable supplies of increasingly expensive fossil fuels.

AID-FINANCED INPUTS

1. Funding for two long-term technicians (a renewable energy specialist, and a sociologist) and short-term consultants;
2. Training for project personnel, extension agents, villagers; and
3. Construction, commodities, equipment and support costs.

MAJOR OUTPUTS

1. Energy needs survey and analysis for use in technology selection and development;
2. National energy assessment studies;
3. Research, development and field-testing of water pumping systems;
4. Research and development of small-scale photovoltaic electrification;
5. Research and development of solar water heaters for urban households and rural institutional use;
6. Energy-efficient building design;
7. Village awareness and outreach campaign;
8. Village RET and institutional RET training; and
9. Government of Botswana (GOB) capacity to manage ongoing extension, training and research after the RET project ends.

SUMMARY (Continued)

staff. Activities toward meeting project outputs included, but were not limited to, the following: (1) installation of one photovoltaic- (PV) powered water pump and one PV-powered health clinic; (2) research on metal and earthen stoves; (3) research and development of windmill pumping for deep wells; (4) one local staff trainer, one technician and one village facilitator hired; (5) a rural energy survey completed in two villages; (6) a one-month consultancy on solar water heaters and other technologies for village domestic use completed; (7) a two month consultancy completed in public energy awareness strategies at both the local and national levels.

The project was completed 9/26/85; work is continuing on comparative pumping technologies under separate financing.

DOCUMENTS AND REPORTS

Project Paper, 4/80
"Health Center Electrification in Botswana: Preliminary Findings," J. Nolfi, 1/82
"Design of Demonstration Passive Solar Buildings," P. Temple and D. Norris, 2/82
Botswana RET Project First-Year Annual Report," 1/83
"Building Public Awareness in Botswana," E. Morgan, 2/83
"Comparative Testing for Water-pumping Systems Installed in Botswana General Research Methodology and Specific Field Implementation Instructions," 7/9/84
"Botswana Village Energy Survey Report," J. Oki, 9/83
"Solar Home Brochure for the BRET Project," 9/83
"Botswana RET Project Second-Year Annual Report," 1/84

HOST COUNTRY AND OTHER DONOR CONTRIBUTIONS

The GOB contributed $1,178,000 to the project for Ministerial and extension staff time, commodities, land, housing and research and development. The Peace Corps provided five volunteers at a cost of $225,000.

OTHER DONOR ACTIVITIES

The FED granted about $700,000 to create a technological information clearinghouse at the Botswana Technology Center. Canada provided technical assistance for windmill and solar technology.

SUMMARY

The project was to consist of: (1) baseline data collection on village and institutional energy use in three pilot districts, focusing on cooking and heating practices; (2) a three-month Village Awareness Campaign on the need for wood conservation, followed by construction of demonstration units (wood burning mudstoves, solar ovens and water heaters, thatch insulation and evaporative coolers); (3) installation of 1,000 village technology units (e.g. individual stoves, waterheaters, etc.) in three districts and small wind- and hand-operated pumps in eight villages; (4) training of project personnel, extension agents, village entrepreneurs and villagers in the construction and maintenance of RETs; (5) construction of a solar-heated/cooled building for the Botswana Technology Center (partly AID-financed), four buildings at the Rural Industries Innovation Center, a passive solar house and three village training facilities; (6) research and development of seven institutional/commercial and experimental RETs, including solar water heaters, photovoltaic and wind-powered water pumps, photovoltaic electric systems, and portable woodstoves; and (7) national or subsector energy assessments.

STATUS

The project was authorized on September 19, 1980, and a contract was signed with ARD in August, 1981. The team began work in-country in January 1982, setting up research activities and training Botswana

"Project Evaluation Summary: Botswana Renewable Energy Project," 2/3/84; 5/29/85
"Passive Solar Design Workbook," B. Hamilton, B. Sachs, and D. Norris 3/84
"Passive Solar Design in Botswana," 5/84
"Technical Adaptation: BRET Wood-Conserving, Metal Stoves," E. Brunet, 7/84
"Comparative Testing for Water-Pumping Systems Installed in Botswana," R. McGowan, and J. Ashworth, 7/84
"Technology Adaptation Process: Steps Taken to Transform the BRET Metal Stove Prototypes into Finished Commercial Models," J. Ashworth, 6/84
"Production Training for BRET Metal Stoves," E. Brunet, 7/84
"BRET Metal Stove Production Guide for "B" and "Delta 3" Stoves, " E. Brunet, and J. Ashworth, 7/84
"Measured Performance Analysis of the SHAKAWE-EC: A Prototype Passive Solar House for Botswana," B. Hamilton, 10/84
"Earthen Stove Consultancy for the BRET Project," C. Panty, 12/84
"Final Evaluation: Botswana Renewable Energy Technology Project," 1985
"Ventilation Recommendations for MLGL/BHC Mid-Level Housing," S. Matthews, 1/85
"Thermal Performance of Proposed VTC Buildings," P. Niles, 2/85
"Computer Analysis of Shoshong VTF Solar Rondavel," P. Niles, 3/85
"New Chancery for Lusaka--Atrium Thermal Analysis," S. Matthews 3/85
"Thermal Analysis of Type-C Staff Houses for District Councils in Botswana," P. Niles, 3/85
"Parametric Studies of Thermal Options for Low-Cost Housing," P. Niles, 4/85
"BRET Thermal Performance Analysis Method--Documentation for Worksheet Version 1.0," S. Matthews, and P. Niles, 5/85
"Training Needs Assessment for RETs," G. Burrill, 6/85
"Performance Evaluation of the BTC Passive Solar Office Building," B. Hamilton, B. Sachs, and G. Masire, 8/85
"Energy Design of Buildings in Botswana--Accomplishments of the BRET Project, Current Technology Status and Recommendations for the Future," B. Hamilton, 8/85
"Fenestration Design for Daylighting Vocational Training Center Classrooms," S. Matthews, 9/85
"Thermal Analysis of Tutume Health Center," S. Matthews, 5/85
Quarterly Implementation Reports

PROJECT	SECTOR/SUBSECTOR/ACTIVITY			%	APP. CAT.	OBLIGATIONS BY FISCAL YEAR ($000) THROUGH ACTUAL FY82	FY83	FY84	FY85	ESTIMATED FY86	PROJECT STATUS	LENGTH OF PROJECT/PACD
686-0231	AGR	CRO	HRD	25	SH	4,955	--	--	550	--	Active	9/78 - 9/86
Burkina Faso	AGR	FOR	PPA	5	FN	--	1000	--	--	--		
Seguenega IRD	AGR	FOR	RED	5								
Africare (PVO)	HLT		TTR	30								
	HLT		HRD	30								

AID INPUTS	($000)
Personnel	1,418
Training	131
Commodities	828
Construction	3,080
Other*	1,048
Inflation/Contingencies	0
Total LOP	6,505

CONTRACTOR

Africare, Inc.
1601 Connecticut Avenue, N.W.
Washington, D.C. 20036
(202) 462-3614
Robert Wilson
Regional Officer for West Africa

AID CONTACT

Roger Bloom, ADO
Burkina Faso (ID)
Department of State
Washington, D. C. 20420

PURPOSE

To achieve an improved network of social services, production opportunities and supportive services within the Seguenega Sector.

AID-FINANCED INPUTS

1. Technical assistance (short-term);
2. Training; and
3. Funds for equipment and supplies.

MAJOR OUTPUTS

1. Strengthen the administrative and management capability of Seguenega Organization Regionale de Developpment (ORD) with respect to integrated rural development;
2. Food production by the villagers;
3. Basic human services for villagers;
4. Trained villagers.

HOST COUNTRY AND OTHER DONOR CONTRIBUTIONS

Other support in the amount of $750,000 and an in-country contribution of about $1.5 million is being contributed.

SUMMARY

This is an Operational Program Grant (OPG) to AFRICARE. There are four subprojects, which provide technical and financial assistance and commodities to train volunteer health workers, organize model village

*Includes equipment, operation in-country, transportation, revolving funds, miscellaneous office expenses, audits, international travel and secretarial.

SUMMARY (continued)

health committees and establish operating preventive health programs in the Seguenaga section of the Yatenga Region. Africare works directly with local officials and technicians at the national, regional and sectoral levels, as well as with rural people to assist in: increasing Seguenega's capacity to deliver social services; increasing the production and productivity of the people, improving the planning and management capacities of the people and government agencies at all levels; increasing the participation of the rural people in planning; and implementing and managing rural development projects.

The project establishes an improved network of social services, production opportunities and supportive services. Social services include general village development extension services, village-based health services, functional adult literacy and young farmers training. Production opportunities includes vegetable gardening, development of low-lying areas, livestock and poultry production. Support services include well construction/rural access road improvement, reforestation soil conservation and the technical backstopping, planning, coordination and administrave support of development activities within Seguenega. The forestry component involves the development of small nurseries in Seguenaga.

STATUS

Agriculture activities were expected to be completed in June 1986.

DOCUMENTS AND REPORTS

Quarterly Implementation Reports
Africare Development Program Grant Report: "Final Report," September 1977
"Mid-project Evaluation: Seguenega Integrated Rural Development Project," 8/83

PROJECT	SECTOR/SUBSECTOR/ACTIVITY			%
686-0235	AGR	FOR	HRD	50
Burkina Faso	AGR	FOR	PPA	20
Forestry Educa-	AGR	FOR	TTR	20
tion Development	AGR	FOR	TDE	10

APP. CAT.	OBLIGATIONS BY FISCAL YEAR ($000) THROUGH ACTUAL FY82	FY83	FY84	FY85	ESTIMATED FY86
SH	4,658	--	--	--	--

PROJECT STATUS: Completed

LENGTH OF PROJECT/PACD: 7/79 - 6/85

AID INPUTS	($000)
Personnel	2,621
Training	60
Commodities	1,966
Construction	1,311
Other	0
Inflation/Contingencies	0
Total LOP	5,958

CONTRACTOR

PASA with U.S. Department of Agriculture/OICD
600 Maryland Avenue, S.W.
Room #129
Washington D. C. 20024
(202) 447-7476

AID CONTACT

Roger Bloom, ADO
Burkina Faso (ID)
Department of State
Washington D.C. 20520

PURPOSE

To improve the capability of the Government of Burkina Faso to implement sound water and land resource use programs; specifically, to train foresters as promoters of multiple use, sustained yield forests, involving villages in forest use and management of fuelwood supplies, as well as improved charcoal production techniques, and to develop a model management forest.

AID-FINANCED INPUTS

1. Long-term technicians and short-term consulting assistance in education, forestry management, evaluation;
2. Short-term and third-country training and study tours for forest agents and students;
3. Laboratory, audio-visual and other equipment, supplies and vehicles for the school;
4. Construction of school buildings; and
5. Construction of regional garage and forest agent houses.

MAJOR OUTPUTS

1. School infrastructure provided and functioning;
2. School fully staffed with competent faculty and support staff;
3. Operational work study program, and field trips;
4. Graduates of the school (40/year); and
5. Forest management plan to help protect 8,700 hectares of forest.

HOST COUNTRY AND OTHER DONOR CONTRIBUTIONS

The GOBF maintained that this project was a high priority and agreed to contribute a total of $1,929,000 for salaries of GOBF personnel, scholarships for students, the value of wood, land and buildings. However, it was not until shortly before the PACD (June 1985) that the GOBF assumed the recurrent cost burdens of the project.

OTHER DONOR ACTIVITIES

The German, Dutch and French aid agencies, as well as Switzerland and the World Bank, are carrying out forestry projects in the country. The World

OTHER DONOR ACTIVITIES (Continued)

Bank provided several scholarships for foresters to acquire specialized training. Burkina Faso was one of the five countries selected for activities under the CDA forestry/fuelwood initiative.

SUMMARY

The project consisted of two major elements: (1) expansion and improvement of the Dinderesso Training Center for junior level forestry agents (including new facilities, upgraded and expanded faculty, and revised curriculum) to provide a valuable first hand learning environment; and (2) development of a management plan for the 8,700 hectares of national forest adjoining the training center (including resource inventory maps, vegetation analysis, and so forth), to serve as a model for the management of other forests in Burkina Faso.

STATUS

The project was authorized on March 23, 1979. The USDA team leader arrived in Burkina Faso in January 1981. Long-term technicians arrived in the fall of 1981, and a sociology/economics instructor arrived in June 1981. A mid-term evaluation was completed in June 1983 and the project was redesigned. The USDA project manager arrived in November 1983, following recommendations given in the September 1983 project redesign. Work on curriculum redesign was finalized and implemented; library materials were collected and 13 vehicles were provided. Construction of school buildings and staff housing was wer completed. The forest management plan was implemented. All graduates have been assigned field positions by the GOBF. The project was completed in June 1985.

DOCUMENTS AND REPORTS

Project Paper, 10/13/77
Consultant Reports, 11/81; 4/8/82
Evaluation, International Science and Technology Institute, (ISTI), Inc., Washington, D.C., 2/83,
Quarterly Implementation Reports

PROJECT	SECTOR/SUBSECTOR/ACTIVITY			%	APP. CAT.	OBLIGATIONS BY FISCAL YEAR ($000) THROUGH ACTUAL FY82	FY83	FY84	FY85	ESTIMATED FY86	PROJECT STATUS	LENGTH OF PROJECT/PACD
686-0934	AGR	FOR	RED	60		--	--	--	--	1,000	Active	6/85 - 6/88
Burkina Faso	AGR	FOR	TIR	20								
Southwest Regional Reforestation Project	AGR	FOR	HRD	20								

AID INPUTS	($000)
Personnel	210
Training	68
Commodities	133
Construction	49
Other*	549
Inflation/Contingencies	0
Total LOP	1,009

CONTRACTOR

Africare
1601 Connecticut Avenue, N.W.
Washington, D.C. 20007
(202) 462-3614
Robert Wilson
Regional Officer for West Africa

AID CONTACT

Roger Bloom, ADO
Burkina Faso (ID)
Department of State
Washington, D.C. 20520

PURPOSE

To build up the present Ministry of Transport, Environment and Tourism (MTET) infrastructure in the Provinces of Bougourila and Ponti and to initiate an effective program to counteract the environmental degradation that has been occurring in the region.

AID-FINANCED INPUTS

1. Personnel;
2. Training;
3. Commodities; and
4. Construction;

MAJOR OUTPUTS

1. Retraining for up to 20 MTET Agents;
2. Housing for MTET agents at posts currently without housing;
3. Establishment of mini-nurseries and planting activities; and
4. Analysis of environmental degradation.

HOST COUNTRY AND OTHER DONOR CONTRIBUTIONS

The Government of Burkina Faso is contributing $297,000, the Peace Corps is contributing $143,328, and Africare is contributing $58,000. The MTET is making available to the project the offices of the Danton Chief in Deibougou. CIDA is also funding the Forest Inspector in Gaoua and is providing MTET forestry agents with mud-brick houses (one in each of the region's seven forestry posts), up to nine motorcycles, three heavy-duty trailers and pickup trucks.

OTHER DONOR ACTIVITIES

The MTET's Bois de Village program, begun in 1979, is an important part of the Southwest region's reforestation and conservation efforts.

SUMMARY

This project provides assistance to Africare in reforesting Bougourila and Ponti Provinces of Southwest Burkina Faso by strengthening the infrastructure of the MTET and initiating a village level planting program. All forestry personnel active in the project are being formally trained/retrained in extension/sensitization techniques, tree planting and maintenance methods, agroforestry applications, soil and water conservation and other skills specific to their functions. MTET is working with the Ministry of Rural Development to identify the species and configurations desired by villagers and their potential benefits, and is engaging in project-related extension. A total of 3,000 villagers in 115 villages are targeted. In the planting program (self-help, aided by appropriate TA and training from the project staff), villagers are establishing up to 75 privately-owned mini-nurseries (for which the project is providing seeds and plastic pots needed to raise 500 seedlings). They are to plant a total of 115,000 trees, including fruit and shade trees around households, school yards and other public places; windbreaks; live hedges around agricultural fields; interplantings and individual and community woodlots.

STATUS

Project funding began in July 1985. A forester arrived in Burkina Faso in December 1985. The first year focused on developing the MTET infrastructure within the southwest region, identifying techniques or activities successful elsewhere in Burkina Faso or the Sahel, and sensitization of villages and village organization. Activities in the second year have included mini-nursery establishment and planting activities.

Funding for the Bois de Village programs in other regions came from Switzerland, Holland, Germany, the World Bank, Fonds de Development Rural, Canada, and Sweden. The Canadian International Development Agency (CIDA) is financing a multi-million dollar reforestation project for the Yako

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*Includes freight, insurance, taxes and duties, legal and audit fees, telephone and telex, postage, bank fees and exchange losses.

Village-level activites included a variety of extension and sensitization activities, villager training, establishment of mini-nurseries and self-help tree planting activities.

DOCUMENTS AND REPORTS

Project paper, 12/83

PROJECT	SECTOR/SUBSECTOR/ACTIVITY			%
695-0103	ENY	FOF	TTR	20
Burundi	ENY	FOF	HRD	10
Alternative	ENY	FOF	TDE	20
Energy Peat II	ENY	FOF	MKT	10
	ENY	FOF	RED	40

APP. CAT.	OBLIGATIONS BY FISCAL YEAR ($000) THROUGH ACTUAL FY82	FY83	FY84	FY85	ESTIMATED FY86
SD	5,106	1,200	500	1,525	669

PROJECT STATUS: Active

LENGTH OF PROJECT/PACD: 8/80 - 3/87

AID INPUTS	($000)
Personnel	5,177
Training	124
Commodities	1,973
Construction	292
Other	509
Inflation/Contingencies	925
Total LOP	9,000

CONTRACTOR

Irish Peat Board (Bord na Mona). Supplemented by Personal Services Contracts.

AID CONTACT

Mike Sullivan, GDO
Burundi (ID), Department of State
Washington, D.C. 20520

PURPOSE

To conserve the country's forestry reserves by increasing the availability and acceptability of peat as an alternative energy source; and to strengthen the Office Nationale de la Tourbe's (ONATOUR—the Burundian Peat Parastatal Agency) capacity to produce and aggressively market peat as an alternative fuel, considering all possible markets but initially concentrating on those in which peat will be the most cost-competitive.

AID-FINANCED INPUTS

1. A long-term, headquarters-based technical assistance team, a field production and maintenance staff, and short-term consultants in engineering, marketing and sociology;
2. On-the-job and third-country training for counterparts;
3. Demonstration and publicity for stoves and other activities; and
4. Equipment, vehicles, construction of new ONATOUR offices.

MAJOR OUTPUTS

1. Trained ONATOUR staff;
2. Improved ONATOUR management capability;
3. Resolution of technical questions on peat production and utilization; and
4. Development of commercial bogs.

HOST COUNTRY AND OTHER DONOR CONTRIBUTIONS

The GOB is contributing $1.8 million to the project for land, operating costs, bog sites, etc. The Government of Ireland is contributing $1.5 million for training, survey work and technical assistance.

STATUS (continued)

the 1983, 1984 and 1985 seasons. Two types of peat harvesting machines were tested, and the one most appropriate for Burundi peat bog conditions was selected for use with the project. A new ONATOUR office building has been constructed. The last three months in 1985 yielded record sales in peat for ONATOUR. This trend continued in 1986, with peat sales of 1,159 tons in March (99% of the project's target). The major contributing factor to this expansion of the peat market was the work of the stove technician and two stove/oven construction teams that were trained. Two types of peat-burning stoves and ovens were developed. Model domestic, institutional, and industrial units have been successfully completed. A total of 141 stoves and bakery ovens had been constructed by April 1986. Two teams of local project-trained masons have a back-log of orders for the foreseeable future, and it is expected that peat seals will continue to expand as long as stoves are available. The trained masons will continue to work on their own, following the consultant's departure. A follow-on consultancy by the stoves technical was scheduled for August 1986. In February 1986, a fuel expert with AID's Energy Initiatives for Africa regional project visited Burundi for one week to examine the quality of Burundi peat and to identify local waste materials that might be used as binders in forming charcoal and/or peat briquettes. About 40 kgs. of peat and other material were taken to Nairobi for testing.

A Bord na Mona bog reclamation expert arrived in early February 1986 for a three month consultancy. He is working primarily on a reclamation plan for Ijenda bog, which will no longer be used for peat production. The plan will rely heavily on local commune participation for implementation. A hydrological engineer on the Bord na Mona team completed a study on the Nyamuswaga Valley in March 1986. .

Continuing efforts are made to integrate the project's technical assistance (TA) into ONATOUR and to increase ONATOUR's responsibility for

OTHER DONOR ACTIVITIES

As part of a low-cost housing project, the World Bank contributed $35,000 to develop and test wood- and peat-burning stoves; this effort was coordinated with AID activities. Other donors, including the EEC and Finland, assisted in sampling, testing and development of peat processing facilities in the Gran Marais river basin. The World Bank has agreed to supply an organizational consultancy. An Irish Government financed training program in cooperation with the Irish Peat Board has been recently finalized. The UNDP has shown continued interest in the field of peat development.

SUMMARY

The project: (1) strengthens ONATOUR through staff training and the development of financial and operational guidelines (to enable the agency to become financially self-sufficient); (2) helps ONATOUR develop a marketing strategy (including demonstrations, test-marketing and promotional efforts) aimed at urban domestic, artisanal, commercial, institutional and industrial consumers; (3) furthers the expansion of peat production through the field-testing and introduction of appropriate peat macerating machinery, and the development of commercial peat bogs, and (4) develops peat stoves and ovens.

STATUS

The project was authorized August 26, 1980. During the same year, the project was staffed and contracts were signed with the Irish Peat Board (Bord na Mona) and the GOB. Three peat macerating machines arrived and were tested in 1981. Additional macerating machines were procured for administrative and logistic support. Consequently, most project staff were released by the end of 1985. The TA team now relies on ONATOUR's responsibility for secretarial and procurement services.
A precursor to this AID financed peat project (Alternative Energy Peat I, 698-0410.99) was carried out in 1978-79 and laid the groundwork for Peat II.

DOCUMENTS AND REPORTS

PID, 3/80
Project Paper, 7/32/80
Consultant Reports, 5/80; 6/80
"Design and Field Testing of the First Low Cost Burundi Peat Stove," 10/80
"Burundi: Alternative Energy, Peat II Provisional Evaluation," 8/82
Mid-term Evaluation, 12/82
AID Rep/ONATOUR/Project Staff Peat I Evaluation, 3/83
Second Project Evaluation, 9/84
"Faulty Project Design and Other Problems That Have Impeded Attainment of Peat II Project Goals: Audit Report No. 3-695-84-11," 4/84
Peat Project Paper Amendment No. 1, 7/85
"Report No. 1, Bog Survey," Gerry Loughman, 4/85
"Report No. 2, Hydrological Analysis," Gerry Loughman, 2/86
"Report No. 3, Design of Drainage Work, " Gerry Loughman, 3/86
"Report No. 4, Development Plan," Gerry Loughman, 3/86
Quarterly Implementation Reports

PROJECT	SECTOR/SUBSECTOR/ACTIVITY			%	APP. CAT.	OBLIGATIONS BY FISCAL YEAR ($000) THROUGH ACTUAL FY82	FY83	FY84	FY85	ESTIMATED FY86	PROJECT STATUS	LENGTH OF PROJECT/PACD
695-0105	AGR	FOR	RED	80	FN	1,144	--	--	--	--	Active	6/82 - 6/87
Burundi	AGR	FOR	HRD	5								
Bururi Forest	AGR	FOR	TTR	15								

AID INPUTS	($000)
Personnel	162
Training	45
Commodities	223
Construction	0
Other	324
Inflation/Contingencies	390
Total LOP	1,144

CONTRACTOR

PASA with USDA/Forest Service/OICD*
P.O. Box 2417
Washington, D.C. 20013
Tim Resch (202) 447-5748

AID CONTACT

C. S. Gordon
Project Officer
Burundi (ID)
Department of State
Washington D.C. 20520

PURPOSE

To preserve one of the last two remaining natural high-altitude forests in Burundi (Bururi Forest), and to develop new sources of firewood and construction timber for the inhabitants of the Bururi area.

AID-FINANCED INPUTS

1. Short-term technical assistance in forest management and research, stove development, testing and extension;
2. Observational tour training for two Burundians;
3. Construction of a project office and warehouse; and
4. Provision of vehicles, materials and supplies.

MAJOR OUTPUTS

1. Protection of 1,600 hectares of existing forest;
2. Increased supply of fuel and construction wood (750 hectares of plantations, 300 hectares of communal and individual plantings, 100 hectares of restocked natural forest, and established nursery facilities);
3. Watershed protection in the headwaters of the Malembwe River;
4. Strengthened institutional capacity of the National Institute for the Conservation of Nature to develop and manage forest resources;
5. Applied research on local species and on fast-growing nitrogen fixing species,
6. Extension programs developed to increase conservation awareness among local populations; and
7. Agroforestry programs to address local population's needs.

SUMMARY (Continued)

firewood and building poles, which will help reduce soil erosion and increase the availability of alternative energy sources; (2) providing seedlings for the equivalent of 300 hectares of communal and private woodlots, agroforestry plantings, and other outplantings; (3) replenishing 100 hectares within the forest boundary using native species; (4) establishing a nursery to provide seedlings to local residents and for project activities; (5) developing an extension program for forest agents and local residents on seedling care, agroforestry, and other conservation measures; (6) conducting research using nitrogen fixing exotics and local species; and (7) developing an agroforestry program for the project area.

STATUS

The project was authorized on April 22, 1982. Work on the nursery began in September 1982. Germination and growth studies have been initiated for ten local species. Similar studies have been initiated for eight species of nitrogen-fixing and fast-growing exotics. A socio-ecological survey of the Bururi Forest and its environs was carried out by a consultant team in 1983. During that study a troop of resident chimpanzees was discovered in the forest--a fact previously unknown.
An intermittent forestry consultant provided by the USDA-Forest Service visited the project three times (82, 83, 84) for one-month periods to provide technical advice and assistance. In early 1984, a Peace Corps Volunteer was assigned to the project. The mid-term evaluation of the project was carried out in June/July 1984. The project was amended in FY 1984/85 to add a full-time resident expatriate advisor and to give more emphasis to agroforestry extension. As of April 1986, 36,660 seedlings had been distributed to local residents for agroforestry and other needs, and 5,600 seedlings were distributed to schools for fuelwood and

HOST COUNTRY AND OTHER DONOR CONTRIBUTIONS

The GRB is contributing an estimated $220,146 for GRB personnel and their housing, construction of trails and firelanes, and maintenance of staff housing. The IDA/French technical assistance team provide advice as needed.

OTHER DONOR ACTIVITIES

The project complements afforestation efforts by the World Bank (7,000 hectares), the EDF (3,200 hectares) and Belgium/Saudi Arabia (12,000 hectares), as well as a UNDP/FAO forestry training program, and French research activities.

SUMMARY

The project is expected to save 1,600 hectares of Bururi Forest by: (1) surrounding it with 750 hectares of fast-growing trees to be used for construction. In addition, seed of seven agroforestry species in Kenya had been acquired, and information had been requested on the availability of inoculums and seed for other agroforestry species to be used in the 1986/1987 season. A 1200 seedling trial plantation (using three nitrogen-fixing exotic species and one indigenous nitrogen-fixing species) had been planted.

Future plans include continuing development of the extension and agroforestry programs, production of fruit trees for local needs, the assignment of a full time extension person to the project, and improving the planning capabilities of the project staff. Both short and long-term training has been carried out.

DOCUMENTS AND REPORTS

Project Paper, 12/16/80
Quarterly Implementation Reports
"Field Evaluation of Wood Stoves (With Special Reference to West Africa)," 6/81
Project Status Reports, E. Olson, 1982, 83, 84
"Socio-Ecological Survey of the Bururi Forest Project Area, A. W. Weber and A. Vedder, 10/83
Mid-term Evaluation Report, T. Catterson and J. Seyler, 7/84 (pp. 44 and appendices)

*For personnel services only.

PROJECT	SECTOR/SUBSECTOR/ACTIVITY			%	APP. CAT.	OBLIGATIONS BY FISCAL YEAR ($000)* THROUGH ACTUAL FY82	FY83	FY84	FY85	ESTIMATED FY86	PROJECT STATUS	LENGTH OF PROJECT/PACD
655-0005	ENY	FOF	RED	5	SH	1,500	—	—	—	—	Completed	3/78 - 9/86
Cape Verde	ENY	FOF	CON	85	SD	(Through 1984)		5,765	—	—		
Sal Desalination & Power	ENY	POW	TTR	10	HE	525			—	—		

AID INPUTS	($000)
Personnel	952
Training	199
Commodities/Construction*	7,760
Other	870
Inflation/Contingencies	0
Total LOP	9,781

CONTRACTOR

Burns and Roe
700 Kinderkamack Rd.
Oradell, New Jersey 07649
(201) 265-2000

Ruhlin/Wallace
180 E. Broad Street
Suite 1714
Columbus, Ohio

AID CONTACT

Thomas H. Ball, AID Representative
Cape Verde (ID)
Department of State
Washington, D.C. 20520

PURPOSE

To contribute to public health and economic growth by building a desalination and electric power plant to provide water and electricity to five communities in the northern section of Sal Island.

AID-FINANCED INPUTS

1. Funding for design and construction of the power/water plant; the water and power delivery/distribution systems; and
2. Technical assistance and training for Cape Verdean staff.

MAJOR OUTPUTS

1. Up to 550 m^3 day of potable water and 1000 KWH of electricity from a combined desalination/power plant;
2. Water distribution to households, businesses, and so forth;
3. A power delivery system for five communities;
4. Trained Cape Verdean staff; and
5. An operation and maintenance program in place.

HOST COUNTRY AND OTHER DONOR CONTRIBUTIONS

The GOCV contribution included all local costs for labor and materials, shipping costs for all U.S. equipment, land for plant and existing capital assets incorporated into the power distribution network, representing a total of $2,706,000.

SUMMARY (Continued)

generators, together with electrically-powered reverse osmosis desalination units), as well as support buildings, storage tanks and access roads; (2) a freshwater delivery system to five communities on the island; (3) a potable water distribution system to households, businesses and government consumers in the five communities; (4) a high-tension power delivery system connecting the water/power plant to the five communities; (5) an electrification system providing power to individual households, commercial and governmental facilities in the five communities; (6) a sewage collection system and water treatment plants, and (7) an operation and maintenance program, including staff training and a system for measuring consumption, billing, payments, and so forth.

STATUS

The project was authorized on March 24, 1978. Phase I of the design was completed by Burns and Roe in November 1979. In December 1980, an additional $900,000 was authorized, and the PACD was extended for a scaled-down version of the project. In January 1982, another amendment, for $600,000 was authorized, and the PACD was extended until 1984 and later until September 1986. Construction of the desalination plant began in May 1982. Construction was completed and desalinated water and power production began in March 1983.

OTHER DONOR ACTIVITIES

The FED, Holland and France have funded electricity production or distribution projects in the Cape Verde Islands.

SUMMARY

The project provided for the design and construction of: (1) a seawater desalination plant (comprised of diesel engines driving electric

*Includes water and power distribution and delivery and sanitary sewer system.

DOCUMENTS AND REPORTS

"Cape Verde, Desalination and Power (SAL): Project Paper and Amendment," 3/24/78
"Conceptual Design Documents: Burns and Roe: Paramus, NJ, 1979
"Cape Verde, Desalination and Power (SAL): Project Paper and Amendment," 12/30/80
"Wind Power Generation for Sal Island, Burns and Roe, August, 1980
"SHD Program/Assessment of Small Hydroelectric Potential in Cape Verde," NRECA, Washington, D.C., 1981
"Engineering Study of Desalination Using Salt Gradient Solar Ponds," Burns and Roe, D. Rubin, 1982
Quarterly Implementation Reports

PROJECT	SECTOR/SUBSECTOR/ACTIVITY			%
655-0006*	AGR	NRE	TTR	30
Cape Verde	AGR	NRE	PPA	30
Watershed	AGR	CRO	HRD	20
Management	AGR	FOR	RED	20

APP. CAT.	OBLIGATIONS BY FISCAL YEAR ($000) THROUGH ACTUAL FY82	FY83	FY84	FY85	ESTIMATED FY86	PROJECT STATUS	LENGTH OF PROJECT/PACD
SH	5,275	--	1,000	--	--	Completed	7/79 - 5/85

AID INPUTS	($000)
Personnel	415
Training	38
Commodities	925
Construction	0
Other**	4,232
Inflation/Contingencies	665
Total LOP	6,275

CONTRACTOR

PASA with U.S. Department of Agriculture/OICD***
600 Maryland Avenue, S.W.
Room 129, Washington, D.C. 20024
(202) 447-2187

AID CONTACT

Joe Hartman, ADO
Cape Verde (ID)
Department of State
Washington D. C. 20420

PURPOSE

To assist the Government of Cape Verde to establish an initial short-term, and continuing long-term watershed management plan, as well as a pilot agricultural extension service for small-scale farmers.

AID-FINANCED INPUTS

1. Technical assistance in soil and water conservation and for the establishment of the pilot extension service;
2. Training in soil conservation and agricultural extension;
3. Equipment and commodities for field, office, extension services; and
4. Labor costs for 3,000 workers building conservation structures.

MAJOR OUTPUTS

1. Watershed management maps of four basins in the project area, covering 9260 hectares;
2. A preliminary afforestation/reforestation plan of the watersheds;
3. Planting of 440 hectares in afforestation/reforestation zones in and near the project area;
4. Introduction and testing of new crop varieties;
5. Over 400 hectares of improved, rainfed farmland, 50 hectares of newly irrigated land and 30 hectares of newly-formed alluvial land created through construction of rock retaining walls, contour ditches, irrigation canals, check dams, subterranean water storage structures, water spreading structures, rock groins, and by the construction and improvement of wells featuring windmills;
6. Low retaining walls - 40 km.; Contour ditches - 150 km.; Irrigation lines - 12 km.; Check dams - 750; Water storage works - 12.
7. Small (10,000-25,000 seedling) nurseries established in each of the watersheds; and
8. Pilot extension program established, and ongoing.

OTHER DONOR ACTIVITIES (Continued)

establishment of species trials of more than 60 species/varieties. Recently the Italian Government has financed a long-term continuation of the program. The International Labor Organization (ILO), UNDP, the Federal Republic of Germany and Dutch Government carry on projects complementary to this AID effort. AID provided equipment for a soil mechanics laboratory under 655-0006; and is currently upgrading the soil chemistry and soil physics laboratories under the Food Crops Research Project (655-0011).

SUMMARY

The project was implemented on Santiago Island, and accomplished the following: (1) funded works which prevent hillside and valley erosion and ultimate loss of topsoil to the sea; (2) provided employment for Cape Verdeans for the construction of such labor-intensive soil and water conservation works; (3) strengthened the Directorate of Conservation and Natural Resources (DCNR), so it could plan, design and construct soil and water management projects, and inventory water resources; (4) with the cooperation of the DCNR, supported preparation of watershed management plans for four drainage basins where the project was be implemented, and (5) initiated an agricultural extension service on a pilot basis, including the training of extension agents.

STATUS

The project was authorized on July 30, 1979 and terminated on May 15, 1985. An agricultural Extension Advisor and a Soil Conservation Specialist served in the field from mid-1981 until April 1985, both with an extension of 16 months beyond the original PACD date. Project evaluations were conducted in November-December, 1983 and October 1984.

HOST COUNTRY AND OTHER DONOR CONTRIBUTIONS

The GOCV contributed land, personnel, logistics support, equipment maintenance and nursery stocks estimated at $1,621,000.

OTHER DONOR ACTIVITIES

An FAO/Belgian Government project was concerned with reforestation and afforestation of some 3500 hectares of land from 1978-1984, and the

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*The Watershed Management Project (655-0013) will continue this project.

**Includes operating costs and local costs.

***For Personnel services only.

DOCUMENTS AND REPORTS

Project Paper, 1/79
"Watershed Management Report," P. Dimanche, 5/78
"Draft Report for Cape Verde Watershed Management," G.B. Sparrow and J.L. Stroehlein, Utah State University, 6/79
"Watershed Management in Cape Verde: Interim Evaluation," 12/82
Project Evaluation, 4/83
"Watershed Management Project Pilot Agricultural Extension Service: Final Report: A Summary of Activities, 1981 - 1985," 4/85
Quarterly Implementation Report

PROJECT	SECTOR/SUBSECTOR/ACTIVITY			%	APP. CAT.	OBLIGATIONS BY FISCAL YEAR ($000) THROUGH ACTUAL FY82	FY83	FY84	FY85	ESTIMATED FY86	PROJECT STATUS	LENGTH OF PROJECT/PACD
655-0013	AGR	NRE	RED	50	SH	—	—	1,611	2,000	2,000	Active	8/84 - 9/87
Cape Verde	AGR	NRE	TTR	39								
Watershed	AGR	NRE	HRD	1								
Management II	AGR	FOR	RED	10								

AID INPUTS	($000)
Personnel	1,734
Training	612
Commodities	1,632
Construction	0
Other	205
Inflation/Contingencies*	1,428
Total LOP	5,611

CONTRACTOR

Sheladia Associates
5711 Sarvis Avenue
Suite 400
Riverdale, MD 20737
Ted Kaminsky
(301) 779-4303

AID CONTACT

Joe Hartman, ADO
Cape Verde, (ID)
Department of State
Washington, D.C. 20520

PURPOSE

To develop and protect the soil and water resources of project-designated watersheds.

AID-FINANCED INPUTS

1. Technical assistance (long and short-term);
2. Training; and
3. Funds for purchasing commodities (materials and equipment).

MAJOR OUTPUTS

1. Approximately 7,500 hectares treated with contour furrows;
2. Approximately 1,000 hectares treated with rock stabilized structures;
3. Approximately 2,600 check dams constructed;
4. Ten subterranean catchment dams constructed;
5. Approximately 4,000 meters of embankment groins built;
6. Physical structures augmented with vegetative soil and water conservation;
7. Six persons trained in U.S. degree programs and short-term programs;
8. Pilot extension (rural assistance) effort supported;
9. Community-based water management committees supported;
10. Coordination of research and extension in soil and water utilization;
11. A hydrological monitoring system institutionalized;
12. Two office buildings built; and
13. Refined watershed plans.

HOST COUNTRY AND OTHER DONOR CONTRIBUTIONS

Local currency generated through the sale of PL 480 commodities are being used to pay salaries of rural workers and to procure local materials. Each year, the program will donate 15,000 metric tons of #2 corn. The local currency proceeds generated from the sale of the corn is expected to generate the equivalent of $2 million. The GOCV is

*Includes freight, insurance and PSA fixed fee contract for commodities.

HOST COUNTRY AND OTHER DONOR CONTRIBUTIONS (Continued)

supplying personnel at all levels in project implementation, office space, training, and fuel for project vehicles. The West Germans, French, FAO and Dutch also are working on watershed projects on other islands.

SUMMARY

This project combines PL 480 Title II, Section 206 local currency with a Development Assistance Project to focus on the protection of the soil and water resources of part of Santiago and Santo Antao Islands. This project was spawned from two current projects with similar objectives - Watershed Management (655-0006) and Food for Development (655-PL01). Both projects aim at strengthening agricultural production potential through labor-intensive construction of soil and water conservation structures: Watershed Management by providing foreign exchange in a limited number of watersheds; and Food for Development, exclusively through local currency funding of rural workers salaries. It is expected that a quantification of the improvement in soil and water resources will be possible; analysis of the resources will provide national planning information; and the watersheds with the most potential will have independent development plans based upon quantifiable conclusions. This project is also intended to employ 6,000 to 7,000 rural workers during the off-season each year for four years. Activities are designed to preserve the soil and water in order to increase agricultural productivity. By the end of the project, it is anticipated that alternative sources of employment will have been identified and the need for this type of assistance will be reduced.

STATUS

The project was approved in August 1984. Staff from the previous project (655-0006) remained in the field until March 1985. The new project team arrived in January 1986.

DOCUMENTS AND REPORTS

Project Paper Watershed Development 4/5/84

PROJECT	SECTOR/SUBSECTOR/ACTIVITY			%	APP. CAT.	OBLIGATIONS BY FISCAL YEAR ($000) THROUGH ACTUAL FY82	FY83	FY84	FY85	ESTIMATED FY86	PROJECT STATUS	LENGTH OF PROJECT/PACD
677-0051	AGR	FOR	RED	5	SH	--	--	--	3,725	4,000	Active	6/85 - 9/89
Chad PVO Development Initiatives	AGR	CRI	RED	55								
	AGR	CRI	MKT	40								

AID INPUTS	($000)
Personnel	650
Training	0
Commodities	0
Construction	0
Other*	12,000
Inflation/Contingencies	75
Total LOP	12,725

CONTRACTOR

Various PVO agencies

AID CONTACT

Dianne Blane
Chad (ID)
Department of State
Washington D.C. 20520

PURPOSE

In the Sahelian Zone, to assist small-farmer food production and supportive private sector activities having demonstration and institutional development effects.

AID-FINANCED INPUTS

1. Low recurrent cost PVO-managed schemes in area-specific basic agriculture and market town private sector support;
2. Technical Assistance, loan finance and Food-for-Work; and
3. Monitoring and evaluation.

OUTPUTS

1. Small-scale irrigated agriculture schemes with agricultural inputs delivery;
2. Functioning agricultural and agriculture-related business; and
3. Basic systematic data.

OTHER DONOR AND HOST COUNTRY CONTRIBUTIONS

Of the total AID contribution, $12.0 million is provided by AID to PVOs by Cooperative Agreements through letters of credit. Generally a 25 percent contribution to each subproject from non-AID sources is required, including cash input so far as possible from each PVO. It is estimated that the non-AID contribution by PVOs to the overall cost of the project will be about $3.0 million. The Government of Chad is not required to contribute to the overall Project, as this is deemed impossible under current Chadian circumstances. However, in individual subprojects, certain GOC contributions of staff time and facilities are encouraged.

*Grants to PVOs

SUMMARY

The project is to consist of four or five subprojects (SPs), designed, implemented and monitored by U.S. Private Volunteer Organizations (PVOs) resident in Chad. Cooperation for American Relief Everywhere (CARE), Africare, Volunteers in Technical Assistance (VITA) and possibly other PVOs will initiate SPs in the areas in and around Kanem, Abeche, and Chari-Baguirmi in Chad. Subprojects are designed to assist the settled population in these areas to achieve food self-sufficiency by providing technical and other inputs needed for construction of small irrigation works. In some instances, AID or World Food Program, Food for Work TA or food sales proceeds are being provided. Other SPs assist small entrepreneurs in starting up food production-related businesses by providing TA and loan capital from a revolving fund.

STATUS

The project was authorized in May 1985. As of April 1986, both CARE and Africare had completed subproject design efforts and submitted draft proposals for AID's initial review. Organigzation for Rehabilitation and Training (ORT), VITA and International Human Assistance Program (IHAP) had also expressed strong interest in designing subprojects. ORT submitted a concepts paper which was reviewed and approved by AID. ORT then proceeded with plans to field a design team scheduled to have arrived in Chad in April-May. AID also advertised in the Commerce Business Daily and a professional journal for the services of an irrigation engineer to be employed under a PSC for two years to provide technical support in small-scale irrigation and water management to both the PVOs who will be implementing subprojects and the GOV counterpart agencies (Ministry of Agriculture/Rural Engineering and others).

DOCUMENTS AND REPORTS

Project Paper, 4/24/85
Quarterly Implementation Report

PROJECT	SECTOR/SUBSECTOR/ACTIVITY			%
602-0001	AGR	FOR	RED	25
Comoros	AGR	FOR	HRD	25
Land and Soil	AGR	NRE	HRD	25
Conservation	AGR	NRE	TTR	25

APP. CAT.	OBLIGATIONS BY FISCAL YEAR ($000) THROUGH ACTUAL FY82	FY83	FY84	FY85	ESTIMATED FY86	FY87
FN	--	--	--	--	193	295

PROJECT STATUS: Active

LENGTH OF PROJECT/PACD: 7/84 - 6/89

AID INPUTS	($000)
Personnel	905
Training	59
Commodities	500
Construction	0
Other	236
Inflation/Contingencies	0
Total LOP*	1,700

CONTRACTOR

Cooperative for American Relief Everywhere, Inc. (CARE)
660 First Avenue
New York, New York 10016
(212) 686-3110

AID CONTACT

REDSO/ESA
Kenya (ID)
Department of State
Washington, D.C. 20520

PURPOSE

To improve the quality of life for the people of Comoros, through land conservation, and health and education programs.

AID-FINANCED INPUTS

1. Technical assistance; and
2. Training in soil and land conservation.

MAJOR OUTPUTS

1. Soil conservation;
2. Agro-forestry, reforestation;

HOST COUNTRY AND OTHER DONOR CONTRIBUTIONS

The Government of the Comoros is providing ten extension agents, Centre d'Appui de Developpement Rural, (CADERS) administration staff, and CADERS operating funds. CARE is providing two international technical staff, 16 village extension agents, local support and administration staff, all nursery equipment and operations, all equipment for use by farmers relating to soil conservation activities, all project vehicles and operations.

SUMMARY

The project is based on Anjouan, the second largest island (424 km^2) of the Comoros archipeligo. CARE is working directly with two rural

SUMMARY (Continued)

5branches of the central government's rural development agency. Key activities center on the training of extension staff in appropriate soil conservation techniques and agroforestry practices; maintenance and promotion of village tree nurseries and on-farm tree planting; establishment of soil conservation measures, such as grass strips, contour planting and gully control. World Food Program commodities support village nursery operations, village extension workers and other casual labor.

STATUS

Vehicles and experts assigned to each subproject have arrived. Initial surveys for soil and water conservation activities are completed. More nurseries were built than anticipated in the third quarter of 1985. New project staff have been hired and their projects have begun. Gully control work began in November and December of 1985 through construction of a series of check dams in Mirontsi. Technical and material support of village nurseries has begun in Boungwoni. A revolving fund has been set up to make available agricultural implements to local farmers. The tools were purchased from government stock. The tools are of good quality and work well. The fund has been working well and village response is positive.

DOCUMENTS AND REPORTS

Project Paper
Project Implementation Evaluations
(issued three times per year)
"Comoros-CARE Land Conservation Project Review: Trip Report, April 15-24, 1986," Jim Seyler, 5/6/86

*Includes only the land and soil conservation component. The overall Comoros CARE OPG is $3.7 million and includes health and education programs (not described in this summary).

PROJECT	SECTOR/SUBSECTOR/ACTIVITY			%	APP. CAT.	OBLIGATIONS BY FISCAL YEAR ($000) THROUGH ACTUAL FY82	FY83	FY84	FY85	ESTIMATED FY86	PROJECT STATUS	LENGTH OF PROJECT/PACD
603-0013	ENY	REN	TDE	20	ES	4,000	--	--	--	--	Active	6/6/81 - 12/86
Djibouti	ENY	NSS	PPA	70								
Energy Initiatives	ENY	NSS	HRD	10								

AID INPUTS	($000)
Personnel	708
Training	24
Commodities	688
Construction	1,300
Other	360
Inflation/Contingencies	920
Total LOP	4,000

CONTRACTOR

Volunteers In Technical Assistance (VITA)
1815 N. Lynn Street, Suite 200
Arlington, Virginia 22209
Donna Read (703) 276-1800

AID CONTACT

John Lundgren, AID Representative
Djibouti (ID)
Department of State
Washington D. C. 20520

PURPOSE

To assist in establishing the institutional capability within the Government of the Republic of Djibouti's Scientific and Technological Research Institute (ISERST) to plan, execute and evaluate energy management/conservation programs and small scale applications of alternative energy technologies.

AID-FINANCED INPUTS

1. Technical assistance from a mechanical/electrical engineer, an energy economist, a renewable energy specialist, a social scientist, an energy management specialist, and an architect;
2. Observational tour and participant training;
3. Construction of ISERST's Earth Sciences Division facility; and
4. Commodities, including wind, solar and workshop equipment.

MAJOR OUTPUTS

1. A set of documents on identified needs for, and sources of, renewable energy (energy needs assessment);
2. Pilot interventions/prototypes designed, installed and tested;
3. ISERST's Earth Sciences Division facility completed, including a wind/solar workshop and laboratory;
4. Research results disseminated to potential users and research organizations;
5. Energy conservation practices established, tested and documented (set of reports, model sites, training courses); and
6. Final policy and planning recommendations submitted.

SUMMARY (Continued)

specific project-related skills, and GROD decision-makers in energy planning; (5) development of testing and evaluation of energy conservation practices for fossil fuels which cannot be substituted with renewable energy sources; and (6) development of policy and planning recommendations to the GROD and its National Energy Commission.

STATUS

The project was authorized on June 6, 1981, and the contractor, VITA, was selected in June 1982. The ISERST building was designed by project architect Dan Dunham, construction was completed in mid-1985 and the building was inaugurated on June 27, 1985. A national energy assessment conducted in 1983-84 resulted in the project's main focus being centered on energy management of the building sector. This is being accomplished through intervention based on a review of the existing building codes followed by recommendations for appropriate modifications; audit and demonstration retrofit of two existing structures; preparation of a consumer guide showing energy efficiency ratings of available appliances; organization of an exhibition demonstrating energy management techniques and proper use of equipment; and the organization of a promotional campaign conducted through the media to develop consumer awareness of energy management. Training is being given both on-site and through participation in sessions organized at the energy technology centers both in the U.S. and in France. A conservation unit is being formed of project trained Djiboutian technicians who will be on hand to advise and assist with energy management, audit, and retrofit needs where required.

HOST COUNTRY AND OTHER DONOR CONTRIBUTIONS

The GROD is providing approximately $1,350,000 for personnel, commodities, land/land preparation/construction of the ISERST building.

OTHER DONOR ACTIVITIES

France is providing technical assistance to the state electric company. Saudi Arabia and the European Investment Bank will fund fossil fuel and electricity projects, respectively. Geothermal project support is coming from France and Italy. Present or future renewable energy project donors include France (solar energy for agriculture, alternative energy applications), Germany (windmill/wind generating equipment) and UNICEF (solar cookers).

SUMMARY

The project supports: (1) establishment of a data and analysis base on both general energy needs and alternative energy potential, as the basis for the development of a comprehensive energy program; (2) the ISERST's installation, testing and demonstration of prototype windmill water pumps and photovoltaic water pumps; (3) assessment of the prototypes on the basis of environmental, sociocultural and economic suitability for commercialization and widespread use, and dissemination of the research results to potential private and public users, and international research organizations; (4) training of ISERST technicians in the development of

The project is also introducing small scale applications of renewable energy technologies. Photovoltaic pumps are being tested and demonstrated for use in rural areas. These are mainly areas which did not previously have access to sources of energy. A program to rehabilitate already existing windmills is underway. Djiboutian technicians are being trained to maintain and repair the pumps.

DOCUMENTS AND REPORTS

Project Paper, 5/6/81
Quarterly Implementation Reports
"Building for the Maritime Desert, Climate, Construction, and Energy in Djibouti," Daniel Durham, ISERST/VITA, No. 11077-BK, ISBN 0-86619-168-2
"Djibouti Energy Initiatives, National Energy Assessment," Matthew Milukas, Jesse Kibot, and Peter Maxson, ISERST/VITA, No. 11084-BK, ISBN 0-86619-180-1
"Reducing Energy Consumption in Buildings, the Potential for Conservation in Djibouti," Seymour Jarmul, ISERST/VITA, No. 11083-BK, ISBN 0-86619-178-X
"Project de Development Urbain a Djibouti, Conception, Permettant la Conservation d'Energie Pour le Projet de Logement a Salines-Ouest," Daniel C. Dunham, ISERST/VITA
"Conventional Electricity in Djibouti, Challenges and Opportunities for the Future," ISERST/VITA, ISBN 0-86619-226-3, Shibu Dhar
"Djibouti Energy Initiatives: Mid-term Evaluation; Conservation Component, Draft," PD-AAR-0086, ISN 39371, 1/85

PROJECT	SECTOR/SUBSECTOR/ACTIVITY			%	APP. CAT.	OBLIGATIONS BY FISCAL YEAR ($000) THROUGH ACTUAL FY82	FY83	FY84	FY85	ESTIMATED FY86	PROJECT STATUS	LENGTH OF PROJECT/PACD
635-0202	AGR	CRR	RED	35	SH	1,085	1,662	—	—	--	Active	3/78 - 12/87
The Gambia	AGR	CRR	HRD	15								
Soil and Water	AGR	NRE	PPA	25								
Management Unit	AGR	NRE	TTR	20								
	AGR	FOR	HRD	5								

AID INPUTS	($000)
Personnel	1,840
Training	192
Commodities	82
Construction	0
Other	220
Inflation/Contingencies	413
Total LOP	2,747

CONTRACTOR

P.A.S.A.
Soil Conservation Service
U.S. Department of Agriculture
Washington, D.C.
(202) 475-5393

AID CONTACT

Ralph Conely
The Gambia (ID)
Department of State
Washington D.C. 20520

PURPOSE

To assist the Government of The Gambia in addressing the problems of soil depletion, environmental damage and loss of productivity inherent in the current agricultural system and to institutionalize soil and water management capability within the Ministry of Agriculture and Natural Resources (MANR).

AID-FINANCED INPUTS

1. Technical assistance from a conservation planner, a plant ecologist with range management/forestry experience, and a soils scientist;
2. Short-term consultants;
3. On-the-job and U.S. academic training (includes one forestry slot), courses and field seminars in The Gambia;
4. Equipment and commodities; and
5. Construction of staff housing.

MAJOR OUTPUTS

1. Soil and Water Management Unit established;
2. Soil and Water Management policy statements and guidelines;
3. Technical soil and water management manual;
4. Staff trained to conduct village planning and programs;
5. Village planning and action programs operational;
6. Soil and water management problems in 10-15 villages solved through applied activities; and
7. Training curriculum for staff.

HOST COUNTRY AND OTHER DONOR CONTRIBUTIONS

The GOTG is paying 20% of total costs over ten years, and up to 25% during the first phase, for personnel, transportation, land, construction, supervision, maintenance and utilities. British soil and water seminars are being held in conjunction with the project.

SUMMARY (Continued)

improved soil and water management practices; (2) provides basic soil and water management expertise and support to all departments of the MANR; (3) develops an operating procedure that is effective in providing on-the-land technical service to Gambian farmers; (4) develops a technical guide for soil conservation; (5) trains agricultural assistants and selected employees in problem identification, planning, implementation and evaluation, to apply solutions to soil and water problems at the national and local levels. The project also provides for the development of technologies for improved agricultural/pastoral methods consistent with Gambian abilities and resources (village-level actions include resource inventories, soil surveys, wood resource utilization planning, such as location of woodlots on the basis of soil suitability).

STATUS

The project was authorized on February 28, 1978. The SWMU has been established and is functioning. A director, as well as professional and support staff, have been selected. Short- and long-term U.S. and in-country training has been held. Three participants have departed for U.S. training and twenty-six field officers have been trained. A conservation package has been developed with specifications modified for implementation in several villages. Testing of conservation practices has been carried out and soils manuals have been completed for training use. As of April 1986, 12 new structures (salt water intrusion dams and fresh water retention dykes) for irrigated crop production had been completed, resulting in the production of an additional 100 hectares of rice; five upland demonstration sites of contour berms and waterways for 500 hectares had been completed; and 8,500 hectares were surveyed and responses had been made to 25 specific village requests for assistance in controlling sheet and gully erosion, reclamation of rice fields and soil mapping.

OTHER DONOR ACTIVITIES

Efforts under this project are being coordinated with the Gambia River Basin Project.

SUMMARY

In three phases marked by an increasing transfer of responsibility from American to Gambian technicians, the project assists the GOTG in the establishment of a Soil and Water Management Unit (SWMU), which : (1) assists the MANR in the development of national policies and programs for

DOCUMENTS AND REPORTS

PID, Project Review Paper, 1976
Project Paper, 2/28/78
Evaluation, 1/82, 2/82
Monthly and Quarterly Implementation Reports
Annual Progress Reports
"Soil and Water Management: Bibliography"

PROJECT	SECTOR/SUBSECTOR/ACTIVITY			%	APP. CAT.	OBLIGATIONS BY FISCAL YEAR ($000) THROUGH ACTUAL FY82	FY83	FY84	FY85	ESTIMATED FY86	PROJECT STATUS	LENGTH OF PROJECT/PACD
635-0203	AGR	NRF	PPA	20	SH	6,000	1,303	1,697	—	—	Completed	8/79 - 9/86
The Gambia	AGR	CRL	RED	15								
Mixed Farming	AGR	LIV	RED	20								
and Resource	AGR	CRL	INP	5								
Management	AGR	CRL	PPA	20								
	AGR	CRL	HRD	5								
	AGR	NRE	TTR	15								

AID INPUTS	($000)
Personnel	4,500
Training	360
Commodities	1,080
Construction	540
Other	990
Inflation/Contingencies	1,530
Total LOP	9,000

CONTRACTOR

Consortium for International Development (CID)
Colorado State University
5151 E. Broadway
Tucson, Arizona 85711
(602) 745-0455
Dr. Earl Kellogg

AID CONTACT

Ralph Conley, ADO
The Gambia (ID)
Department of State
Washington D. C. 20520

PURPOSE

To promote the intensification and integration of crop and livestock production within existing Gambian farming systems, in order to increase rural family income on an ecologically-sound, sustained-yield basis.

AID-FINANCED INPUTS

1. Long-term technical assistance from a range ecologist, two agronomists, an economist and a sociologist;
2. Short-term consultants for aerial photography, land classification, cartography, training and other areas;
3. Long-term U.S. and third-country training and workshops;
4. Limited construction;
5. Laboratory, field-testing, training and office equipment;
6. Tools, supplies and vehicles; and
7. Funds for a revolving account.

MAJOR OUTPUTS

1. Set of land classification maps;
2. Livestock feed supply increased, new crops and grasses introduced;
3. Ten Gambian participants trained in agronomy, communications and other fields;
4. Socio-economic unit of Ministry of Agriculture and Natural Resources (MANR) established and functioning; and
5. National land use planning capacity of Ministry or Agriculture and Natural Resources (MANR) strengthened.

HOST COUNTRY AND OTHER DONOR CONTRIBUTIONS

The GOTG is to contribute $1,296,000 for salaries, indemnities, sites and operating costs.

SUMMARY (Continued)

production and management; (4) improved rural technology, specifically through the establishment of a revolving credit fund to provide animal traction units and carts; (5) strengthening Ministry of Agriculture and Natural Resources (MANR) planning and evaluation capacity, through the establishment of a socio-economic unit in the MANR, and (6) agricultural skills training for Gambian technicians.

STATUS

The project was authorized on July 19, 1979. A six-person team including two economists, two agronomists, a range ecologist and a sociologist, arrived during the second half of 1981. As of April 1986, the project had developed and refined maize production techniques with farmers and producer organizations and extended innovative production techniques in Mixed Farming and range management. Six of seven major expected outputs had been achieved, including: (1) seven village trials over three seasons were completed; (2) three technological packages: maize, farm implements, and animal and human nutrition were being utilized; (3) a minimum of 7,000 farmers were employing improved farming techniques; (4) sample surveys and three farmer studies were conducted; (5) market studies on maize, groundnuts and livestock were conducted; (6) on-the-job training and long-term training was conducted for 10 counterparts, field agents and enumerators. The production and use of land use maps had not yet been achieved, but work was expected to be completed by August 1986.

DOCUMENTS AND REPORTS

Research Report, 1977
PID, 2/12/78
Project Paper, 10/78
Progress Reports: 2/4/81; 9/30/81

OTHER DONOR ACTIVITIES

Phase I of a four year, $11.7 million rural development project was funded by IBRD/IDA, the British Overseas Development Ministry and ABEDA; Phase II was supported by these, as well as the FED and UNDP/FAO. Land resource planning activities under this project were closely coordinated with the Soil and Water Management Unit.

SUMMARY

The project consisted of six components: (1) land resource and use evaluation, classification and cartography (including large-scale--1:25,000--land classification maps); (2) grazing areas development and management through establishment of controlled grazing areas and provision of data necessary for the GOTG to develop national resource management, and land use policies; (3) improved crop and forage

Project Paper Amendment, 1983
Quarterly Implementation Reports
Progress Implementation-Evaluation Reports (each trimester)
"Gambian Mixed Farming and Resource Management Project (635-0203): Early Mid-Term Evaluation," 4/83
"Gambian Livestock Owners Associations: A Brief Evaluation," 9/85
"Handbook of Graphs and Tables of Market Prices of Selected Agricultural Products in the Gambia, 1984-85," 12/85
"Leuceana: A Potential Forage Crop for the Gambia," 2/86
"Research in Forage Agronomy by the Mixed Farming Project, 1983 - 1986," 5/86
"Use of Crop Residues for Animal Feed in The Gambia," 3/86
"Estimating Live-Weight and Carcass Weight in Gambian N'Dama Cattle," 3/86
"Cold Hard Realities of Agricultural Development," 4/86
"Gambian Cattle Herds: A Survey Report," 5/86
"Food Production/Consumption Linkage: Final Report," 7/86

PROJECT	SECTOR/SUBSECTOR/ACTIVITY			%	APP. CAT.	OBLIGATIONS BY FISCAL YEAR ($000) THROUGH ACTUAL FY82	FY83	FY84	FY85	ESTIMATED FY86	PROJECT STATUS	LENGTH OF PROJECT/PACD
635-0205	AGR	FOR	HRD	25	SH	1,575	—	—	—	—	Active	8/79 - 9/86
The Gambia	AGR	FOR	RED	40								
Forestry Project	AGR	FOR	TIR	25								
	AGR	FOR	PPA	10								

AID INPUTS	($000)
Personnel	236
Training	363
Commodities	138
Construction*	22
Other**	677
Inflation/Contingencies	141
	1,575

CONTRACTOR

Alan Christopher Lindberg (PSC)
6939 South Bennett Ave.
Chicago, IL
(312) 328-6936

Donald Hendrick
c/o USAID Bunjul
Banjul, The Gambia

John Nittler, APCD
Peace Corps
Banjul, The Gambia

Julian Morris
c/o USAID Banjul
Banjul, The Gambia

AID CONTACT

Thomas. Hobgood, ADO
The Gambia (ID)
Department of State
Washington D.C. 20520

PURPOSE

To increase the efficiency of production and utilization of wood and wood products in The Gambia; to slow and eventually reverse accelerating depletion of the natural resource base.

AID-FINANCED INPUTS

1. Funds for training and equipment for plantation establishment, sawmill operation and outreach program development; and
2. Short-term technical assistance in wood utilization and forest management.

MAJOR OUTPUTS

1. Forestry Department personnel trained in the areas of village and large-scale plantation and wood utilization;
2. Functioning village outreach program using a media campaign as well as direct extension methods;
3. 1,300 hectares of Gmelina plantation;
4. Ten village woodlots, totaling 50 hectares;
5. Mangrove feasibility study completed;
6. Sawmill productivity increased by 30%; and
7. Extended use of improved woodstoves; and
8. Construction of shed for project use.

SUMMARY (Continued)

technical, economic and social feasibility of exploiting mangroves, and short-term consultancies in wood utilization and forest management; (4) production, to establish 1,300 hectares of fast-growing Gmelina arborea, and support a pilot program integrating tree planting into rural activities through the establishment of village woodlots, and (5) productivity, and forest management by improving output by 30% at the only sawmill in The Gambia.

STATUS

The project was authorized August 3, 1979. A one year woodstove project was added January 1981 to do urban and rural training of masons in construction of high mass mud stoves. Forty months for a PSC forester were added to assist GOTG with the project's plantations and woodlot programs. The mangrove utilization feasibility study has been completed and no further action is proposed by GOTG. The village woodlot program has evolved from one hectare Gmelina plantations to smaller orchard gardens and individual tree planting activities. Large scale plantations have been plagued with fire and will not exceed 680 hectares. Current extension program includes two Forestry Department employees detailed to Extension Aids Unit of Department of Agriculture who participate in weekly radio programs, preparation of two newsletters and a poster. A

HOST COUNTRY AND OTHER DONOR CONTRIBUTIONS

The GOTG is contributing $233,329 for salaries and/or land and fence-posts for plantation establishment and village woodlots, funds for the mangrove study, support and contingencies. The Peace Corps provides volunteers for the woodlots, the woodstove component and beekeeping activities.

OTHER DONOR ACTIVITIES

The project supplements actions of other donors, including the UK (providing training and operating funds for forestry programs), West Germany (supplying $1.5 million for a forest inventory, sawmill, species trials), and a $120,000 FAO/ADB grant for forest nurseries (some also financed under this project).

SUMMARY

The project addresses manpower, production and consumption constraints through actions in the areas of: (1) training, to broaden and deepen the Forestry Department's skill pool in all aspects of wood production and utilization through U.S. and third-country education (as well as a program to train masons in woodstove construction and maintenance); (2) outreach, through an educational campaign aimed at rural dwellers that emphasizes the economic and environmental importance of trees and woodlands; (3) technical assistance, in conducting a study of the film on bush fire in The Gambia is being produced. At the field level, ten Peace Corps volunteers, forestry employees and other extension workers provide individuals and groups with information on tree planting. Technical and managerial workshops have been held. Four staff members have been trained in the U.S. Four individuals have completed a two year program in Nigeria, one has received a B.S. from Tanzania and another a M.S. from the U.S. The project was extended to September 30, 1986. As of April 1986, the project had established 580 of the 600 hectares of forest plantations planned. Approximately 24 hectares of village woodlots out of a total of 35 hectares planned had been established. The sawmill was 95% completed and new equipment had been installed. However, it was reported that efficient utilization was hampered by GOTG financial management constraints.

DOCUMENTS AND REPORTS

Project Paper: 8/79
"Gambia Forestry: Bibliography," 11/13/79
Woodstove Component Evaluation, Tim Wood, 1/82
"Gambia Forestry Project Evaluation Report No. 1," Kevin Mullally, 3/82
"Mangrove Feasibility Study: Final Report," Checchi and Company, Washington, D.C., 9/11/81
"Technical Specifications for A Small Log Sawmill," J.M. Higgs, 3/82
Quarterly Implementation Reports
Project Evaluation, E. Rauch et. al., 8/85
"Final Report: The Gambia Forestry Project," C. Lindberg, 10/85

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*Includes an approximately 185 square meter covered shed on a concrete bed.
**Includes costs of plantation establishment.

PROJECT	SECTOR/SUBSECTOR/ACTIVITY			%	APP. CAT.	OBLIGATIONS BY FISCAL YEAR ($000) THROUGH ACTUAL FY82	FY83	FY84	FY85	ESTIMATED FY86	PROJECT STATUS	LENGTH OF PROJECT/PACD
635-0219	AGR	CAL	TDE	50	SH	—	—	—	3,960	3,960	Active	6/85 - 9/92
The Gambia	AGR	CAL	TTR	20								
Agricultural	AGR	CAL	HRD	20								
Research and Diversification	AGR	FOR	TDE	10								

AID INPUTS	($000)
Personnel	4,673
Training	3,797
Commodities	1,000
Construction	110
Other*	4,646
Inflation/Contingencies	3,774
Total LOP	18,000

CONTRACTOR

University of Wisconsin
750 University Ave.
Madison, Wisconsin 53706
Dr. Robert Erickson
(608) 222-3822

AID CONTACT

Ralph Conley, ADO
Gambia, (ID)
Department of State
Washington, D.C. 20520

PURPOSE

To test, generate, adapt and promote the adoption of improved crop and livestock technologies that meet farmers needs and to expand and diversify The Gambia's agricultural economy.

AID-FINANCED INPUTS

1. Technical assistance;
2. Training; and
3. Commodities and staff houses.

MAJOR OUTPUTS

1. Effective agricultural research management systems including technical secretariat;
2. Promising component research in crops, livestock, agroforestry and socio-economics;
3. On-farm research via two regional teams and 16 village teams;
4. Gambians trained and employed; and
5. Agricultural innovations emerging and being promoted.

HOST COUNTRY AND OTHER DONOR CONTRIBUTIONS

The Gambia is providing the equivalent of $1,616,000 in local operating costs, personnel and research promotion costs.

OTHER DONOR ACTIVITIES (Continued)

rural development with a focus on agriculture. These include the Save the Children Fund, Action Aide, Catholic Relief Services, The Methodist African Mission and Freedom from Hunger Campaign (FFHC). The development of horticultural crops, including trees, is an area of concentration.

The Overseas Development Administration (ODA) is supporting a farm management economist and a seed production specialist in a seed multiplication program.

SUMMARY

The project represents a first phase of a long term commitment by AID to improve agricultural research in The Gambia. Efforts will involve the long-term institutionalization of an effective, applied agricultural research system and the development, promotion and adoption by farmers of improved agricultural technologies. The project: (1) establishes an Agricultural Research Management System to set and enforce research priorities; (2) provides long- and short-term training in various agricultural disciplines including agroforestry; (3) supports on-station component research; (4) expands the Farming Systems Research and Extension (FSR/E) program from Eastern Gambia; and (5) encourages technology promotion activities. Agricultural research efforts consider systematically the agroforestry dimension. Forestry Department officials participate in reconnaissance and on-farm trials. The project identifies successful agroforestry interventions. The Forestry Department is assisted with short-term advisory and training services in agroforestry. Definition of component research activities will follow from initial efforts.

OTHER DONOR ACTIVITIES

The project is designed as a collaborative project to the World Bank funded Agriculture Development Project II (ADPII). ADPII emphasis is strengthening of the Gambia Cooperative Union and its member societies. The Union provides production inputs and credit facilities. ADPII funds infrastructure improvements, on-farm trials, and extension, monitoring and evaluation activities. A number of PVOs are involved in

*Includes local operating costs, U.S. campus support, monitoring and evaluation, audit, and indirect costs.

STATUS

The project was authorized on June 17, 1985. The prime contractor and team leader have been selected and are on site. A working group has been formed to develop and implement an agricultural research management system. On-station and on-farm research trials began in 1985.

DOCUMENTS AND REPORTS

Project Paper, 4/2/85
Quarterly Implementation Report

PROJECT	SECTOR/SUBSECTOR/ACTIVITY			%
675-0208	IND	FME	TIR	40
Guinea	EDU	VOT	HRD	40
Appropriate	ENY	FUW	TDE	10
Technology (PVO)	ENY	FUW	TTR	10

APP. CAT.	OBLIGATIONS BY FISCAL YEAR ($000) THROUGH ACTUAL FY82	FY83	FY84	FY85	ESTIMATED FY86
FN	--	100	150	250	150

PROJECT STATUS	LENGTH OF PROJECT/PACD
Completed	8/83 - 8/86

AID INPUTS	($000)
Personnel	229
Training	8
Commodities	251
Construction	0
Other	154
Inflation/Contingencies	8
Total LOP	650

CONTRACTOR

Volunteers in Technical Assistance (VITA)
1815 N. Lynn Street
Suite 200
Arlington, VA 22209
Donna Read
(703) 276-1800

AID CONTACT

Robert Hellyer, ADO
AAO/Conakry (ID)
Department of State
Washington, D.C. 20520

PURPOSE

To develop, test and disseminate selected technologies: Cinva-Ram block construction and improved stoves, and to assist the private sector to produce and disseminate these technologies.

AID-FINANCED INPUTS

1. Chief of Party;
2. Training for local staff and local artisans;
3. Equipment and supplies; and
4. Documents and publications.

MAJOR OUTPUTS

1. Construction of document center;
2. Trained local staff;
3. Trained artisans; and
4. Dissemination of stoves and Cinva-Ram machines.

SUMMARY

The project was originally a a two-year effort to develop and test specific technologies to assess their performance in a Guinean context and to upgrade the technical capacity of Guinean technicians through on-the-job training so that large scale dissemination of these technologies could take place. Two technologies were selected for use with the project: Cinva-Ram block construction and improved wood and charcoal-burning stoves. The project provided for technical assistance and limited commodity and capital support for the fabrication of pressers in order to produce stabilized earth blocks (modified Cinva-Ram model) and improved cookstoves for wood and charcoal. The project also established a technology document center for the National Center for Supplementary Training (NCST).

Specifically, the Project undertook the following activities:

1. The Cinva-Ram Program: The project called for Cinva-Ram presses to be initially produced at the Industrial Pilot Center (IPC), which is located just outside Conakry. Successful production capability was developed. Interest in the technology was promoted through distributing the presses to public and private agencies.

SUMMARY (Continued)

2. A program to promote the production and use of improved wood and charcoal burning stoves by setting up a testing center at Centre de Promotion Feminine (CPF) in Mamou to build and test various stove models. During the first phase the project objectives were to:

   (a) Evaluate data collected by CNP on wood fuel consumption and traditional cooking methods;
   (b) Build prototype stove models and provide on-the-job training to Guinean technicians;
   (c) Demonstrate operational stoves to women in selected communities;
   (d) Evaluate stove technical performance and make modifications; and
   (e) Make recommendations for further wood stove dissemination in collaboration with technical staff and local women's groups.

STATUS

The project was authorized in August 1983. Despite the many difficulties endemic to Guinea in carrying out a development project, field level activities have been successful. A VITA wood and charcoal stove expert worked in Guinea for two two-month periods. A Cinva-Ram press production capability was established and dissemination of the technology took place throughout Guinea. A fuel-efficient, cookstove was designed and tested in the lab and in peoples' homes. Over 350 stoves were disseminated. Artisans were trained to produce the stoves and dissemination took place through market efforts of artisans, wholesalers and retailers in the Mamou/Conakry area. The documentation center facilities were completed and the equipment was functional. The project evaluation in June 1985 judged the project to be successful. As a result, AID Conakry extended the project until August 31, 1986, permitting the fabrication and distribution of 330 presses, as well as the expansion of the improved cookstoves program beyond Mamou and Conakry.

DOCUMENTS AND REPORTS

"OPG Proposal to USAID/Guinea for a Joint VITA/GOG Renewable Energy Technology Development Project," 8/6/82
Project Paper, 1983
Mid-Term Evaluation, 6/85
"Project Evaluation Summary: Guinea Appropriate Technology," (VITA OPG), 9/5/85

PROJECT	SECTOR/SUBSECTOR/ACTIVITY			%
	AGR	FOR	RED	5
615-0172	AGR	FOR	TTR	5
Kenya	AGR	NRE	PPA	45
Arid and Semi-	AGR	NRE	TTR	15
Arid Lands	AGR	NRE	HRD	5
Development (Kitui	AGR	NRE	RED	25

APP. CAT.	OBLIGATIONS BY FISCAL YEAR ($000)				
				(THROUGH)	ESTIMATED
	FY82	FY83	FY84	FY85	FY86
FN	--	--	--	10,900	--

PROJECT STATUS	LENGTH OF PROJECT/PACD
Active	8/79 - 6/87

AID INPUTS	($000)
Personnel	9,192
Training	357
Commodities	647
Construction	703
Other	0
Inflation/Contingencies	0
Total LOP	10,900

CONTRACTOR

Louis Berger International, Inc.
1730 Rhode Island, N.W., Suite 910
Washington, D.C. 20036
(202) 331-7775

International Science & Technology Inst.
2033 M Street, N.W.
Washington, D.C. 20036
(202) 466-7290

AID CONTACT

J. Kidenda
Kenya (ID)
Department of State
Washington D.C. 20520

PURPOSE

To increase the ability of the Government of Kenya to plan and implement programs that address the problems of Kenya's Arid and Semi-Arid Lands (ASAL) at the national and district levels, specifically the Kitui District through a focus on soil and water conservation, farm technology and decentralized planning.

AID-FINANCED INPUTS

1. Advisors for planning pre-investment resource inventories, aerial photography and remote sensing imagery;
2. Short training course;
3. Construction of staff housing;
4. Labor and transport for nurseries;
5. Aerial photography; and
6. Vehicles and equipment.

MAJOR OUTPUTS

1. Increased GOK capacity and capability for planning for ASAL use;
2. Increased capacity to store, interpret, evaluate data;
3. Data base established;
4. Aerial and orthophoto maps, resource inventories;
5. Proven conservation practices applied in Kitui Disctict; and
6. Eight nurseries improved; reforestation increased in Kitui.

HOST COUNTRY AND OTHER DONOR CONTRIBUTIONS

The GOK contributed $5,645,000 for personnel, office space, part of construction costs, etc.

SUMMARY (Continued)

for interpretation, evaluation and storage (includes production of aerial photographs and orthophoto maps, pre-investment resource inventories and six feasibility and project design studies, including afforestation and tree nurseries in the Kitui District); (3) soil and water conservation, covering manpower development, improved organization and work procedures for the delivery of technical services, land development through protection against erosion, improvement of applied technology for soil and water conservation. The latter was developed through a pilot soil and water conservation project in the Kitui District (components included a 350 acre soil and water conservation demonstration farm and training program and a forestry program).

STATUS

The project was authorized on August 27, 1979. The team arrived in the fall of 1981. The project was amended in March 1984, with an emphasis on development activities in the Kitui District. Originally scheduled to be completed in December 1984, the project completion date was extended until June 30, 1987. Initially progress was slow, due largely to the critical financial position of the GOK and its inability to make up-front project expenditures for which it would be reimbursed from the project grant. A mid-term evaluation was completed, and in September 1985, $2.1 million was deobligated from the project on the basis of the evaluation finding that the project was overfunded. Four annual development planning documents were to be prepared in FY85 and two additional documents were to be completed in FY86. As of January 1986 the following actions had been carried out: (1) three resource inventories and aerial photos for and landsat imagery for four divisions in Kitui; (2) the establishment of a data and documentation center; (3) maps of road

OTHER DONOR ACTIVITIES

The EEC provided $29,000,000 for a ten-component project in the Laringo District, similar to this project. The World Bank funded a similar project in the Machakos District adjacent to Kitui; 70% of the funds were for forestry development Great Britain supported activities in three districts, and the Norwegian Development Agency worked in two arid districts. The project was coordinated with activities of the Kenya Renewable Energy Project (615-0205) in the Kitui region, especially in reforestation and nursery maintenance.

SUMMARY

The project consisted of three components: (1) planning for ASAL development, by strengthening the capacity of Kenya's ASAL planning organization to carry out sound planning; (2) data collection and analysis for ASAL development, to help the GOK gather and analyze basic data for carrying out ASAL development programs, and establish procedures network, land use, water resources, vegetation and erosion for four divisions in Kitui; (4) two feasibility studies; (5) 18 soil conservation officers trained abroad; (6) 40 soil conservation technicians trained and assigned to project pilot areas; (7) successfully tested soil conservation interventions for 38,000 farmers; (8) manual completed in soil and water conservation practices; and (9) approximately 400,000 trees planted from local nurseries.

DOCUMENTS AND REPORTS

Project Paper, 1978
"ASAL Systems Study and Strategy Development," D. Caton, et. al., 3/78
"Aerial Survey Sub-Component of the ASAL Project," H. L. Thung, 4/80
"ASAL Development Project Inception Plan," Louis Berger International, Nairobi, Kenya, 1/82
"ASAL Roads Network, Kitui District Feasibility Study," Berger/Wanjohi Consulting Engineers, Nairobi, Kenya, 5/82
Mid-term evaluation, 8/83
Quarterly Implementation Reports

*Totals to $10,899 due to rounding.

PROJECT	SECTOR/SUBSECTOR/ACTIVITY			%
615-0205	ENY	NSS	TTR	5
Kenya	ENY	NSS	HRD	5
Renewable Energy	ENY	FUW	TDE	10
Development	ENY	FUW	MKT	10
	AGR	FOR	TTR	30
	AGR	FOR	HRD	15
	AGR	FOR	TDE	10
	AGR	FOR	RDE	15

APP. CAT.	OBLIGATIONS BY FISCAL YEAR ($000) THROUGH ACTUAL FY82	FY83	FY84	FY85	ESTIMATED FY86
SD	4,800	—	—	—	—

PROJECT STATUS: Active

LENGTH OF PROJECT/PACD: 8/80 - 12/86

AID INPUTS	($000)
Personnel	2,337
Training	578
Commodities	675
Construction	45
Other*	912
Inflation/Contingencies	253
Total LOP	4,800

CONTRACTOR

Energy Development International (TA)
1015 18th Street, N.W.
Washington, D.C. 20005
(202) 822-8817

AID CONTACT

Dwight Walker
Kenya (ID)
Department of State
Washington, D.C. 20520

PURPOSE

To stimulate the development and dissemination of renewable energy technologies; to promote and expand afforestation and fuelwood conservation efforts, and support the institutional development of the Ministry of Energy in energy planning and petroleum conservation.

AID-FINANCED INPUTS

1. Commodities;
2. Long-term experts in forestry/extension, agroforestry, cookstoves/charcoal production/, renewable energy;
3. Short-term consultants in training, sociology, and so forth;
4. Technical assistance and initial capital for the Energy Development Fund; and
5. Land preparation and vehicles; energy audits and services.

MAJOR OUTPUTS

1. Fifteen trained energy planning, conservation and renewable energy staff for the Ministry of Energy;
2. Six nursery extension centers established;
3. Energy Development Fund established;
4. Demonstration, dissemination and evaluation of RETs;
5. Analysis and studies in national energy policy/planning;
6. Afforestation, species selection, and seed production;
7. One host country staff member trained in U.S.; and
8. Two host country staff members trained at the University of Nairobi.

HOST COUNTRY AND OTHER DONOR ACTIVITIES

The GOK is contributing $2,500,000.

STATUS (Continued)

International (ATI), Peace Corps/USAID on total project and International Institute for Environment and Development All identified the project as one of the most successful in its field. The project has been used as model for designing many similar projects, e.g., CARE-Kenya, Rwanda Energy Industries for Africa (EIA), Uganda (World Bank), Malawi (World Bank), Sudan (Georgia Tech.), Sudan (FAO), Ethiopia (CARE), and Somalia (USAID); and

Training has been provided as follows: (1) university degrees, six Master of Science Degrees; (2) in-house staff training, 280 persons participated in 11 sessions (sixteen days each in agroforestry); (3) technical training for field staff and farmers, 680 students in 21 one-week training sessions at Agroforestry Centers, 5,340 representatives of other projects participated in 178 lectures, tours, and training programs, 4,000 participants during 11 farmer field days held twice a year at seasonal peak, 25 demonstrations, exhibitions, displays; (4) seminars for managers and technicians from other African countries, 138 persons from 14 countries in USAID, UNDP and other donor sponsored international study tours. Resident trainees ranging from a Minister of Energy to project personnel completed one-day to two-week courses; (5) artisan technical training, 340 artisans in 17 courses trained in production techniques and materials for cookstoves, charcoal kilns, and biogas; (6) energy conservation and audit training for industry, in-plant as well as classroom training for policy planning assistance in industrial energy audits and energy conservation project design.

OTHER DONOR ACTIVITIES

The project is coordinated with the efforts of other donors, including the UNDP, EEC, the Federal Republic of Germany, Japan, Canada, the UK, Sweden, and the World Bank.

SUMMARY

Originally, project components focused on: (1) initial planning and surveys, through provision of a computer terminal, and assistance with a data bank, library and planning; (2) institutional development, through provision of four long-term experts and short-term consultants to the Ministry of Energy; (3) applied research and demonstration, by helping to establish a network of nursery, research and fuelwood/agroforestry demonstration and extension centers in Kenya's major ecological zones: and an Energy Development Fund to provide loans and grants to government and non-governmental organizations for renewable energy projects (including woodlots, agroforestry, improved wood and charcoal stoves, improved charcoal production, windmills, hydraulic rams, animal and hand pumps, solar crop dryers and other small-scale renewable energy technologies; (4) training on-the-job for Ministry counterparts, study tours, workshops for extension workers and villagers, as well as assistance in curriculum development, and (5) monitoring and evaluation of project progress on an on-going basis.

STATUS

The project has been extended until December 1986. However, the extension covers only agroforestry activities and no additional funds were allocated beyond the PACD. As of December 1985, the following project activities had been carried out:

- 5,750,000 trees planted from centers;
- 1,000,000 trees planted from extension centers;
- 200 self-help NGO's being assisted in agroforestry and in the establishment of nurseries;
- 7,000 improved metal charcoal stoves produced per month;
- 125 species were evaluated in nursery production and 93 screening trials conducted;
- 300 on-farm trials conducted throughout 21 districts;
- A central seed services unit established and over 8,000 kilograms of seeds distributed;
- Agroforestry research and training facilities and programs for Egerton College, University of Nairobi, Moi University, and the National Youth Service (YATTA) being established in support of institution building;** and
- External evaluations—midterm by Institute for Development Anthropology (IDA), cookstoves by Appropriate Technology

One hundred to two-hundred participants have attended two symposia and three regional and national training sessions so far.

DOCUMENTS AND REPORTS

Project Paper, 8/80
"Energy Development in Kenya: Problems and Opportunities" SRAS Beijer Institute, Nairobi, Kenya
Initial Project Assessment, AID/REDSO/ESA, 2/82
"Baseline Survey of the Agroforestry Potential in the Semi-Arid Regions of Kenya," D. Brokensha, 1982
"Community Forestry in Kenya," D.S. Mutiri, 1982
"Development and Dissemination of Agroforestry Curriculum Materials," F. Owino, 1982
Project Assessment No. 2, 4/82
"Proceedings of Tree Planting and Agroforestry Workshop for the Semi-Arid Zones, (Kenya)," KENGO/MOE, 1982
"Productive and Protective Roles of Prosopis: A Review." Getahun, 8/82
"Research and Agroforestry Development Needs in the Semi-Arid Zone of Kenya," A. Getahun 10/82
"Research Needs in Agroforestry Systems in the Coast (Kenya)," A. Getahun, 6/82
"Role of Agroforestry in Soil and Water Conservaton," A. Getahun, 1982.Contractor Progress Reports, #1, 2, 3, 4, 5, and 6, ED/I, Washington, D.C.
"Centre Briefs," Energy/Development International
"Centre Implementation Plans", Energy/Development International, 1982
"Agroforestry Programme: Training Plan," C.M. Ndegwa, 7/82
"Agroforestry Systems Evaluation Survey in Kenya, Consultant Report," ADEC, 6/83
"Mid-Term Project Evaluation Report," Institute for Development Anthropology, 1983
Project Evaluation, 12/84
Descriptions of Agroforestry Centers in International Labor Organization Manuals
"Kenya Renewable Energy Development Project: Workplan and Budget, 1984/1985," GOK, 1984
"Project Quarterly Reports", Energy/Development International 1981-1984
"Fuelwood Supply in High Potential Zones of Kenya," Ndegwa, C.M. and A. Getahun, 4/83
"Kenya Renewable Energy Development Project, Agroforestry Programme Extension: Workplan and Budget, 1985/1986," E/DI, 1985
"Mtwapa Agroforestry/Energy Centre, Information Bulletin No. 1," E/DI, 1984
"Ngong/Jamhuri Agroforestry/Energy Centre, Information Bulletin," E/DI, 1985
"Potential Fuelwood/Afforestation/Agroforestry Species for Kenya," Getahun, A., D.S. Muturi and P.M. Wamahiu. November 1981.
"Proceedings of Tree Planting and Agroforestry Workshop for the Coastal zone (Kenya)," KENGO/MOE, 1982
Quarterly Implementation Reports

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*Includes Energy Development Fund, monitoring and evaluation and miscellaneous operating expenses.
**This is in addition to the major center-based programs. The project is also assisting Danida/Kengo in establishing NGO-Type Agroforestry Centre at Rusinga Island.

PROJECT	SECTOR/SUBSECTOR/ACTIVITY			%
632-0206	ENY	REN	TTR	30
Lesotho	ENY	REN	HRD	10
Renewable Energy	ENY	REN	TDE	50
Technology	ENY	REN	PPA	10

APP. CAT.	OBLIGATIONS BY FISCAL YEAR ($000) THROUGH ACTUAL FY82	FY83	FY84	FY85	ESTIMATED FY86
SD	1,600	—	—	—	—

PROJECT STATUS: Completed*

LENGTH OF PROJECT/PACD: 9/79 - 9/84

AID INPUTS	($000)
Personnel	554
Training	101
Commodities	583
Construction	64
Other	65
Inflation/Contingencies	233
Total LOP	1,600

CONTRACTOR

Associates in Rural Development (ARD)
110 Main Street
Burlington, VT 05401
(802) 658-3890

AID CONTACT

Mulugeta Yohannes
Energy Advisor
Lesotho (ID)
Washington D.C. 20520

PURPOSE

To assist the Government of Lesotho to develop, disseminate and establish the feasibility of renewable energy technologies (RETs) in pilot areas in rural Lesotho and, at the same time, to establish the institutional basis for the development and dissemination of these technologies on a nationwide basis.

AID-FINANCED INPUTS

1. A physical scientist, a social scientist, a laboratory supervisor, an administrative assistant, a stock supply manager (long-term) and 20 months of short-term consulting;
2. Training for project staff, Peace Corps volunteers (PCVs), Ministry of Rural Development counterparts, village energy technicians; and
3. Construction and support costs, vehicles and commodities.

MAJOR OUTPUTS

1. Research and development laboratory installed;
2. Regional training centers established;
3. Training materials produced;
4. Personnel trained;
5. Demonstration buildings designed and constructed;
6. RET and conservation strategies introduced;
7. Energy-related data collected and analyzed;
8. Experimental technologies evaluated;
9. Library and reference materials established; and
10. Village-level implementation process established.

SUMMARY

This pilot project: (1) identified energy needs at the village level and selected technologies to meet those needs; (2) promoted village-level energy conservation devices such as efficient wood- and dung-burning stoves, thatch insulation and weatherization, and passive solar greenhouses and solar dryers; (3) trained "village energy technicians" to set up demonstration units; (4) fostered research and development activities in a laboratory established by the project in Maseru and introduced renewable technologies; (5) promoted passive solar buildings design and heating; and (6) developed feedback and evaluation activities.

STATUS

The project was authorized on August 17, 1979. The project has minimized demand for combustible fuels through the development and introduction of village conservation measures such as (a) fuel efficient wood and dung burning stoves, (b) energy efficient building design, (c) thatch insulation and weatherization, and (d) passive solar greenhouses. Additionally, research into increasing technologically appropriate energy production was undertaken through analysis of (a) a feedlot anaerobic digester system for production of methane gas and sludge fertilizer, and (b) a small hydroelectric production scheme. The project was completed in September 1984. Stove design and testing work is continuing under funding from the Energy Initiatives for Africa (EIA) project.

HOST COUNTRY AND OTHER DONOR CONTRIBUTIONS

The GOL contributed $77,000 for project staff, and office, laboratory and warehouse space. The Peace Corps provided four volunteers over the life of the project. A Danish volunteer was also provided.

OTHER DONOR ACTIVITIES

Canada financed a $7-million rural development project in Thaba Tseka District, which included a forestry component and installation of a micro-hydro plant and a windmill; the AID project used Thaba Tseka as a testing site. OPEC funded a solar/biogas project. The Swedish government, the British High Commission and the Anglo/American Company are working on woodlot projects.

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*Stove work continued through September 1986 under the Energy Initiatives for Africa Project (698-0424).

DOCUMENTS AND REPORTS

Project Paper, 8/79
Project Evaluation, 1/82
"Status Report on Stove Work: Lesotho RET Project," 3/82
"Lesotho RET Project First-Year Annual Report," 5/82
"Architect's Plans: PITSO-EC; A3-EC; C4-EC," D. Norris
"Passive Solar Heating in Lesotho Housing," D. Norris, 7/82.
"Passive Solar Design in Lesotho," D. Norris, 7/82
"Cook Stove Testing and Development at the Lesotho RET Project," H. Geller, 5/83
"Economics of Improved Energy Technology in Lesotho," F. March, 8/82
"Lesotho RET Project Final Report." 3/84
"Lesotho RET Project Second-Year Annual Report," 5/83
"Lesotho Village Energy Survey," J. Gay, 11/82
"Monitoring of Passive Solar Buildings and Growholes," R. McGowan, 6/83
"Dissemination Plan for the Lesotho RET Project," E. Morgan, 3/83
"Disseminating Renewable Energy Devices in Lesotho," E. Morgan, 3/83
"Economic Evaluation of Village RETs in Lesotho," 5/83
"Stove Consultancy for Lesotho RET Project," Thomas, M. and Burket, G. 1/83
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PROJECT	SECTOR/SUBSECTOR/ACTIVITY			%	APP. CAT.	OBLIGATIONS BY FISCAL YEAR ($000) THROUGH ACTUAL FY82	FY83	FY84	FY85	ESTIMATED FY86	PROJECT STATUS	LENGTH OF PROJECT/PACD
632-0215	AGR	CRL	RED	55	FN	5,290	2,969	1,609	2,132	--	Active	8/80 -8/87
Lesotho	AGR	CRL	HRD	15								
Land Conservation	AGR	NRE	PPA	10								
and Range Develop-	AGR	NRE	TDE	10								
ment	AGR	NRE	TTR	10								

AID INPUTS	($000)
Personnel	3,604
Training	1,732
Commodities	1,110
Construction	887
Other	973
Inflation/Contingencies	3,694
Total LOP	12,000

CONTRACTOR

Fredericksen-Kamine and Assoc.
1900 Point West Way
Sacramento, CA 95815
(916) 922-5481

AID CONTACT

A. Moustafa, ADO
Lesotho (ID)
Department of State
Washington D.C. 20420

PURPOSE

To conserve and develop national farmland and rangeland resources by carrying out appropriate conservation measures, land use plans, land management practices and strengthening the institutional capability of the Ministry of Agriculture of the Government of Lesotho (GOL) to implement these activities.

AID-FINANCED INPUTS

1. Technical Assistance;
2. Training;
3. Construction;
4. Commodities; and
5. Evaluations.

MAJOR OUTPUTS

1. Trained Basotho staff;
2. On-farm plans;
3. Conservation plans;
4. Conservation structures;
5. Employment generation;
6. Range management area; and
7. Rangeland and livestock management policies.

HOST COUNTRY AND OTHER DONOR CONTRIBUTIONS

Host country is providing construction, commodities, personnel and training.

SUMMARY (Continued)

632-0064) are being expanded by surveying and mapping an additional 150,000 hectares, of which two-thirds are rangeland and one-third cropland. Twenty-five new area conservation plans are being developed for another 50,000 hectares. Structures such as dams and silt traps are being constructed to protect 60,000 hectares from erosion, and new terraces are being built to protect 4,000 hectares of land. Construction and maintenance of these structures are to be accomplished by 100 Basotho who are temporarily employed each project year. A rangeland area is being selected and developed. This includes establishment of a Grazing Association (GA); completion of range reconnaissance surveys and grazing management and animal health plans; and development of a marketing program for GA members. The experience obtained from this first rangeland area is to serve as the basis for the establishment of a second near the project's end. A report analyzing land and livestock management policies, such as those affecting land use and controlled grazing, is to be issued and recommendations made for policy changes or for new policies. Before the second rangeland management plan commences, GOL and USAID will review all relevant policies and regulations.

STATUS

The project was authorized in July 1980. All planned actions have been accomplished essentially on schedule and divergence from planned quantities for project outputs have been positive rather than negative. For example, both in-country, and overseas training programs have encompassed greater than planned numbers of trainees and the marketing programs planned for beef cattle have been extended to small stock. As of April 1986, initial data from the Sehlabathebe RMA had been evaluated

SUMMARY

This seven-year project consists of a grant for technical assistance, training, commodities, construction, and budgetary support to train Basotho to plan, implement and manage field conservation and range development programs, initiate conservation measures, establish and develop rangeland area, carry out on-farm conservation plans, and generate employment.

A total of 16 Basotho will receive M.S. and B.S. training in the U.S. and another 20 will receive diploma and certificate in Africa in areas such as range management, conservation, engineering, and soils. Returned trainees are to be assigned to the MOA's Conservation Division and will gain on-the-job training with the help of expatriate personnel. U.S. and Lesotho short-term training and study tours are being given to 158 Basotho. To introduce an organized system of comprehensive on-farm planning, 20 planning teams are being organized to develop 2,400 on-farm plans which integrate land use, cropping projects (632-0031, 632-0048, and a report of its findings were in the preparation stages. The initial meeting of area and village chiefs of the proposed RMA (Ram's Gate) was held to gather input from local leadership. All field work for the National Range Survey has been completed. The vegetative information is being computerized, and all initial vegetation maps of Lesotho have been completed. The Cooperative Water Development Schemes in three areas are completed.

DOCUMENTS AND REPORTS

Project Paper; Land Conservation and Range Development, July 2, 1980;
"Special Evaluation Report: Land Conservation and Range Development," 12/82
"Project Evaluation Summary (PES); Land Conservation and Range Development, "5/11/83
"External Evaluation, Land Conservation and Range Management Project," 6/84
"Development Management in Africa: the Case of the Land Conservation and Range Development Project in Lesotho," 12/85

PROJECT	SECTOR/SUBSECTOR/ACTIVITY			%
632-0221	AGR	CRR	HRD	5
Lesotho	AGR	LIV	HRD	5
Agricultural	AGR	FOR	RED	5
Production &	AGR	CRR	RED	45
Institutional	AGR	LIV	RED	40
Support (LAPIS)				

APP. CAT.	OBLIGATIONS BY FISCAL YEAR ($000) THROUGH ACTUAL FY82	FY83	FY84	FY85	ESTIMATED FY86	PROJECT STATUS	LENGTH OF PROJECT/PACD
FN	--	--	--	1,363	4,259	Active	8/85 - 8/91

AID INPUTS	($000)
Personnel	12,553
Training	2,892
Commodities	2,038
Construction	0
Other*	5,790
Inflation/Contingencies	2,793
Total LOP**	26,100

CONTRACTOR

Cooperative for American Relief Everywhere (CARE)
660 First Avenue
New York, NY 10016
(212) 686-3110
(Agroforestry component only)

AID CONTACT

Abdel Moustafa, ADO
Lesotho (ID)
Department of State
Washington D.C. 20520

PURPOSE

To provide direct production and marketing assistance to small farmers and to strengthen GOL institutional capabilities in agricultural research and extension education for contributing to small farmer production.

AID-FINANCED INPUTS

1. Technical assistance;
2. Six person-years of long-term training for the production component; 47 person years for the agricultural research component; and 22 person years for the agricultural education component; short-term training for both in-country and external courses
3. Commodities (vehicles, equipment, agricultural inputs and expendables); and
4. Evaluation.

MAJOR OUTPUTS

1. Improved ability of the Ministry of Agriculture (MOA) to mobilize and coordinate its resources for activities and programs designed to increase production;
2. Improved technology and small water catchments for irrigated production of fruits, vegetables, and fodder for home consumption and the local market used by individual farmers;
3. Production of 70 hectares of fruits, vegetables, and/or fodder for sale using improved technologies by seven farmer associations;
4. Establishment of home gardens which are producing fruits and vegetables for family consumption and local sale by over 1,500 heads of households;
5. Five nurseries involved in production and sale of fruit trees, fuelwood trees, and vegetable seedlings which are used by Basotho farmers to establish fruit tree orchards, on-farm tree plantings, and small-scale plots;

MAJOR OUTPUTS (Continued)

6. Integrated program of credit, input supplies, technical and educational assistance, equipment rental, and small-scale vegetable plots produced by 25 credit unions; and
7. Production and marketing by associations of livestock farmers of larger number of higher quality animals and animal products (while conserving the nation's land and water resources).

OTHER DONOR ACTIVITIES

There are 14 other donors providing support to the agriculture sector, some of whom provide resources which complement the activities of this project.

HOST COUNTRY AND OTHER DONOR CONTRIBUTIONS

The GOL is contributing staff salaries and benefits, office and classroom space, maintenance and utilities, supplies, operating funds, housing and furnishings. They are also responsible for constructing shearing sheds and livestock handling facilities.

SUMMARY

The project has three components: (1) agricultural production to assist small farmers growing high value crops and breeding livestock; (2) agricultural research to provide the technical foundation for introducing new horticultural and livestock activities and improving current practices; and (3) agricultural education to improve the capability of MOA personnel to transfer information to farmers. The project has a $1 million forestry component to assist Basotho farmers in producing and selling fruit trees, fuelwood trees and seedlings through the establishment of fruit tree orchards and on-farm planting.

*Includes evaluation ($349,600) cooperative agreement with PVO's: CUNA/WOCCU (credit unions)($1,898,700); CARE (nurseries, $629,200); and other costs such as construction, vehicular operation, revolving funds, office operation, and budget support ($2,912,600).

**Project paper rounds total from $26,066,264 to official figure of $2,100,000.

STATUS

The project was authorized in January 1985. The contractors have been selected, but as of September 1986, contractors had not yet arrived in the field. Benchmarks for the evaluation are being developed and are expected to be completed by November 1986.

DOCUMENTS AND REPORTS

Project Paper, 1/84

PROJECT	SECTOR/SUBSECTOR/ACTIVITY			%
612-0215	AGR	FOR	TDE	2
Malawi	AGR	FOR	HRD	3
Agricultural	AGR	CRO	TTR	40
Research and	AGR	CRO	HRD	25
Extension	AGR	CRO	TDE	30

APP. CAT.	OBLIGATIONS BY FISCAL YEAR ($000) THROUGH ACTUAL FY82	FY83	FY84	FY85	ESTIMATED FY86	FY87	PROJECT STATUS	LENGTH OF PROJECT/PACD
FN	--	--	--	1,645	6,100	3,220	Planned	7/85 - 9/90

AID INPUTS	($000)
Personnel	4,586
Training	4,299
Commodities	497
Construction	573
Other	187
Inflation/Contingencies*	3,858
Total LOP	14,000

CONTRACTOR

Consortium for International Development (CID)
Oregon State University (Head)
Corvallis, Oregon 97331
(503) 754-2114

AID CONTACT

Arnold Radi, ADO
Malawi (ID)
Department of State
Washington D.C. 20520

PURPOSE

To help the Government of Malawi (GOM) strengthen agricultural research and increase the effectiveness of the extension service to meet the needs of smallholders.

AID-FINANCED INPUTS

1. Technical assistance; and
2. Training.

MAJOR OUTPUTS

1. Research findings;
2. Introduction of adaptive research approach; and
3. Trained farmers.

HOST COUNTRY AND OTHER DONOR CONTRIBUTIONS

In the proposed five-year project, the World Bank is expected to provide support for capital development and commodities estimated at $28 million. USAID is financing technical assistance and training components, while the World Bank and other donors are financing commodities and the construction of additional physical facilities. The GOM contribution is about $10 million for participants' salaries, general support for U. S. technicians, local costs for construction and in-country travel.

SUMMARY

This project helps identify the problems of smallholders, introduces solutions to those problems and initiates problem-oriented research. Approximately $750,000 is used for agroforestry activities. The project evolved from a previous agricultural research project (612-0202). An

SUMMARY (Continued)

evaluation of that project confirmed the need for a comprehensive research and extension program and the introduction of an adaptive research approach (involving research, extension and farmers in program identification, and evaluation of solutions). The adaptive research approach ensures farmer participation, particularly by women, who account for up to 70% of the farm labor in some areas of the country. A study completed in October 1983 by a joint Malawi/World Bank/USAID team resulted in a master plan for research and extension.

The project builds on the foundation established by the current project and implements the initial phase of the master plan for research and extension. During recent policy dialogue, the Ministry of Agriculture agreed to the following: (1) a research policy/planning unit, multidisciplinary food crop research teams; (2) strengthened joint extension/farmer adaptive research units in eight development divisions; and (3) improved, technical capability of extension staff to participate in the joint extension/farmer adaptive research activities in the field.

STATUS

The project was authorized July 18, 1985. An agroforester has been selected. The first field-team departed for Malawi on September 13, 1986.

DOCUMENTS AND REPORTS

PID, 11/26/84
Project Paper, 4/85

*Includes overhead.

PROJECT	SECTOR/SUBSECTOR/ACTIVITY			%	APP. CAT.	OBLIGATIONS BY FISCAL YEAR ($000) THROUGH ACTUAL FY82	FY83	FY84	FY85	ESTIMATED FY86	PROJECT STATUS	LENGTH OF PROJECT/PACD
688-0205	AGR	CRL	RED	40	SH	3,022	—	270	—	—	Completed	9/78 - 7/85
Mali	AGR	CRL	HRD	10								
Land Use	AGR	NRE	TDE	25								
Inventory	AGR	NRE	TTR	25								

AID INPUTS	($000)
Personnel	4,174
Training	384
Commodities	110
Construction	0
Other*	824
Inflation/Contingencies	0
Total LOP	5,492

CONTRACTOR

Tippetts, Abbett, McCarthy, Stratton (TAMS)
1101 15th Street, N.W.
Washington, D.C. 20005
John Buursinnk
(202) 296-4371

AID CONTACT

Wilbur Thomas, Supr. ADO
Mali (ID)
Department of State
Washington, D.C. 20520

PURPOSE

To provide the Government of the Republic of Mali with the technological basis for the rational allocation of natural resources, through the performance of a land and water resources inventory, and the development of Malian capability in natural resources inventorying and planning.

AID-FINANCED INPUTS

1. Technical assistance in project management and administration, soil science, range ecology, land use planning, hydrology, agricultural economics, sociology and demography;
2. On-the-job training in the above-mentioned disciplines and U.S. training in soil science, range management and agricultural economics; and
3. Satellite imagery, equipment and supplies, vehicles and operational costs.

MAJOR OUTPUTS

1. Atlas of Mali Land and Water Resources concerning the south and central Mali south of 17 30' N, comprising the following sets of maps at scale 1:500,000:

   - soils and vegetation;
   - land capability;
   - water resources;
   - potential for water resources development;
   - existing land use; and
   - population.

OTHER DONOR ACTIVITIES (Continued)

team and United Nations Sudano-Sahelian Office (UNSO), worked on the development of a project to collect and analyze information and to monitor environmental research activities in the region (Canada has offered support for this project); the activities are complementary to the actions undertaken by this project. AID also sponsored a staff workshop on "Sahel Resources Inventory and Mapping Coordination" in May, 1982.

SUMMARY

The project has provided the GRM with: (1) An atlas of Mali Land and Water Resources and accompanying reports which provide reconnaissance level (at scale 1:500,000) information on: a) the soils, vegetation and water resources; b) the present use of these resources and present distribution of the population (users of the resources), as well as on the potential for development of the natural resource base; and (2) a well-developed Malian capability to undertake resource inventory and evaluations through on-the-job training and training in the U.S.

In recognition of the value of this project, the GRM has recently established the National Center for Resource Inventories to continue project work on an institutional basis.

STATUS

The project was approved on August 15, 1977 and $2.2 million obligated in 1978. A contract with TAMS was signed in November, 1979 and the TAMS team arrived in January 1980.

2. Technical report and annexes for use in conjunction with the Atlas and information on the natural resource base, farming systems, land tenure, and economic assessments of present and potential land use.

3. Institutional capability for natural resource inventories and evaluations with multidisciplinary staff trained on the job and in the U.S.

HOST COUNTRY AND OTHER DONOR CONTRIBUTIONS

The GRM provided $100,000 and counterpart personnel to staff the GRM Office of Resource Evaluation. France contributed technical assistance (two technicians; one in geohydrology, and another in tropical agronomy), valued at approximately $313,000.

OTHER DONOR ACTIVITIES

In the past, France has funded land use planning projects. In January 1980 an International Workshop on Ecology and Environmental Programs in the Sahel was held in Bamako, sponsored by AID and the Sahel Institute. Participants, including representatives of the CILSS Ecology/Forestry

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*Includes support services, travel and office rental.

In January 1981, a $1.1 million project paper supplement was authorized. In June 1981, an amendment was approved to increase the funding by $600,000 and extend the PACD. Fieldwork was completed by July 1982. A second and third Amendment approved in 1982 extended the project to June 30, 1985.

DOCUMENTS AND REPORTS

Project Review Paper, 7/75
Project Paper, 11/1/76
Amendments; 9/5/78; 1/26/81; 6/1/81; 11/30/82
"Final Evaluation: Mali Land Use Inventory," 5/85
"Economic Evaluation of the Trypansomiasis Problem in Zone One," 1981
"Effective Resource Inventory in the Sahel: Planning Implementation and Utilization," 2/14/82
"Evaluation of Mali Land Use Inventory Project,"12/80
"Land Use Inventory," undated
Atlas of Mali Land and Water Resources for South and Central Mali
"Report on Development Alternatives in the Dilly Pastoral Zone," 198
"Status of Bovine Trypansomiasis and Seasonal Variation in its Occurrence in Zone 1 (Niger Valley) of the Republic of Mali," 1981
TAMS Quarterly Reports: TAMS, New York, N.Y. and Washington Office
Quarterly Implementation Reports

PROJECT	SECTOR/SUBSECTOR/ACTIVITY			%	APP. CAT.	OBLIGATIONS BY FISCAL YEAR ($000) THROUGH ACTUAL FY82	FY83	FY84	FY85	ESTIMATED FY86	PROJECT STATUS	LENGTH OF PROJECT/PACD
688-0217	ENY	REN	TDE	60	SH	1,643	700	2,174	[95]*		Completed	7/78 - 9/85
Mali	ENY	REN	TTR	15								
Renewable Energy	ENY	REN	HRD	15								
	ENY	REN	PPA	10								

AID INPUTS	($000)
Personnel	632
Training	135
Commodities	1,762
Construction	452
Other**	1,130
Inflation/Contingencies	406
Total LOP	4,517

CONTRACTOR

Sheladia Assoc., Inc.
5711 Sarvis Avenue
Riverside, Maryland 20838
Asok Motayed
(301) 258-7474

AID CONTACT

GDO, Mali (ID)
Department of State
Washington D. C. 20420

PURPOSE

To develop sources and applications of renewable energy which are economically and socially acceptable in rural Mali, in order to improve the quality of rural life, help reduce dependence on fossil and wood fuels, and help better understand the effects of introducing renewable energy technologies in rural Africa.

AID-FINANCED INPUTS

1. Technical assistance from an energy scientist (two years), a social anthropologist (two years) industrial arts trainer (one year), and short-term consultants in renewable energy, sociology and economics;
2. Training in the U.S. and Mali, and support to Malian educational institutions;
3. Costs of construction of a new laboratory facility; and
4. Equipment, instruments, commodities, vehicles, technical library, and so forth.

MAJOR OUTPUTS

1. Functioning Solar Laboratory;
2. Prototype renewable energy devices fabricated and tested;
3. Twenty-five socio-economic and meteorological data reports;
4. Renewable energy devices installed, monitored and evaluated in 20 village sites; and
5. A cadre of Malians trained to design and implement renewable energy programs, and a cadre of villagers trained to operate and repair technology devices.

HOST COUNTRY AND OTHER DONOR CONTRIBUTIONS

The Government of Mali (GRM) is contributing $1,184,000 for salaries and other support costs. The Peace Corps is providing the equivalent of $220,000 for volunteers.

STATUS (Continued)

performance and reliability of locally manufactured and imported technologies. The second phase focused on energy consumption and on the development of locally produced and imported technologies. The third phase consisted of a 30-month field installation-program of technologies, including: wind and photovoltaic pumping systems; lighting; refrigeration; fish and crop dryers; distillation plants; improved stoves and domestic hot water systems. Sheladia Associates provided technical assistance during 22.5 months of this phase. The permanent staff of the Solar Energy Laboratory (LESO) increased from 45 in 1979 to 84 in 1985, with GRM financial support to the Institute increasing annually. A final evaluation of experiments was conducted and a comprehensive assessment of renewable energy field project installations and other renewable devices in Mali was published.

DOCUMENTS AND REPORTS

PID, 5/1/78
Project Paper, 6/78
"A state of the Art Report on Solar Distillation," Modibo Dicko, 1980
"Construction, Test et Adaplation au Pompage d'Eolonnes de Type Sahores, Groupe Eolienne," 1981
"Essai de Foyers Meliores Portatifs, Groupe Bioconversion," 1981
"Introduction des Foyers Ameliores en Milieu Rural: Quelques A Aspects Techniques et Socio-Economiques," Groupe Biconversion, 1981
"Interim Report of the Small Scale Solar Pumps Installed in Mali under UNDP Projects," Groupe Eolienne, 1981
"Rapport sur les Cuisinieres Ameliores de la Iere Serie du LESO," Groupe Bioconversion, 1981

OTHER DONOR ACTIVITIES

The FED and a variety of European church groups have funded approximately 20 solar pumps throughout Mali; some have been funded through Mali Aqua Viva, a private organization run by a French priest. France has funded a large solar generating station at Dire, which supplies water for agricultural and domestic use. The FED, Canada, France and the Federal Republic of Germany have financed power generation projects. The World Bank is acting as executor for a UNDP project in four countries, including Mali, to install and test solar pumps for irrigation.

SUMMARY

The project consisted of four phases: (1) material, technical and training support for the Malian Solar Energy Laboratory and other national institutions, including installation of four photovoltaic water pumps for demonstration, training and data collection, and development of an R&D program for the Laboratory; (2) socio-economic and meteorological surveys, undertaken by the Institute of Rural Economy, in 25 villages with the potential for experimentation with alternative energy devices; (3) devices and applications (solar water heaters, crop and fish dryers, woodstoves, wind pumps, distillers, developed by the Laboratory) tested in 20 of the villages, operated and maintained by a cadre of trained villagers, and (4) analysis and evaluation of the experiments.

STATUS

The project was authorized on August 16, 1978. A contract engineer arrived in Mali in October, 1980. During phase one, tooling was provided to manufacture prototype RETs, and technologies with potential for commercialization were imported from industrialized nations. Additionally, instrumentation systems were procured to monitor the

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*Deobligated

**Includes operating costs, equipment repair and surveys.

"Rapport sur le Digesteur Gobar: Ie et 2e Serie de Tests," Groupe Biconversion, 1982

"Realisation et Experimentation d'un Digesteur Type Chinois," Groupe Biconversion, 1982

"Refrigeration Solaire: Tets d'un Refrigerateur Alimente par Photopiles," Groupe Photovoltaique, 1982

"Tests Comparatifs des Foyers Ameliores: 2e Series," Groupe Biconversion, 1982

"Le Laboratoire de l'Energie Solaire: , L.E.SO.," 1982

"Le Laboratoire de L'Energie Solaire: Terrain d'Essais," 1982

"Le Strategie Pour l'Integration des Systemes d'Energies

"Experimentation des Chauffe-Eau Solaires," Gr.B.T., 1982

"Experimentation des Distillateurs - Rapport Interimaire sur l'Essai du Distillateur Metallique a Chardon," Ahmado Sidide

"Expose sur l'Energie Solaire au Mali,' L.E.SO., 1982

Mid-term Evaluation, 4/82

"Mali Renewable Energy, A Mid-Project Evaluation Report for USAID, Bamako," April-May 1982, Djibril Fall, Richard A. Graham, Clarence Kooi, Dr. Frances Stier

"Consultant's Report, Renewable Energy Laboratory, Bamako, Mali," R.H.Campbell, 7/20/82

"Country Visit Summary - Mali Renewable Energy Projects in Mali, Energy Evaluation Team, Nov.5 to Nov.18, 1982," George Burrill and Wallace Tyner

"Developpement du Pompage Eolien au Mali," L.E.S.O., 1983

"Essai d'un Systeme d'Eclairage par Photopiles," Groupe Photovoltaique, 1982

"Chinese Dome Biodigester: Construction and Technology Transfer," Solar Energy Laboratory, Bamako, Mali, M & E Pacific Inc., 5/82

Final Report by R.H. Campbell, Consultant to Sheladia Associates for Instrumentation at the Solar Energy Laboratory, Bamako, Mali, W.Africa, 3/84

"Wind Analysis for Estimated Velocity - Frequency of Wind Regime Based on Average Velocity, V, and Computerized Modelling of Predicted Water and Electrical Power Outputs," 3/84

PROJECT	SECTOR/SUBSECTOR/ACTIVITY			%	APP. CAT.	OBLIGATIONS BY FISCAL YEAR ($000) THROUGH ACTUAL FY82	FY83	FY84	FY85	ESTIMATED FY86	FY87	PROJECT STATUS	LENGTH OF PROJECT/PACD
688-0235	AGR	FOR	TDE	35	SH	—	—	—	—	1,723	1,960	Planned	FY 1986 - 1995
Mali	AGR	FOR	PPA	25									
Forestry Sector	AGR	FOR	RED	25									
Development	AGR	FOR	HRD	15									
Project													

AID INPUTS	($000)
Personnel	7,130
Training	930
Commodities	1,085
Construction	465
Other*	3,255
Inflation/Contingencies	2,635
Total LOP	15,500

CONTRACTOR

To be determined

AID CONTACT

James Jackson (ADO)
Mali (ID)
Department of State
Washington D.C. 20520

PURPOSE

To strengthen the institutional capacity of the Forestry Service to increase tree production and productivity and contribute to improved environmental management and food production in the Fifth Region of Mali.

AID-FINANCED INPUTS

1. Technical assistance;
2. Training;
3. Construction; and
4. Equipment and supplies.

MAJOR OUTPUTS

1. Strengthened institutional capacity of forestry service in policy development, planning coordination and documentation;
2. Tree nurseries, fuelwood plantations, windbreaks and forage production;
3. Strengthened institutional capability for research on species and technologies to improve agricultural production and environmental management; and
4. Trained staff in forestry research, economics and planning.

OTHER DONOR ACTIVITIES

Close donor coordination is necessary to address policy reform and increase rational investment in the forestry sector. The World Bank, the Swiss, the Germans, and the Caisse Centrale are involved in forestry activities and have met both formally and informally with USAID to discuss common approaches to policy issues and to avoid duplication of effort.

SUMMARY (Continued)

the regional level during this period, the Village Reforestation Project and the CARE/Agroforestry Project are to continue their production/extension activities and to be closely monitored. In addition, regional nursery infrastructure is to be built up to allow research and production activities to move forward. The land use inventory team is also to be supported to provide more detail on the soil, hydrology and vegetation types of the Fifth Region.

The first implementation steps are to be: procurement of a technical assistance team under a direct AID contract; the assignment of the Senior Forestry Planner as Team Leader; the assignment of a financial manager; and the procurement of vehicles and other needed commodities. The Mission is to use the Sahel Manpower Development Project for pre-project training in forestry economics and sylviculture. Project-funded training, however, is to await the arrival of the technical assistance team and identification of candidates and an appropriate training institution. Construction is small and must await the development and approval of plans before it is financed. Operating expenses are to be made available only once adequate financial management systems are demonstrated.

The technical assistance team, at its full strength in project years three, four, and five, will have nine members. At the national level, this includes a Senior Forestry Advisor (five years over the life of the project), a Financial Manager (seven years), and a Senior Forestry Researcher (four years). At the regional level, this includes a Field Forester (seven years), a Research Forester (seven years), a Sociologist (four years), and three Dire Foresters (seven years each). The technical assistance is to be carefully phased. Initially emphasis must be placed on institution building at the national level. In the third project year emphasis is to shift towards regional activities. Thus, 16 person/years of technical assistance at the national level are to be concentrated at

SUMMARY**

The project is proposed as a ten-year, phased program of technical assistance (46% of total funding) and operating costs (21%) with lesser amounts of support for commodities (7%), training (6%) and construction (3%). Achievements are expected at both the national and regional levels, to varying degrees, in four major areas: research, production/productivity, policy/planning, and management/organization.

During the first three years, the project is to concentrate on national level institutional support in order to set up sound management systems, begin planning and policy activities, and start the necessary coordination with other forestry projects and other organizations. At the beginning of the project and 30 person/years of regional technical assistance are to essentially start in year three. In addition, almost six person/years of vital short-term assistance are to be provided. This assistance is to be for both national and regional activities and to include such expertise as an extension specialist, a legislation expert, an economist, a statistician and a management consultant. An additional element includes the possibility of contracting to a U.S. university for certain sophisticated, priority research items such as the genetic improvement of high value species.

STATUS

Planning stages
PID Approval 7/9/84
A number of preliminary studies preparing the way for implementation have been undertaken.

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*Includes research equipment, farm implements, office equipment, fencing, tools and equipment and fertilizer.
**Project paper under preparation and certain changes in emphasis and funding may be anticipated.

PROJECT	SECTOR/SUBSECTOR/ACTIVITY			%
688-0937* Mali Village Reforestation	AGR	FOR	RED	70
	AGR	FOR	TIR	10
	AGR	FOR	HRD	10
	AGR	CRO	RED	10

APP. CAT.	OBLIGATIONS BY FISCAL YEAR ($000) THROUGH ACTUAL FY82	FY83	FY84	FY85	ESTIMATED FY86
SH	495	160	--	--	--
FN					

PROJECT STATUS	LENGTH OF PROJECT/PACD
Active	9/80 - 9/87

AID INPUTS	($000)
Personnel	0
Training	14
Commodities	152
Construction	93
Other***	251
Inflation/Contingencies	145
Total LOP	655

CONTRACTOR

Personal Services Contractors**

AID CONTACT

James Jackson, ADO
Mali (ID)
Department of State
Washington, D.C. 20520

PURPOSE

To identify successful and cost effective processes of reforestation, and more efficient use of wood resources, at the village level in the Fifth Region of Mali.

AID-FINANCED INPUTS

1. Funds for technical assistance support;
2. Funds for in-country and third-country training; and
3. Commodities, equipment and construction materials.

MAJOR OUTPUTS

1. Three nurseries;
2. Village woodlots, demonstration plots, improved wood-burning stoves and other rural forestry interventions;
3. An information system for monitoring and evaluation; and
4. A support system for project activities at the national, regional and local levels.

HOST COUNTRY AND OTHER DONOR CONTRIBUTIONS

The GRM contributed approximately $97,500 for project personnel and land. The Peace Corps provided three volunteers to work with the project director and extension teams.

OTHER DONOR ACTIVITIES

The project complements a World Bank funded forestry project in the Fifth Region, and is integrated with "operations" in millet, rice, livestock and fishing. In other regions, Canada and the World Bank are funding

OTHER DONOR ACTIVITIES (Continued)

projects. West Germany supplied machines, equipment and funds to support the Forest Service. CARE is involved in the Fifth Region.

SUMMARY

The project, in the "cercles" of Bandiagara, Djenne and Mopti: (1) creates a tree nursery infrastructure, including two nurseries, experimental and demonstration plots; (2) strengthens the Forest Service's extension capabilities through the training of Peace Corps Volunteers and their Malian counterparts who will function as extension teams; (3) promotes pilot activities in woodlots, windbreaks, fruit and shade trees; and
(4) establishes an information system for project monitoring and evaluation in the Water and Forest Service.

STATUS

The project was authorized on September 26, 1980. It was evaluated in July 1983 and March 1984. Originally scheduled for completion in September 1985, the project was extended until September 1987. The project, despite its size, has had a significant policy impact. However, two project activities have lagged behind: (1) rural forestry interventions other than woodlots; (2) promotion of fuel-efficient woodstoves, due in part to extension activities. Prospects for achieving project purpose in relation to reforestation appear to be very good.

DOCUMENT AND REPORTS

PID, 7/21/80
Project Paper, 9/18/80
"The Economics of Village-Level Forestry: A Methodological Framework," A. Shaikh and P. Larson, 2/81,
"Mid-term Evaluation of Mali Village Reforestation Project (625-0937)," 3/5/84
Peace Corps Country Assessment (936-5711)
Project Implementation Report, 9/30/85

*The project was originally funded under a Sahel Regional project (625-0937).
**The services of Clark Dague were contracted for several months under a personal services contract. Dollar amounts for these services were unavailable.
***Includes operating expenses and local personnel.

PROJECT	SECTOR/SUBSECTOR/ACTIVITY			%	APP. CAT.	OBLIGATIONS BY FISCAL YEAR ($000) THROUGH ACTUAL FY82	FY83	FY84	FY85	ESTIMATED FY86	PROJECT STATUS	LENGTH OF PROJECT/PACD
683-0226	AGR	NRE	HRD	70	SH	5,030	—	—	—	—	Active	6/79 - 9/86
Niger	AGR	FOR	HRD	5								
Rural Sector	AGR	FOR	TTR	5								
Human Resources Development	AGR	NRE	TTR	20								

AID INPUTS	($000)
Personnel	1,640
Training	374
Commodities	177
Construction	1,700
Other	416
Inflation/Contingencies	723
Total LOP	5,030

CONTRACTOR

Series of Personal Services Contracts

AID CONTACT

Dennis Panther, ADO/Forestry
Niger (ID)
Department of State
Washington D.C. 20520

PURPOSE

To increase the Government of Niger's capacity to train rural development personnel, including forestry technicians.

AID-FINANCED INPUTS

1. Five technician/trainers;
2. Graduate training for seven Nigerien instructors, and study tours for others;
3. Construction of new facilities;
4. Equipment, vehicles and commodities; and
5. Evaluation assistance.

MAJOR OUTPUTS

1. A renovated and reformed Practical Institute for Rural Development (IPDR/Kolo) capable of graduating 150 mid-level rural technicians per year;
2. Seven permanent Nigerien faculty members with graduate-level academic degrees;
3. A socio-economic instructional unit functioning with trained Nigerien staff;
4. Curriculum reform and a village operations program established; and
5. Productivity improvement projects designed, implemented and evaluated for over 600 farm plots.

HOST COUNTRY AND OTHER DONOR CONTRIBUTIONS

The GON is contributing $4 million for the project. AID's funding represents 26% of the estimated $19.1-million project; other donors include: IBRD ($4.6 million), France ($1.8 million), UNDP ($1.6 million), Belgium ($1.2 million), FED ($.5 million) and Switzerland ($.3

SUMMARY (continued)

strengthen the curriculum to make it more relevant to Niger's rural development needs, through establishment of objectives, learning units and learning activities for subjects such as agriculture, cooperatives, animal husbandry, forestry, water management, rural engineering and research; (3) provide enough training abroad to enable IPDR to be fully staffed by Nigerians in 1984; (4) create an internal teaching methodology unit for overseeing the quality of instruction and training, and an internal planning unit to program for needs of user agencies; (5) establish a system of professional development for cadres already in the field; (6) integrate training and development needs through small rural development project interventions in the field; and (7) create a documentation center on rural development in Niger.

STATUS

The project was authorized June 7, 1979. Four technician/trainers are teaching at the Kolo school. All essential commodities have arrived and are in use. All construction has been completed. The project was evaluated in the third quarter of 1983. Technical assistance has been largely fulfilled. The budget and implementation plan were revised in the third quarter of FY 1985. As of April 1986, a new building was being constructed for the socio-economic unit. The PIO/T for three short-term consultancies had been signed. Four participants had completed a study tour in the USA, and two participants had completed training at the Pittsburg Management Seminar. In addition, the PIO/Ts for the following training activities had been initiated: short-term training in Bouake, Ivory Coast for one participant; a study tour in the USA for four participants; and the Pittsburg Seminar in Management for four more participants.

million). The Practical Institute for Rural Development (PIRD) is being restructured in collaboration with the UNDP/FAO. The contributions of other donors are earmarked for: Phase I construction (Switzerland); classroom and workshop construction (Belgium); and construction of dormitories and other facilities 'IBRD).

OTHER DONOR ACTIVITIES

There are training components in the integrated rural development projects of AID and other donors.

SUMMARY

The project works with the Ministry of Rural Development'sMinistry of Rural Development's IPDR/Kolo, to: (1) expand the physical facilities to increase capacity from 250 to 450 students; (2) change and

DOCUMENTS AND REPORTS:

PID, 1977
"Study and Analysis of Niger's Rural Sector Human Resources Development Project (Back-up Papers)," 1978
Quarterly Implementation Reports
Project Paper, 4/13/79
"Reforme de l'IPDR; UNDP/FAO" 1/79
"Human Resources Development Project: Report of Short-term Consultancy," 5/82
"Project Evaluation Summary: Niger Rural Sector Human Resources Development," 5/14/84

PROJECT	SECTOR/SUBSECTOR/ACTIVITY			%	APP. CAT.	OBLIGATIONS BY FISCAL YEAR ($000) THROUGH ACTUAL FY82	FY83	FY84	FY85	ESTIMATED FY86	PROJECT STATUS	LENGTH OF PROJECT/PACD
683-0230	AGR	FOR	PPA	40	SH	1,684	800	1,355	--	384	Active	7/80 - 12/87
Niger	AGR	FOR	TTR	20								
Forestry and	AGR	FOR	HRD	10								
Land-use Planning	AGR	FOR	TDE	30								

AID INPUTS	($000)
Personnel	1,087
Training	258
Commodities	997
Construction	0
Other	557
Inflation/Contingencies	940
Total LOP	3,839

CONTRACTOR

Various Host Country contractors

AID CONTACT

Dennis Panther, ADO/Forestry
Niger (ID)
Department of State
Washington D.C. 20520

PURPOSE

To provide assistance to the government of Niger to strengthen the planning and managerial capability of the Direction des Forets et Faune (DFF) of the Ministry of Water Resources and Environment.

AID-FINANCED INPUTS

1. Long- and short-term technical assistance in forestry planning and demonstration, resources surveying and extension and management training;
2. Long-term U.S. and third-country training (22 person-years total), and short-term informal training in Niger; and
3. Commodities, equipment, supplies and vehicles.

MAJOR OUTPUTS

1. Operational planning and study unit;
2. Five regional natural resources inventories;
3. Four model forestry/conservation sites;
4. Trained Forestry service central office and field staff; and
5. One GON/Village managed/operated forest enterprise.

HOST COUNTRY AND OTHER DONOR CONTRIBUTIONS

The GON has contributed $1,332,000 for salaries, office buildings and other costs. The Peace Corps contributed six person-years of volunteer service, equalling $131,000. The host country contribution may vary due to economic constraints. TROPSOILS is contributing soils sampling research estimated at $50,000. FAO is collaborating on in-country training of ($14,000/year). CARE is collaborating on a watershed management model site in the Maggia Valley ($150,000). Many other donors (Canada, Italy, The Federal Republic of Germany) are in the process of funding model site activities based on project experience.

STATUS

The project was authorized on December 31, 1979 and activities began in July 1980. As of April 1986, the following tasks had been undertaken:

- Establishment of a cooperative to exploit a national forest on a sustained yield basis was started in FY 85 and a second was started in FY 86;
- Four participants in training in U.S.;
- Two participants returned from third country training;
- First steps in the creation of an operational planning unit for DFF;
- First steps in the construction of a forest sector model;
- Fuelwood inventory finished for all target areas and a draft report completed.
- Proposal and work plans completed for third model site;
- Participation in a planning strategy conference on the environment and natural resource management;
- Successful tests and economic analyisis completed on soil and water conservation methods and on the effects of increasing cereal production;
- Preliminary studies completed for the creation of forestry cooperatives.

A 10% funding increase will be prepared to extend technical assistance in resource planning, forestry management and training. This will allow the present planned implementation activities to be completed and help establish an effective natural resource planning unit within the GON.

DOCUMENTS AND REPORTS

PID, 6/27/77
Project Design Committee Paper, 9/77
"Projet d'Etude, Planification de l'Utilisation des Sols et des Forets," J, Poupon, et. al., FAO, Rome, 1978
Project Paper, 3/5/79

SUMMARY

Project components include: (1) establishment of a natural resource management planning unit in the Forest and Wildlife Service, which will be in charge of 11 project activities; (2) development of a natural resource inventory to serve as a basis for planning; (3) development of four model sites, (4) provision of training and outreach through in-service and informal programs, information-sharing, cooperation with other ministries and a public awareness campaign.

OTHER DONOR ACTIVITIES

The project was developed following a 1978 study by an international team of FAO experts. A $10.1 million IDA credit for a second forestry project complements the activities of this project; the first World Bank forestry project has been assisting the GON in the establishment of 400 hectares of pilot irrigated plantations and 700 hectares of rainfed plantations, as well as carrying out training and research activities. West Germany is funding a project to support the National Forestry Service. The FED, France, Switzerland, and Italy are also funding reforestation/fuelwood activities.

"Tenda Forest: Possibilities for Popular Resources Management Institutions," Niger, FLUP, J. T. Thomson, 10/81
"Village and Family Forestry in Central Niger: Economic and Social Analysis," K.H. Shapiro and P.C. West, Ann Arbor, MI, 5/82
Peace Corps Country Assessment (see 936-5711)
"Review of Project Information/Requirements and Recommendations for a Remote Sensing Program". D. Treadwell, 2/82
"Energy Potential from Native Brushland in Niger: The Economic Perspective," AID/USDA, 1982
"Niger Forestry and Land Use Planning Project: Interim Report," 5/83
"Project Evaluation Summary: Forestry and Land Use Planning," 6/83
"Statistical Review of the Social Survey Section Activities," Niger, FLUP, K. Stanecki, BUCEN, 3/84
"Applications Pratiques des Cartes d'Interventions pour les Activities Forestieres au Niger," S. Daus and J. Heermaus, 3/84
"Plan Directeur De Lutte contre La Desertification," Club du Sahel, 2/85
"Enquete sur les Resources Renouvelables au Niger: Aspects Sociaux," Niger, FLUP
"Fiche d'Enquete Villageoise," Niger, FLUP
Quarterly Implementation Reports

PROJECT	SECTOR/SUBSECTOR/ACTIVITY			%
683-0240	AGR	NRE	TTR	40
Niger	AGR	NRE	CRE	20
Niamey Department	AGR	NRE	INP	20
Development	AGR	CRR	TDE	20
Phase II				

APP. CAT.	OBLIGATIONS BY FISCAL YEAR ($000) THROUGH ACTUAL FY82	FY83	FY84	FY85	ESTIMATED FY86
SH	6,036	2,500	2,500	5,092	2,000

PROJECT STATUS: Active

LENGTH OF PROJECT/PACD: 6/81 - 12/86

AID INPUTS	($000)
Personnel	2,547
Training	422
Commodities	5,056
Construction	2,308
Other*	1,222
Inflation/Contingencies	2,027
Total IOP	13,582

CONTRACTOR

Development Alternatives, Inc.
624 Ninth Street, N.W.
Washington, D.C. 20001

ABT Associates, Inc.
55 Wheeler St.
Cambridge, MA 02138

Resources Development Assoc., Inc.
P. O. Box 407
Diamond Springs, CA 95619

AID CONTACT

Kevin Mullaley, ADO
Niamey (ID)
Department of State
Washington D. C. 20520

PURPOSE

To institutionalize a process of rural development through the establishment of self-managed village organizations and farmers who, as a result, will be capable of achieving increased food production.

AID-FINANCED INPUTS

1. Technical assistance and short-term consultants;
2. Construction of seven additional farmer-couple training centers and 12 cooperative office warehouse buildings;
3. Counterpart and third-country training;
4. Funds for fertilizer, pesticides and animal traction systems;
5. Thirty millet-grinding mills; and
6. Funds for aerial or satellite photography for soils, vegetation and land use mapping.

MAJOR OUTPUTS

1. Seven new farmer-couple training centers (ten total), with program, including reforestation, animal husbandry, literacy, and so forth;
2. Sixteen new cooperatives organized (57 total);
3. Credit fund and agricultural input delivery system operational;
4. Applied research at expanded monitoring and evaluation unit;

SUMMARY (Continued)

phase is on: (1) technical service delivery, through the creation of farmer-couple training centers providing extension support in areas including village literacy, reforestation, animal husbandry and leadership training; (2) self-managed village organization, by organizing cooperatives, constructing cooperative warehouses and training cooperative officials; (3) credit delivery, developed with the provision of agricultural inputs: (4) agricultural input delivery, to assure timely and reliable delivery to farmers and cooperatives; (5) increased access of women to development activities, through training and installation of cereal grinding mills; (6) testing and evaluation of proposed technologies, through the establishment of a monitoring and evaluation office within the Project Management Unit, (7) coordination and management for the project zone; and (8) an animal traction and rural artisan component for the development of prototype animal traction equipment and training of local blacksmiths and leather workers/harness makers.

STATUS

The project, a continuation of the completed Niamey Department Development (683-0205) was authorized on April 28, 1981. A six-month

5. Project management unit established;
6. Agricultural production increased; and
7. Improved technical service delivery for forestry extension and community forestry.

HOST COUNTRY AND OTHER DONOR CONTRIBUTIONS

The Government of Niger is contributing $7,700,000 for full-time local salaries, partial cost of commodities, and other incidentals.

OTHER DONOR ACTIVITIES

Similar development projects in other regions of Niger are being supported by France, the EEC, Canada, the Federal Republic of Germany, Italy, and the World Bank.

SUMMARY

This project builds upon and reinforces the successful activities initiated during Phase I (683-0205). The primary emphases of this second project implementation review was completed. Construction took place in four arrondissements and in Niamey. A training program was completed. A complete agro-ecological study was undertaken in 1985. As of April 1986, the contract for technical assistance (TA) for an internal project evaluation and agricultural equipment projection was in progress. Short term TA was engaged to develop more appropriate training for the women trainees and to develop a draft training manual. Trials at local test sites were rescheduled.

DOCUMENTS AND REPORTS

Project Paper, 12/19/80
Evaluation Report by AID, contractors and host country officials, 5/83
Six Month Implementation Evaluation Reports
"An assessment of NDD Monitoring and Evaluation Activities in 1983 and Recommendations for 1984"
A Monitoring and Evaluation System for the Niamey Department Development Project, 1984
NDD Annual Reports; 1981, 1982, 1983, 1984
Evaluation de l'Implantation das-a Grains dans la'Department de Niamey, 1984
"Niamey Department Development II: Second Interim Evaluation," 2/85
Organizatione Locales Dans le Department de Niamey, ABT Associates, 1985

*Includes building maintenance and, vehicle operation and maintenance.

PROJECT	SECTOR/SUBSECTOR/ACTIVITY			%	APP. CAT.	OBLIGATIONS BY FISCAL YEAR ($000) THROUGH ACTUAL FY82	FY83	FY84	FY85	ESTIMATED FY86	PROJECT STATUS	LENGTH OF PROJECT/PACD
683-0242	AGR	LIV	TTR	30	SH	—	10,110	—	3,284	0	Active	8/83 -6/88
Niger	AGR	NRE	TTR	30								
Integrated	AGR	LIV	RED	25								
Livestock	AGR	LIV	MKT	10								
Production (NLIP)	AGR	LIV	HRD	5								

AID INPUTS	($000)
Personnel	7,594
Training	1,316
Commodities	1,475
Construction	1,222
Other*	2,393
Inflation/Contingencies	3,500
Total LOP	17,500

CONTRACTOR

Tufts University
Medford, Massachusetts 02155
(617) 628-7010

AID CONTACT

M. Madland/H. Bourabima
Niger (ID), Department of State
Washington, D.C. 20520

PURPOSE

To increase livestock productivity in Niger's pastoral zone by establishing a sustainable institutional and policy framework with an appropriate set of private sector incentives.

AID-FINANCED INPUTS

1. Technical assistance, short and long-term;
2. Construction;
3. Commodities and equipment; and
4. Training of personnel, in-country and U.S.

MAJOR OUTPUTS

1. Herder association development;
2. Animal production and health improvements;
3. Resources management;
4. Market research;
5. Human resources development; and
6. Project management unit establishment.

HOST COUNTRY AND OTHER DONOR CONTRIBUTIONS

The host country is providing salaries for Nigerien personnel for project administration and implementation. No other donors are contributing directly to this project.

OTHER DONOR ACTIVITIES

The only other livestock projects in the pastoral zone of Niger were the Niger Centre-Est project (which has now been phased out) financed by the World Bank and the Sud Tamesna project financed by the French and CILSS. The latter has expressed interest in using the approach of this project in developing potential herder associations. The Niger Centre-Est project has now been phased out. That project did, in fact, implement activities through (Groupes Mutualistes Pastorale's; (GMP's) as does the NILP.

*Includes operational costs and Credit Fund.

SUMMARY

Research in the Niger Range and Livestock Project (NRL, the previous project upon which this one is based) demonstrated that the best way to achieve increases in production on a sustainable basis is by various carefully selected interventions channeled through autonomous, local-level herder associations. Major emphasis is placed upon in-country training of herder association membership for effective action. Interventions are carried out in the areas of animal health and nutrition, livestock marketing, water point and pasture development, and human health and education, all in a natural resource management context. Improvements in livestock productivity are expected to result in increased food production, higher and more secure incomes for herders, and a greater contribution of the pastoral sector to the national economy. The project will also encourage a continuous policy dialogue on issues relating to livestock marketing and enhancement of private sector responsibility for resource distribution in the pastoral zone.

STATUS

This project was authorized in June 1983, and project activities began in the fourth quarter FY 1983. Project activities were severely curtailed during the 1984-1985 drought, as herders moved south or herds were decimated. The project was evaluated in March 1986, and a project redesign is underway. As of April 1986, an emergency program was underway in Tahoua, Maradi and Agadez. Implementation of the projects early warning system was also underway and a rainy season aerial survey with ground truthing was completed.

DOCUMENTS AND REPORTS

Project Paper, 5/31/83
Quarterly Implementation Reports
"Technical Report on Animal Production in the Pastoral Zone of Niger: Recommendations for Improvement; Discussion Paper," 12/82
"Need to Redesign the Niger Integrated Livestock Project," 2/29/85

PROJECT	SECTOR/SUBSECTOR/ACTIVITY			%	APP. CAT.	OBLIGATIONS BY FISCAL YEAR ($000) THROUGH ACTUAL FY82	FY83	FY84	FY85	ESTIMATED FY86	PROJECT STATUS	LENGTH OF PROJECT/PACD
683-0246/47 Niger Rural Sector Development Grant	AGR	NSS	SEC	100	SH ES	-- --	-- --	-- --	- -	19,500*	Active	8/84 - 9/86

AID INPUTS	($000)	
Personnel	1,500	
Training	1,350	
Commodities	0	
Construction	0	
Other	150	
Inflation/Contingencies	12,000	
Total LOP	15,000	(SH)
	+17,000	(ES)
	32,000	

CONTRACTOR

South-East Consortium for
International Development (SECID)
400 Eastowne Drive Suite 207
Chapel Hill, N.C. 27514
(Technical Assistance only)

AID CONTACT

L. Jepson
Niger (ID)
Department of State
Washington D.C. 20520

PURPOSE

To promote agricultural production by diminishing policy constraints to development in the agriculture sector; and to provide resources to support ongoing development activities in the agriculture sector and thereby contribute directly to economic stabilization and act to minimize the adverse impact on development programs of the austerity measures imposed by the Grantee to achieve short-term stabilization.

AID-FINANCED INPUTS

1. Conditional dollar disbursements or resource transfer;
2. Local currency provided by the Government of Niger (GON) in an amount equivalent to the resource transfer;
3. Technical assistance for policy formulation and implementation support.

MAJOR OUTPUTS

1. Identification of commodity imports; and
2. Study of rural financial markets.

HOST COUNTRY AND OTHER DONOR CONTRIBUTIONS

Under the 1983 Economic Support Fund (ESF) grant of $5 million, the GON negotiated the agriculture sector policy reform with AID, and received the funds in the form of a Direct Reimbursement Authority Commodity Import Program.

SUMMARY

Under the combined Development Assistance (DA) and ESF projects, AID is providing a total of $32 million. The local currency serves as an additional but separately budgeted resource for the National Investment Fund which finances local capital and recurrent cost outlays or host country contributions for donor assisted projects.

SUMMARY (Continued)

- o Promote competition in grain marketing through the liberalization of official marketing and pricing policies.
- o Undertake a study of Niger's agricultural credit system, particularly the informal credit market.
- o Promote border trade of livestock, cowpeas and other agricultural products through reduction of administrative and fiscal impediments.
- o Promote increased cooperative and private trader participation in the supply of agricultural inputs, border trade of livestock, cowpeas and other agricultural products and internal grain marketing and storage.

Several of the subprojects include forestry, agroforestry, and soil conservation activities.

STATUS

Since the initial Grant Agreement was signed on August 31, 1983, commodity imports have been identified for direct reimbursement authority, and the entire $5 million was transferred in two tranches. AID/W authorized the $32 million combined ESF and DA program on August 14, 1984. As of April 1986, all conditions precedent to the release of the second tranche of funds were satisfied. These included: (1) reduction of the maximum subsidy on any agricultural input to 50% of delivered price; (2) establishment of a system of tenders and bids for 20% of OPVN's sales and purchases of grains; (3) promotion of village level grain storage; (4) initiation of a study of agricultural credit and rural savings; and (5) reduction of administrative and fiscal restrictions to cross border trade.

Ohio Sate University presented a preliminary report on rural financial markets in Niger. The Counterpart Fund Committee had approved $16.5 million (less 5%) for the project. Of this, about 48% was allocated to

The Agriculture Sector Development Grant, together with the ESF-financed Rural Sector Development Grant, is facilitating changes to lessen critical constraints hindering agricultural and economic development. Five areas of policy reform are considered essential for more efficient resource allocation, increased agriculture and livestock production and increased income for the rural population. The reforms are:

- o Reorient the agricultural input supply subsidy policy and restructure the official input supply agency in order to make more agricultural inputs available to farmers.

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*Cumulative obligation through April 1986.

support the local expenses of USAID-funded projects, 34% in support of activities related to policy reform and increased agricultural productivity, 15% for activities related to emergency drought relief and the remainder for PVO-managed and other donor-funded projects. A technical assistance team from the University of Michigan, with three members from the Mininistry of Agriculture and one from the Ministry of Planning were actively involved in policy studies, project evaluation, installation of computers and computer training and the development of policy analysis capability for the Government of Niger. A mid-term evaluation is scheduled for September-October 1986.

DOCUMENTS AND REPORTS

Project Paper, 1983
"Information Requirements for Monitoring and Evaluating Niger's Agriculture Sector Development Grant," 2/85
"Niger: Agriculture Sector Development Grant," Project Assistance Approval Document (PAAD), 8/14/86

PROJECT	SECTOR/SUBSECTOR/ACTIVITY			%	APP. CAT.	OBLIGATIONS BY FISCAL YEAR ($000) THROUGH ACTUAL FY82	FY83	FY84	FY85	ESTIMATED FY86	PROJECT STATUS	LENGTH OF PROJECT/PACD
685-0202 Senegal Range and Livestock Development (Promotion Humaine)	AGR	LIV	RED	90	SH	2,100	300	—	—	—	Completed	2/75 - 2/85
	AGR	LIV	HRD	10								

AID INPUTS	($000)
Personnel	504
Training	216
Commodities	816
Construction	720
Other	144
Inflation/Contingencies	0
Total LOP	2,400

CONTRACTOR

University of Michigan
2240 Independence Boulevard
Ann Arbor, MI 98104
Henri Joserrand

AID CONTACT

ADO, Senegal (ID)
Department of State
Washington, D.C. 20520

PURPOSE

To establish a 110,000 hectare grazing range using modern livestock and range management techniques.

AID-FINANCED INPUTS

1. Special advisor to Promotion Humaine (PH);
2. Part-time sociologist;
3. Vehicles;
4. Training materials;
5. Construction; and
6. Incentive payments for local staff.

MAJOR OUTPUTS

1. Two range and livestock management concepts introduced to and used by GOS officials and herders;
2. Livestock management practices in force;
3. Demonstrated feasibility of carrying out an integrated range management program;
4. Overseas and local training provided for project management staff, local training for cooperating farmers and national-level officials; and
5. Continual small-scale research on possibilities for improved forage and expanded flood irrigation program.

SUMMARY (Continued)

improved milkproduction practices, maternal and child health practices, and family planning. In addition, PH was to provide literacy and numeracy training. In support of these activities, the PH Chief was scheduled to take a four-week U.S. observation/study tour. Four staff members of PH's Animation Rurale, eight personnel from PH's Maisons Familiales, and several short-term personnel from the PH literacy service assisted in subproject implementation and received three months in-country, pre-project training.

STATUS

The project was completed on February 25, 1985. The following activities were carried out:

- Completed 330 km of roads/firebreaks in project area for better access and bush fire management;
- Constructed 19 water catchment ponds and 35 strategically located wells to increase livestock accessibility to underutilized rangelands;
- Established the provision of veterinary services and animal health program in project area;
- Introduced a supplemental feeding programs to improve the condition of the cattle;
- Established marketing program to give herders access to an additional market outlet;

SUMMARY

This was a subproject of the Senegal Range and Livestock Development Project to strengthen a variety of Senegalese education and training activities so that project-promoted improvements in animal husbandry practices and attitudes are maintained. The Government of Senegal's Promotion Humaine (PH) implemented the subproject with AID support.

The subproject had five components: (1) a two-month survey of the project zone by a PH sociologist with periodic evaluations to identify changes in attitudes and priorities; (2) on-site orientation for all participating villagers and project technicians, beginning prior to construction activities and continuing throughout the project; (3) reactivation of multi-function cooperatives, formation or refurbishment of village and zone councils with the ultimate establishment of an assembly to coordinate the two zones within the project; PH organized work teams (either paid or voluntary) building ponds, clearing and maintaining firebreaks, and so forth; (4) PH organized, managed and utilized logistical support for several ten-day extension sessions for 25-50 participants; (5) demonstrations of improved practices and techniques likely raise local living standards of residents of the project area—poultry keeping, vegetable gardening, home economics,

- Restructured livestock health extension services to make it more conducive and and responsive to local conditions; and
- Introduced a functional literacy training program in the project area.

DOCUMENTS AND REPORTS

Miscellaneous Project Documents Range and Livestock Development I
"Non-Capital Assistance Project Proposal Range and Livestock Development I," 10/10/74
Project Paper; Promotion Humaine component to the Senegal Range and Livestock Development Project, 9/29/75
"Report on AID Program: Audit Report, Area Development Office, Dakar," 1/17/78
"Special Evaluation Report: Evaluation Promotion Humaine Projects: Cereals Project, Eastern Senegal Livestock Project," 4/78
"Project Evaluation Summary (PES): Senegal Range and Livestock Development," 4/6/79
"Special Evaluation Report; Eastern Senegal Range and Livestock Project: Final Monitoring and Evaluation Report," 2/85

PROJECT	SECTOR/SUBSECTOR/ACTIVITY			%	APP. CAT.	OBLIGATIONS BY FISCAL YEAR ($000) THROUGH ACTUAL FY82	FY83	FY84	FY85	ESTIMATED FY86	PROJECT STATUS	LENGTH OF PROJECT/PACD
685-0219	AGR	FOR	TTR	10								
Senegal	AGR	FOR	RED	85	SD	3,070	364	--	--	--	Completed	5/79 - 3/85
Fuelwood	AHR	FOR	HRD	5								
Production												

AID INPUTS	($000)
Personnel	465
Training	142
Commodities	628
Construction	0
Other*	1,337
Inflation/Contingencies	862
Total LOP	3,434

CONTRACTOR

Series of Personal Services Contracts

AID CONTACT

Daby Diallo, Forestry Advisor
Senegal (ID)
Department of State
Washington D.C. 20520

PURPOSE

To improve the efficiency of fuelwood production for the Dakar/Thies area and help stabilize seasonal fluctuations in supply and price; to provide employment and improve the environment and economy of the Thies region, and to reduce pressure on up-country forest cutting.

AID-FINANCED INPUTS

1. Consultants;
2. Vehicles and equipment;
3. Construction of six houses and an office;
4. Casual labor for nursery activities and forestry planting; and
5. Operation of demonstration farm.

MAJOR OUTPUTS

1. Approximately 3,000 hectares of fast-growing tree species;
2. One nursery; and
3. Senegalese expertise in the management of fuelwood production projects;
4. Forestry development at the village level.

HOST COUNTRY AND OTHER DONOR CONTRIBUTIONS

The GOS contributed the use of the Bandia Forest Land and $779,000 for all administrative personnel, all skilled and semi-skilled and some unskilled labor, local research costs and travel for overseas training. The Peace Corps contributed one volunteer, at a cost of $40,000.

*Includes operating expenses, housing construction costs, research, local manpower, and overhead.

OTHER DONOR ACTIVITIES

This project was a CILSS first-generation priority; it complemented other donor activities by France, Canada and Germany, and a $9.3 million World Bank project. The EEC, World Bank and France worked to help bring the Foret du Centre-Est under a management plan. Senegal was chosen as one of five countries for coordination and project development under the Cooperative Development for Africa (CDA) forestry/fuelwood initiative.

SUMMARY

The grant provided, in part for the development of: (1) 3,000 hectares of rapid-growing trees in controlled areas of the Bandia Classified Forest near Dakar; (2) a central nursery producing 700,000 seedlings per year; (3) harvesting contracts for local timber cutters, timber cooperatives and village groups; (4) easily-extendable fuelwood production systems, and (5) research and evaluation monitoring for nursery planting, clearing techniques, live fencing and agro-silvicultural systems.

STATUS

The project was authorized on April 27, 1979. The project team leader arrived in May 1980. The project was originally scheduled to be completed in November 1984 but was extended until March 1985. At the completion of the project, most of project objectives had been met. A final report was submitted.

DOCUMENTS AND REPORTS

Project Review Paper, "Land Conservation and Revegetation," 3/77
PID, 8/6/78
Project Paper, 1979
"Project Evaluation Summary: Senegal Fuelwood Production," Peter Freeman, H. Fugalli, et. al., 5/10/83
Final Report, 5/85
"Senegal Fuelwood Production Project No. 685-0219: End of Project Completion Report," Daby Diallo, 8/6/85

PROJECT	SECTOR/SUBSECTOR/ACTIVITY			%	APP. CAT.	OBLIGATIONS BY FISCAL YEAR ($000) THROUGH ACTUAL FY82	FY83	FY84	FY85	ESTIMATED FY86	PROJECT STATUS	LENGTH OF PROJECT/PACD
685-0233	AGR	NRE	PPA	95	SH	2,000	—	—	—	—	Completed	6/81 - 6/85
Senegal National Plan for Land Use and Development	AGR	NRE	HRD	5								

AID INPUTS	($000)
Personnel	996
Training	249
Commodities	0
Construction	0
Other*	276
Inflation/Contingencies	182
Total LOP	2,000*

CONTRACTOR

South Dakota State University
Remote Sensing Institute
Box 507 Menona Hall
Brookings, South Dakota
Victor Myers
(605) 688-4184

AID CONTACT

Daby Diallo, Forestry Officer
Senegal (ID)
Department of State
Washington, D.C. 20520

PURPOSE

To prepare a National Plan for the management and optimal utilization of Senegal's natural and human resources through provision of resource maps, technology exchange, and institution building.

AID-FINANCED INPUTS

1. Technical assistance from a long-term soils scientist and an ecologist/remote sensing specialist;
2. Short-term consultants;
3. Training in remote sensing and mapping, informal counterpart training; and
4. Basic remote sensing laboratory facilities, other equipment, vehicles.

MAJOR OUTPUTS

1. An inventory of natural resources of the entire country including maps and statistics;
2. Senegalese personnel trained in remote sensing techniques;
3. Facilities in Senegal for basic interpretation of remote sensing data established; and
4. Agencies engaged in remote sensing and resource management activities strengthened.

HOST COUNTRY AND OTHER DONOR CONTRIBUTIONS

The GOS provided office and laboratory space, personnel and other costs estimated at $380,000; contribution to the total project was $2,600,000. The UNDP provided $1.2 million for the overall plan preparation ($900,000 for this project). The UNFPA supplied $1 million in technical assistance.

*Includes operating expenses, office supplies, maps, etc.
**Budget categories do not add to total LOP in Project Paper.

OTHER DONOR ACTIVITIES

Training and other activities were coordinated with the Regional Remote Sensing Center in Ouagadougou. France was engaged in the preparation of a long-term Forestry and Natural Resources Sector Plan.

SUMMARY

The project supported a multidonor-financed program of the GOS to prepare a National Plan for Land Management (PNAT). It provided for: (1) baseline maps and interpretation, using multistage integrated survey techniques (remote sensing, ground survey, air photo interpretation), needed to prepare a coherent, balanced development plan; (2) technology transfer and development of an operational capability of GOS resource scientists in the use of remote sensing, through training in remote sensing interpretive procedures, mapping and map interpretation; and (3) initiation of an institution-building effort for remote sensing and photo interpretation capabilities, to strengthen the Directorate of Land Management (Amenagement du Territorie), and the Remote Sensing Center at the University of Dakar.

STATUS

The project was authorized on May 15, 1981. The contract with South Dakota State University was signed in January 1982, and the team arrived in February of the same year. Recent activities included: continuation of intensive field investigations and liaison with University of Dakar; operationalizing second major shipment of landsat images; change in team leader of technical assistance team and relocation of project offices. The project was evaluated in 1983.

DOCUMENTS AND REPORTS

PID, 12/78
Project Paper, 5/81
"In-depth Evaluation of National Plan for Land Use and Development: Executive Summary, Transfer of Technology," 12/83
"National Plan for Land Use, USAID Project: 685-0233: Report on Review of Project Accounts and Internal Control," 7/27/84
Quarterly Implementation Reports

PROJECT	SECTOR/SUBSECTOR/ACTIVITY			%	APP. CAT.	OBLIGATIONS BY FISCAL YEAR ($000)* THROUGH ACTUAL FY82	FY83	FY84	FY85	ESTIMATED FY86	PROJECT STATUS	LENGTH OF PROJECT/PACD
685-0235	AGR	FOR	TTR	20								
Senegal Cereals II	AGR	FOR	RED	70	FN	1,711	291	—	—	—	Active	12/79 - 12/87
(Agroforestry)	AGR	FOR	HRD	10								

AID INPUTS	($000)
Personnel	420
Training	210
Commodities	250
Construction	0
Other**	885
Inflation/Contingencies	264
Total LOP***	2,029

CONTRACTOR

International Science and Technology Institute (ISTI)
2033 M Street N.W.
Washington, D.C. 20036
(202) 466-7290

AID CONTACT

Daby Diallo, Forestry Advisor
Senegal (ID)
Department of State
Washington D.C. 20520

PURPOSE

To carry out a pilot program of agroforestry and soil conservation activities in portions of Senegal's Groundnut Basin.

AID-FINANCED INPUTS

1. Technical assistance;
2. Training (local and abroad);
3. Research;
4. Local manpower; and
5. Women's extension.

MAJOR OUTPUTS

1. Field-level extension agents upgraded in extension methods to remote production thermes at the farmer level;
2. Women's extension unit operational;
3. Off station applied research conducted by Centre National de Recherches Agricoles (CNRA); and
4. Societe de Developpement et Vulgarisation Agricole (SODEVA) expertise in audio-visual techniques and extension developed.

HOST COUNTRY CONTRIBUTIONS

The GOS contribution represents salaries for researchers, technicians and support staff as well as the use of GOS facilities and logistical support. These include SODEVA ($270,000); ISRA (Senegal's agricultural research institute)($75,000); Eaux et Forets ($405,000). The Peace Corps is contributing $270,000. This represents approximately 18% of the agroforestry component.

SUMMARY (Continued)

3. Obtain adequate information on the degree of environmental degradation, the interest of villagers, and economic feasibility of project interventions to permit the elaboration of a long-term, large-scale agroforestry project.

STATUS

The project was authorized in March 1985. In May of that year the Delegations of Thies and Dourbel were requested to select villages in their areas for campaign and extension activities. Extension activities in the villages were carried out by the conseilleurs agricoles (CA). The 1985 campaign in the villages started late, posing great problems in mobilizing villagers and getting plantings done that year. For 1986, it was decided to start as early as possible. In December 1985, the Project Director requested that the delegations begin looking for prospective villages. Given the interest and the urgent need for a program in the M'Backe sector of Dourbel, the project was expanded to include that area for 1986. Consequently Dourbel was allocated fourteen and Thies six new villages.

A long-term TA forester called for under the ISTI contract arrived in Senegal on September 26, 1985. During the first year, an attempt was made to standardize the planting program throughout the zone of activity. Planting activities were concentrated in areas of village woodlots and orchards, windbreaks, household plantings and protection of the Acacia albida (Cadd). The late start of the the 1985 planting campaign caused difficulties for the delegations in finding enough plants and in getting the right plants in the right villages. The sources of seedlings included the SODEVA nurseries at Louga and Dourbel, the Forest Service nurseries at Thies and Dourbel and village nurseries in both

SUMMARY

Phase I (1974-79) provided support for extension, training and research activities in the departments of Thies, Dourbel and Bambey. Phase II expanded this support to include the Tivaouane and M'Backe departments. The project was amended in January 1985 to implement agroforestry/soil conservation pilot programs in the groundnut basin. Specifically, the project's new objectives are to:

1. Initiate a series of agroforestry activities in 60 villages in the Thies and Dourbel region to:
   (a) reintroduce trees in the production system;
   (b) demonstrate the role and importance of tree planting in maintaining soil productivity; in satisfying the needs of villagers for fuelwood, construction materials, and livestock and human food; and in improving farm revenue;
   (c) demonstrate the beneficial use of agricultural subproducts (i.e., compost, animal waste, livestock fodder) in improving farm revenue;
2. Test and validate agroforestry techniques by conducting adaptive research of tree species, plantation techniques, use of animal wastes and crop residues; and

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*Represents only the agroforestry component of the project. Annual obligations figures are calculated by multiplying the ratio of the agroforestry component to the overall LOP (i.e., 26%) by the obligations (for the overall project) listed in the FY 87 Congressional Presentation for each fiscal year.

**Includes operating expenses for research activities, demonstration, extension and field activities, well construction and improvement, documentation, seedling production, soil and plant analysis and soil survey.

***Represents only the agroforestry component of the project. The overall LOP is $7.7 million.

regions. Often the plants available were not large enough to ensure a good chance for survival. The 1986 campaign made an effort to start as many village nurseries as possible, as well as to produce plants in the forest service nurseries. ONRF began agroforestry tests at their research stations at Thienaba and Bandia. SODEVA has decided to concentrate its efforts in villages participating in the project. Improved woodstoves (Ban ak Suuf), have been requested by almost all the villages. With the help of the Centre d'Etude et de Recherche sur les Energies Renouvelables (CERER), village women are being trained in the construction and maintenance of mud-built stoves. Training efforts have been primarily toward the CA in order to make them more effective in their role as forestry extension agents. Training sessions were held in the areas of plantation sylviculture, village nursery management and nursery propagation of selected species, and village composting. As of April 1986, the second year program had been worked-out and was being implemented: research stations, new participating villages, extension programs, training needs and short-term consultancy needs had been identified; documentation and audio-visual production was being developed. Water resources were evaluated and commodity procurement was being executed.

DOCUMENTS AND REPORTS

Project Paper, 1979; 1985
"Senegal Cereals Phase II: Interim Report," 5/24/79
"Senegal Cereals Phase II: Interim Report," 5/24/81
"Memorandum on Review of the Senegal Rural Health Services Development Project and the Cereals Production Projects," 3/6/81
"Project Amendment, 1/85
"Progress Report, September 1, 1985 to April 1, 1986: Cereals Production II Project No. 685-0235," ISTI, 4/86
"Senegal Cereals Production II: End of Tour Report," Kathryn Craven, 9/23/84
"Senegal Cereals Production II: Final Report on the Audio Visual Center of So. De. V.A. Pout, Senegal," Ann Sulkosky, Aurora Associates, Inc., 9/27/84

PROJECT	SECTOR/SUBSECTOR/ACTIVITY			%	APP. CAT.	OBLIGATIONS BY FISCAL YEAR ($000) THROUGH ACTUAL FY82	FY83	FY84	FY85	ESTIMATED FY86	PROJECT STATUS	LENGTH OF PROJECT/PACD
685-0260	AGR	CRO	TTR	25								
Senegal	AGR	CRO	HRD	15	SH	--	—	9,000	—	—	Completed	9/84 - 9/85
Community and	AGR	CRO	RED	25								
Enterprise	AGR	LIV	TTR	20								
Development	AGR	LIV	HRD	10								
	AGR	FOR	TTR	5								

AID INPUTS	($000)
Personnel	6,103
Training (and Travel)	398
Commodities	328
Construction	0
Other*	1,729
Inflation/Contingencies	442
Total LOP**	9,000

CONTRACTOR

New Transcentury Foundation
1789 Columbia Road, N.W.
Washington, D.C. 20036

AID CONTACT

Alfredo Cuellar, Proj. Dev. Off.
Senegal (ID)
Department of State
Washington D.C. 20520

PURPOSE

The purpose of the project was: (1) to enable village organizations (VO) to carry out agricultural production, food processing and preservation and soil and energy conservation projects on their own; and (2) to assist rural entrepreneurs and enterprises to support agriculture and manage and sustain their own growth.

AID-FINANCED INPUTS

1. Technical assistance to over 200 volunteer organizations;
2. Management Units (MU) training of PVO's;
3. Credit fund provided to small scale enterprises (SSU's) and Private Volunteer Organizations (PVO's);
4. Project equipment and vehicles; and
5. Training of entrepreneurs in improved business practices.

OUTPUTS

1. 270 VO-implemented subprojects;
2. PVOs trained in project management, development, implementation techniques;
3. Credit used in subprojects and SSEs repaid;
4. Increased production of agriculture-related goods and services by 675 SSEs; and
5. Entrepreneurs trained in improved business practice.

HOST COUNTRY AND OTHER DONOR CONTRIBUTIONS

THE GOS agreed to provide reflows from loans made to village organizations adn entrepreneurs for the purposes of rural credit. The project worked in close collaboration with the Peace Corps by providing assistance to village organizations with assigned Peace Corps

OTHER DONOR ACTIVITIES (Continued)

Program (ILO/UNDP) assisted the Ministry of Industrial Development Program in strengthening regional associations of small entrepreneurs (Chambres de Tetiers). The West German Government (GTZ) also promoted reforestation with cashew nuts, and the British financed a cashew nut processing plant. The Belgians financed a small integrated development project in several villages around Kaolack. The World Bank financed a project which worked with small groups in promoting village-level activities such as gardening and well-digging.

SUMMARY

The project, which targeted development activities undertaken by the rural producers on their own behalf, focused on promoting the institutionalization of a development capacity which is donor independent. Resources were transferred through PVOs and the Small Business Advisory Unit to beneficiaries. Project activities promoted decentralized rural development through nongovernmental agencies in Sine Saloum, Senegal. PVOs helped VOs acquire the organizational, literacy/numeracy, financial and technical skills/resources needed to carry out subprojects in areas such as vegetable gardening, food processing, livestock, village woodlots and fishing.

STATUS

The project was authorized September 2, 1983. A contracted Management Unit was responsible for overall project management, PVO grant processing, TA coordination and liason with the policy committee, as well as project financing and evaluation. PVOs received grants to help over 200 volunteer organizations to design and implement up to 270 subprojects

volunteers. The project also collaborated with existing Peace Corps projects such as the improved mud stove (Ban-ak-Suuf) demonstration project.

OTHER DONOR ACTIVITIES

Within the region of Sine Saloum, several other donors sponsored bilateral development projects, some of which assisted rural producer groups. An International Labor Organization/ United Nations Development in areas such as vegetable gardening, food processing, livestock, village woodlots and fishing. An aerial photography and mapping project provided the Organization pour la Rise en Valeur du Fleuve Senegal (OMVS) with detailed maps of the basin. Project activities were completed in September 1985.

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*Includes credit fund, operating expenses and evaluation.

**DA resources provided to this project totaled $9,000,000. An additional $644,000 in project costs in year six was financed for the credit fund by excess loan reflows.

DOCUMENTS AND REPORTS

Project Paper, 1983
"Trip Report of Ross Bigelow, October 14 to November 13, 1982: Participation of FVA/PVC in Design of the Project for PVO Community and Private Enterprise Development in Senegal," 11/82
Quarterly Implementation Reports

PROJECT	SECTOR/SUBSECTOR/ACTIVITY		%	APP. CAT.	OBLIGATIONS BY FISCAL YEAR ($000) THROUGH ACTUAL FY82	FY83	FY84	FY85	ESTIMATED FY86	FY87	PROJECT STATUS	LENGTH OF PROJECT/PACD
685-0283 Senegal Reforestation	AGR	FOR	100	SH	--	--	--	--	5,500	4,500	Planned	9/86 - 9/93

AID INPUTS	($000)
Personnel	3,650
Training	1,330
Commodities	280
Construction	0
Other	2,900
Inflation/Contingencies	1,840
Total LOP	10,000

CONTRACTOR

To be selected

AID CONTACT

Jim Bonner
Senegal (ID)
Department of State
Washington, D.C. 20520

PURPOSE

To mobilize large-scale popular participation in tree planting with local and private resources, with emphasis on planting for more direct economic reward and increased agricultural production.

AID-FINANCED INPUTS

1. Technical assistance for an information campaign for drought-resistant varieties, for organization of nurseries, and for how to build an incentive structure;
2. Participant training;
3. Finance to banks for small business credit programs; and
4. Support of government planting programs.

MAJOR OUTPUTS

1. Series of policy studies, meetings and analyses;
2. Special media (radio and TV) programs to promote planting;
3. Training: 20 short-term courses and 5 long-term advanced degrees, 200 observation tour participants, and 740 in-country participants trained;
4. Establishment of nurseries;
5. Roadside tree planting/maintenance carried out by private contractors,
6. Private investments in processing of tree products and marketing of tree products for domestic export markets;

HOST COUNTRY AND OTHER DONOR CONTRIBUTIONS

The GOS will coordinate the overall effort; launch a nationwide information campaign, and manage the planting and replanting of government lands. The private sector will set up nurseries throughout the country so that seedlings are available to Senegalese.

*Includes Matching Grants ($2,000,000); Roadside Planting ($600,000);and Studies ($300,000).

HOST COUNTRY AND OTHER DONOR CONTRIBUTIONS (Continued)

Contact will initially be made through the Groupement Economique Senegalaes (GES), which is composed of businessmen throughout the country. Senegalese contributions of all kinds are expected to equal approximately 28% of AID funding. The GOS is currently scheduled to provide salaries for project personnel ($350,000); air time for radio and TV ($425,000); and matching grant contributions ($2,000,000).

SUMMARY

The project consists of five principal components:

1. Media campaign to convey to the public the benefit of planting trees, and to provide marketing and technical information
2. Training program to assist GOS staff and other entities in understanding the importance of agroforestry and in promoting private tree planting and maintenance;
3. Matching grants to support on a 50-50 basis initiatives by individuals and groups in tree planting;
4. Private sector promotion to encourage planting services (including nurseries, product transformation and development, and wood harvesting) and marketing by private and non-governmental organizations;
5. Policy dialogue to encourage the GOS to establish a policy which stimulates massive popular involvement in tree planting and maintenance.

STATUS

The project was authorized on August 6, 1986.

DOCUMENTS AND REPORTS

PID Approved 4/86
Project Paper, 7/86

PROJECT	SECTOR/SUBSECTOR/ACTIVITY			%
649-0108	AGR	LIV	RED	35
Somalia	AGR	LIV	LTE	20
Central	AGR	NRE	TTR	20
Rangelands	AGR	LIV	TDE	5
Development	AGR	LIV	CON	10
	AGR	FOR	HRD	5
	AGR	NRE	HRD	5

APP. CAT.	OBLIGATIONS BY FISCAL YEAR ($000) THROUGH ACTUAL FY82	FY83	FY84	FY85	ESTIMATED FY86
FN	10,680	4,264	--	--	--

PROJECT STATUS	LENGTH OF PROJECT/PACD
Active	9/79 - 9/88

AID INPUTS	($000)
Personnel	5,025
Training	354
Commodities	2,644
Construction	0
Other*	2,929
Inflation/Contingencies	3,992
Total LOP	14,944

CONTRACTOR

Louis Berger International, Inc.
1819 H Street, N.W.
Suite 900
Washington, D. C. 20006
(202) 331-7775
Ron Kornell

AID CONTACT

W. P. Warren
Somalia (ID)
Department of State
Washington, D.C. 20520

PURPOSE

To implement a system of range management which balances animals and forage to optimize livestock production while preserving the range resources.

AID-FINANCED INPUTS

1. Technical assistance;
2. Training;
3. Commodities;
4. Water development; and
5. Operational support

MAJOR OUTPUTS

1. Definition of range resources;
2. Definition of management program;
3. Institutional strengthening;
4. Organization of grazing associations; and
5 Installation of grazing reserves.

HOST COUNTRY AND OTHER DONOR CONTRIBUTIONS

GOS is providing counterpart funding. Other donors include the World Bank, International Fund for Agricultural Development, World Food Program, Overseas Development Administration and a host of others.

SUMMARY (Continued)

by establishing a dialogue with them through non-formal training; and (3) improving NRA's ability to implement range development by training of staff at all levels and by providing technical assistance. AID is financing the following components: (1) Range development including (a) resource inventory, (b) range ground survey, (c) range monitoring, and (d) range investigations; (2) formal training including establishing a Range Management Department at the Faculty of Agriculture of the Somalia National University and providing overseas post graduate training.

STATUS

The project was authorized on August 18, 1979. It was evaluated in April 1984. As of April 1986, the following activities had been carried out: (1) a resource inventory and the ground surveys in the three priority districts; (2) six range and livestock associations and nine grazing and range reserves established; (3) nineteen boreholes, seventeen dugouts and eleven wells completed; (4) one soil and water conservation site established, nine village shelter belts and eight berkhods completed, four nurseries established and three sand dune stabilization sites established and planned, (5) forty CRDP staff had received on-job-training, 29 had received short-term training, and 27 years of long-term training had been completed; (6) thirteen B.Sc. degrees had been granted by the Faculty of Agriculture in Range Science. (7) the Range Science building was 60 percent completed; and (8) forty publications, including classroom texts, technical reports and journal articles had been produced by project staff.

SUMMARY

The grant is provided to the Government of Somalia to improve livestock production and range resource management in the administrative regions of Galgudud, Mudug, and Himan. The National Range Agency (NRA) is implementing this multi-donor project to assist the GSDR in: (1) improving rangeland and livestock productivity through the introduction of range management, livestock water supplies and improved veterinary services; (2) gaining the confidence and cooperation of the pastoralists

DOCUMENTS AND REPORTS

"Memorandum Audit Report on Review of Costs and Other Issues Associated with Louis Berger International Host Country Contracts in Somalia," 3/3/83

Project Paper: Somalia Central Rangelands Development 5/29/79

"Project Evaluation Summary: Somalia Central Rangelands Development," 9/25/83

"Audit of Somalia Food and Nutrition Projects," 6/19/85

PROJECT	SECTOR/SUBSECTOR/ACTIVITY			%
649-0113	AGR	CRL	TDE	10
Somalia	AGR	CRL	TTR	30
Bay Region	AGR	CRL	INP	10
Development	AGR	CRL	RED	25
	AGR	NRE	TTR	25

APP. CAT.	OBLIGATIONS BY FISCAL YEAR ($000) THROUGH ACTUAL FY82	FY83	FY84	FY85	ESTIMATED FY86
FN	8,748	2,423	--	--	--

PROJECT STATUS: Active

LENGTH OF PROJECT/PACD: 9/80 - 12/87

AID INPUTS	($000)
Personnel	2,310
Training	504
Commodities	4,294
Construction	100
Other*	3,963
Inflation/Contingencies	0
Total LOP	11,171

CONTRACTOR

Personal Services Contractors

AID CONTACT

Flynn Fuller
Somalia (ID)
Department of State
Washington, D.C. 20520

PURPOSE

To increase the production of food crops and livestock in the area between the Juba and Shebelli Rivers.

AID-FINANCED INPUTS

1. Personnel (five long-term advisors; and four short-term advisors);
2. Training (ten long-term participants);
3. Vehicles and equipment; and
4. Training and local travel.

MAJOR OUTPUTS

1. Wells provided;
2. Pilot farmers trained;
3. Production (in tons) increased; and
4. Extension workers trained.

HOST COUNTRY AND OTHER DONOR CONTRIBUTIONS

This multi-donor project has a total budget of $46.3 million. Other donors, the World Bank, International Fund for Agricultural Development and African Development Bank, are providing physical infrastructure, roads and buildings to complement AID's technical assistance contribution. The GSDR contribution is contributing 9% of total project costs for salaries, operating costs, and offices.

SUMMARY

The project provides: (1) technical assistance through a contract with the University of Wyoming (UW) to increase the agricultural extension/adaptive research capacity of the Project Management Unit

SUMMARY (Continued)

staff specifically for rain-fed crops; (2) veterinary services through dispensaries and a vet lab constructed using CIP funds; (3) improved water supplies in conjunction with the Comprehensive Groundwater Project; (4) a baseline socio-economic study; and (5) both long-term training leading to college degrees and short-term in-country training.

STATUS

The project was authorized in April 1980. As of April 1986, two UW agronomists were working on the research farm assisting the senior agronomist. The UW team was working cooperatively with other contractors supplied by other donors. By combining their expertise and talents, they were making positive gains in their adaptive research efforts for rain-fed crops. The project hosted the Utah State staff and representatives from AFMET in a joint training session in Baidoa, January 20-30, 1986. A new BRADAP Central Office Complex and an Agricultural Research Center were officially opened, and a research plan was established for the GU season with the full complement of researchers on board. Two long-term participants returned with M.S. degrees and another ten were continuing their studies.

DOCUMENTS AND REPORTS

Project Paper, 4/26/80
"Bay Region Agriculture Development: Bibliography," 4/26/80
"Preliminary Socio-economic Survey: Bay Region, Somalia," 9/82
Training for Institutional Building for Farming Systems/Extension Perspective," undated
Quarterly Implementation Reports

*Includes local travel and local training.

PROJECT	SECTOR/SUBSECTOR/ACTIVITY			%	APP. CAT.	OBLIGATIONS BY FISCAL YEAR ($000) THROUGH ACTUAL FY82	FY83	FY84	FY85	ESTIMATED FY86	PROJECT STATUS	LENGTH OF PROJECT/PACD
649-0122	AGR	FOR	PPA	10	FN	--	6,000	--	--	--	Active	FY 1982 - 9/15/86
Somalia	AGR	FOR	TTR	20								
CDA Forestry I	AGR	FOR	RED	65								
	AGR	FOR	TDE	5								

AID INPUTS	($000)
Total LOP	6,000

CONTRACTOR

Cooperatives for American Relief Everywhere (CARE)

Volunteers in Technical Assistance (VITA)

Overseas Education Fund (OEF)

Resources Management Research (RMR)

AID CONTACT

George McCloskey
Somalia (ID)
Department of State
Washington D.C. 20520

PURPOSE

To assist the GSDR in undertaking a larger volume of forestry and fuelwood planting programs as part of its overall social and economic development efforts.

AID-FINANCED INPUTS

1. National Range Agency (NRA) forestry officers;
2. Technical assistance;
3. Funds for equipment and supplies;
4. Consultants; and
5. Training of local support staff.

MAJOR OUTPUTS

1. Seedling nurseries established;
2. Stabilized sand dunes;
3. A total of 864 hectares of woodlots/plantations;
4. Fuel efficient stoves; and
5. Detailed land use survey.

HOST COUNTRY AND OTHER DONOR CONTRIBUTIONS

Other donor agencies such as the UNHCR may finance various land preparation, construction, equipment and other direct costs of one or more RFP subprojects. Labor services are expected to be provided to the project through the Food-for-Work program. Food-for-Work resources to be made available by separate agreement are expected to be the dollar equivalent of approximately U.S. $978,000.

OTHER DONOR ACTIVITIES

Italy, Yugoslavia and China are planning additional forestry assistance. In 1979, Belgium, Canada, West Germany, France, Great Britain and the United States agreed to coordinate resources for joint projects within the framework of a "Cooperation Action for Development in Africa" (CDA). As part of the CDA program, a forestry/fuelwood initiative was developed.

STATUS (Continued)

three-week study tour on forestry in Kenya. As of April 1986, 106 hectares of woodlots had been planted and 89,606 hectares for sand dune stabilization. A total of 22,034 trees were planted for agroforestry/shelterbelts/farmplanting. Another 54,745 trees were planted for amenity planting, 45,000 for reserve/replacement, and 120,000 seedlings were planted in nurseries. Construction of the NRA Jalalaqsi District Office was scheduled for completion in June 1986.

In April 1986, The NRA-CARE subproject (aimed at alleviating deforestation caused by the presence of refugees and creating work opportunities) had planted over 625 hectares of fuelwood plantations and 32 hectares in shelterbelts, amounting to over 55,000 trees. A total of 85 stoves had been disseminated and 20 NRA staff had been trained. Three project members participated in the CARE Agroforestry workshop held in Kisumu, Kenya.

The NRA/Save the Children Federation sub-project (established to plant trees on submarginal land, test and demonstrate agroforestry and establish a nursery for seedling production), by April 1986, had: (1) outplanted 25 hectares of seedlings; (2) produced 177,000 seedlings in the central nursery for the 1986 "GU" season; and (3) constructed one kilometer of all weather road, linking the forest nursery and the closest hard surface. Tree planting activities included 345,000 fuelwood plantation seedlings, 120,000 windbreaks/farm planting seedlings, 100,000 shade tree seedlings, and 600,000 forestry nursery seedlings. Research and development activities, as well as training were completed. A total of eleven SCF/NRA forestry staff attended an intensive agroforestry study tour in Kenya.

The Gedo community forestry subproject is implemented by the NRA without a PVO partner. The subproject is establishing a central nursery to supply seedlings for 18 cooperative village woodlots, to be watered, tended and protected by the villages themselves. A total of 83,000 seedlings were produced in the nursery for the 1986 "GU" planting season. Two mini nurseries were established. A recent introduction of Cajanus, a very important legumenous plant, proved to be

Other donors have pledged support as follows: Britain, $550,000 equivalent for improved charcoal production, scholarships and lectures for the Afgoi Forestry Training Center, fuelwood plantations and village reforestation; France, $200,000 for collaboration in the village woodlot projects, improved charcoal production in refugee camps, establishment of fuelwood plantations, and research/training support; West Germany, $755,000 in forestry projects (agreements already signed); UNSO/FAO, long-term technical assistance to the Anti-Desertification Unit and $1,000,000 for sand dune stabilization.

SUMMARY

This first phase is designed to support reforestation and fuelwood production efforts in and near refugee camps in order to: redress deforestation caused by the presence of refugees; provide forestry related work opportunities for refugees and their neighbors; and strengthen the institutional capacity of the NRA, both at headquarters and in the field. Five substantive components address these objectives:

1. NRA institution building--providing training and technical assistance to NRA staff and support to the Afgoi Forestry school ($635,000);
2. Reforestation and Fuelwood Production--establishing fuelwood plantations, windbreaks and shelterbelts in and around refugee camps ($3,888,000);
3. Fuelwood Conservation--demonstrate and distribute fuel efficient stoves ($632,000);
4. Natural Resources/Land Use Survey--complete a national natural resource and land use survey ($500,000); and
5. Monitoring and management ($330,000).

Together these five components provide an initial investment in long-term stabilization of Somali fuelwood use and conservation patterns and a substantial benefit to refugees and indigenous Somalis living around the camps.

STATUS

The International Council for Research in Agroforestry (ICRAF) completed an agroforestry workshop in May 1985 and made recommendations concerning the development of agroforestry potential in Somalia and the improvement of technologies. As of April 1986, thirty Afgoi Forestry School graduates had completed on-site training at AID financed forestry projects. The AID-funded NRA Forestry Operations Advisor had completed in-service training plans for all NRA Forestry Department staff. The advisor recommended actions to improve the efficiency of nursery operations and management, plantation techniques and sylvicultural practices.

The subproject, implemented by Africare/NRA distributed and planted 23,700 seedlings during the first quarter of 1986. A woodlot survey on 52 hectares of land was completed and the land was fenced. Five water reservoirs were constructed in various woodlots for water storage. A consultant forester joined Africare to offer technical assistance for a period of three months. Ten extension staff and nursery managers attended a two-week course at the Afgoi Forestry Wildlife Training Center. The Project Manager and Extension Forester completed a a great success among the farmers. Planting activities, as of April 1986, included 70 hectares of NRA block plantation, 88 hectares of farm planting/shelterbelts and 112,000 trees for amenity planting. In addition, three nurseries were established. Annual production of seedlings was 265,000.

The Overseas Education Fund subproject (established to alleviate deforestation and employment problems and to develop women's skills through extension programs) is undertaking a combination of forestry and horticultural activities, including the writing of training manuals on the planting and care of seedlings. By April 1986, 22 hectares of severely deforested land had been planted with Parkinsonia and Prospois species, conservation activities were initiated on a 38 hectare site, and formal negotiations were completed for the establishment of a 26 hectare community woodlot. A nursery was started, with an annual seedling production capacity of 100,000 seedlings. In addition, tree planting activities included 2,000 trees for shelterbelts/farm planting and 20,000 seedlings. A presentation of OEF's project activities was held in Mogadishu. The second phase of training in community development techniques has been completed. A nursery establishment and tree planting manual was scheduled for completion in June 1986.

The Volunteers in Technical Assistance subproject was redesigned in 1984 to emphasize portable stoves that could be fabricated and marketed using existing networks. Activities included: (1) reducing emphasis on refugee camps, except in instances where markets are being used; (2) emphasizing institutional and commercial users in urban centers, amenable to commercial incentives (e.g., bakeries, lime and brick kilns); (3) working with local cooperatives and artisans to improve the commercial viability of stoves and encouraging them to mass produce the improved version of the stoves. As per the cooperative agreement amendment, December 31, 1985 was the completion date for sub-project activities. As of the completion date, the responsibility of the Project Director was assumed by the NRA Co-Director. In January 1986, the transition plan was accepted by the NRA. VITA's activities as the Implementing Agency ceased and the project was turned over to the NRA. As of April 1986, 4,315 soapstone and 2,013 ceramic stoves had been produced and six kilns had been built. Seventeen supplementary feeding stoves were constructed. In addition, the following individuals/groups were trained: 23 extensionists, 15 retailers, 7 NRA staff, and 3 stove technicians. Six radio and two television programs were produced, and 12 newspaper articles were published.

DOCUMENTS AND REPORTS

PID, 1/20/82
Revised PID, 6/24/82
Project Paper, 11/23/82
"Refugee Settlement in Somalia: A National Economic Opportunity," 9/83
"Efficient Cookstove Development in Somalia: Progress Report," Guatam S. Dutt and Mohamed Hasan," 7/84
"Wood Fuels Consumption and Cooking Practices in Selected Sites: Lower Shebelle, Brandira and Gedo Regions of Somalia," 7/84
"Market Research and Strategic Development for Ceramic Soapstone and Metal Stoves in Somalia," Glen W. Patterson and Hassan Noor Fahiyue, 9/84
Quarterly Implementation Reports
Mid-term Evaluation, 4/23/85

PROJECT	SECTOR/SUBSECTOR/ACTIVITY			%	APP. CAT.	OBLIGATIONS BY FISCAL YEAR ($000) THROUGH ACTUAL FY82	FY83	FY84	FY85	ESTIMATED FY86	PROJECT STATUS	LENGTH OF PROJECT/PACD
649-0134	AGR	NRE	TTR	40	FN	—	50	5,200	2,750	550	Active	9/83 -2/87
Somalia	AGR	NRE	PPA	30								
Juba Development Analytical Studies	AGR	NRE	HRD	30								

AID INPUTS	($000)
Personnel	6,481
Training	386
Commodities	1,582
Construction	0
Other	105
Inflation/Contingencies	0
Total LOP*	8,554

CONTRACTOR

National Academy of Sciences
BOSTID
2101 Constitution Ave. N.W.
Mike Dow
(202) 334-2634

Associates in Rural Development, Inc.
110 Main Street
Burlington, Vermont 05401
Richard Donovan
(807) 658-3890

U.S. Bureau of Reclamation
Dick Ives
(202) 658-3890

AID CONTACT

Sally Patton, Environmental Coordinator
Somalia (ID)
Department of State
Washington, D.C. 20520

PURPOSE

To provide soils/land classification and environmental/social impact analyses as inputs to the development of the Ministry of Juba Valley Development (MJVD) Master Plan.

AID-FINANCED INPUTS

1. Training;
2. Technical assistance; and
3. Planning strategies.

MAJOR OUTPUTS

1. Classification of soils and land use;
2. Identification of environmental and socio-economic constraints;
3. Development of Ministry of Juba Valley Development (MJVD) as an effective planning body; and
4. Incorporation of environmental assessment in planning stages.

HOST COUNTRY AND OTHER DONOR CONTRIBUTIONS

Assistance to the MJVD program being provided by other donors includes: (1) collection of requisite data prior to the proposed construction of Baardheere Dam and a feasibility study for the Baardheere Irrigation District; (2) revision/updating of data on surface water hydrology; (3) an assessment of the region's agricultural and livestock services; (4) a study of Deshek (natural depressions in Valley plains which are subject

SUMMARY (Continued)

are collecting/analyzing, respectively, baseline data on soils/land use and on the environmental/social impact of various development schemes. The U.S. National Research Council (NRC) is providing advice concerning BUREC and ARD inputs.

Project Paper Amendment No. 1 of June 25, 1985 increased NAS's provision of long- and short-term training to MJVD and transfers responsibility for the long-term MJVD advisor to a West German contractor.

STATUS

The project was authorized in September 1983. In-country activities have been initiated, as follows: (1) project vehicles procured ; (2) resident teams in country and housed; (3) office space renovated; (4) all but the most sophisticated of lab equipment installed at the Afgoi Lab; (5) project amendment revised and approved; (6) amended Project Agreement signed June 30, 1985; (7) draft MOU between USAID, MJVD and the Ministry of Agriculture on the use of the lab agreed upon by USAID and MJVD and being discussed with the Ministry of Agriculture; (8) soil sampling begun in the Baardheere area and three Somali counterparts being trained to lead survey parties; (9) BUREC's workplan with the team leader and project manager reviewed by MJVD and a complete revision recommended; (10) a successful study tour of U.S. river basin development completed by Minister Habib and as a result, interest expressed on the part MJVD in

to seasonal flooding) and a study of small- and medium-scale irrigation schemes in the valley; (5) an assessment of future cropping patterns and irrigation water requirements; (6) a survey of settlement and infrastructure constraints (e.g., bad roads) ; (7) a prefeasibility study on interim water storage; (8) a feasibility study on small-scale irrigation schemes in the river basin; (9) studies of livestock, of rainfed agriculture, and of agricultural credit.

SUMMARY

The project assists Somalia's Ministry of Juba Valley Development (MJVD) in developing a Master Plan for development of the Valley, the country's bread basket by providing assessments and analyses. The U.S. Bureau of Reclamation (BUREC) and Associates in Rural Development (ARD)

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*Reflects $3,304,000 LOP increase not shown in Congressional Presentation.

private development of hydropower and water user association management of irrigation schemes. NRC fielded a reconnaissance team of environmental natural resource specialists, who conducted a brief survey of Juba Valley region and then participated in a four day workshop with Somali officials and resource specialists on issues affecting the development of the river basin. In March 1986, NRC fielded a soil scientist to provide recommendations on actions proposed by BUREC. Under BUREC PASA amendment #1, BUREC Involvement is being extended one year to February 1987.

DOCUMENTS AND REPORTS

Project Paper, 6/23/83
"Juba Development Analytical Studies Project Paper Amendment No. 1," 6/25/85
"Proceedings of the First Juba Valley Development Workshop" U.S. NRC, Somalia NRC, MJVD (In Prepartion)

PROJECT	SECTOR/SUBSECTOR/ACTIVITY			%	APP. CAT.	OBLIGATIONS BY FISCAL YEAR ($000) THROUGH ACTUAL FY82	FY83	FY84	FY85	ESTIMATED FY86	PROJECT STATUS	LENGTH OF PROJECT/PACD
650-0020	AGR	CRL	TDE	77	FN	25,383	—	—	—	—	Active	9/78 - 4/87
Sudan	AGR	CRL	HRD	3								
Western Sudan Agricultural Research	AGR	NRE	RED	20								

AID INPUTS	($000)
Personnel	11,180
Training	0
Commodities	0
Construction	5,720
Other*	9,100
Inflation/Contingencies	0
Total LOP	26,000

CONTRACTOR

Consortium for International Development
515 E. Broadway Suite 1500
Tucson, AZ 85711
(602) 795-0718

Series of Personal Services Contracts**

AID CONTACT

ADO, Sudan (ID)
Department of State
Washington, D.C. 20520

PURPOSE

To increase the capability of the Sudanese Agricultural Research Corporation (ARC) to develop and test improved production systems that conserve and rehabilitate natural resources and improve the standard of living of the subsistence farmers and pastoralists of Western Sudan.

AID-FINANCED INPUTS

1. Specialized technical assistance service during Phase I;
2. Construction financing;
3. Training (external and on-the-job);
4. Commodities; and
5. Operations Support.

MAJOR OUTPUTS

1. Research Projects in: livestock/crop production systems, water and land use management, range and livestock production;
2. Development of an ARC research center and regional headquarters (seven sites total);
3. Strengthening of ARC's headquarters through the establishment of a Project Support Unit (PSU), a Planning Evaluation Unit (PEU), and a Training and Extension Unit (TEU);
4. Contract research to be carried out by specialized research institutions other than ARC; and
5. Sudanese scientists trained, and employed on project research stations (6 for Ph.D., 5 for M.Sc. and 17 for non-degree specialization courses).

HOST COUNTRY AND OTHER DONOR CONTRIBUTIONS (Continued)

The GOS contribution in local currency from both regular budget and counterpart sources includes partial funding of construction of the Project Center, aircraft purchase, local salaries over the six year project, waived duties and taxes.

SUMMARY

This project is divided into two phases. Phase I is primarily concerned with the development of the research facilities, i.e., construction of the project center at El Obeid, the four research stations at El Fasher, El Obeid, Ghazala Gawazat and Kadugli, and project support facilities in Khartoum. Phase II begins the actual initiation of the respective research programs. Rescheduling of activities taking advantage of certain existing facilities will permit earlier commencement of research. Present implementation is being carried out by the Project Support Unit functioning in ARC/WSARP Khartoum office.

STATUS

As of April 1986, the project status was:

1. A team from Winrock International had completed an evaluation of research activities and will make recommendations for follow-on program;

2. ARC headquarters were completed and in full use. Three research stations were between 85 to 98 percent complete;

HOST COUNTRY AND OTHER DONOR CONTRIBUTIONS

As a result of the Project Paper Amendment the host country is contributing $31.2 million; other donors, namely IBRD will contribute $15 million. Total life of the project for all donors is $74.2 million. The IBRD, through an IDA credit, will partially finance the following inputs: Construction of the Project Center and three research stations, including offices, laboratories, staff houses, a documentation center and a conference room, purchase and operating expenses for a project aircraft.

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*Includes operating and local training costs.

**Consortium for International Development will no longer be the contractor. The Mission will use a series of personal services contrators

3. Participant trainer programs were being implemented under an AID/W USDA/PASA contract.

DOCUMENTS AND REPORTS

Project Paper, 7/26/78
Evaluation; 1/82
"Western Sudan Agricultural Research Project" Evaluation Team Midterm Report,"AID/Winrock International, 1/24/83
Project Paper Amendment, 6/15/80
"Memorandum Report on Western Sudan Agricultural Research Project," 5/30/86

PROJECT	SECTOR/SUBSECTOR/ACTIVITY			%	APP. CAT.	OBLIGATIONS BY FISCAL YEAR ($000) THROUGH ACTUAL FY82	FY83	FY84	FY85	ESTIMATED FY86	PROJECT STATUS	LENGTH OF PROJECT/PACD
650-0041	ENY	FUW	TDE	35	SD	1,500	—	1,000	1,000	500	Active	8/81 - 1/87
Sudan	ENY	REN	TTR	5								
Renewable Energy	ENY	FUW	TTR	35								
Project (SREP)	AGR	FOR	RED	25								

AID INPUTS	($000)
Personnel	1,230
Training	458
Commodities	323
Construction	0
Other*	2,066
Inflation/Contingencies	523
Total LOP	4,600

CONTRACTOR

Georgia Institute of Technology, EES/TAL
Atlanta, Georgia 30332
William C. Larson
(404) 894-3800

AID CONTACT

Energy Advisor, Sudan (ID)
Department of State
Washington, D.C. 20520

PURPOSE

To assist the Government of the Sudan (GOS) in developing applied research capability in renewable energy technology, with verification through application of research results in rural areas.

AID-FINANCED INPUTS

1. Long-term technical assistance in management and renewable energy field-testing/dissemination;
2. Thirty-two person-months of short-term consulting;
3. Long- and short-term U.S. and third-country training, and study tours;
4. Funds for renewable energy development grants;
5. Funding for an information center; and
6. Commodities, equipment, vehicles, and field-testing/training/information center materials.

MAJOR OUTPUTS

1. Rural energy use studies completed;
2. Renewable energy technologies (RETs) developed, field-tested and disseminated;
3. Sudan Renewable Energy Center (SREC) manpower needs assessed;
4. Sudanese counterparts trained, capacity for implementing RET programs strengthened;
5. RETs installed, evaluated, and locally produced;
6. Private sector institutions supported through grant fund;
7. Channels for RET dissemination tested and in use; and
8. Training and information materials developed and distributed.

HOST COUNTRY AND OTHER DONOR CONTRIBUTIONS

The GOS is contributing the equivalent of $3,000,000 for salaries, commodities, training, grants and construction. West Germany is contributing $1,400,000 in funding and personnel for a Research and Development Division of the SREC.

STATUS (Continued)

Early grants emphasized nursery rehabilitation and individual farm forestry, but the focus is now on irrigated agriculture/forestry integration with a secondary focus on village forestry;

3. Fuelwood combustion studies focusing on improving efficiency of brickmaking kilns;

4. Briquetting-design and field testing of machines to briquette and carbonize agricultural residues (cotton stalks);

5. Promoting charcoal production from forests being cleared for mechanized farming. The current practice is to clear by burning forest; and

6. Determining the economic feasibility of small scale photovoltaic applications in rural areas including outdoor illumination for community gathering places or school yards, portable lanterns, recharging systems for battery operated lamps, and vaccine storage refrigeration.

The design and administration of the Renewable Energy Development Grants Fund (REDG) has been particularly effective as a means of encouraging private and public commercialization and dissemination of renewable energy technologies (e.g. fuelwood/forestry programs, dissemination of improved stoves, venture capital to entrepreneurs interested in establishing small industries to produce or distribute renewable energy technologies).

The project's energy economist completed a three year assignment in October 85, and has departed Sudan. As of April 1986, the following RET testing and development activities had been conducted: (1) a field survey of 1000 ceramic/metal and metal sleeve stoves in the Khartoum area; (2) a briquetter for charcoal cotton stalks had been designed and built and a second prototype briquetter was undergoing field tests in the Rahad Scheme; (3) a stove testing center at Soba was completed; (4) four solar systems were undergoing field trials (5) improved metal stoves with sleeve air control were tested; (6) field surveys were under way at the Rahad Scheme to determine the feasibility of promoting improved charcoal

OTHER DONOR ACTIVITIES

The AID project complements a West German Renewable Energy Project, a $5.8 million effort which, in addition to the above described activities, is funding costs of construction and equipment of a laboratory and workshop, and provides funds for projects including solar water heaters, photovoltaic powered television, solar cookers, mini-hydro and wood conservation. The Dutch are supporting a wind energy center to develop and test water-pumping windmills. They are also contributing to reforestation efforts.

SUMMARY

The project utilizes the SREC to strengthen the Energy Research Council (ERC) and the Renewable Energy Research Institute (RERI) by:

- Field testing and disseminating renewable energy technologies to improve production and use of fuelwood, charcoal, charcoal stoves, briquetting of agricultural residues, and small applications of photovoltaic systems;
- Establishing a Dissemination Unit within the RERI to conduct workshops, publish pamphlets, audio and visual materials, and other forms of communication to assist in the promotion and adoption of proven renewable energy technologies;
- Conducting studies and surveys to determine appropriate renewable energy technologies and resources available;
- Enlisting the support of community groups, private organizations and NGOs to support dissemination and training techniques;
- Providing short- and long-term training for RERI staff in renewable energy technologies, dissemination, project evaluation and management; and
- Establishing an Energy Information Center to provide technical information on renewable energy applications from both national and international sources; and
- Procuring equipment and transport to assist ERC/RERI in completing the above.

STATUS

The project was expanded to include participation of five Peace Corps Volunteers in dissemination activities who joined the SREP in November 1984. Project activities include:

1. Charcoal Stove Development and Dissemination. Designs being promoted are Sudanese designed metal stoves and the clay/metal stove design used in Kenya. Sales are estimated at 6,600 stoves per year with an estimated savings of 51,000 sacks of charcoal.

2. Fuelwood projects with farmers, communities, and large agricultural schemes. Fuelwood/forestry is the major Renewable Energy Development Grant activity. This grants program makes use of local currency generated from USAID/Sudan's PL480 and Commodity Import Program.

*Includes travel and operating expenses.

stoves; (7) a short-term consultancy was prepared which will assist in identifying resources necessary for study and approach to improved water pumping; (8) a pumping team was organized in SREP and began to collect information about ongoing pumping projects, water resource information, water requirements for agriculture and diesel use for water pumping; (9) four grants were given for charcoal stove, shelter belts, and briquetting projects. In the agroforestry area: (1) one nursery in Damazine was completed and began providing seedlings to two mechanized farming schemes; (2) four agroforestry grants were awarded to irrigated agricultural schemes; and (3) a forestry consultancy was begun to evaluate completed fuelwood/forestry grants.

Several workshops/training activities were held, including: (1) five charcoal stove workshops in the El Obeid Area; (2) five workshops held for charcoal stove surveyors; and (3) a marketing course for RERI staff. Six M.Sc. students completed theses and received degrees.

With the evacuation of USAID and project personnel in May 1986, the future of the project became uncertain. The Mission had earlier proposed to add an additional $1 million to the project so as to allow for expansion of the project's activities to include an improved water-pumping/water-lifting program.

DOCUMENTS AND REPORTS

"Sudan Village Renewable Energy" (pre-PID report), M. and L. Lillywhite, Domestic Technology Institute; Evergreen, CO 2/80
Project Paper, 8/31/81
Evaluation, 1/24/83
Quarterly Implementation Reports
Annual Reports (1, 2, 3rd year)
Monthly Progress Reports from the contractor to USAID
Semi-annual Reports from the Counterpart of Ministry of Finance and Economic Planning
"How to Build the Canun El Duga" (Trainees' Manual), 11/84, revised 2/85
"Charcoal Production in Blue Nile Province," Dr. Hassan Osman El Nour and Kamal Satie, 9/84
"Canun El Duga: Improved Charcoal Stoves for the Sudan," Gaafar El Faki Ali and Claudia H. Huff, 12/84
"Seedling Availability and Potential Demand in Khartoum Province," Khalafalla Sid Ahmed (4/85)
"Charcoal Conversion in the Rawashda Forest, Gedaref District," Kamal Satie and Jon Dorre, 5/85
"Irrigated Agriculture/Forestry Integration Potential," Khalafalla Sid Ahmed, 6/85
"Wood Fuels Consumption in Khartoum Area Industries," National Energy Administration, assisted by Dr. El Sheikh El Magzoub, 5/85
"Agroforestry Development in the Mechanized Farming Sector," Dr. D.E. Earl, 5/85
"Charcoal Production and Marketing Economics," Gaafar El Faki, 5/85)
"Development of Metal-Ceramic Stoves in El Obeid," Maxwell Kinyangui
"Fuelwood/Forestry in SREP," Lester Bradford
"Action Plan - Mechanized Farming Scheme and Forest Administration Activities," SREP staff
"Charcoal Production from Five Wood Species Using a Portable Metal Kiln," Tageldin Nasroun, Asma El Amin, and Abdel Wadoud Abd Alla
"Basic Tree Nursery Techniques" (Arabic and English), 2/85

PROJECT	SECTOR/SUBSECTOR/ACTIVITY			%	APP. CAT.	OBLIGATIONS BY FISCAL YEAR ($000) THROUGH ACTUAL FY82	FY83	FY84	FY85	ESTIMATED FY86	PROJECT STATUS	LENGTH OF PROJECT/PACD
650-0059	ENY	NSS	PPA	50	SD	—	—	—	—	—	Active	8/82 - 4/88
Sudan	ENY	NSS	HRD	30				4355		700		
Energy Planning & Management	ENY	NSS	TTR	20								

AID INPUTS	($000)
Personnel	6,845
Training	760
Commodities	507
Construction	0
Other	338
Inflation/Contingencies	0
OPG	0
Total LOP	8,450

CONTRACTOR

Energy/Development International
1015 18th Street, N.W.
Washington, D.C. 20005
(202) 822-8817
David Plugh

Harza Engineering Co.
(312) 855-3353

AID CONTACT

Jay Carter/Richard Macken
Energy Advisor, Sudan (ID)
Department of State
Washington, D.C. 20520

PURPOSE

To help the Government of Sudan better use available energy resources, and to ease energy-related constraints to economic recovery while contributing to the longer-term goal of meeting the country's energy requirements for agricultural and industrial use.

AID-FINANCED INPUTS

1. Long and short-term experts for the National Energy Administration/ General Petroleum Corporation (NEA/GPC) and the National Electricity Corporation (NEC);
2. Training;
3. Commodities and equipment;
4. USAID under a contract with EBASCO is supplying approximately three long-term technical assistance advisors to go along with about $15 million in annual electricity commodity assistance; and
5. USAID is supplying about $40 million/year for a petroleum financing facility.

MAJOR OUTPUTS

1. National Energy Plan, approximately eight volumes, with participation of about 200 Sudanese;
2. National Energy Assessment;
3. Annual energy plans, energy sector investment and pricing studies, regular publications giving energy statistics and summarizing the results of energy studies (this is part of the output of the computerized data collection and analysis system);
4. At least 10 studies on priority energy issues;
5. A competent and effective NEA, fulfilling its mandate as the primary source of information and analysis relating to energy policy, planning and management issues;
6. National energy assessment with projections through the year 2000;
7. Computerized data collection and analysis system;

STATUS

The project was authorized in August 1982 and has five subproject components. Subproject (A) was initiated in mid 1982 and provided engineering services through Bechtel to assist the National Electricity Corporation (NEC) in procurement and installation of power system equipment to improve the reliability and efficiency of the Blue Nile Grid. Support totaling $1,681,000 was provided to this subproject activity, of which $800,000 came from the Commodity Import Program (CIP) project and the remainder from S&T/EY and the Energy Planning and Management (EPM) project. The contract with Bechtel was terminated and followed by a new technical assistance contract with EBASCO under the Blue Nile Grid Rehabilitation Phase II Project (650-K-604/606).

Subproject (B) was initiated in January 1981 with initial S&T/EY funding to assist the National Energy Administration (NEA) in becoming a meaningful policy and planning arm of the Ministry of Energy and Mining. The EPM subsequently provided $766,107 out of a total subproject cost of $1,534,887. This subproject was followed by a new technical assistance contract with E/DI under subproject (C).

Under subproject (C), E/DI is assisting with the institutional development of NEA by improving its capacity for energy data collection and analysis, energy policy and planning. E/DI is also to assist the General Petroleum Corporation in improving its capacity to develop and implement better corporate planning decisions and management strategies. To date the GPC portion has not been implemented pending resolution of outstanding issues between the GOS and USAID.

Subproject (D) with Harza Engineering Company is for the purpose of assisting the NEC in improving NEC management structure and systems, the reliability of the Blue Nile Grid, and the capability and efficiency of the NEC to generate, transmit and distribute power. Harza is concentrating on improvements in management, financial controls, collections and net revenues. A marginal cost tariff study has been

8. Manpower study for the energy sector;
9. Training needs assessment and plan; and
10. An effective, operational conservation plan.

HOST COUNTRY AND OTHER DONOR CONTRIBUTIONS

The GOS is providing $3,732,000, including $2,340,000 in-kind for National Energy Administration salaries, operating costs and office space (the balance is CIP-generated local currency).

OTHER DONOR ACTIVITIES

This program complements the AID Commodity Program and ST/EY assistance to the National Electric Corporation (NEC), as well as a $6.5 million World Bank/IDA credit, a $114 million grant from the United Kingdom, and $25 million from West Germany for a Power III project. Denmark is providing $28.3 million for ten power facilities.

The World Bank is funding a large Petroleum Exploration Development Program with the Geology and Mineral Resources Division of the Ministry of Energy, Mining and Industry (MEMI), as well as several smaller activities--solar hot water in hotels, periurban plantations, others--under the Bank's Energy Sector Management Assistance Program (ESMAP).

Under the Power IV Project, the World Bank is attempting to put together a package to finance the next round of generation, transmission and distribution system improvements on the Blue Nile Grid (BNG), and recently authorized a new study of heightening Roseires Dam using old Power III money (probably to be done by Alexander Gibb and Partners).

USNO is funding about $700,000 of groundnut briquetting work with the NEA and others. The Sudan Renewable Energy Project, a similar FAO-funded project and CARE are active in disseminating new charcoal stove designs and in agroforestry.

SUMMARY

To improve the capability of the GOS to plan and manage the energy sector by making the National Energy Administration (NEA) an "accepted and respected central source of useful energy data and to provide analytical support for policy and investment decisions in the energy sector" (quotation from the E/DI contract statement of work). This includes: (a) organizational development work--defining objectives, developing work plans, writing job descriptions, conducting formal training programs as needed and maximizing contractor/NEA staff interaction on project tasks; (b) technical assistance in conducting analyses and designing and running programs--thus providing specific, useful outputs, as well as examples of how to conduct related analyses, in terms of both form and work habits; and (c) commodities--computers, programs, blackboards, copiers, and so forth--to support analyses and presentations.

initiated and a computer specialist arrived in July 1985 for a two year assignment. The NEC computer center has shown considerable improvement, and billing arrears have been greatly reduced through installation of new cash control remittance systems in Omdurman, Khartoum and North Khartoum. Under the guidance of Harza's load management advisor, power sector improvements are yielding energy savings on the order of 500 metric tons of oil equivalent per year, and reduced line losses of 2000 MWhr annually. A short-term accounting advisor arrived in September 1985 to review accounting systems and customer account procedures.

Through subproject (E) with Arkel Talab, four specialists are working with NEC technicians to improve NEC mobile equipment and telecommunications equipment operation and maintenance and to obtain better utilization of CIP provided mobile equipment. Most of these activities were placed on hold with the evacuation of Mission personnel from Sudan in May 1986.

DOCUMENTS AND REPORTS

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Project Paper, 8/1/82
"National Energy Assessment," National Energy Administration, Khartoum, 9/30/82
"Traffic Reform and Energy Conservation for Vehicles in the Capital," National Energy Administration, Khartoum area, Khartoum, 12/82
Sudan National Energy Assessment, 1983
"National Energy Assessment, Annex 1: Base year (1980) Energy Supply Demand Balances and Demand Projection Methodology," National Energy Administration, Khartoum, 4/83
"National Energy Assessment, Annex 2: Transportation Sector," National Energy Administration, Khartoum, 4/83
"National Energy Assessment, Annex 3: Forestry and Fuelwood Resources," National Energy Administration, Khartoum, 5/83
"National Energy Assessment, Annex 4: Agriculture Sector," National Energy Administration, Khartoum, 5/83
"National Energy Assessment, Annex 5: Household Sector," National Energy Administration, Khartoum, 6/83
"National Energy Assessment, Executive Summary," National Energy Administration, Khartoum, 10/83
"The Cause and Effects of Debris Accumulation at the Roseires Hydroelectric Dam and Initial Survey," National Energy Administration, Khartoum, 4/83
"The Nature of Laws in Sudan (with specific Reference to Forestry), National Energy Administration," Khartoum, 4/83
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"An Examination of the Impact of Energy Supply Problems on Sudanese Industry and a Review of Energy Use and Energy Efficiency," National Energy Administration, Khartoum, 11/83
"Current Population of Sudan and Projections to the Year 2000," National Energy Administration, Khartoum, 4/83
Sudan National Energy Plan, 1984
"National Energy Administration Training Report," National Energy Administration, Khartoum, 9/85
Quarterly Implementation Reports

PROJECT	SECTOR/SUBSECTOR/ACTIVITY			%	APP. CAT.	OBLIGATIONS BY FISCAL YEAR ($000) THROUGH ACTUAL FY82	FY83	FY84	FY85	ESTIMATED FY86	PROJECT STATUS	LENGTH OF PROJECT/PACD
650-0064 Sudan Eastern Reforestation (OPG)	AGR	FOR	TTR	15	MR	—	—	4,450	—		Active	FY 1983-3/88
	AGR	FOR	RED	85								

AID INPUTS	($000)
Personnel	2,453
Training	298
Commodities	640
Construction	43
Other*	876
Inflation/Contingencies	240
Total LOP	4,550

CONTRACTOR

Cooperative American Relief Everywhere (CARE)
660 First Avenue
New York, New York 10016
John Michael Kramer
(212) 686-3110

AID CONTACT

Forestry Advisor, Sudan (ID)
Department of State
Washington, D.C. 20520

PURPOSE

To enhance the quality of life for the refugees and Sudanese living in the area through increase in local fuelwood supply, income generation, increase in the productive capacity of soil and improvement in the institutional capacity of the Forestry Department.

AID-FINANCED INPUTS

1. Funds for materials (fencing, seedling pots, seeds, nursery, planting tools); and equipment (tractors and machines);
2. Costs for remuneration of refugee labor;
3. Vehicles and maintenance; and
4. Long-term technical assistance from a CARE forester.

MAJOR OUTPUTS

1. Fuelwood for local consumption, and charcoal for export;
2. Soil stabilized and improved; and
3. A total of 25,000 refugees provided with wood; a number of these benefitting directly from remuneration for labor.

HOST COUNTRY AND OTHER DONOR CONTRIBUTIONS

The GOS is providing land and forest service personnel; the monetary value has been determined to be $241,477. CARE is providing its own contribution of $500,000, secured from the Government of the Netherlands.

OTHER DONOR ACTIVITIES

There is a large UNDP/FAO gum arabic project in the North Kordofan region. Canada has funded a forestry/fuelwood project. West Germany is assisting in the establishment of a forestry management system in South Sudan. A World Bank/Multi-Donor Forestry Sector Assessment was carried out in late 1984/early 1985.

*Includes support costs, Energy Development Fund and monitoring and evaluation.

SUMMARY

The project is under implementation near refugee settlements created by Presidential Decree, which had been heavily deforested. It has: (1) established two nurseries with an annual production of 600,000 seedlings each; (2) has reforested 3,000 feddans during the planting seasons of 1984 and 1985 and will reforest an additional 5,000 feddans during the planting seasons of 1986 and 1987; and (3) provided employment to refugees and rural Sudanese in nursery and plantation work.

STATUS

The OPG was signed in April 1983 with CARE. On July 4, 1983, CARE placed a full-time project manager and a forester in the Kassala Province. Construction of two large nurseries, are in Showak and another in Abu Rakham were completed in December 1983. A rural sociologist prepared a survey on energy consumption and forestry product needs among the refugees and the indigenous population. Project nurseries are producing 600,000 seedlings each of indigenous species which will provide seedlings to reforest approximately 10,000 feddans for fuelwood, forage and soil conservation in nearby refugee villages and for free distribution to farmers and villagers. Experimental agroforestry trials are also being used to develop alternative farming systems. Two British volunteers supplement CARE and provide technical assistance to the Sudanese Forest Department.

DOCUMENTS AND REPORTS

"Sudan Eastern Reforestation: Operation Program Grant," 1982
CARE Project Profile, 4/82
Quarterly Implementation Reports
Mid Term Evaluation Report, 12/85

PROJECT	SECTOR/SUBSECTOR/ACTIVITY			%	APP. CAT.	OBLIGATIONS BY FISCAL YEAR ($000) THROUGH ACTUAL FY82	FY83	FY84	FY85	ESTIMATED FY86	PROJECT STATUS	LENGTH OF PROJECT/PACD
650-K603	ENY	FOF	SEC	100	ES	16,200	—	—	—	—	Active	3/81 - 6/86
650-K604/606	ENY	FOF	SEC	100	ES	—		952	—	—		
650-K606B	ENY	FOF	SEC	100	ES	—	—	6,630	—	—		
650-K608B	ENY	FOF	SEC	100	ES	—	—	—	15,000	—		
Sudan Commodity Import Programs												

AID INPUTS

		($000)
Total LOP	650-K603	16,200
	650-K604/606	1,500
	650-K606B	6,000
	650-K608B	5,000
		28,700

CONTRACTOR

Multiple Suppliers for Commodities:
EBASCO Overseas Corporation
Two World Trade Center
New York, N.Y. 10088

Army Corps of Engineers
Marine Design Center

AID CONTACT

Jay Carter, Energy Officer
Commodity Management Officer
Sudan (ID)
Department of State
Washington, D.C. 20520

AAM/OS, Georgia Fuller
(202) 235-9147

PURPOSE

To provide foreign exchange for essential public and private sector imports and technical services in order to help ease the Sudan's current foreign exchange crisis.

AID-FINANCED INPUTS

1. Funds for commodities, equipment, spare parts, heavy equipment, and so forth; and
2. Technical assistance.

MAJOR OUTPUTS

1. Short-term reliability of the Blue Nile Electric Power Grid strengthened through installation of equipment and establishment of operations and maintenance procedures; and
2. Maintenance of intakes to major hydropower facility at El Roseires Dam.

HOST COUNTRY AND OTHER DONOR CONTRIBUTIONS

Sudanese local currency generated as counterpart by public and private imports will accrue to the Government of Sudan (GOS) for use in agreed priority development areas.

STATUS

The $1.55 million Blue Nile Grid Rehabilitation Phase II Project (650-K604/606) follows up on the Phase I procurement. EBASCO's activities include: determining the current status (and closing out) all purchase orders issued by Bechtel; identifying damaged and missing equipment; identifying additional needs for spares, equipment and technical services under each purchase order; assisting NEC in defining additional procurement needs and in preparing procurement documents. AID has also contributed the equivalent of about $378,000 in local currency to this program.

The commodity import program 650-K606B provides another $5.5 million in commodities and $500,000 in technical assistance for the Blue Nile Grid. Another $5 million in commodities is contained in 650-K608B.
A continuation of previous grants under 650-K603 includes the Roseires Dam Sediment and Debris Control Project. By March 1986 this program had provided about $4.2 million for commodities (various contracts to companies for heavy dredging equipment) and services (U.S. Army Corps of Engineers) for the purpose of preventing flood borne sediment and debris from blocking powerhouse intakes and curtailing electric power

SUMMARY

Previous commodity import support under 650-K603 for Blue Nile Grid Rehabilitation Phase I has totalled $16.2 million in the form of: (1) circuit breakers, transformers, reactive power compensation equipment, computer software and other equipment, instruments and commodities ($15.4 million) and (2) technical assistance for the procurement and installation of equipment, the establishment of operation and maintenance procedures to improve the capability of generation, transmission, and distribution systems and improved operation of mobile construction/maintenance equipment and telecommunications facilities ($300,000).

Bechtel International was the contractor for this work. EBASCO subsequently was chosen to carry out Phase II.

generation. By January 1986 equipment operation and maintenance were entirely turned over to Ministry of Irrigation staff. Due to successful dredging operations, power generation was not interrupted during the 1984 and 1985 floods. About $1.5 million in local currency was also made available under this program by AID. This project was completed June 30, 1986.

DOCUMENTS AND REPORTS

Grant Agreement signed April 26, 1982
Program Assistance Approval Document (PAAD) signed 2/23/82
Contractor Reports

PROJECT	SECTOR/SUBSECTOR/ACTIVITY			%
621-0160 (OPG)	AGR	CRO	HRD	40
Tanzania	AGR	NRE	TTR	50
Lutheran World	AGR	FOR	RED	5
Relief Village	ENV	REN	TTR	5
Environment Improvement				

APP. CAT.	OBLIGATIONS BY FISCAL YEAR ($000) THROUGH ACTUAL FY82	FY83	FY84	FY85	ESTIMATED FY86
SD	--	--	499	--	--

PROJECT STATUS: Completed

LENGTH OF PROJECT/PACD: FY 1980 - 6/30/85

AID INPUTS	($000)
Personnel	0
Training	58
Commodities	389
Construction	0
Other	7
Inflation/Contingencies	45
Total LOP	499

CONTRACTOR

Grantee: Lutheran World Relief
360 Park Avenue, South
New York, N.Y. 10010
Bob Cottingham
(212) 532-6350

AID CONTACT

ADO, Tanzania (ID)
Department of State
Washington, D.C. 20520

PURPOSE

To help raise the standard of living and improve the environment of six villages in the Singida Region, by establishing household/irrigation water supplies, grain storage silos, vegetable gardens and reforested areas.

AID-FINANCED INPUTS

1. Technical assistance;
2. Seminars and other training;
3. Commodities, fuel and maintenance for vehicles; and
4. Mid-term and final evaluations.

MAJOR OUTPUTS

1. Twenty shallow wells, and storage tanks per village;
2. Irrigated home gardens and nurseries;
3. Grain silos and platforms;
4. Sixty hectares of reforestation, with 9,900 fuel/pole trees and 200 fruit trees at each ten hectares site; and
5. Ten extensionists trained in each village.

HOST COUNTRY AND OTHER DONOR CONTRIBUTIONS

Local labor and materials costs amounted to $166,068. Lutheran World Relief contributed $309,419, for capital and recurrent administration costs and village programs. Three U.S. Peace Corps volunteers were recruited to work as project advisors in the villages, and received support from the Singida Folk Development School.

OTHER DONOR ACTIVITIES

The Australian Ground Water Project has funded wells installation and villager training in the Singida Region since 1975; experience and expertise was shared with this project. The Dutch funded a water resource development project. Danish volunteers assisted in rural development activities in the Singida Region.

SUMMARY

The project worked with six villages initially; pilot efforts proved successful, and were replicated in other villages in the region and throughout Tanzania. These pilot activities provided: (1) water for farm and home use, through installation of shallow wells with pumps and windmills, and storage tanks; (2) safe grain storage, in cement silos constructed by the villagers; (3) increased food supplies, by developing home gardens watered by trickle or drip irrigation; (4) increased wood supplies, by reforesting ten hectares surrounding each village with multi-purpose trees; and (5) training for villagers to acquire skills necessary for project implementation, and to serve as extensionists.

STATUS

The project was authorized on October 30, 1980. Village surveys and selection were completed in 1981, and the project leader arrived on-site on January 29, 1982. The nursery was started, citrus trees planted; and gardens established. Grain storage experiments and reforestation activities were conducted in five villages. The emphasis in the water development component was changed from the high technology of windmills and deep wells to shallow wells which are more suitable for village maintenance and construction. A mid-term evaluation occurred in July 1983 and the project was completed in June 1985.

DOCUMENTS AND REPORTS

Project Paper, 10/80
Mid-Term Evaluation Report, 10/83
Quarterly Implementation Reports
"Socio-Economic Report," Melinda Smale
"Village Environment Improvement Project Report, Tanzania," Kevin Pregovisk, 1984

PROJECT	SECTOR/SUBSECTOR/ACTIVITY			%
625-0012	AGR	CRI	RED	50
Sehel Regional	AGR	CRI	HRD	10
Gambia River	AGR	NRE	PPA	25
Basin Development	AGR	NRE	TTR	15

APP. CAT.	OBLIGATIONS BY FISCAL YEAR ($000) THROUGH ACTUAL FY82	FY83	FY84	FY85	ESTIMATED FY86
SH	9,512	3,882	471	2,000	--

PROJECT STATUS	LENGTH OF PROJECT/PACD
Active	6/81 - 12/87

AID INPUTS	($000)
Personnel	12,375
Training	158
Commodities	317
Construction	0
Other	159
Inflation/Contingencies	2,856
Total LOP	15,865

CONTRACTOR

Development Assistance Corp. (TA)
1415 11th St. N.W.
Washington, D.C. 20001
(202) 234-8842

Ronco Consulting Corporation
1629 K St. N.W.
Washington, D.C. 20006
(202) 785-2791

University of Michigan
2200 Eonisteel Blvd.
Ann Arbor, MI 48109

Mark Hurd, Inc.

AID CONTACT

Jon Anderson, Special Projects Off.
RBDO, Senegal (ID)
Department of State
Washington, D.C. 20520

PURPOSE

To help the Organisation pour la Mise en Valeur du Fleuve Gambie (OMVG)** become an effective coordinating agency for the development of The Gambia River Basin, through the creation of an effective planning division.

AID-FINANCED INPUTS

1. Technical assistance (an environmentalist, a sociologist, a hydrologist, a natural resource economist and a river basin planner);
2. Short-term consulting;
3. Funding for evaluations and studies;
4. Training; and
5. Commodities and supplies.

MAJOR OUTPUTS

1. Ground surveys, aerial photographs, planimetric photomaps;
2. Environmental study (including river resources, public health and wildlife/vegetation components);
3. Socio-economic study; and
4. Cadre of trained OMVG staff.

HOST COUNTRY AND OTHER DONOR CONTRIBUTIONS

The OMVG will provide five counterpart technicians to the AID team, office space, secretarial assistance, access to office equipment and translation services. The UNDP has committed about $2 million for pre-investment assistance.

SUMMARY

This project represents the AID contribution to the pre-investment phase of an estimated $511 million program which includes planned infrastructure (construction of dams), production research and implementation. AID activity in this phase consists of: (1) complete aerial photography, mapping and ground surveys of the basin, to provide land utilization and inventory data; (2) an environmental and socio-economic study to collect data for planning, predict impacts of dam construction and evaluate the economic feasibility of proposed activities for donor investment (this component includes wildlife and vegetation studies); (3) long-term technical assistance; and (4) on-the-job and long-term U.S. academic training for OMVG personnel.

STATUS

The project was authorized on May 27, 1981. The low and high altitude aerial photography of the Basin has been completed by Mark Hurd, Inc. The geodetic survey of the Basin has also been completed and all photographic materials have been delivered. All field-work for environmental and socio-economic studies has been completed by the University of Michigan. University of Michigan reports were the subject of peer review, and the final report was submitted in late 1985. Project Paper Amendments of $1.4 million were authorized to extend these studies into Guinea and to provide funds for a hydrologist and a river basin planner. Long-term trainees have returned and are being integrated into a multi-objective planning process following OECD guidelines and methodology.

OTHER DONOR ACTIVITIES

A preliminary multi-donor mission, including French, British and U.S. experts with the participation of Senegalese and Gambian technical office representatives, produced Action Plan for the Basin (AID funded all of the printing and a portion of the technical assistance). West Germany has conducted a feasibility study of the Kekreti dam. FAO has contributed to basin-wide soils studies in the OMVG member states.

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*ARRIAC Surveys (socio-economic and environmental studies)
**OMVG is composed of the Gambia, Senegal and Guinea.

DOCUMENTS AND REPORTS

Project Paper, 5/81
UNDP Multi-Disciplinary Multi-Donor Reports, New York: (1) Draft Action Plan, 12/79; (2) "Development of the Gambia River Basin" (2 Vols), 5/80
"Gambia River Basin Studies Work Plan, Working Document No. 4," 3/83
"Bibliography: Gambia River Basin Development Project (OMVG)
Mid-term Evaluation, 4/84
"Establishment of a Dcoumentation and Information Center for the Gambia River Development Organization," 3/85
Gambia River Basin Studies (socio-economic and environmental studies), University of Michigan, 9/30/85

PROJECT	SECTOR/SUBSECTOR/ACTIVITY			%	APP. CAT.	OBLIGATIONS BY FISCAL YEAR ($000) THROUGH ACTUAL FY82	FY83	FY84	FY85	ESTIMATED FY86	PROJECT STATUS	LENGTH OF PROJECT/PACD
625-0621	AGR	CRI	RED	60	SH	—	—	—	3,000	—	Active	1985 - 1990
Sahel Regional	AGR	CRI	HRD	10								
OMVS Policy and	AGR	NRE	TDE	15								
Planning	AGR	NRE	PPA	15								
Development (Senegal)												

AID INPUTS	($000)
Personnel	1,200
Training	540
Commodities	50
Construction	0
Other*	3,360
Inflation/Contingencies	50
Total LOP	6.000

CONTRACTOR

Development Assistance Corporation
(for reorganization study only)

AID CONTACT

Jon Anderson, Special Proj. Off.
RBDO, Senegal (ID)
Department of State
Washington, D.C. 20520

PURPOSE

To strengthen the institutional capability of the Organisation pour la Mise en Valeur du Fleuve Senegal (OMVS) to plan, coordinate and monitor investments in agricultural production, including investments in activities that support agricultural production; and to attract investments in agriculture and agriculture-related development activities in the Senegal River Basin.

AID-FINANCED INPUTS

1. Technical assistance (one River Basin Planner for three years plus 50 months of short-term advisors in such fields as natural resource management, computer operations, information system management, environmental analysis and social sciences);
2. Training (4 persons for up to two years each for Masters degree training in planning for the OMVS Energy Planning Unit (EPU) and other ministry staff, 42 months of short-term training in planning, computer programming, operations and related subjects for EPU staff, and up to 10 seminars and workshops); and
3. Commodities (one vehicle, computers and miscellaneous equipment);
4. Contractor services to prepare the Water Usage and Debt Management Study; and
5. Local studies.

MAJOR OUTPUTS

1. Enlarged, better trained and better equipped staff in the EPM of the OMVS;
2. Updated water use and fiscal allocation model;
3. Trained personnel in three national planning ministries with close linkage to the OMVS;
4. EPU's completion of various policy studies;

*Includes evaluation and studies.

MAJOR OUTPUTS (Continued)

5. Master Plan of the Upper VAlley with focus on agricultural production; and
6 Master Plan for primary health care for the Senegal River Basin.

HOST COUNTRY AND OTHER DONOR CONTRIBUTIONS

The UNDP provides $2.5 million for support to EPU through 1987 and the German GTZ provides $1.3 million. USAID expects their support to be extended.

SUMMARY

This project is designed to increase food production income and employment in the Senegal River Basin by promoting increased investments in agricultural products and other social infrastructure and by improving regional planning/coordination. It is developing a master plan for the Upper Valley with emphasis on agriculture and rural dvelopment, as well as a master plan for primary health care of the entire Senegal River Basin. Regional planning and coordination is being improved by providing technical assistance to the EPU of the OMVS. In addition, EPU and other ministry staff are being trained in various planning subjects, through both long-and short-term training programs. A water use and debt management study is planned in order to update and expand the allocation of the cost of the dams and related regional services to the three member countries (Senegal, Mali and Mauritania).

STATUS

The project was authorized July 17, 1985. As of September 1986, no project activities were underway. A $100,000 contract with the Development Assistance Corporation had been signed to do a reorganization study.

DOCUMENTS AND REPORTS

Project Paper, 7/1/85

PROJECT	SECTOR/SUBSECTOR/ACTIVITY			%
625-0911	AGR	NSS	PPA	45
Sahel Regional	AGR	NSS	HRD	10
AID Coordination	AGR	FOR	HRD	5
and Planning	AGR	NRE	HRD	5
Project*	AGR	CRO	RED	10

APP. CAT.	OBLIGATIONS BY FISCAL YEAR ($000) THROUGH ACTUAL FY82	FY83	FY84	FY85	ESTIMATED FY86
SH	6,527	1,800	725	681	100

PROJECT STATUS: Active

LENGTH OF PROJECT/PACD: 8/78 - Continuous

AID INPUTS	($000)
Personnel	6,983
Training	1,006
Commodities	879
Construction	0
Other**	3,856
Inflation/Contingencies	0
Total LOP	12,724

CONTRACTOR

Personal Services Contractors

The Futures Group
1029 Vermont Ave., N.W.
Washington, D.C. 20005
Elizabeth Blankenship

AID CONTACT

John Ford, Sup. GDO
Burkina Faso (ID)
Department of State
Washington, D.C. 20520

PURPOSE

To support institutions associated with the Sahel Development Program (SDP) which coordinate development strategies and policies and contribute to Sahelian development planning and programming capabilities.

AID-FINANCED INPUTS

1. Technical assistance for carrying out planning studies, activities, commodities and operational expenses; and
2. Participant training in support of SDP goals.

MAJOR OUTPUTS

1. Information on all research activities, principally agriculturally related, in the Sahel, provided to member countries of SDP and interested outside organization;
2. Implementation of the recently-completed CDA study which inventoried agricultural research resources in the Sahel;
3. Developed theme of sustainable agriculture;
4. General support for Secretariat;
5. Strategy documents in forestry, sustainable agriculture and long-term ecological planning;
6. Development iof strategies for ecological issues aimed at increasing the productive capabilities of small producers;
7. Economic reform; and
8. Better management of space.

HOST COUNTRY AND OTHER DONOR CONTRIBUTIONS

There are no other contributions, except those to the CILSS ecology/forestry working group.

Other donors supporting the Interstate Committee for the Fight Against Drought in the Sahel (CILSS) ecology/forestry working group include France, West Germany, Switzerland and Holland.

SUMMARY

This project has three components, including:

1. Support to Institute du Sahel (INSAH);
2. Support to the General Secretariat in Burkina Faso;
3. Funding for specialists in FAO for developing projects and programs (particularly forestors, soil specialists, and agriculturalists); and
4. Support to the Club du Sahel working groups.

Two of the cornerstones of the Sahel Development Program are the CILSS and the Club du Sahel. These regional organizations represent the Sahel countries and the donors; they promote policy reform and dialogue, planning, and coordination of the multi-donor program to the Sahelian countries. The CILSS is specifically responsible for promoting the harmonization of development policies, especially in the areas of food production and ecological stabilization, among its Sahel member governments, and between them and the donor community. Recognizing the impact of recurring drought on development in the Sahel, the Sahel governments have revised CILSS' mandate and strategy to assist them in working out national desertification control plans.

STATUS

The project was approved in August 1978. Donors have continued their support through direct and in-kind contributions (e.g., experts for working groups). An evaluation was conducted in 1984, reaffirming the worthiness of support to SDP institutions. Due to the steady devaluation of other currencies against the U.S. dollar, it has not been possible to calculate precisely the proportion of the U.S. contribution to that of other donors. However, as of April 1986, it did not appear that the 1:3,5 ratio projected in the Project Paper (PP) had been met. AGRHYMET and INSAH had begun to coordinate some research and, to a lesser extent, development activities. Support was provided for FAO collaboration on fuelwood economics with the Energy Initiatives for Africa (EIA) Project (698-0424). Country specific studies of fuelwood economic issues were to

*The project is designed to assist key Sahelian and international organizations. Direct beneficiaries are the CILSS, the Sahel Institute, the Club du Sahel Secretariat and the FAO. Total project funding is $12,724,000 of which an estimated $800,000 goes to forestry and ecology activities.

**Includes operating costs and local personnel.

be carried out by teams composed of expatriate and host-country personnel in Senegal, Mali and Burkina Faso. Results are to be summarized in a workshop planned for February 1987.

DOCUMENTS AND REPORTS

Project Paper, 7/27/78
"Sahel Regional AID Planning and Coordination Semiannual Management Report March 1, 1980 - August 31, 1980," 7/27/78
Audit Report, 3/10/81
"Executive Secretariat of CILSS: An Assessment of Organizational and Operational Practices and Procedures," 11/81
Project Evaluation, 1984
Quarterly Implementation Reports

PROJECT	SECTOR/SUBSECTOR/ACTIVITY			%	APP. CAT.	OBLIGATIONS BY FISCAL YEAR ($000) THROUGH ACTUAL FY82	FY83	FY84	FY85	ESTIMATED FY86	PROJECT STATUS	LENGTH OF PROJECT/PACD
625-0915	AGR	CRI	RED	80	SD	500	—	—	—	—	Completed	7/76 - 12/85
Sahel Regional	AGR	CRI	HRD	10								
Niger River Basin Development Planning	AGR	NRE	PPA	10								

AID INPUTS	($000)
Personnel	1,224
Training	171
Commodities	0
Construction	0
Other	0
Inflation/Contingencies	155
Total LOP	1,550

CONTRACTOR

U.S. Army Corps of Engineers
Vicksburg, Mississippi 39180

AID CONTACT

General Development Officer, Forestry
Niger (ID)
Department of State
Washington, D.C. 20520

PURPOSE

To establish the analytical base and planning framework for the preparation of an indicative basin plan and investment program; and to strengthen the institutional capability of the Niger River Basin Authority* (NBA) to carry out an effective program of planning and development.

AID-FINANCED INPUTS

1. Funds for studies (agriculture, topography, mapping, remote sensing, education/training, social survey research;
2. Staff for the NBA;
3. Long-term academic training for NBA Executive Secretariat staff, short-term observational tours and third-country training;
4. Contract services for the Executive Secretariat facility; and
5. Consulting services to do feasibility studies on the establishment of an economic survey research unit at NBA.

MAJOR OUTPUTS

1. A Diagnostic Study, Indicative Plan and Action Program;
2. Commission functioning with trained, high-level personnel and technical staff; and
3. Physical facilities constructed and equipped.

HOST COUNTRY AND OTHER DONOR CONTRIBUTIONS

The NBA contributed $484,000. The U.S., Canada, France and the UNDP were the major donors for the start-up phase, and provided all expatriate

SUMMARY (Continued)

Secretariat to prepare an Indicative Plan for the use of land, water and multi-national support to the NBA; (3) provided advice, guidance and on-the-job training to the indigenous staff of the NBA; (4) initiated short- and long-term academic training for member state nationals serving as permanent NBA staff; (6) provided technical equipment, logistic support and architectural designs for the physical plant of the NBA, necessary for efficient execution of the action program.

STATUS

The project was approved May 1977, but progress was slow. A $500,000 amendment was authorized on September 4, 1981 to allow the Army Corps of Engineers to do a River Basin Systems Analysis. The Chief of Engineers (COE) of project arrived January 7, 1983.

The Corps of Engineers provided technical assistance in the form of a resident Project Manager in Niger and backstopping services in the Vicksburg Missions. A data storage and retrieval system was developed and geomorphic analyses were conducted. Training activities and institutional development activities were conducted as planned. The Niger Basin Authority made little progress in putting together an indicative river basin development plan. However, a number of solid accomplishments were achieved. In addition to the data retrieval system and geomorphic studies, these included the action plan for 1981-82 and the five year development plan covering 1983-87. A new Executive Secretary and Deputy were appointed. Job descriptions, operational

staff. Canada contributed the equivalent of $1.5 million to finance activities in agriculture, water resources, engineering, environmental/health studies and training. France contributed $1.16 million to fund the development of a mathematical model, mapping and a study of the anomalies of inland deltas. The FED, UNDP and OPEC shared the preparation of hydrological forecasting reports; the UNDP funded the preparation of the diagnostic study, atlas and action program. Canada and the World Bank carried out early project planning.

SUMMARY

The project carried out the following activities: (1) gathered and analyzed available information on all aspects of the Niger River Basin, through a comprehensive Diagnostic Study; (2) provided the initial expatriate technical advisory assistance required for the NBA Executive systems, procedures, and staff regulations were defined. A planning unit was created consisting of the Executive Secretary, his Deputy and three Technical Directors.

DOCUMENTS AND REPORTS

"Non-Development of the Niger River Basin", World Bank: 6/75
Project Review Paper, 11/75
Project Paper, 5//5/77
"Modele Mathematique du Fleuve Niger, Cartographie," Institut Geographique National, Paris, 1980
"Les Grands Bassins Fluviaux et Lacustre du Sahel," CIDA; Ottawa, Canada, 12/80
Project Amendment, 8/6/81

"Two-Year Development Plan, 1981-83," RNC, Niamey
"Prospective Indicative Development Plan," RNC, Niamey
Project Evaluation, 1/85
"Niger Basin Development Planning Project: Final Evaluation," 12/85

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*Niger Basin Authority, comprised of Guinea, Mali, Burkina Faso, Ivory Coast, Niger, Chad, Benin and Nigeria. Its title was changed from the River Niger Commission (RNC) in 1980.

PROJECT	SECTOR/SUBSECTOR/ACTIVITY			%
625-0940	AGR	NRE	RED	85
Sahel Regional	AGR	NRE	HRD	15
Sahel Water Data Network Management II (Niger)				

APP. CAT.	OBLIGATIONS BY FISCAL YEAR ($000) THROUGH ACTUAL FY82	FY83	FY84	FY85	ESTIMATED FY86
SH	3,529	1,250	2,221	--	700

PROJECT STATUS: Active

LENGTH OF PROJECT/PACD: 6/82 - 2/87

AID INPUTS	($000)
Personnel	1,881
Training	1,183
Commodities	1,842
Construction	0
Other*	2,794
Inflation/Contingencies	0
Total LOP	7,700

CONTRACTOR

World Meteorological Organization (WMO)

PASA with National Oceanic and Atmospheric Administration (NOAA)

National Weather Service

Overseas Operation Division W/OM3X1
8060 13th Street, Room 1325
Silver Spring, Maryland 20910
(301) 427-7784, Richard I. Crouthamel

AID CONTACT

Dennis Panther, ADO/Forestry
Niger (ID)
Department of State
Washington, D. C. 20520

PURPOSE

To complete the development of a regional Sahel agrometeorological and hydrological data system to record, process, interpret, transmit, disseminate and document complete, timely and accurate weather and climatic information for farmers, herders, planners and other users, increasing agricultural production.

AID-FINANCED INPUTS

1. Technical assistance;
2. Forty person-years of U.S. training in instrument/computer maintenance and all aspects of computer sciences;
3. Data processing and telecommunications equipment, instruments, spare parts (possibly solar cells to replace small diesel generators);
4. Construction of support structures for a data-processing facility; and
5. Operational support.

MAJOR OUTPUTS

1. Regional Center training capacity enlarged;
2. Personnel trained and expatriate technical experts replaced at Regional Center;
3. Observation stations in six CILSS countries outfitted and/or rehabilitated;
4. Telecommunications network within six member countries operational and linked with Regional Center;
5. Data processing and dissemination equipment in place in regional and country facilities; and
6. Development and experimentation of practical applications expanded from Phase I.

SUMMARY

This project was designed in collaboration with AGRHYMET. During Phase I (the establishment of a training and central data collection center in Niamey, Niger), AID assistance was focused primarily on high technology telecommunications, data processing, analysis and training in these areas. Phase II is completing and consolidating the national and regional components into an operational network; this includes field observation stations which are continuously recording and reporting data through modern transmission and receiving systems; data verification and analysis at the national and the Niamey regional centers and dissemination of the data to primary producers and planners. AID assistance continues to be directed towards: (1) technical assistance, for the installation and maintenance of equipment and instruments that AID is contributing to the regional and national facilities, and for data processing; (2) equipment procurement of instruments, telecommunications and data processing systems for installations in participating countries; (3) training of instrument/computer maintenance technicians and programmers, systems analysts and computer scientists; and (4) operational support, specifically for the prototype user trial and demonstration facility and for a series of seminars and workshops.

STATUS

In April 1981, a multidisciplinary team was organized to prepare the 1982-86 integrated program. The AID project was authorized on February 16, 1982. Phase II activities, as designed by this project, are

HOST COUNTRY AND OTHER DONOR CONTRIBUTIONS

The CILSS countries are providing approximately $21,239,000 primarily for salaries; other donors are providing about $38,321,000. The World Meterological Organization of the U.N. is the executing agent of the project. In addition to Phase I donors (UNDP, The Netherlands, Belgium, Switzerland, France and West Germany) new donors have been sought.

OTHER DONOR ACTIVITIES

The University of Reading, England began a three year study of the use of digital satellite data for interpolation between sparse rainfall-measuring stations and for the operational mapping of soil moisture conditions. The project was designed in collaboration with AGRHYMET. Italy provided a $9.5 million grant for weather research training.

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*Includes operating costs.

intended to extend the project goals of 625-0917. Specific operational plan elements were drafted at an expert meeting in Geneva on February 28, 1985. As of April 1986, two participants had been identified for long-term training. An evaluation had been completed and approved. A ten percent increase in the LOP funding was obligated. Short-term participants for a second Climate Input Assessment Model (hands-on training in the U.S. have been identified.

DOCUMENTS AND REPORTS

"Programme for Strengthening the Agrometeorological and Hydrological Services of the Sahelian Countries," CILSS/WMO, 1981
Project Paper, 8/13/81; 2/16/82
"Sahel Water Data Network and Management II (AGRHYMET) (625-0940): Mid-term Evaluation," 9/85
Quarterly Implementation Reports

PROJECT	SECTOR/SUBSECTOR/ACTIVITY			%	APP. CAT.	OBLIGATIONS BY FISCAL YEAR ($000) THROUGH ACTUAL FY82	FY83	FY84	FY85	ESTIMATED FY86	PROJECT STATUS	LENGTH OF PROJECT/PACD
625-0944	AGR	CRI	RED	70	SH	6,714	--	--	--	--	Active	FY 1982 - 9/31/37
Sahel Regional Niger River Basin Development (Phase II)	AGR	NRE	PPA	30								

AID INPUTS	($000)
Personnel	9,125
Training	117
Commodities	234
Construction	0
Other	118
Inflation/Contingencies	2,106
Total LOP	11,700

CONTRACTOR

U.S. Army Corps of Engineers
Vicksburg, Mississippi

AID CONTACT

Dennis Panther, ADO/Forestry
Niger, (ID), Department of State
Washington, D.C. 20520

PURPOSE

To develop an institutional capability in the Niger Basin Authority* (NBA), to do coherent river basin development planning and to identify rational development projects.

AID-FINANCED INPUTS

1. Funds for the socio-economic, river systems environmental baseline studies and the environmental assessment of Kandadji Dam; and
2. Training for NBA personnel.

MAJOR OUTPUTS

1. River Systems analysis, water sediment routing model;
2. Environmental and sociological baseline study;
3. Environmental assessment for Kandadji; and
4. A cadre of trained NBA personnel.

HOST COUNTRY AND OTHER DONOR CONTRIBUTIONS

The NBA contribution is $2,700,000 for professional staff salaries, office space, clerical assistance, and some local staff. About $14 million of other studies is funded by other donors. These were France (completion of a hydrological model, cartography, irrigated agriculture inventory); Canada (hydro-energy planning); FED (forestry); OPEC (flood forecasting), and FAO (agricultural studies).

OTHER DONOR ACTIVITIES

Major donors currently assisting the NBA include the FAC, UNDP, FAO, FED and CIDA.

*Niger Basin Authority, composed of Guinea, Mali, Burkina Faso, Ivory Coast, Niger, Chad, Cameroon, Benin and Nigeria. Its title was changed from the River Niger Commission (RNC) in 1980.

SUMMARY

This project continues and enlarges on the Niger River Basin Planning Project 625-0915 currently underway. It funds: (1) environmental and socio-economic baseline surveys of the Niger River Basin; (2) training for nationals of Niger Basin countries, who eventually will staff the NBA planning unit: (3) a River Systems Analysis Program, which includes the production of a water sediment routing model, to be used by the NBA in evaluating the impacts of alternative engineering works proposed for the Niger River; and (4) the development of an Integrated Niger Basin Plan.

STATUS

The project was authorized in August 1982. The project evaluation of the preceding project (625-0915) recommended that the project (625-0944) be modified to more sharply focus on environmental and socio-economic studies and introduce a component to assist in the institutional development of the NBA. The Corps of Engineer (COE) technicians provided under 625-0915 are completing 625-0915 activities and beginning 625-0944 activities. Sediment data gathering activity training began in July, 1985. Institutional analysis and revised implementation plan activities took place in August and September 1985. Subcontractor selections for mathematical model and hydrographic survey activities were made. The Council of Ministers had instructed the Executive Secretariat to develop a proposed donors' consultative committee. Sediment data and collection equipment were received. As of April 1986, AID Washington had directed that the project be curtailed and activities be phased out. The phase-out will provide additional training resources, distribute previously purchased equipment to member states and provide a close-out report.

DOCUMENTS AND REPORTS

Project Paper, 4/82
Quarterly Implementation Reports

PROJECT	SECTOR/SUBSECTOR/ACTIVITY			%	APP. CAT.	OBLIGATIONS BY FISCAL YEAR ($000) THROUGH ACTUAL FY82	FY83	FY84	FY85	ESTIMATED FY86	PROJECT STATUS	LENGTH OF PROJECT/PACD
625-0958	PSU	NRE	RED	95	SH	--	4,651	--	--	--	Active	4/83 - 12/89
Sahel Regional OMVS Groundwater Monitoring Project	PSU	NRE	HRD	5								

AID INPUTS	($000)
Personnel	938
Training	320
Commodities	1,154
Construction	968
Other*	1,271
Inflation/Contingencies	0
Total LOP	4,651

CONTRACTOR

International Science and Technology Institute (ISTI)
2033 M Street, NW
Suite 300
Washington, D.C. 20036
(202) 466-7290

AID CONTACT

USAID/RBDO, Dakar
Department of State (ID)
Washington, D.C. 20520

PURPOSE

The purpose of this project is to establish within the Organization for the Development of the Senegal River (OMVS) a capacity for monitoring and investigating problems of groundwater development and management. This will be accomplished by (1) establishing a methodology and plan for a groundwater management system in the Senegal River Basin Valley; (2) establishing a system of approximately 650 observation wells and piezometers; (3) compiling and analyzing groundwater data, and (4) strengthening an OMVS and Member State capability for groundwater monitoring and management planning.

AID-FINANCED INPUTS

1. Hydrologist;
2. Short-term technical assistance for 13 months;
3. Equipment;
4. Construction of piezometers; and
5. Long-term training in the U.S., third country training as well as on-the-job training on the aspects of groundwater hydrology.

MAJOR OUTPUTS

1. Overall institutional development assistance to the OMVS and Member States to develop their capabilities in groundwater monitoring and management planning;
2. Specific short- and medium-term assistance to help the hydrogeological services of the OMVS establish a groundwater management system in the Senegal River Basin;
3. Establishment of a network of observation wells and piezometers to monitor the effects of dam construction and irrigation development on the recharge and water quality of aquifers and drainage systems; and
4. Provision of human and material resources to the OMVS and Member States for a continuation and expansion of their capabilities for groundwater monitoring and management planning.

*Includes monitoring and evaluations, audits, local operating costs, U.S. campus support and indirect costs.

HOST COUNTRY AND OTHER DONOR CONTRIBUTIONS

The OMVS and its Member States are contributing a total of $551,000 in project costs. This covers rehabilitation of vehicles, St. Louis office rental costs, and St. Louis headquarters personnel costs.

SUMMARY

The project concentrates on the establishment of a network of observation wells and piezometers, and also includes assistance for OMVS organizational and institution building capability. The project emphasizes the creation of an institutional structure capable of implementing a basin-wide groundwater field study and includes the training of OMVS Member States' nationals. These nationals staff the OMVS Groundwater Unit, provide the hydrological services of the OMVS Member States, and monitor the effects of groundwater development and other hydraulic management activities involving the aquifer systems. The data collected will be utilized by other agricultural development projects such as the AID-financed Integrated Development and the Agricultural Research II Projects.

STATUS

The technical advisor is in the field and solicitation for proposals for piezometers has begun.

DOCUMENTS AND REPORTS

Project Paper, 4/83
Quarterly Project reports

PROJECT	SECTOR/SUBSECTOR/ACTIVITY	%	APP. CAT.	OBLIGATIONS BY FISCAL YEAR ($000) THROUGH ACTUAL FY82	FY83	FY84	FY85	ESTIMATED FY86	FY87	PROJECT STATUS	LENGTH OF PROJECT/PACD
625-0973 Sahel Regional Sahel Water Data and Management III			SH	--	--	--	--	--	2,000	Planned	FY 1987-1991

AID INPUTS	($000)	CONTRACTOR	AID CONTACT
Total LOP	9,300	To be determined	To be determined

PURPOSE

To provide agrometeorological data to users (farmers, herders, researchers, project designers/implementers, and national planners) needed to make decisions in their agricultural and livestock production planning and operating to improve agriculture production.

AID-FINANCED INPUTS

1. Provides computer and telecommunications equipment training; and
2. Helps institutionalize the operational and logistical support of the equipment.

MAJOR OUTPUTS

1. Collection, analysis, and dissemination of agrometeorological data at the national and regional levels;
2. Strengthened meteorological and hydrological services; and
3. Agrometeorological information for agricultural producers.

OTHER DONOR ACTIVITIES

Design of the AID contribution to the Phase III program will proceed simultaneously with the multi-donor design of the total program beginning in April 1986. The key donors to this program (UNDP, France, Netherlands, Switzerland, Belgium, the United States, and now Italy) meet

OTHER DONOR ACTIVITIES (Continued)

annually in March/April to provide direction to the program (the Consultative and Advisory Committee).

SUMMARY

Phase III will finance final equipment purchases and the completion of the last group of participants for academic training during the first two years, followed by a three-year process of completing the on-site operational training for returned participants required to Sahelianize the AGRHYMET institution. Pilot programs supported by other donors, and USAID bilateral projects in the CILSS countries, are being established to test various uses of agrometeorological data supplied by AGRHYMET. There are positive initial indications production can be improved by 30 to over 100 percent, even during periods of low rainfall, through the use of production programs based upon AGRHYMET data. USAID/Niger is evaluating AID's contribution to Phase II of the AGRHYMET program, and the results will be included in a UNDP general evaluation of the AGRHYMET program to be completed by the end of FY 1985.

STATUS

The PID has been completed and will be reviewed. The Project Paper was to be completed by mid-October.

DOCUMENTS AND REPORTS

FY 1987 Annual Budget Submission

PROJECT	SECTOR/SUBSECTOR/ACTIVITY			%	APP. CAT.	OBLIGATIONS BY FISCAL YEAR ($000) THROUGH ACTUAL FY82	FY83	FY84	FY85	ESTIMATED FY86	PROJECT STATUS	LENGTH OF PROJECT/PACD
698-0407.33 Africa Regional Improved Rural Technology: Farm Dryers	ENY	REN	TDE	100	SD	73	--	--	--	--	Completed	FY 1982 - 4/30/85

AID INPUTS	($000)
Personnel	6
Training	0
Commodities	39
Construction	13
Other	8
Inflation/Contingencies	7
Total LOP	73

CONTRACTOR

Burundi University Research Center

AID CONTACT

Minnie Sebsibe, AFR/TR/PRO
Room 4533 NS
Agency for International Development
Washington, D.C. 20523
(202) 632-9821

PURPOSE

To develop and test an inexpensive solar food dryer suitable for conditions in Burundi.

AID-FINANCED INPUTS

1. Funds for dryers, replacement parts and tools for fabrication;
2. Measuring devices for temperature, humidity, and so forth;
3. Vehicles and vehicle maintenance; and
4. Unskilled labor support.

MAJOR OUTPUTS

1. Low cost solar crop dryers developed for maize, wheat, beans, coffee, vegetables and fish;
2. Dryers in use through demonstration and extension programs, in a least two sites; and
3. Evaluation of the possibility of the application of solar drying on a large scale in Burundi.

HOST COUNTRY AND OTHER DONOR CONTRIBUTIONS

The GOB contributed $25,000 in-kind, for land, raw materials, two agronomy department staff persons and a student assistant.

OTHER DONOR ACTIVITIES

The project was implemented in conjunction with the FED-financed High-Altitude Food Production Project along the Zaire Nile crest, which subsidized the installation of crop dryers. There is an FAO

OTHER DONOR ACTIVITIES (Continued)

project designed to reduce post-harvest losses. The project funded experiments with improved drying technologies, including development of the "autobus" crop dryer.

SUMMARY

The project, implemented by the Burundi University Research Center for the Utilization of Alternative Energies, consisted of two phases: (1) construction of a hothouse dryer, a tilting dryer, a tower dryer, an "autobus" dryer and a tent dryer, which were evaluated (on the basis of different construction materials used, climatalogical conditions, and so forth) for optimum performance and minimum cost; and (2) replication of the best model for at least ten pre-selected farms and cooperatives in rural areas of Burundi. Local artisans and extension workers participated in the installation; the local population participated in the operation of the dryers.

STATUS

Project completed; final report by Burundi University Research Center has been finished.

DOCUMENTS AND REPORTS

Report of Field Visit by Experience Inc., Washington, D.C., 2/82
Project Activity Paper, 1982
Limited Scope Project Agreement, 7/82
Research Report by University of Burundi, 6/85

PROJECT	SECTOR/SUBSECTOR/ACTIVITY			%
698-0407.7	ENY	REN	TDE	10
Africa Regional	ENY	REN	CON	60
Micro-Hydro Activity (Liberia)	ENY	REN	TTR	30

APP. CAT.	OBLIGATIONS BY FISCAL YEAR ($000)				
	THROUGH ACTUAL				ESTIMATED
	FY82	FY83	FY84	FY85	FY86
FN	95	--	--	--	--

PROJECT STATUS	LENGTH OF PROJECT/PACD
Active	FY 1980 - 1986

AID INPUTS	($000)
Total LOP	95

CONTRACTOR

None

AID CONTACT

Chris Brown
Liberia (ID)
Department of State
Washington D.C. 20520

PURPOSE

To design, install and evaluate an experimental 25-30 Kw. micro-hydroelectric power plant to provide two up-country villages with a low cost, low maintenance source of electricity in Liberia.

AID-FINANCED INPUTS

1. Funds for a water pump and a 30-Kw. hydroelectric plant (turbine and alternator-generator);
2. Commodities and supplies;
3. Short-term consulting in sociology and economics; and
4. Technical assistance from an AID engineer.

MAJOR OUTPUTS

1. Two villages supplied with continuous electricity & water;
2. Improved sanitation and health conditions;
3. Mechanized agricultural processing;
4. Light industries (carpentry, tailoring) developed;
5. Measurement of the impact of project on village life; and
6. Evaluation of the hardware and software, and suitability of micro-hydroelectric plants under actual conditions.

HOST COUNTRY AND OTHER DONOR CONTRIBUTIONS

The GOL is contributing $20,000 for technical support, equipment and vehicles. The participating community is contributing $17,000 in-kind, for labor, tools and end/use equipment (rice mills, coffee mills, and so forth).

OTHER DONOR ACTIVITIES

The Peace Corps is providing all personnel and administrative support.

SUMMARY

This is primarily a Peace Corps operated project with funding provided by USAID. Peace Corps volunteers provide technical assistance and administrative support.The project consists of four design and construction activities: (1) civil works, including a five foot gravity dam, a canal and roads; (2) a generating unit; (3) an electrical distribution system; and (4) a water distribution system. Residents of the area are being trained in maintenance of the systems. Baseline and evaluative data are being collected on the power systems, as well as on the social, physical and economic aspects of village life.

STATUS

The project was authorized in 1979 and is about two years behind schedule. Factors contributing to the delay include a shortage of technical expertise, the abolition of the original implementing ministry and the experimental nature of the project which has led to considerable engineering redesign. The project has been amended twice, most recently in August, 1982. The plant was over 90% complete as of mid 1985. Activities completed include: the construction of the base of the dam (an evaluation in 2/82 recommended it not be built to the full height pending engineering review); road work to the dam site and power house is complete; the turbine package is on site; and villagers have completed the civic works construction associated with the project.

DOCUMENTS AND REPORTS

Activity Paper, 1/16/80
"Engineering Plan for a Micro-Hydroelectric Project in Yandohun and Dungalahun, Lofa County, Republic of Liberia," D.L.B. Kamara, University of Sierra Leone, 6/80
"Evaluation of AIP, IRT and WID Projects" (includes this project); Development Associates, Arlington, VA, 3/82
"Evaluation of the Yandohun Micro-Hydro Project," A. Inversin and W. Lawrence NRECA, Washington, D.C., 3/82

PROJECT	SECTOR/SUBSECTOR/ACTIVITY			%	APP. CAT.	OBLIGATIONS BY FISCAL YEAR ($000) THROUGH ACTUAL FY82	FY83	FY84	FY85	ESTIMATED FY86	PROJECT STATUS	LENGTH OF PROJECT/PACD
698-0410.35 (AIP)	AGR	FOR	TTR	50	SD	460	--	--	--	--	Completed	FY 1981 - 12/31/85
Africa Regional	AGR	FOR	RED	45								
Community Forestry (Guinea)	AGR	FOR	HRD	5								

AID INPUTS	($000)	CONTRACTOR	AID CONTACT
Total LOP	460	Personal Services Contracts	Bill Hellyer, ADO, USAID Conakry ADO, USAID Conakry Department of State Washington D. C. 20520

PURPOSE

To develop a technically sound, culturally appropriate, economically feasible and easily accessible set of interventions to provide villagers of the Pita Region (Guinea) with fast-growing trees for fuelwood, forage, soil enrichment and erosion control.

AID-FINANCED INPUTS

1. One long-term forester;
2. Short-term assistance from a soils classifier, a composting expert and an anthropologist;
3. Funds for third-country training in nursery management for three Guinean project technicians; and
4. Commodities (vehicles, planting supplies and hand tools).

MAJOR OUTPUTS

1. Two experimental nurseries producing seedlings for demonstration plots and 30 hectares of village lands;
2. Three demonstration plots;
3. Trained Guinean project manager and forestry agents responsible for nursery management;
4. Soils classification system for project area; and
5. 1,000 villagers trained in planting, seed selection and composting.

HOST COUNTRY AND OTHER DONOR CONTRIBUTIONS

The GOG contributed $164,000 for salaries, travel, materials and supplies (approximately 26% of project cost).

OTHER DONOR ACTIVITIES

The project was part of an overall multi-donor forestry effort implemented in collaboration with the FAO-financed Koloulo Watershed Management project, which covers 500 km^2 of the river basin cutting across the Pita and Labe regions. AID/FAO cooperation included data-gathering and analysis (sharing of species trials results), administrative and logistic coordination.

SUMMARY

The project was divided into two phases: (1) development of a technical package that included use of fast-growing species, experimentation with various seeding and composting techniques and training of forestry agents in basic nursery science; and (2) extension of the proven technical innovations through training villagers in seed selection, use of new species and composting techniques. Agents from the Service of Water and Forests were trained in extension methods as well as nursery science.

STATUS

The project was authorized on August 31, 1981. A long-term forester arrived in the field in December 1981. A mid-term evaluation was completed in 1984 and implementation of recommendations initiated. A soil scientist served in the field. A final evaluation evaluation was conducted in December 1985. Over 25 tree-planting sites and six small villager-managed nurseries were established. The project is considered to be exceptionally successful by USAID and the Guinea Mission. A PID for possible follow-on activities was being prepared.

DOCUMENTS AND REPORTS

PID, 4/80
Project Paper, 6/81
Trip Report; March, 17 - 21, 1982
Mid-term Evaluation, 1984
Project Implementation Report, 10/10/84
"An Investigation of Soil, Forestry and Agricultural Resources of the Pita Region of the Republic of Guinea," W., McGahvey, 1/85
"Final Evaluation of Community Forestry AIP," R. Hagen, 12/85

PROJECT	SECTOR/SUBSECTOR/ACTIVITY			%	APP. CAT.	OBLIGATIONS BY FISCAL YEAR ($000) THROUGH ACTUAL FY82	FY83	FY84	FY85	ESTIMATED FY86	PROJECT STATUS	LENGTH OF PROJECT/PACD
698-0414 Africa Regional Regional Remote Sensing Facility (East Africa)	AGR	NRE	TIR	40	FN			4,094			Completed	7/78 - 9/85
	AGR	NRE	PPA	40								
	AGR	NRE	HRD	20								

AID INPUTS	($000)
Personnel	2,143
Training	412
Commodities	783
Construction	124
Other	660
Inflation/Contingencies	0
Total LOP	4,122

CONTRACTOR

Spectral Data Corporation
1901 N. Moore St.
Arlington, VA 22209
William Smith
(703) 243-0600

Regional Center for Services in Surveying, Mapping and Remote Sensing

AID CONTACT

Tom Luche, AFR/TR/PRO Room 4531 NS
Agency for International Development
Washington, D.C. 20523
(202) 647-6951

PURPOSE

To establish a regional remote sensing facility including a photo lab, training and user assistance capability to develop African use of remote sensing technology in the development process.

AID-FINANCED INPUTS

1. Technical assistance from remote sensing specialists;
2. Training for counterparts and lab technicians in long-term U.S. and short-term programs;
3. Funds for secretarial and administrative support staff;
4. Costs related to image processing; and
5. Commodities: photographic, photo lab, image analysis, field and office equipment.

MAJOR OUTPUTS

1. A total of 500 Africans trained in the use of remote sensing technology;
2. A complete file of Landsat imagery of the region;
3. A functioning user assistance facility containing photo lab, and reference materials, staffed by trained personnel; and
4. A total of 12-15 African countries assisted in the acquisition and use of Landsat imagery.

HOST COUNTRY AND OTHER DONOR CONTRIBUTIONS

The host organization, the Regional Mapping Center, provided office, classroom, library and laboratory space, technical equipment and administrative support, valued at $320,000. The UNDP contributed $1 million over a five-year period for a geodesy program, the Indian government supported a study of member country needs, and France

HOST COUNTRY AND OTHER DONOR CONTRIBUTIONS (Continued)

provided a remote sensing expert. The Canadian International Development Research Center (IDRC) provided $295,000. Nearly $5 million in equipment came from Switzerland, West Germany, Holland, Finland and Sweden. The World Bank signed a $130,000 contract with the facility for image processing in connection with a project in Zambia.

SUMMARY

This project established a semi-autonomous branch of the Regional Centre for Services in Surveying and Mapping in Nairobi, which provides the nine African member countries with: (1) services in surveying and mapping, including aerial photography, photogrammetry, photo-interpretation and remote sensing; (2) training and assistance in the application of resource assessment technology (the project team included a forester versed in forestry applications of remote sensing); and (3) information dissemination, keeping users in Eastern, Central and Southern Africa abreast of remote sensing developments and linking them with primary data sources.

STATUS

In general the project should be viewed as having met the original objectives in terms of training, assumption of leadership by qualified Africans and the development of operational capacity. An evaluation issued in April 1984 supported this view, while highlighting certain institutional problems. A third extension of the project, from June 1984 to September 1985, was approved in order to permit the further training of counterparts, additional improvements to the operational status of the facility, and restructuring of the donor support for the facility. A follow-on project (698-0456) will continue project activities.

DOCUMENTS AND REPORTS

Project Paper, 3/19/79
Project Evaluation, 6/16/80; 2/84

PROJECT	SECTOR/SUBSECTOR/ACTIVITY			%	APP. CAT.	OBLIGATIONS BY FISCAL YEAR ($000) THROUGH ACTUAL FY82	FY83	FY84	FY85	ESTIMATED FY86	PROJECT STATUS	LENGTH OF PROJECT/PACD
698-0420 Africa Regional Remote Sensing (West Africa)	AGR	NRE	TTR	75	FN	1,755	—	850	—	—	Active	2/78 - 12/86
	AGR	NRE	HRD	25								

AID INPUTS	($000)
Total LOP	3,375

CONTRACTOR

Spectral Data Corporation
1901 N. Moore St. Suite 1000
Arlington, VA 22209
(703) 243-0600
Grantee: Regional Center for Services in Surveying, Mapping and Remote Sensing (CRTO)

AID CONTACT

Tom Luche, AFR/TR/PRO Room 4533 NS
Agency for International Development
Washington D.C. 20523
(202) 647-6951

PURPOSE

To enable African development and resource managers to utilize Landsat and other imagery in planning, implementing and monitoring a broad spectrum of agricultural, forestry, rangeland, ground water and other resource development projects.

AID-FINANCED INPUTS

1. U.S. consultant services;
2. Limited architectural design and construction (of a photo laboratory); and
3. A portion of local staff salaries.

MAJOR OUTPUTS

1. Photo lab and information center constructed and equipped;
2. User assistance services (21 geological, 11 monitoring and 6 agro-pastoral projects);
3. Students receiving training (107 introductory level; 40 advanced-level; 10 on-the-job);
4. Photo-lab products (340 work orders completed); and
5. Twenty user assistance resource studies completed.

HOST COUNTRY AND OTHER DONOR CONTRIBUTIONS

The Government of Burkina Faso has provided buildings and land valued at $811,000 and is contributing toward local salary costs at the rate of approximately $110,000 annually. Other African donors are expected to contribute $78,000 toward salaries and operating costs. Experts from Canada, France, Burkina Faso and the ECA served on the technical committee that designed the project. The AID contribution represents about 44% of first-phase costs, and approximately 30% of total project

SUMMARY

The project involves the establishment of a Remote Sensing Center, with headquarters in Ouagadougou, Burkina Faso, in two phases: (1) establishment of a regional center with facilities for bilingual training, data handling, reproduction, and user assistance services; and (2) addition of a satellite reception station with the capability to receive and record data from Landsat and other satellites. (Technical experts include a forestry specialist.)

STATUS

An (April 1983) evaluation of the project concluded that the original project goals have largely been met. The CRTO has been established as a legal regional entity. Fourteen African states are members. By the end of 1984, the Center had trained 212 technicians and scientists from over 20 countries in introductory courses in remote sensing. CRTO has provided user assistance in over 50 projects. The permanent photo laboratory became functional in 1981 and now has the capability of producing a variety of standard LANDSAT products in black and white and color and various other types of photographic materials. By mid-1983, demand for the production of photographic materials had begun to strain the resources of the Center. African staffing problems have not yet been resolved, and the level of funding expected from the African membership is expected to result in a large operating deficit. CRTO has not yet met C.P.'s or the covenant regarding manpower and a financial plan, which must be satisfied prior to the procurement of an institutional, long term contractor. Energetic new leadership at the center is attempting to address these problems. A 33-month extension of the current Regional Remote Sensing (West Africa) project is providing resources for this effort, which will be continued under the proposed project (698-0457).

costs. Canada, the major external investor (37% of total project costs), is helping to coordinate donor inputs. The U.S., France and Canada will coordinate contributions during Phase I; France is contributing short-term experts, expatriate salaries, capital and operating costs, amounting to $811,000 and Canada is financing expatriate salaries, operating costs and capital costs, totalling $504,000.

OTHER DONOR ACTIVITIES

There is a multi-donor remote sensing project in Senegal.

DOCUMENTS AND REPORTS

"Review of Landsat Remote Sensing Plans for Africa," AID, 10/75
"Report of the Technical Committee to Define a Regional Remote Sensing Center at Ouagadougou, Upper Volta [Burkina Faso]," 12/75
PID, 1977
Twenty-one reports written by students on hydrogeology, soils and other topics
CIDA evaluation, 6/80
AID evaluations, 6/79; 3/83

PROJECT	SECTOR/SUBSECTOR/ACTIVITY			%
698-0424*	ENY	NSS	PPA	15
Africa Regional	ENY	NSS	TTR	10
Energy Initiatives	ENY	NSS	HRD	5
for Africa	ENY	REN	TTR	10
	ENY	FUW	TTR	15
	ENY	FUW	HRD	5
	ENY	FUW	MKT	10
	AGR	FOR	RED	15
	AGR	FOR	TTR	15

APP. CAT.	OBLIGATIONS BY FISCAL YEAR ($000) THROUGH ACTUAL FY82	FY83	FY84	FY85	ESTIMATED FY86
SD	468	2,420	2,298	750	1,500
SH**	--	--	750	--	--

PROJECT STATUS	LENGTH OF PROJECT/PACD
Active	9/82- 9/87

AID INPUTS	($000)
Personnel	6,200
Training	350
Commodities	0
Construction	0
Other***	6,950
Inflation/Contingencies	0
Total LOP	13,500

CONTRACTOR

Energy/Development International
1015 18th Street, N.W.
Suite 802
Washington, D.C. 20036
Cathryn Goddard, Project Manager
(202) 822-8817

AID CONTACT

Tom Luche, AFR/TR/PRO
Room #4553. NS
Agency for International Development
Washington, D.C. 20523
(202) 647-6951

PURPOSE

To strengthen the institutional capabilities of African governments to plan and implement sound energy programs and projects, and to demonstrate and help disseminate self-sustaining public and private sector initiatives to address Africa's problems of deforestation, oil import dependence, inefficient energy use and lack of development of indigenous energy resources.

AID-FINANCED INPUTS

1. Prime contractor technical assistance, short-term consultants and subcontractors for subproject design, energy assessments, training, technical assessments and information sharing; and
2. Allotment of subproject funds.

MAJOR OUTPUTS

1. Full obligation of the project's grant funds;
2. Identification, design, monitoring and evaluation of subprojects;
3. Quick response, high caliber technical assistance to Missions and other constituents in energy/forestry areas; and
4. Wrap-up activities for each of the major areas of concentration.

HOST COUNTRY AND OTHER DONOR CONTRIBUTIONS

African contributions of $2.65 million are being solicited for the subprojects fund. The project is be coordinated with planning

STATUS (Continued)

- Somalia--energy planning advisor ($285,000);
- Lesotho--marketing and dissemination of energy technologies ($250,000);
- Malawi--support to the Investment and Development Fund to improve energy efficiencies in client industries ($150,000); and
- Regional--dissemination of cookstove production and marketing techniques coordinated by Kenyan Energy NGOs (KENGO) ($200,000).

Each of these subprojects is described separately in the pages which follow. In addition, EIA and the Food and Agriculture Organization are collaborating with Sahelian forestors, planners and economists in an examination of fuelwood economic issues in the Sahel. The examination will include team assessments carried out in Mali, Senegal and Burkina Faso. Findings and analyses will be the subject of a fuelwood economics workshop scheduled for 1987.

EIA has responded to over 150 individual requests for technical assistance, training and information. Representative activities include:

- Assessment of pumping options for the Senegal River Basin;
- Evaluation of fuel substitution possibilities in Uganda, Burundi, Malawi and other countries;
- Evaluation of potential forest products from the Dinderesso National Forest in Burkina Faso;
- Assistance in the design of forestry projects in Rwanda and Mali;
- Participation in or management of major energy/forestry assessments in Sudan, Madagascar and Ivory Coast;

assistance from the World Bank, the EEC, and other donors working in Africa.

OTHER DONOR ACTIVITIES

The UNEP, UNESCO, ECA, UNDP, France and Germany have funded region-wide projects in energy planning and training in Africa (studies, seminars, technical aid).

SUMMARY

The project consists of three major program areas including:

- o Wood Economics
- o Fuel Substitution/Energy Conservation
- o Local Enterprise Development
- o - Cookstove production and marketing
  - Charcoal production and marketing.

Each area functions through the provision of:

- o Technical assistance from project field staff, consultants and subcontractors to assist USAID governments and host-country based organizations in project design and evaluation, more efficient use of energy in ongoing projects, energy policy and planning, assessment of energy options as well as informal guidance on energy-related matters;
- o Subproject grants to host-country based organizations to implement energy projects;
- o Training and institutional strengthening in support of the three program areas where it is directly linked to an EIA activity; and
- o Information and experience sharing in the program areas.

STATUS

The project has funded a total of nine subprojects which account for all grant funds available for obligation (each of these are described separately). Subprojects include:

- o ECOWAS--energy conservation in electric utilities. ($140,000);
- o Ivory Coast--implementation of the National Energy Conservation Plan. ($200,000);
- o Rwanda--farm tree planting; ($500,000);
- o Madagascar--small hydro for agro-processing; ($150,000);
- o Liberia--energy planning advisor ($250,000);

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*Subproject efforts are reported on individually in the pages which follow.

**Funds from a separate project account (625-0956) will finance Sahel subject.

***Includes project evaluation ($200,000), subproject funds ($6,550,000) and information-sharing ($200,000).

- o Development of and training in computer-based forest resources model for CILSS; and
- o Training programs in charcoal production and forestry/natural resource assessment for energy end-uses.

A complete list of project accomplishments is available from E/DI or from the AID Project Officer.

DOCUMENTS AND REPORTS

PID, 11/14/80
Project Paper, 4/29/82
Numerous Assessments and Studies as well as Subproject Documentation and Quarterly Reports
"Forest Energy/Natural Resources Assessment Workshop/Project," Energy/Development International, April 14-May 27, 1984. Final Report. Sponsored by EIA and the Regional Remote Sensing Facility, Nairobi, Kenya
"Forest Resources Analysis and Planning Model," Energy/Development International
"Production and Consumption of Wood Energy in Kenya with Particular Reference to Agorforestry", Energy/Development International, September 1983. An article prepared for Beijer Institute/ICRAF
"Woodfuels and Their Importance to Development, in Particular to Rural Development," Paper presented at Rural Development Technology Center in Harare, Zimbabwe, September 16, 1983,Energy/Development International
"Priorities For and Types of Forestry Research in Kenya," Energy/Development International, Paper presented at a USAID forestry strategy meeting in Lome, Togo, May 7-11, 1984
Sudan Forestry Sector Review. "A joint report with the World Bank," Energy/Development International, 1985
"Timber and Fuel Needs in African Nations and How They Can Be Met," Energy/Development International, Paper presented at the Conference on Advancing Agricultural Production in Africa at Arusha, Tanzania, February 12-18, 1984
"Transitional Donor Financial Support for Forestry Sector Reforms in Mali," Energy/Development International, 8/84
"Alternative Fertilizing Methods for Increasing Agricultural Production in Developing Countries: Economic and Energy Considerations," Energy/Development International, 9/20/84
"An Annotated Bibliography of Factors Affecting Pumping and Irrigation in Africa," Energy/Development International, 10/85
"An Approach to Analyzing the Feasibility of Irrigation Pumping Systems in Africa," Energy/Development International, 5/85
"Lesotho Household Energy Survey (Lowlands and Foothills)," Energy/Development International." (consultant's report of work performed during a four week survey, 1984)
"A Preliminary Profile of Rice Processing in Madagascar," Energy/Development International, 8/85
"Charcoal Production Technology," Energy/Development International
"Surveying the Marketing/Production Capabilities of Certain Renewable Energy Technologies by Basotho Small/Medium Scale Enterprises," Energy/Development International, 1984
"Charcoal Exports from Selected West African Producer Countries," Energy/Development International

PROJECT	SECTOR/SUBSECTOR/ACTIVITY			%	APP. CAT.	SUBPROJECT ALLOCATIONS BY FISCAL YEAR ($000) THROUGH ACTUAL FY82	FY83	FY84	FY85	ESTIMATED FY86	PROJECT STATUS	LENGTH OF PROJECT/PACD
698-0424.01 Africa Regional Communal Afforestation (Energy Initiatives for Africa Subproject) Rwanda	AGR	FOR	RED	80	SD	--	--	72	181	142	Active	9/83 - 9/87
	AGR	FOR	HPD	10								
	AGR	FOR	TTR	10								

AID INPUTS	($000)
Total LOP	500*

CONTRACTOR

Energy/Development International
1015 18th Street, N.W.
Washington, D.C. 20005

AID CONTACT

Tom Luche, AFR/TR/PRO Room 4533 NS
Agency for International Development
Washington, D.C. 20523
(202) 647-6951

PURPOSE

To develop the institutional capability of Cyeru, Butaro, and Nyamugali Communes of Rwanda to manage communal forests and sector nurseries, and to extend sylviculture and agroforestry technologies to the areas' residents.

AID-FINANCED INPUTS

1. Peace Corps Volunteer;
2. Consultants;
3. Construction of six houses and an office;
4. Vehicles and equipment;
5. Project office operations;
6. Casual labor for nursery activities and forest planting; and
7. Operation of a demonstration farm.

MAJOR OUTPUTS

1. A total of 2900 hectares of reforested land;
2. Operation of 37 nurseries;
3. A total of 37 trained extension agents;
4. Increase in fuelwood supply; and
5. Improved soil fertility on region's farms.

HOST COUNTRY AND OTHER DONOR CONTRIBUTIONS

A total of $335,800 in the form of salaries for the Project Director, extension agent supervisors and extension agents; land for construction of five houses and an office; communal labor and land for nurseries are provided by the host government.

*LOP figure represents amount allocated for this subproject only. Total project funding for project 698-0424 is $13,500,000. Subproject allocations and LOP figures are not included in summary totals.

SUMMARY

Project activities include:

1. Planting 400 hectares of communal forest;
2. Planting 2500 hectares of privately owned land, largely in agroforestry configurations;
3. Establishing and operating 37 nurseries;
4. Training 37 extension agents; and
5. Establishing an agroforestry demonstration farm.

STATUS

The project began in earnest in April 1984, and to date, has planted 240 hectares of communal forest and 450 hectares of privately owned land. The thrust of the effort in the remaining two years will be focused on on-farm planting, especially in agroforestry configurations.

As of September 1985, 25 sector nurseries were operative and 900,000 seedlings had been planted outside nurseries; 25 extension agents had been trained and were working in the field. Three houses and an office had been constructed.

Continued training of extension agents will take place under the direction of the Farming Systems Improvement project which is carrying out its program in the same communes. The emphasis in these sessions is placed on agroforestry principles and communication skills.

The demonstration farm at project headquarters in Kirambo illustrates integrated forestry-agriculture-animal husbandry. Local farmers are asked to work on the farm in exchange for receiving the harvest from the parcels they work. By rotating farmers in this fashion the project expects to extend agroforestry technology through hands-on experience; this activity supplements the efforts of the extension service.

DOCUMENTS AND REPORTS

Project Paper, AID, Kigali
"Communal Afforestation Socio-Economic Survey Report", E. Robins, AID, Kigali and Bureau of Science and Technology, AID, Washington, D.C.

PROJECT	SECTOR/SUBSECTOR/ACTIVITY			%	APP. CAT.	SUBPROJECT ALLOCATIONS BY FISCAL YEAR ($000) THROUGH ACTUAL FY82	FY83	FY84	FY85	ESTIMATED FY86	PROJECT STATUS	LENGTH OF PROJECT/PACD
698-0424.03 Africa Regional Long Term Energy Advisor (Energy Initiatives for Africa Subproject) Liberia	ENY	NSS	PPA	100	SD	250	--	--	--	--	Completed	11/83 10/85

AID INPUTS	($000)
Total LOP	250*

CONTRACTOR

Energy/Development International
1015 18th Street, N.W.
Suite 802
Washington, D.C. 20036
Cathryn Goddard
(202) 822-8817

AID CONTACT

Tom Luche, AFR/TR/PRO, Room 4533, NS
Agency for International Development
Washington, D.C. 20523
(202) 647-6951

PURPOSE

To assist the Government of Liberia (GOL) in formulating a National Energy Plan, developing pilot and demonstration activities in renewable energy technologies and institionalizing the GOL's energy assessment and planning capabilities.

AID-FINANCED INPUTS

1. Long-term energy advisor (2 years);
2. Short-term technical assistance; and
3. Training.

MAJOR OUTPUTS

1. A national energy plan adopted by the National Energy Committee (NEC);
2. The National Energy Committee capable of continuing the energy assessment and planning process without further technical assistance; and
3. Pilot project(s) and/or study design(s) initiated in the area of renewable energy resources.

SUMMARY

A resident energy advisor was provided through Oak Ridge National Laboratory to the GOL's Ministry of Lands, Mines and Energy, beginning in November of 1983. The position entailed economic analysis of energy projects and close collaboration with National Energy Committee (NEC) personnel in energy investment-decision making, project evaluation, and the development of national energy supply/demand balances.

Other activities included developing alternative energy project proposals, identifying donor financing, establishing a systematic program for data collection and analysis, and advising the National Energy Committee on the formulation of a National Energy Plan.

STATUS (Continued)

and study designs have been initiated, and the NEC has adopted the Integrated National Energy Plan (INEP), many of the INEP recommendations have yet to be acted upon. The NEC also has not fully developed self-sufficient energy assessment and planning capability. In this regard project design was probably unrealistic. Institutional development in energy planning and management should be considered a continuing process; the project should not have anticipated full development of planning and analytic capability within a new organization over a span of only three years.

NEC staff are currently engaged in the following activities:

- Completing the 1984 national energy assessment;
- Conducting a redesigned household energy use survey;
- Reviewing the EEC work on a microhydroelectric power site assessment;
- Working with Bomi Hills on wood-fired power generation; and
- Carrying out species trials on fast-growing trees obtained from Kenya.

DOCUMENTS AND REPORTS

Project Paper, (Main Project) 4/23/82
Semi-Annual Reports on Activities in the GOL/USAID Energy Technical Assistance Project from ORNL Resident Energy Advisor, William Barron, 11/84, 5/85, 11/85.
Semi-Annual Project Implementation Reports, USAID/Liberia, 9/30/85, 3/31/85, 9/30/84, 3/31/84.
"The Potential for Energy Conservation in the Light Industrial and Commercial Sectors in the Liberian Economy," Barnes, R. and R. E. Rhinelander, ORNL, 11/82, 14pp.

HOST COUNTRY AND OTHER DONOR CONTRIBUTIONS

The project was supported with a $101,700 contribution from the GOL, approximately 1.5 years in short-term technical assistance from the Energy Policy Development and Conservation Project (936-5728); and limited short-term technical assistance from the Energy Initiatives for Africa Project.

STATUS

The project was completed in October 1985. Notable accomplishments include:

- o Development of a 1982 Energy Balance for Liberia, providing the energy data base for decision-making;
- o Assistance to the GOL in identifying optimal economic alternatives for meeting the nation's petroleum requirements, developing the nation's hydroelectric potential and improving operations of the Liberia Electric Corporation (LEC);
- o Critical evaluation of the World Bank energy assessment work in Liberia;
- o Assistance to the National Energy Committee in providing a forum for open discusssion of energy sector projects and proposals;
- o development of an Integrated National Energy Plan (INEP) for Liberia;
- o Open discussion of the INEP among Government of Liberia Ministries and donor organizations and consensus on proposals reached at an Energy Program Implementation Workshop held in September 1985.

The project also developed proposals for microhydro and wood energy decentralized rural power production. Key to the success of the technical assistance program were strong and effective counterpart relationships. However, the benefits of strengthened planning and analysis, while considerable, will not be fully realized without broader institutional reform in Liberia. While several several pilot projects

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*LOP figure represents amount allocated for this subproject only. Total project funding for project 698-0424 is $13,500,000. Subproject allocations and LOP figures are not included in the summary totals.

DOCUMENTS AND REPORTS (Continued)

"Possible Actions for Near Term Conservation (Revised)," National Energy Committee, Monrovia, Liberia, 1/83, 11pp.

"Background Paper on Alternative Electrical Generation Technologies in Liberia," Hobbs, Benjamin, ORNL, 2/83, 39pp.

"Liberia: Energy Sector Profile," Energy Initiatives for Africa, 2/83, 10pp.

"Project Paper on Energy Use and Supply Potential in the Agricultural and Forestry Sectors in Liberia,", Knight, C.G., Dobson, J., Sandikie, J.S., ORNL, 3/83, 84pp.

"The Liberian Energy Library," Hobbs, B., Barron W. and R. Cooper, ORNL, 3/83, 22pp.

"Options for Petroleum Product Supply for Liberia," Arthur D. Little, Inc., 4/83, 110pp plus 51pp of Appendices.

"The Liberian Macroeconomy and Simulation of Sectoral Energy Demand 1981-2000," Hill, Lawrence, ORNL, 4/83, 100pp including 3 Appendices.

"An Assessment of Energy Options for Liberia," Barron, W.F. and M.H. Neufville, Oak Ridge National Laboratory, ORNL-5989, 11/83, 77pp.

"Analysis of the Potential for Conservation in Government Buildings in Liberia," Pine, G.D. and Rhinelander, R.E., 3/84, 36pp.

"1982 Energy Balance for Liberia," Barron, W., Rhinelander, R.E., Samuels, G., Jr., and Smith, G.M., National Energy Committee, 4/84, 19pp.

"Recommendations for Up-Grading of LEC Investment Analysis Capability for Generating Technology," Barron, W.F., Botros, A.W., et. al., Draft for Internal Review, 6/84, 13pp with a 3 page Appendix.

Review and Comments on 'Liberia: Issues and Options in the Energy Sector' - Green Cover Draft Report Submitted by the Energy Assessments Division of the World Bank, June 1984," National Energy Committee, Comments prepared for the Ministry of Planning and Economic Affairs, 10/25/84, 16pp with Appendices.

"Trip to Biomass-fired electric generating stations in Sierra Leone and Liberia (Nov. 20-21, 1984)," Barron, W., Memorandum to M. H. Neufville (Sec. NEC), J. Pagano (USAID/Monrovia), G. Samuels (ORNL), 11/23/84, 7pp.

"An Evaluation of the Liberian Petroleum Refining Company Operations: Crude Oil Refining vs Product Importation," Samuels, G., Barron, W.F. et. al., ORNL/TM-9472, Oak Ridge National Laboratory, 2/85, 52pp.

"An Analysis of the Costs fo Fuel Supply for Wood-Fired Electric Power Plants in Rural Liberia," Perlack R., Barron W., Samuels G., and Rhinelander, E., (ORNL - 6136) Oak Ridge National Laboratory, Oak Ridge, Tenn., 4/85

PROJECT	SECTOR/SUBSECTOR/ACTIVITY			%	APP. CAT.	SUBPROJECT ALLOCATIONS BY FISCAL YEAR ($000) THROUGH ACTUAL FY82	FY83	FY84	FY85	ESTIMATED FY86	PROJECT STATUS	LENGTH OF PROJECT/PACD
698-0424.04 Africa Regional Energy Conservation Audits in Electric Utilities (West Africa)	ENY	NSS	PPA	100	SD	--	--	250	--	--	Active	FY 1984 - 1986

AID INPUTS	($000)
Total LOP	250*

CONTRACTOR

Energy Development International
1015 18th Street, N.W.
Suite 802
Washington, D.C. 20036
Cathryn Goddard
(202) 822-8817

AID CONTACT

Tom Luche, AFR/TR/PRO, Room 4533, NS
Agency for International Development
Washington, D.C. 20523
(202) 647-6951

PURPOSE

To reduce energy consumption.

AID FINANCED-INPUTS

1. Energy auditors.

MAJOR OUTPUTS

1. Reduced energy consumption;
2. Utility energy audits carried out in the country.

SUMMARY

This subproject fielded a team of energy auditors to visit Sierra Leone and Niger to conduct energy audits under the auspices of the Economic Community of West African States (ECOWAS).

Local engineering firms were to submit bids to have their staff members accompany the auditors, thereby receiving on-the-job training in implementing simple housekeeping measures. Conservation, one of the most cost-effective ways of reducing energy consumption, is an important tool to the countries involved.

STATUS

The project originally was to cover six countries but due to delays in ECOWAS contractor selection and start-up, the activity has been scoped back to two countries. Approximately $110,000 has been deobligated to support other EIA activities. Field implementation was expected to begin in August 1986.

DOCUMENTS AND REPORTS

Project Paper (Main Project) 4/29/82

* LOP figure represents amount allocated for this subproject only. Total project funding for project 698-0424 is $17,500,000. Subproject allocations and LOP figures are not included in summary totals.

PROJECT	SECTOR/SUBSECTOR/ACTIVITY			%	APP. CAT.	SUBPROJECT ALLOCATIONS BY FISCAL YEAR ($000) THROUGH ACTUAL FY82	FY83	FY84	FY85	ESTIMATED FY86	PROJECT STATUS	LENGTH OF PROJECT/PACD
698-0424.12 Africa Regional Energy for Small & Medium Enterprises (Energy Initiatives for Africa Subproject) Malawi	ENY	NSS	PPA	25	SD	--	--	--	150	--	Active	FY 1985 - 1987
	ENY	NSS	MKT	75								

AID INPUTS	($000)
Total LOP	150*

CONTRACTOR

Energy/Development International
1015 18th St. N.W., Suite 802
Washington, D.C. 20036
Cathryn Goddard, Project Manager
(202) 822-8817

AID CONTACT

Tom Luche, AFR/TR/PRO, Room 4533, NS
Agency for International Development
Washington, D.C. 20523
(202) 647-6951

PURPOSE

To identify, develop, monitor and appraise energy-related activities in small and medium-scale enterprises in Malawi.

AID-FINANCED INPUTS

1. Technical assistance.

MAJOR OUTPUTS

1. Improved drying technologies for crops and fish;
2. Solar water heating; and
3. Boiler furnace retrofitting.

HOST COUNTRY AND OTHER DONOR CONTRIBUTIONS

Investment and Development Fund of Malawi (INDEFUND) is providing $1,153,500.

SUMMARY

This subproject, using INDEFUND as a financial intermediary, is establishing the capability to identify, develop, monitor and appraise energy-related activities in small- and medium-scale enterprises. INDEFUND, an offshoot of the parent INDEBANK was created to provide

SUMMARY (Continued)

concessionary financing to the small business sector. Its funding comes from the Malawian, Dutch, West German and U.S. Governments.

A careful examination of INDEFUND's current portfolio shows substantial opportunity for energy savings in the enterprises it supports. Expanded lending, made possible by the USAID's Rural Enterprise and Agro-Business Development Institutions (READI) Project further broadens the scope for improvements in energy uses. The subproject supplies INDEFUND with the technical assistance necessary to identify energy-related investments and to implement improved energy utilization measures. Target activities include boiler furnace retrofitting, use of agricultural by-products, solar water heating, and improvements in drying technologies for crops and fish.

STATUS

This subproject was obligated in August 1985, and work commenced in September. The first steps were for INDEFUND to hire an Energy Advisor and to develop a portfolio of energy improvement/conservation activities with current INDEFUND clients. Subproject objectives have been endorsed by the Implementation Committee of the READI Project. Subproject activities are coordinated through READI, and other small-to-medium business credit institutions are expected to participate in these activities.

DOCUMENTS AND REPORTS

Project Paper (Main Project), 4/29/82
Energy Initiatives for Africa, SPARC 8/85

* LOP figure represents amount allocated for this subproject only. Total project funding for project 698-0424 is $13,500,000. Subproject allocations and LOP figures are not included in the summary totals.

PROJECT	SECTOR/SUBSECTOR/ACTIVITY			%	APP. CAT.	SUBPROJECT ALLOCATIONS BY FISCAL YEAR ($000) THROUGH ACTUAL FY82	FY83	FY84	FY85	ESTIMATED FY86	PROJECT STATUS	LENGTH OF PROJECT/PACD
698-0424.23	ENY	FUW	MKT	60	SD	--	--	--	200	--	Active	FY 1985 - 1987
Africa Regional Regional Improved Cookstove Development and Dissemination Program (Energy Initiatives for Africa Subproject) Sub-Saharan Africa	ENY	FUW	TDE	40								

AID INPUTS	($000)
Total LOP	200*

CONTRACTOR

Energy/Development International
1015 18th St. N.W.
Suite 802
Washington, D.C. 20036
Cathryn Goddard
(202) 822-8817

AID CONTACT

Tom Luche, AFR/TR/PRO, Room 4533, NS
Agency for International Development
Washington, D.C. 20523
(202) 647-6951

PURPOSE

To support the improved cookstove support program initiative in Africa.

AID-FINANCED INPUTS

1. Technical assistance;
2. Bilingual program coordinator; and
3. Workshops.

MAJOR OUTPUTS

1. Improved stove production.

HOST COUNTRY AND OTHER DONOR CONTRIBUTIONS

Local funding is $110,000.

KENGO, an organization representing Kenya-based non-governmental organizations, is supporting energy conservation in wood utilization in target countries by working with and strengthening successful stove development, training and marketing programs, and by tying those into traditional stove production and marketing systems.

*LOP figure represents amount allocated for this subproject only. Total project funding for project 698-0424 is $13,500,000. Subproject allocations and LOP figures are not included in summary totals.

SUMMARY

The subproject supports an Africa-wide improved cookstove network based in Africa. It works with key groups, companies and individuals engaged in, or interested in, improved stove production and marketing and provides support to them. The subproject coordinates a number of donor-supported and non-governmental stove activities currently taking place throughout the continent. Output includes the development of action plans for each country to provide a basis for additional donor support.

STATUS

This subproject was obligated in August 1985. To implement the subproject, KENGO has hired a bilingual technical assistance manager to initiate activities and coordinate with resource groups throughout Africa. This manager works with stove designers, producers and artisans to improve design, production and marketing techniques through periodic regional and workshops, as well as technical assistance follow-up. Most USAID Missions in both East and West Africa are aware of the subproject and have been formally advised of its goal, purpose and objectives by official REDSO cable and at the AID Scheduling Conferences in September and October. A planning workshop was held in the week of September 29, 1986 to: (1) discuss technical issues affecting the design and self-sustained replication of improved energy-efficient portable stoves in Eastern and Southern Africa; (2) decide how best to utilize subproject resources for training and technical assistance; (3) outline country strategies for improved portable stoves; (4) present both national programs, as well as the regional project to other donors; and (5) share experiences with key individuals in the region, actively involved in the design and implementation of stove programs.

DOCUMENTS AND REPORTS

Project Paper (Main Project), 4/29/82

PROJECT	SECTOR/SUBSECTOR/ACTIVITY			%	APP. CAT.	SUBPROJECT ALLOCATIONS BY FISCAL YEAR ($000) THROUGH ACTUAL FY82	FY83	FY84	FY85	ESTIMATED FY86	PROJECT STATUS	LENGTH OF PROJECT/PACD
698-0424.24 Africa Regional Ivory Coast Energy Conservation (Energy Initiatives for Africa Subproject) Ivory Coast	ENY	NSS	PPA	100	SD	--	--	--	200	--	Active	FY 1985 - 1987

AID INPUTS	($000)
Total LOP	200*

CONTRACTOR

Energy/Development International
1015 18th St. N.W.
Suite 802
Washington, D.C. 20036
Cathryn Goddard, Project Manager
(202) 822-8817

AID CONTACT

Tom Luche, AFR/TR/PRO, Room 4533, NS
Agency for International Developement
Washington, D.C. 20523
(202) 647-6951

PURPOSE

To initiate energy conservation policies in the Ivory Coast.

AID-FINANCED INPUTS

1. Technical assistance; and
2. Energy audits.

MAJOR OUTPUTS

1. Improved energy conservation; and
2. Specific energy conservation guidelines.

HOST COUNTRY AND OTHER DONOR ACTIVITIES

The Ivory Coast is contributing $70,000.

*LOP figure represents amount allocated for this subproject only. Total project funding for project 698-0424 is $13,500,000. LOP and obligation figures are not included in summary totals.

SUMMARY

This subproject follows the national energy conservation assessment just completed by Energy Initiatives for Africa (EIA). It focuses on three major activities:

1. Assistance to the newly-created Bureau d'Economies d'Energie within the Ministry of Industry;
2. Preparation of financial dossiers to seek external financing for energy conservation measures; and
3. Support for continued energy audits and conservation publicity measures.

The activities of this subproject represent the first steps to move energy conservation in the Ivory Coast from the planning stage to implementation and investment. Efforts focus on industries and commercial buildings, as well as on the household and transport sectors.

STATUS

The subproject was obligated in July 1985. The draft conservation study completed in July is with the Ministry of Industry and was to be formally presented in September. Acceptance of the study's recommendations are expected to pave the way for commencement of subproject activities.

DOCUMENTS AND REPORTS

Project Paper (Main Project), 4/29/82

PROJECT	SECTOR/SUBSECTOR/ACTIVITY			%	APP. CAT.	SUBPROJECT ALLOCATIONS BY FISCAL YEAR ($000) THROUGH ACTUAL FY82	FY83	FY84	FY85	ESTIMATED FY86	PROJECT STATUS	LENGTH OF PROJECT/PACD
698-0424.32 Africa Regional Increased Agricultural Productivity in the Rural Sector Through the Marketing of Energy Technologies (Energy Initiatives for Africa Subproject) Lesotho	ENY	REN	MKT	100	SD	--	--	--	250	--	Active	FY 1985 - 1987

AID INPUTS	($000)
Total LOP	250*

CONTRACTOR

Energy/.evelopment International
1015 18th St. N.W.
Suite 802
Washington, D.C. 20036
Cathryn Goddard
(202) 822-8817

AID CONTACT

Tom Luche, AFR/TR/PRO, Room 4533, NS
Agency for International Development
Washington, D.C. 20523
(202) 647-6951

PURPOSE

To increase agricultural productivity in the rural sector through the marketing and dissemination of energy technologies in Lesotho.

AID-FINANCED INPUTS

1. Workshops;
2. Production of training materials; and
3. Surveys.

MAJOR OUTPUTS

1. Development of a nationwide dissemination program; and
2. Production of multi-fuel stoves by local artisans.

HOST COUNTRY AND OTHER DONOR ACTIVITIES

Five GOL ministries and their extension networks, several national parastatals, and international PVOs are participating in the dissemination effort.

SUMMARY

This subproject is designed to increase agricultural productivity in the rural sector through the marketing and dissemination of energy technologies. These technologies include multi-fuel metal stoves, stone paolas (stone stoves), retained heat cookers, growholes (for tree and other seedling production) and food dryers. Dissemination involves the active participation of existing agencies and PVOs. GOL capabilities for continuing outreach, training and extension after the subproject's completion is also being strengthened.

STATUS

In May of 1985, Maxwell Kinyanjui, an EIA consultant, traveled to Lesotho to work with artisans on stove production and dissemination techniques. The subproject is nearing completion. A large number of Basotho have been reached by weekly subproject-funded radio programs, extensive field training and demonstration, as well as various other media. A revised operational plan was developed to speed up the marketing process. Institutional stove (stone paolas) activities supported by the Appropriate Technology Service and Save the Children in Lesotho have resulted in the construction of over 200 scoves in nearly one-tenth of all primary schools.

DOCUMENTS AND REPORTS

Project Paper (Main Project), 4/29/82

*LOP figure represents amount allocated for this subproject only. Total project funding for project 698-0424 is $13,500,000. Subproject allocations and LOP figures are not included in summary totals.

PROJECT	SECTOR/SUBSECTOR/ACTIVITY			%	APP. CAT.	SUBPROJECT ALLOCATIONS BY FISCAL YEAR ($000) THROUGH ACTUAL FY82	FY83	FY84	FY85	ESTIMATED FY86	PROJECT STATUS	LENGTH OF PROJECT/PACD
698-0424.49 Africa Regional Long-Term Energy Advisor (Energy Initiatives for Africa Subproject) Somalia	ENY	NSS	PPA	100	SD	--	285	--	--	--	Active	9/84 - 8/87

AID INPUTS	($000)
Total LOP	285*

CONTRACTOR

Energy/Development International
1015 18th St. N.W.
Suite 802
Washington, D.C. 20036
Cathryn Goddard
(202) 822-8817

AID CONTACT

Tom Luche, AFR/TR/PRO, Room 4533, NS
Agency for International Development
Washington, D.C. 20523
(202) 647-6951

PURPOSE

To provide the Ministry of National Planning with an advisor to assist in the development of an energy consumption strategy in Somalia.

AID-FINANCED INPUTS

1. Energy advisor.

MAJOR OUTPUTS

1. Improved national planning and management capability.

HOST COUNTRY AND OTHER DONOR CONTRIBUTIONS

The project was supported by a $73,500 (equivalent) host country contribution from the Government of the Democratic Republic of Somalia (GSDR), and another $60,000 from Bureau for Science and Technology, Office of Energy (ST/EY) funds from the Conventional Energy Technical Assistance Project (936-5724) for an assessment of rehabilitation, management and training needed in the power sector.

SUMMARY

The Government of Somalia, through the AID Mission, requested an energy advisor for the Ministry of National Planning. The major responsibilities of the advisor included developing national planning and management capability, coordinating donor activities in the energy area, identifying alternative funding as well as determining information requirements, institutional needs and priorities for immediate action.

STATUS (Continued)

(c) continuation of the national woodstove program (funding requested through UNEP);

(d) Phase II support to the Energy Planning Unit (currently under consideration by USAID and the World Bank);

5. Review of numerous proposals submitted and received by donors;

6. Assistance in coordinating studies/surveys among companies, agencies, government institutions and the donor community;

7. Development of a computerized catalogue of documents for the energy library;

8. Initiation of short-term technical assistance to the Somalia Electric Power Company (ENEE) from ST/EY, using Bechtel engineering services to examine rehabilitation, maintenance, management and training needs;

9. Design of a nationwide household energy consumption survey with pretesting in the Banadir region, and initiation of Phase I survey work in the Mogadishu area;

10. Design and execution of an industrial energy survey to estimate the potential savings in foreign exchange achievable from the substitution of heavy fuel oil among Somali industries in the Banadir region, Berbera cement plant and regional electrification centers;

The Project Agreement was signed June 29, 1983. The long-term advisor was placed within the GDSR Ministry of National Planning (MNP), officially assuming his duties September 24, 1984. The project has had several notable accomplishments, including:

1. The establishment of the Energy Planning Unit and the expansion of its staff and services to three graduate counterparts;

2. Preparation of the energy chapters of the annual development plans for 1985 and 1986, economic performance evaluations for 1984 and 1985, and preparation of the energy section of the next Five Year Development Plan;

3. Preparation of detailed comments on the World Bank's Energy Assessment, "Somalia: Issues and Options in the Energy Sector," (December 1985);

4. Preparation and official GSDR endorsement of several proposals, including:

   (a) a repair and maintenance training facility for the Somalia electric Power Company (ENEE). (A $600,000 proposal for which UNCDF has recently expressed its intention to provide funding;

   (b) continued and expanded wind energy measurement in Somalia to be funded through AID local currency;

*LOP figure represents amount allocated for this subproject only. Total project funding for project 698-0424 is $13,500,000. Subproject allocations and LOP figures are not included in summary totals.

11. Collection of information concerning petroleum products for a period of ten years, including quantities imported, exported, crude oil processed, losses, sales and prices for all products;

12. Design and initial implementation of an agricultural energy survey;

13. Field trips and consultative travel for the senior counterpart and the resident advisor to Nairobi;

14. Short-term training for the senior counterpart in the Philippines;

15. Establishment and coordination of the activities of the Energy Policy Committee of the Government of Somalia;

16. Coordination of meetings of Somalia's Technical Committee on Energy;

17. Initial publication of a Somalia energy newsletter; and

18. Promotion of involvement of the private sector in energy by providing a list of potential areas of involvement, including petroleum product acquisiton and distribution.

The energy advisor completed a two-year assignment in August 1986. However, the World Bank is considering, as a part of its Power Sector Program to the GSDR, the funding of another energy advisor for an additional two years. World Bank support will not become available until the fall of 1987. During the interim period, AID will contribute approximately $40,000 in EIA funding, $50,000 from the Bureau for Science and Technology, Office of Energy and local currency for the purpose of providing continuing short-term technical assistance and training.

DOCUMENTS AND REPORTS

Project Paper (Main Project), 4/29/82
"Final Evaluation of Energy Initiatives for Africa (EIA) Subproject (698-0424.49), Energy Advisor-Somalia, May 1 - May 14, 1986," 9/86

PROJECT	SECTOR/SUBSECTOR/ACTIVITY			%	APP. CAT.	SUBPROJECT ALLOCATIONS BY FISCAL YEAR ($000) THROUGH ACTUAL FY82	FY83	FY84	FY85	ESTIMATED FY86	PROJECT STATUS	LENGTH OF PROJECT/PACD
698-0424.87 Africa Regional Small Hydropower for Increased Agricultural Productivity (Energy Initiatives for Africa Subproject) Madagascar	ENY	REN	PPA	20	SD	--	--	--	--	150	Active	Undetermined
	ENY	REN	CON	80								

AID INPUTS	($000)
Total LOP	150*

CONTRACTOR

Energy/Development International
1015 18th St. N.W.
Suite 802
Washington, D.C. 20036
Cathryn Goddard
(202) 822-8817

AID CONTACT

Tom Luche, AFR/TR/PRO, Room 4533, NS
Agency for International Development
Washington, D.C. 20523
(202) 647-6951

PURPOSE

To provide energy (power) for agriculture and improve the agricultural infrastructure in Madagascar.

AID-FINANCED INPUTS

1. Training and technical assistance.

MAJOR OUTPUTS

1. An affordable power source.

HOST COUNTRY AND OTHER DONOR CONTRIBUTIONS

The Government of Madagascar is contributing $407,000.

OTHER DONOR ACTIVITIES

The World Bank, FAO and the African Development Bank, have expressed interest in funding a country-wide program pending the outcome of the Ampefy experiment.

SUMMARY

A regional AID team identified this prototype subproject while preparing the FY 86 CDSS for Madagascar. The subproject addresses a priority concern in the CDSS: power for agriculture and the improvement of

SUMMARY (Continued)

agricultural infrastructure. If successful, this project has a high potential for replication and could reduce foreign exchange outlays for imported fuels.

A combined AID/EIA team selected the site at Ampefy in the highlands, near Antananarivo. The area produces an abundance of rice but cannot mill it locally due to the lack of an affordable power source (diesel fuel is scarce and expensive). This subproject will establish a mini-hydro facility of 60 kW in hydroelectric and 30 kW in hydromechanical power for agro-processing and local power supply. Local firms will participate in turbine redesign, manufacture and installation. The plant will be managed by the townspeople and the national utility. Private or semi-private Malagasy firms will be trained in equipment manufacture.

STATUS

The detailed civil works survey for the site's physical facilities has now been completed. Work on the dam and canals commenced in September 1985. The mechanical works design (turbines, penstocks, mechanical machinery) is underway and production commenced in late September - early October 1985. The Village of Ampefy and the Government of Madagascar have reached an agreement on the incorporation of a limited company for developing and administering the subproject site, including tariff schedules, capitalization, and the like.

DOCUMENTS AND REPORTS

Project Paper, (Main Project) 4/23/82

*LOP figure represents amount allocated for this subproject only. Total project funding for project 698-0424 is $13,500,000. Subproject allocations and LOP figures are not included in summary totals.

PROJECT	SECTOR/SUBSECTOR/ACTIVITY			%	APP. CAT.	OBLIGATIONS BY FISCAL YEAR ($000) THROUGH ACTUAL FY82	FY83	FY84	FY85	ESTIMATED FY86	FY87	PROJECT STATUS	LENGTH OF PROJECT/PACD
698-0427	AGR	NRE	HRD	75	SD	3,872	810	1,895	127	625	--	Completed	8/80 - 9/86
Africa Regional Environmental Training and Resource Management (ETMA)	AGR	NRE	RED	25	SH	310*							

AID INPUTS	($000)
Personnel	5,338
Training	457
Commodities	0
Construction	0
Other	1,830
Inflation/Contingencies	0
Total LOP	7,625

CONTRACTOR

South-East Consortium for International Development (SECID)
400 Eastowne Drive #207
Chapel Hill, North Carolina 27514
Dr. Earle Buckley

AID CONTACT

Tom Luche, AFR/TR/PRO Room 4533, NS
Agency for International Development
Washington, D.C. 20523
(202) 647-6951

PURPOSE

To establish training programs in Africa in environmental planning and resource management; to strengthen African institutional capabilities to improve the environmental information base; to identify priority environmental problems; and to monitor environmental trends.

AID-FINANCED INPUTS

1. Funds for training and resource management programs;
2. Project development and support;
3. Technical assistance; and
4. Evaluation.

MAJOR OUTPUTS

1. A cadre of trained individuals in the public and private sectors, Africa-wide, as a result of workshops, study tours, extended training programs, and resource management activities;
2. Documentation of environmental issues and technical information available in workshop proceedings, reports, workbooks, technical presentations and Africa-wide dissemination;
3. Resource management programs in at least four countries:

   (a) Sudan—environmental baseline/trend analysis reports in eight areas; institutional development of the Institute for Environmental Studies, University of Khartoum; monitoring and intervention activities associated with desertification; related information seminars at the local level;

OTHER DONOR ACTIVITIES

UNESCO financed a study team to examine government structure dealing with the environment in Kenya.

SUMMARY

The project provided twenty-six ETMA-sponsored training workshops in East and West Africa, involving participants from 25 African nations. These workshops involved government officials, research scientists and line agency technicians in addressing resource and environmental management, planning, monitoring and protection issues. In addition, the ETMA project provided assistance for longer-term training in the U.S. and East Africa for skill enhancement in academic settings. Four resource management programs were active in Kenya, Sudan, and Rwanda. Kenya's National Environment Secretariat was assisted in developing resource and population projections on the district level; a land degradation monitoring program aimed at soil conservation was carried out; and district environmental assessments for long-range planning were developed. Sudan's program centerd on combatting desertification with district level baseline data collection and analysis, monitoring environmental trends, and organizing multisector plans for intervention implementation. In the Ruhengeri Prefecture of Rwanda, a multidisciplinary assessment of existing resources and their pressures is being used to develop resource management strategies. A regional program of water resource management aimed at soil conservation; and development of district environmental assessments for long-range planning. Sudan's program centered on combatting desertification with district level baseline data collection and analysis, monitoring environmental

land degradation/soil erosion monitoring program; computerized resource/population trends projections on district and regional levels; enhanced skills and capabilities within the National Environmental Secretariat;

(c) Lake Victoria Regional Program--documentation of current baseline data in Western Kenya streams and Lake Victoria; enhanced skills and capabilities within the Lake Basin Development Authority (Kenya); enhanced cooperation between Kenya, Tanzania and Uganda to share knowledge and expertise on issues of water resource management;

(d) Rwanda--land degradation studies; assessment of resources and pressures within Ruhengeri Prefecture; documentation of baseline data and computerized models of human and environmental resources (see 698-0427.96);

(e) Tanzania--(until 1983) mapping and documentation of regional characteristics determining agricultural potential for resource management decision-making; and

4. A network of U.S. and African specialists knowledgeable in environmental and resource issues in Africa.

HOST COUNTRY AND OTHER DONOR CONTRIBUTIONS

In each ETMA training and resource management activity, host country contributions have included personnel, transportation, training or activity sites and facilities, and other "in kind" contributions. Other donor agency contributions include:

- o Zimbabwe--Tropical Limnology-UNESCO;
- o Rwanda--Renewable Energy--VITA;
- o Somalia--Energy and Environmental Management--IUCN;
- o Cameroon--Environmental Management: Cameroon Realities--IUCN;
- o Sudan--Combatting Desertification--UNSO;
- o Sierra Leone--Land-use Planning for Rural Development--FAO;
- o Sierra Leone--Role of Extension in Environmental Management; and Agriculture--FAO; and
- o Niger--Agroforestry in the Sahel--Club Du Sahel.

*Contribution from the Sahel Regional Program (625-0942)

implementation. In the Ruhengeri Prefecture of Rwanda, a multidisciplinary assessment of existing resources and their pressures is being used to develop resource management strategies. A regional program of water resource management involved Kenya, Tanzania, and Uganda and focuses on their common resource, Lake Victoria.

STATUS

With the exception of th Ruhengeri Resource subproject in Rwanda (698-0427.96), all project activities have concluded. ETMA activities in West Africa closed in December 1983, due to a reduction in the project's available funding. The ETMA project collaborated with West African governments to host ten workshops on priority subjects, including: environmental health, environmetal impact assessment, agroforestry, land-use planning, environmental training and issues awareness. These seminars/workshops produced technical reports, reference documentation and workshop reports with recommendations for future activities.

In East Africa, ETMA-sponsored resource management programs in Sudan, Kenya, and the Lake Victoria region closed on September 30, 1985. These programs focused on issues of land degradation, water resources, collection and assessment of environmental baseline data, and projections of future resource trends. Two other resource management initiatives in Tanzania and Rwanda also terminated. The resource analysis and management program in Rwanda, initiated in 1985 will continue until September 1987. In addition to the resource management programs, ETMA sponsored 16 training seminars/workshops in six different East African countries.

DOCUMENTS AND REPORTS

PID, 7/79
Project Paper, 3/80
Training Manuals and Reports for seminars/workshops listed above "ETMA Annual Report," SECID 1981, 1982, 1983, 1984
"Project Evaluation Summary: Environmental Training and Management in Africa," ISTI, 6/27/82
"Project Evaluation 6/83-3/84," ARD, 1985
Baseline/Trend Analysis Reports, eight volumes, Institute of Environmental Studies, University of Khartoum, Sudan
District Environmental Assessment Reports, nine volumes, National Environment Secretariat, Kenya
Evaluation Report, December 1985

PROJECT PROJECT	SECTOR/SUBSECTOR/ACTIVITY			%	CAT.	THROUGH ACTUAL FY82	FY83	FY84	FY85	ESTIMATED FY86	STATUS	LENGTH OF PROJECT/PACD
698-0427.96	AGR	NRE	TTR	40	FN	—	—	—	—	—	Active	4/85 - 9/88
Africa Regional	AGR	NRE	HRD	20								
Ruhengeri Resource Analysis and Management (RRAM)	AGR	NRE	PPA	40								

(Rwanda)

AID INPUTS	($000)
Total LOP*	550

CONTRACTOR

South-East Consortium for
International Development (SECID)
400 Eastowne Drive, #207
Chapel Hill, NC 27514
Dr. Earl Buckeley

AID CONTACT

Edward Robins
Rwanda (ID)
Department of State
Washington, D.C. 20520

PURPOSE

To assist the government of Rwanda to better understand and manage natural resources on a regional basis.

AID-FINANCED INPUTS

1. A long-term project manager and short-term consultants;
2. Training and support funds for project, GOR and university counterparts; and
3. Vehicles, computer system and additional infrastructural support.

MAJOR OUTPUTS

1. Regional natural resource data base;
2. Socio-ecological surveys of 720 households;
3. Regional base maps; and
4. Trained staff.

HOST COUNTRY AND OTHER DONOR CONTRIBUTIONS

The Government of Rwanda, Ministry of Agriculture, Livestock and Forests, National University of Rwanda are contributing to this project.

OTHER DONOR ACTIVITIES

The Ruhengeri Resource Analysis and Management (RRAM) project is directly linked with a regional Commission on Forests and Environment and the central government Ministry of Agriculture, Livestock and Forests. The project also collaborates with various other GOR ministries dealing with resource issues, and a cooperative baseline study program is being developed with the National University of Rwanda. RRAM personnel are also in close contact with two other USAID-funded projects in the region (Farming Systems Research, Communal Forestry) and cooperative activities are planned. In addition, the U.S. National Park Service and U.S. Man and Biosphere (MAB) program have helped to develop the resources classification and geographic information systems.

*Originally $500,000 was allocated from the main project (698-0427).

OTHER DONOR ACTIVITIES (Continued)

The RRAM project has collaborated with the Swiss and German bilateral programs in Rwanda, as well as the World Bank, UNEP and FAO.

SUMMARY

Project activities include: (1) compilation of information on the regional resource base, with particular attention to vegetation, soils and water as well as socio-economic and institutional factors; (2) a socio-ecologic survey of 720 households in 13 of 16 communes to determine local populations' awareness of and attitudes toward various environmental problems; (3) development of regional base maps showing resource use and classification, including tree cover, natural areas, wetland, watersheds, and so forth; (4) spatial integration of data using computerized Geographic Information System software; (5) analysis of the data base compiled in one to four above, with particular attention to resource degradation/restoration trends; (6) identification of priority problems and strategies for their resolution in proposed RRAM Phase II, by other donors, and/or by GOR; and (7) on-the-job training of RRAM staff and other GOR and Rwandan University personnel throughout project activities.

STATUS

The project began in-country operations on May 28, 1985. The Principal Advisor took up post in May 1985. As of end September 1985, short-term consultancies in collaboration with counterparts had been completed in the forestry, water and agro-ecology sectors. The resource classification and geographic information systems were developed and data entry and mapping operations begun. The socio-ecological survey was completed and analysis of results begun. Plans for a regional seminar on environmental management and collaborative studies with the National University were being elaborated. The original PACD (September 1986) was extended for an additional two years.

DOCUMENTS AND REPORTS

Mission Paper Summary, 9/85

PROJECT	SECTOR/SUBSECTOR/ACTIVITY			%	APP. CAT.	OBLIGATIONS BY FISCAL YEAR ($000) THROUGH ACTUAL FY82	FY83	FY84	FY85	ESTIMATED FY86	PROJECT STATUS	LENGTH OF PROJECT/PACD
698-0456* Africa Regional Regional Remote Sensing II (East Africa)	AGR	NRE	RED	100	FN	--	--	--	--	750	Planned	FY 1986 - 1990

AID INPUTS	($000)
Total LOP	2,500

CONTRACTOR

To be determined

AID CONTACT

Tom Luche, AFR/TR/PRO Room 4533 NS
Agency for International Development
Washington, D.C. 20523
(202) 647-6951

PURPOSE

To strengthen the viability and technical capability of the Regional Remote Sensing Facility (RRSF).

AID-FINANCED INPUTS

1. Technical assistance for operation of the photo lab;
2. Technical assistance for running training courses for clients;
3. Technical assistance for managing and marketing improvements;
4. Training for counterpart personnel; and
5. Providing material and equipment for production services.

MAJOR OUTPUTS

1. Training programs in remote sensing and survey techniques;
2. Assistance with natural resource surveys; and
3. Products, photographs, and images for users.

HOST COUNTRY AND OTHER DONOR CONTRIBUTIONS

The project will be financed in conjunction with other-donor contributions to the facility. RSSF has solicited support from France, the Netherlands, the United Kingdom, the Federal Republic of Germany, Canada and Switzerland.

SUMMARY

AID has been assisting the RSSF since 1977 under project 698-0414. A department of the Regional Center for Services in Surveying, Mapping and Remote Sensing located in Nairobi, Kenya. The facility serves member countries in East and Southern Africa, non-member countries in the region, donors, organizations and investors. The facility now includes a photo lab, a growing library of books and periodicals, a comprehensive image library, interpretation equipment and printing equipment. It serves an average of 47 clients per month, and over 500 scientists and

SUMMARY (Continued)

technicians from the region have attended 25 short courses. The quality of the facility's product is comparable to that of any commercial source in the United States.

A March 1984 evaluation of the previous project concluded that significant progress has been made. There is increasing sensitivity in the region to the utility of remote sensing technology as a planning tool and the spectrum of government and institutional users has been growing. In particular, the RRSF has demonstrated its utility and cost-effectiveness in providing data helpful to agricultural production and natural resource trend analysis.

STATUS

The long-term viability of the facility remains to be assured. Major issues to be addressed are as follows: (a) there are staff shortages, and counterparts for expatriate technicians require further training; (b) funding by member states to cover rent, utilities and local staff salaries has been declining; (c) marketing of the products, which might cover the costs of production, needs to be more consistent and aggressive; and (d) a master plan is needed to solve these problems.

The East Africa Regional Remote Sensing II Project will pursue efforts now underway to address these problems while maintaining the technical capacity and quality of the facility. Direct beneficiaries will include the staff of RRSF, roughly 100 participants annually from participating government ministries of planning, water development, mining, agriculture, and forestry, and from universities in East and Southern Africa. Indirect beneficiaries include the inhabitants of the region who will benefit from improved planning by their governments in natural resource utilization.

DOCUMENTS AND REPORTS

FY 1987 Annual Budget Submission

*This project is a continuation of the Africa Regional Remote Sensing Project (698-0414).

PROJECT	SECTOR/SUBSECTOR/ACTIVITY			%
698-0457* Africa Regional Remote Sensing II (West Africa)	AGR	NRE	TTR	50
	AGR	NRE	HRD	30
	AGR	NRE	MKT	20

APP. CAT.	OBLIGATIONS BY FISCAL YEAR ($000)					
	THROUGH ACTUAL					ESTIMATED
	FY82	FY83	FY84	FY85	FY86	FY87
	--	--	--	--	--	1,000

PROJECT STATUS: Planned

LENGTH OF PROJECT/PACD: FY 1987 - 1992

AID INPUTS	($000)
Total LOP	3,500

CONTRACTOR

To be selected

AID CONTACT

Tom Luche, AFR/TR/PRO Room 4533 NS
Agency for International Development
Washington, D.C. 20523

(202) 647-6951

PURPOSE

To maintain the technical capability and to enhance the institutional viability of the West Africa Regional Remote Sensing Center (CRTO).

AID-FINANCED INPUTS

1. Technical assistance for the operation of the photo lab;
2. TA for running training courses for clients;
3. TA for management and marketing improvements;
4. Training for counterpart personnel; and
5. Providing material and equipment for production services.

MAJOR OUTPUTS

1. Remote sensing data obtained will permit analysis of natural resource trends such as desertification, soil loss, vegetation changes and pollution, and of fuel resources, primarily wood fuel.

SUMMARY

Since 1979, under AID Project 698-0420, the West African Regional Remote Sensing Center (CRTO) has been providing West African governments, donors, and others with the capability to utilize remote sensing

SUMMARY (Continued)

technologies to provide data for development projects. CRTO provides training programs in remote sensing and survey techniques, assistance with natural resource surveys and products, photographs and images for users. The facility serves the 14 member countries of West Africa, non-member countries in the region, organizations, donors and investors. An evaluation of the AID project completed in April 1983, concluded that the previous project (698-0420) had met many of its objectives. By the end of 1984, the Center had trained 212 technicians and scientists from over 20 countries in introductory courses in remote sensing. CRTO has provided user assistance in over 50 projects. The permanent photo laboratory became functional in 1981 and now has the capability of producing a variety of standard LANDSAT products in black and white, and color and various other types of photographic materials. By mid-1983, demand for the production of photographic materials had begun to strain the resources of the Center. The technology is especially effective in rural development activities, particularly agricultural production and in natural resource trend analysis. A 33-month extension of the previous Regional Remote Sensing (West Africa) project provided resources for this effort. which will be continued under the proposed project.

STATUS

Planning stages.

DOCUMENTS AND REPORTS

FY 1987 Annual Budget Submission

*This is a continuation of the Africa Regional Remote Sensing Project (698-0420)

PROJECT	SECTOR/SUBSECTOR/ACTIVITY			%	APP. CAT.	OBLIGATIONS BY FISCAL YEAR ($000) THROUGH ACTUAL FY82	FY83	FY84	FY85	ESTIMATED FY86	PROJECT STATUS	LENGTH OF PROJECT/PACD
698-0502.96	AGR	FOR	TTR	30	FN		(Through FY85)		2,500		Active	9/84 - 12/88
(FN-OPG)	AGR	FOR	RED	40								
Africa Regional	AGR	FOR	HRD	10								
Gituza Forestry (Rwanda)	ENY	REN	TTR	20								

AID INPUTS	($000)	CONTRACTOR	AID CONTACT
Total LOP	2,500*	Cooperative for American Relief Everywhere (CARE) 660 First Avenue New York, New York 10016 Timothy Aston/Ruddy Ramp (212) 686-3110	Michael Fuchs-Carsch, ADO Kigali (ID) Department of State Washington D. C. 20520

PURPOSE

To assist the Government of Rwanda and Gituza Commune to develop local, long-term institutional capability to produce wood products, ensure watershed integrity, promote agroforestry technologies and reduce fuelwood/energy consumption in Kibondo Refugee Camp.

AID-FINANCED INPUTS

1. Full-time project manager;
2. Energy conservation specialist (two years);
3. Consultants in cookstove technology, social sciences and an external evaluation;
4. Day labor for the reforestation component;
5. Construction of six dwelling units, one office and one training, storage facility in Gituza;
6. Vehicles;
7. Project office operations; and
8. National office overhead.

MAJOR OUTPUTS

1. A total of 3,600 hectares reforested;
2. Agroforestry extension service and eight communal nurseries operative in Gituza Commune; and
3. Energy consumption in Kibondo Refugee Camp reduced.

HOST COUNTRY AND OTHER DONOR CONTRIBUTIONS

The Government of Rwanda is contributing US $132,000 in the form of counterpart and staff salaries, technical services and land for construction and nursery facilities. CARE International is providing US $410,000 for project technicians, administrative and clerical support, and procurement. World Food Programme is adding an additional US $494,867 worth of food commodities for remuneration of refugees in the energy conservation component.

SUMMARY (Continued)

of an extension service and eight communal nurseries; and (3) Reduction of fuelwood/energy consumption in Kibondo Refugee Camp (23,000 Ugandan refugees adjacent to Gituza Commune) through the promotion of energy saving cooking techniques via an extension service, development and dissemination of improved stoves and more appropriate methods of fuelwood procurement, preparation and distribution within the camp.

STATUS

A Project Agreement with AID was signed September 28, 1984 in Nairobi. Political issues involving the role of refugees held up CARE's Basic and Project Agreements with the GOR until April 1985. Irrespective of the delays, project implementation in all three components is well underway. The reforestation component anticipates completing 500 hectares in FY 86, down 100 hectares from original estimates due to aforementioned political problems. Approximately 500,000 seedlings will be produced in a central nursery for outplanting while large-scale trials on direct seeding will be conducted on over 100 hectares.

All eight agroforestry nurseries are presently staffed and operating and will produce between 20 and 40 thousand seedlings each, dependent on the individual extension workers' time, and organizational skills. Twelve Extension Agents continue to receive in-service training on a weekly basis to bolster their communication and personnel management skills. Training modules in: (1) sensibilization; (2) choice of species and on-farm sites; and (3) maintenance and protection of trees are presently being given in all eight sectors of Gituza Commune. An on-farm forestry/land-use questionnaire is also being conducted by extension agents to assure the needs and interests of local people are being fully incorporated into the component. The energy component is fully operational with an energy extension service of ten women promoting energy-efficient cooking techniques. CARE is also systematically refurbishing some 5,000 stoves with improved kiln-fired liners which are

SUMMARY

Project activities include: (1) reforestation of approximately 3,600 hectares of degraded hillsides in the Gituza Commune with three species aimed at providing a sustainable variety of forest products while reducing soil erosion and increasing watershed stability; (2) Promotion of agroforestry technologies in the Gituza Commune through the development

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*LOP figure represents amount allocated for this subproject only.

already showing 20% savings over the former mud model and are widely appreciated by the refugees. CARE has also taken over control of the fuelwood/energy distribution system to try and assure that fuelwood delivered to the stoves is dry and cut in sizes which economically accommodate the new stoves. The energy component presently employs over 230 refugees remunerated in commodities.

DOCUMENT AND REPORTS

Project Paper
Quarterly Implementation Reports
Rwandan Sociological Study, Tom Robins

PROJECT	SECTOR/SUBSECTOR/ACTIVITY		%	APP. CAT.	OBLIGATIONS BY FISCAL YEAR ($000) THROUGH ACTUAL FY82	FY83	FY84	FY85	ESTIMATED FY86	PROJECT STATUS	LENGTH OF PROJECT/PACD
931-1135 Centrally Funded Human Settlements Natural Resource System Analysis (SARSA)	AGR	NRE	75	FN	1,445	400	1,695	270	450	Active	4/78 - 9/88

AID INPUTS	($000)
Total LOP	5,364

CONTRACTOR

Clark University, Department of Geography
950 Main Street
Worcester, Massachusetts 01610
Gerald Karaska (617) 793-7711

Institute for Development Anthropology (IDA)
99 Collier Street, Suite 302
P.O. Box 818
Einghamton, New York 13901
Thayer Scudder (607) 772-6244

AID CONTACT

Bob J. Walter, ST/MD; Rm. 620F, SA-18
Agency for International Development
Washington, D.C. 20523
(703) 235-8860

PURPOSE

To strengthen LDC capacity in region-based natural resource analysis and management; in new land settlement; and in understanding and managing rural-urban linkages and dynamics.

AID-FINANCED INPUTS

1. Personnel; and
2. Support costs.

MAJOR OUTPUTS

1. Long-term field applications in sub-national planning and resource management;
2. Special studies manuals from research initiatives;
3. Information dissemination and workshops;
4. Short-term research and consulting services; and
5. Training programs.

AFRICA-SPECIFIC ACTIVITIES

Technical assistance and other services have been provided to Mali, Somalia, Cameroon, Zaire, Niger, Lesotho, Zimbabwe, and Sudan.

SUMMARY

This project focuses on a problem-oriented approach to region-based development and implementation of region based sectoral projects.

STATUS (Continued)

for Africa; (4) Mali--Manatali Resettlement Project. SARSA assisted in the design of the monitoring and evaluation component of the project; and (5) Somalia--Rural/Urban Migration. In April 1983, SARSA conducted an assessment of rural/urban migration in this area; (6) Cameroon--Urban Functions in Rural Development (UFRD). SARSA developed methodology for assessment of the role of the urban sector in rural development; (7) Lesotho--Southern Perimeter Road. SARSA provided social scientists for evaluation of the Southern Perimeter Road Project; (8) Zimbabwe--SARSA has examined two river valleys (Sabi and Zambezi) studying resource and regional planning issues.

DOCUMENTS AND REPORT

Project Paper--Area Development, 1977
"Opportunities for Rural Marketing and Infrastructure Development in Western Kenya, 12/1/79
"Water Use in Eastern Botswana: Policy Guide and Summary of the Water Points Survey," 2/81
"From Relief to Development: Some Comments on Refugee and Other Settlement in Somalia," 6/81
"Proposal to Determine the Cause of Environmental Degradation and Resource Depletion in the Sabi Basin and to Prepare Effective Resource Management Guidelines for Chipinga District and the Middle Sabi Valley, Zimbabwe,"9/2/82
"Regional Planning for People, Parks, and Wildlife in the Northern Portion of the Sebungwe Region, Zimbabwe," T. Scudder, 1982
"Market Center Analysis in the Urban Functions in Rural Development Approach," 12/82
"The Cameroon Urban Functions in Rural Development Project: Final Report," E. Perry, 1983

The Clark/IDA team provides research consulting services for: (1) regionally-based resource planning (assessing physical resource problems, analyzing resource management issues and assisting with local resource management and development); (2) resettlement programs (assisting in the development of projects to relocate populations in new areas in a way that integrates the settlers into the economy of their new region); and (3) rural-urban linkage analysis (including issues related to the location of marketing facilities for agricultural inputs and produce, the improvement of farmer access to urban-based rural services and the stimulation of employment in small urban centers using private and public sector approaches). The project supports applied research in these three areas, generating resource assessments, strategies and guidelines for project development.

STATUS

Until 1981, the project was implemented by the University of Wisconsin. Since then Clark University/IDA have been the implementers of SARSA. In 1983 the PP was amended to reflect the following activities: (1) Africa Bureau--Rural/Urban Dynamics Africa: Common Theme (RUDA:CT). This was a joint effort between ST/RD, SARSA, and AFR to initiate a research and support program on rural-urban dynamics, linkages and relationships. Currently two mission/country level efforts are underway in Somalia and Zaire; (2) Africa Bureau--River Basin Development (RBD). In January 1985, SARSA produced a set of issue papers on RBD which were subsequently presented in a workshop in April 1985. As a result SARSA is conducting additional studies for AFR on RBD; (3) Africa Bureau--Contract Farming. SARSA is currently conducting a study of contract farming for the Bureau

"The Cameroon Urban Functions in Rural Development Project: Country and Regional Profile," E. Perry, 1983
"The Cameroon Urban Functions in Rural Development Project: Sectoral Studies," E. Perry, 1983
"Lesotho Southern Perimeter Roads Project Evaluation," G. Wilken, 1983
"Applied Methods of Regional Planning: The Urban Functions in Rural Development Approach," 1983
"Preliminary Concepts Paper on the Role of Secondary Cities in Regional Development," 1/83
"Selected Papers on Soil Degradation Problems and Soil Conservation Techniques and Management: Use and Implementation in Africa," 1983
"Methodology and Institutional Framework for Community Development Study at the Micro-regional Level," 7/15/83
"Urbanization and Outmigration in Somalia," H. Lewis, C. Kerven, and N. Southerland, 1983
"Area-based Resource Analysis Framework for Project Design and Applied Research," 3/83
"The Development Potential of New Lands Settlement in the Tropics and Subtropics (Executive Summary)," AID Program Evaluation Discussion Paper No. 21, T. Scudder, 1984
"Location-Allocation Alogrithms as a Method of Locating Facilities in Developing Countries: Extensions to Cope With Identified Policy Constraints," 1/84
"Proposal to Prepare Regional Resource Overview on Settlement and Resource Systems Analysis and Management Including Land Use and Land Potential Maps for Kordofan Region," 1/9/84
Project Paper--Human Settlements and Natural Research Systems Analysis (SARSA), 3/24/84
"Local Resource Management in Kenya: An Issues Paper," 10/84
"Rural--Urban Dynamics in Developing Rural Regions," SARSA/SSC, 1985
"Problems and Issues in African River Basin Planning," SARSA, 1985

PROJECT	SECTOR/SUBSECTOR/ACTIVITY		%	APP. CAT.	OBLIGATIONS BY FISCAL YEAR ($000) THROUGH ACTUAL FY82	FY83	FY84	FY85	ESTIMATED FY86	PROJECT STATUS	LENGTH OF PROJECT/PACD
931-1209 Centrally Funded Environment and Natural Resources Expanded Information Base	AGR	NRE	100	SD	2,490	200	—	300	—	Completed	8/79 - 9/86

AID INPUTS	($000)
Total LOP	3,100*

CONTRACTOR

PASA with National Park Service
U.S. Department of the Interior
Washington, D.C. 20240

AID CONTACT

Molly Kux, ST/FNR, Rm. SA-18
Agency for International Development
Washington, D.C. 20523

PURPOSE

To develop improved information on environmental and natural resource issues related to lesser developed countries (LDCs), for the design of environmentally sound programs.

AID-FINANCED INPUTS

1. Personnel (70 person-months); and
2. Travel and other expenses.

MAJOR OUTPUTS

1. Review papers;
2. Case studies;
3. Project design aids;
4. Regional workshops;
5. Special publications and translations; and
6. Training sessions.

AFRICA-SPECIFIC ACTIVITIES

Project activities included case studies of range and coastal resources in Africa, projections of renewable natural resource scarcities in East Africa and institutional studies in selected countries.

SUMMARY

The project consisted of four major components: (1) preparation of state-of the art review papers (including a review of selected ecological problems in the humid tropics; methods for conducting natural resource

STATUS

The project was authorized in June 1979. The "Natural Resource Technical Bulletin" was first published in 1981. Studies on environmental and natural resource management covering Ghana and Sudan were completed in 1981. A case study on coastal management in Kenya was completed in the fall of 1983. Assessments of resource trends in East Africa (covering Kenya, Tanzania, Burundi, and Uganda) were published in 1985. The rangelands review papers and design aids were completed in August 1985. A regional training program in rangeland management was conducted in May 1985 in cooperation with the University of Zimbabwe.

DOCUMENTS AND REPORTS

Project Paper, 6/19/79
"Natural Resource Technical Bulletin: AID/National Park Service," Washington, D.C.; Nos. 1/1981, 2,3/1982, 4/1983, 1984 and 1985
"Ecological Aspects of Development in the Humid Tropics," National Academy of Sciences, Washington, D.C., 1982
"Legal, Regulatory and Institutional Aspects of Environmental and Natural Resource Management in the Developing World"; International Institute for Environment and Development; Washington, D.C., 1982 (included Ghana and Sudan; country reports are available for each)
"Resource Inventory and Baseline Study Methods for Developing Countries" AAAS, Washington, D.C., 1984
"Legal, Regulatory and Institutional Aspects of Environmental and Natural Resource Management in Developing Countries," International Institute for Environment and Development, Washington, D.C., 1981
"Coastal Resources Management; Development Case Studies," Research Planning Institute (RPI), 1984
"Institutional Arrangements for Management of Coastal Resources," RPI 1984
"Coastal Resources Management Guidelines" RPI, 1984

surveys and environmental baseline studies, a study of legal, regulatory and institutional approaches to conservation/management of natural resources, and an assessment of renewable resource trends in East Africa); (2) development of case studies (focusing on integrated regional planning in Latin America, development of the humid tropics, coastal development in Asia and Africa; and rangeland management in Africa); (3) development of project design aids (for rangelands, coastal zones, and the humid tropics); (4) dissemination of the review papers, case studies and design aids through workshops and special publications; (5) training developing country trainers in natural resource management; (6) institutionalization of natural resource curricula.

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*Worldwide

"Project Design Aids for Development in the Coastal Zone," AID/NPS Washington, D.C., 1985

"Arid and Semi-Arid Rangelands; Sustainable Use and Management in Developing Countries," Winrock, 1984

"Guidelines for Development in Arid and Semi-Arid Lands," Winrock, 1985

"Guidelines for Development in the Humid Tropics," Winrock, 1985

CENTRALLY FUNDED

PROJECT	SECTOR/SUBSECTOR/ACTIVITY			%	APP. CAT.	OBLIGATIONS BY FISCAL YEAR ($000) THROUGH ACTUAL FY82	FY83	FY84	FY85	ESTIMATED FY86	PROJECT STATUS	LENGTH OF PROJECT/PACD
931-1229 Centrally Funded Soil Management Support Services	AGR	NRE	TTR	60	FN	(Through FY84)		4,967	1,000	750	Active	9/79 - 9/87
	AGR	NRE	HRD	40								

AID INPUTS	($000)
Total LOP	*Continuing

CONTRACTOR

U.S. Department of Agriculture
Soil Conservation Services
Washington, D.C.

AID CONTACT

Raymond Meyer, ST/AGR
Agency for International Development
ST/AGR
Washington, D.C. 20523

PURPOSE

To help developing countries improve their capability for managing and conserving vital soil resources for agricultural production and improve their capacity to use soil surveys and interpretations as a means of improving the applicability and transfer of agricultural information.

AID-FINANCED INPUTS

1. Soil-based agro-technology transfer;
2. Better soil-based technology; and
3. Soil classification workshops.

MAJOR OUTPUTS

1. Consultancies (in person months);
2. Soil sample analyses;
3. Workshops;
4. Persons trained;
5. Publications; and
6. Improved soil classification (soil families).

HOST COUNTRY AND OTHER DONOR CONTRIBUTIONS

Almost every project-funded activity receives significant contributions from the developing countries and other collaborators. Workshops and training courses are coordinated with other donors and international and regional organizations. Many LDCs support participants in the training courses and workshops.

AFRICA-SPECIFIC ACTIVITIES

Regional soil classification workshops have been held in various Africa countries.

STATUS

The project has assisted LDCs in soil survey, land use planning, and soil conservation. It has provided basic support for the improvement of an international soil classification system. This has helped develop national programs needed for agricultural development and more long-term productive utilization of LDC land resources. Regional soil classification workshops and training courses in soil and crop management technology transfer have been held in Africa, Asia, Latin America, and the South Pacific. The project has been evaluated and commended for its progress by an outside panel. Proceedings of the workshops and other soil taxonomic information were distributed to key soil scientists in most countries. International soil classification committees have been functioning; several are ready to present their final options for improving soil classification criteria for particular tropical soils. This improved soil classification will provide a better basis for understanding and predicting problems and potential of soils for food production. It will provide an international language for technology transfer.

This project will continue to provide technological inputs and coordination among country institutions and AID missions in problem identification, evaluation of opportunities, development of new information for soil surveys, land use planning and soil conservation. Greater emphasis will be based on the interpretation of soil survey information and land use planning for improved transfer of crop production technology. USAIDs are expected to share costs for the technical assistance they receive.

During FY86, 25 person months of short-term technical assistance were to be spent in LDCs, developing a coordinated program in several regions. Two training courses were to be conducted for thirty LDC participants each on soil-based agrotechnology transfer. Two international workshops were to be held: one on soil survey/fertility interrelations; the other on soil survey/erosion interrelations.

SUMMARY

This project attempts to help reverse and reduce the process of degradation of LDC soil resources, improve the technical basis for transfer of improved crop and soil management practices among similar agroecological zones, and provide for increased food production.

* LOP not given

DOCUMENTS AND REPORTS

Project Paper
"Annual Report, 1980 - 1981, Soil Management Support Services," 1981
"Calculated Soil Moisture and Temperature Regimes of Africa: A Compilation of Soil Climatic Regimes Calculated by Using a Mathematical Model Developed by F. Newhall," 5/82
FY86 Annex V, Centrally Funded Programs
"Keys to Soil Taxonomy: Alfisols, Aridisols, Entisols, Histosols, Inceptisols, Mollisols, Oxisols, Spandosols Utisols, Vertisols, Soil Family," 1985
"Progress Report: Soil Management Services," 1985
"Progress Report, October 1, 1982 - September 30, 1984: Soil Management Support Services," 9/84
"Project Evaluation Summary, Soil Management Support Service," 9/20/83

PROJECT	SECTOR/SUBSECTOR/ACTIVITY		%	APP. CAT.	OBLIGATIONS BY FISCAL YEAR ($000) THROUGH ACTUAL FY82	FY83	FY84	FY85	ESTIMATED FY86	PROJECT STATUS	LENGTH OF PROJECT/PACD
931-1311 Centrally Funded Soil Management CRSP	AGR	NRE	100	FN	(Through FY84)		7,700	2,750	2,600	Active	9/81 - 9/87

AID INPUTS	($000)
Total LOP	*Continuing

CONTRACTOR

North Carolina State University

Texas A & M University

Cornell University

University of Hawaii

AID CONTACT

John Malcolm, S&T/AGR 406-B SA-18
Agency for International Development
Washington, D.C. 20523
(703) 235-1275

PURPOSE

To develop economical and acceptable practices for small farmers to increase the productivity of tropical soils while protecting them from both short-term and cumulative damage and to enlarge the pool of scientists to work on soil management problems in the developing countries.

AID-FINANCED INPUTS

1. Liming studies;
2. Fertility trials;
3. Study of secondary and micro-nutrients; and
4. Technical assistance.

MAJOR OUTPUTS

1. Experiment sites characterized;
2. Management systems devised;
3. Scientists trained (500 person months); and
4. Reports and publications.

HOST COUNTRY AND OTHER DONOR CONTRIBUTIONS

All host countries provide basic facilities and resources. Peru is developing additional sites, Indonesia provides matching funds for subproject costs, Niger and Brazil are expanding their activities. U.S. institutions contribute at least 25% of all research budgets. CIP, CIAT and ICRISAT are actively collaborating by providing germ plasm for research sites.

AFRICA-SPECIFIC ACTIVITIES

Soil management research is being carried out in Mali and Niger.

*LOP not given

SUMMARY

Soil management research in three major agroecological zones is included within this program: (1) humid tropics; (2) semi-arid tropics; (3) acid savannas. Critical technical problems for study are: sustaining productivity with minimum inputs, water management, lime and phosphorus requirements, nitrogen economy, erosion control and maintenance of desired soil physical properties.

Cornell, Hawaii, Texas A & M and North Carolina State University are carrying out this research program, which includes 37 subprojects, in collaboration with LDC scientists in Brazil, Indonesia, Mali, Niger and Peru.

STATUS

Aluminum toxicity has been diagnosed as a potential problem in Niger, under climatic conditions where it would not be anticipated. Soil moisture related activities in Africa will be expanded. In addition, liming studies will examine types of lime, methods of incorporation, frequencies and rates of application with particular attention to control of aluminum toxicity. Fertility trials will be continued, searching for the most economical combinations of fertilizer and alternate sources of plant nutrients at all sites. Secondary and micro-nutrients will be studied more intensively.

DOCUMENTS AND REPORTS

"Trip Report: John L. Malcolm, Soil and Fertilizer Specialist, September 2 through 6, 1979, Washington D. C. to Raleigh, N.C. and Return," 9/79
"Trip Report: Dominican Republic and Peru, May 5 - 17, 1980," 5/17/80
"Trip Report to Indonesia and Sri Lanka by Soil Management CRSP Planning Team," 3/5/80
Project Paper, 9/15/81; 6/15/82
"Soil Management Collaborative Research Support Program: Administrative Support," 2/28/82
"Technical Notification #273," 3/1/85

CENTRALLY FUNDED

PROJECT	SECTOR/SUBSECTOR/ACTIVITY		%	APP. CAT.	OBLIGATIONS BY FISCAL YEAR ($000) THROUGH ACTUAL FY82	FY83	FY84	FY85	ESTIMATED FY86	PROJECT STATUS	LENGTH OF PROJECT/PACD
936-4142 Centrally Funded Integrated Pest Management and Environmental Protection	AGR	NRE	100	FN	—	—	—	950	—	Active	9/85 - 9/88

AID INPUTS	($000)
Total LOP	5,800

CONTRACTOR

Consortium for International Crop Projection (CICP)
University of Maryland
College Park, MD

AID CONTACT

Carroll Collier, S&T/AGR
Agency for International Development
Room 413, SA-18
Washington, D.C. 20523
(703) 235-8886

PURPOSE

To provide missions and regional bureaus with a comprehensive multi-disciplinary capability in pest and pesticide management.

AID-FINANCED INPUTS

1. Multi-disciplinary pest management surveys for LDCs and missions;
2. Short-term technical assistance in pests and pesticide management;
3. Short courses and seminars/workshops;
4. Preparation and publication of specialized information on pest management; and
5. Design and implementation of crop protection research activities.

MAJOR OUTPUTS

1. Collaborative research activities conducted;
2. Project designed and evaluated;
3. Short courses and seminars/workshops conducted;
4. Specialized information on pest management prepared and published;
5. Crop protection research activities designed and implemented;
6. Agricultural production projects designed; and
7. Environmental monitoring studies and assessments conducted.

HOST COUNTRY AND OTHER DONOR CONTRIBUTIONS

The Food and Agriculture Organization, Canadian International Development Agency, and German Agency for Technical Cooperation and Overseas Development Administration is collaborating with the research activities under this project. The project closely coordinate sits activities with the International Agricultural Research Centers, national universities and government agencies having a responsibility for crop protection. Most donations are in the form of manpower and physical facilities.

SUMMARY

This project combines the major features of two previous projects, Pest Management and Related Environmental Protection (931-0930) and Weed Control Utilization (931-0206). Since weeds are classified as plant pests, as are insects and fungi, joining the two efforts into a single project eliminates redundancy of effort and assures that weed pests are always considered within the overall context of integrated pest management, which takes into account all pests, regardless of their nature. The integrated approach allows coverage of all pesticides, including not only weed killers but also insecticides and fungicides. Compared with its predecessors, this project places more emphasis on research.

The project provides a balanced combination of sound research and technical development; fosters and accelerates appropriate training for LDC agricultural educators, extension and research technicians, private sector employees and Peace Corps volunteers; and publishes and distributes publications on pest and pesticide management.

This project has several beneficiaries. Small farmers benefit from a reduction of pre-harvest food and cash crop losses. The general consumer has increased quantities, less expensive and higher quality food. Increased production of cash crops benefits the countries' balance of payments. There is also a positive environmental impact due to improved management of pesticides and a decreased dependency on expensive chemical inputs. LDC research institutions and crop protection agencies, including extension personnel materially benefit from training and "hands-on" research experience.

STATUS

The project was authorized October 1, 1985. The CICP, consisting of 13 U.S. universities and the U.S. Department of Agriculture, is implementing the project. Project staff have been active throughout Africa, particularly in drought relief efforts.

DOCUMENTS AND REPORTS

Project Paper, 4/4/85

PROJECT	SECTOR/SUBSECTOR/ACTIVITY		%	APP. CAT.	OBLIGATIONS BY FISCAL YEAR ($000) THROUGH ACTUAL FY82	FY83	FY84	FY85	ESTIMATED FY86	PROJECT STATUS	LENGTH OF PROJECT/PACD
936-5301 Centrally Funded Access to Land, Water, and Natural Resources	AGR	NRE	100	FN	2,225	535	636	464	444	Active	3/79 - 3/88

AID INPUTS	($000)
Total LOP	5,290

CONTRACTOR

University of Wisconsin Land Tenure Center (LTC)
Madison, WI 53706

Wes Face
University of Wisconsin
301 Administration Bldg.
Minononie, WI 54751
(715) 232-1132

U.S. Department of Agriculture
Washington, D.C.
(202) 475-5393

AID CONTACT

David Atwood, ST/RD, Rm. 608 SA-18
Agency for International Development
Washington, D.C. 20523
(703) 235-8860

PURPOSE

To assist LDC governments in addressing land tenure constraints to equitable and efficient use of land; in developing approaches for improving the rural poor's access to land and in enhancing the landholding security of small operators.

AID-FINANCED INPUTS

1. Personnel (70 person months); and
2. Other direct costs.

MAJOR OUTPUTS

1. Short-term consulting and project design;
2. In-depth applied research;
3. State-of-the-art papers and special studies; and
4. Workshop and information dissemination.

AFRICA-SPECIFIC ACTIVITIES

In Africa, efforts are focused less on the problem of equitable distribution of assets than on conversion of communal and other traditional tenures to more modern tenure systems, in a way that provides incentives to production without creating inequitable land-holding patterns. The Land Tenure Center's (LTC) research in Africa focuses on five interconnected themes: land tenure issues in river basin development; cadastre registration and tenure reform; changing traditional tenure; marginal lands; and urban land tenure. Within these themes, LTC is participating in projects in Mauritania, Swaziland, Lesotho and Zaire.

STATUS

A paper synthesizing issues in river basin development and analyzing the relevant literature was prepared, and another project in Mauritania is centered on this same theme. Four Mauritanian trainees were expected to complete their studies at the University of Wisconsin in June 1986. A project paper that analyzes research conducted by the LTC in Mauritania was completed in the summer of 1985. Under the themes of cadastre registration and tenure reform, LTC staff members are looking at the issues and research findings in registration programs in various African countries and plan to conduct research in one Anglophone and one Francophone country. The theme of changing traditional land tenure is the focus of research in Lesotho, Swaziland and Zaire. Two Swaziland trainees received a month's instruction in statistical methods and data analysis at the LTC in August 1985. The LTC began a project examining land transaction there and in Zaire. Under the theme of marginal lands, the LTC, together with the International Council for Research in Agroforestry in Nairobi, complied and published an annotated bibliography, "Trees and Tenure," and participated in an international workshop on the topic in May 1985.

DOCUMENTS AND REPORTS

Project Paper, 7/31/79; 3/15/84
"Access to Land, Water and Natural Resources, Program Evaluation Summary," 5/7/81
"A Colloquium on Issues in African Land Tenure," J. Bruce, J. Riddel, S. Lawry, et. al., 5/85
Project Amendment No. 3, 3/14/85

SUMMARY

The project aims to encourage and help LDC governments by providing short-term consulting on policies and programs to increase resource access; by carrying out applied research; by conducting workshops and seminars involving AID and LDC personnel and by disseminating information on land tenure related issues. The cooperative agreement between AID and the University of Wisconsin is designed to help LDC governments by: (1) providing technical assistance to help LDC governments with policies and programs to increase resource access for the rural poor; (2) carrying out applied research; (3) conducting workshops and seminars for AID and LDC personnel; and (4) disseminating information on issues concerning land tenure.

DOCUMENTS AND REPORTS (Continued)

"Proceedings: Lesotho Land Act Policy Seminar," J. Bruce, J. Riddel, S. Lawry, 6/85

Land Tenure Issues in West African Livestock and Range Development Projects," J. Riddel, 12/82

"Land Tenure, Land Policy and Smallholder Livestock Development in Botswana," S. Lawry, 3/83

"Political Ecology and Development Projects Affecting Pastoralist Peoples in East Africa," J. Bennett, 5/84

"Access to Agricultural Land and Communal Land Management in Eastern Botswana," O. Gulbrandsen, 3/85

PROJECT	SECTOR/SUBSECTOR/ACTIVITY		%	APP. CAT.	OBLIGATIONS BY FISCAL YEAR ($000) THROUGH ACTUAL FY82	FY83	FY84	FY85	ESTIMATED FY86	PROJECT STATUS	LENGTH OF PROJECT/PACD
936-5517 Centrally Funded Environmental Planning and Management	AGR	NRE	100	FN	—	—	250	—	—	Active	9/82 - 9/87
				SD	250	698	700	975	885		

AID INPUTS	($000)
Total LOP	6,115

CONTRACTOR

International Institute for Environment and Development (IIED)
1717 Massachusetts Avenue, N.W, Suite 302
Washington, D.C. 20036
(202) 462-0900

AID CONTACT

Molly Kux, ST/FNR, Room 508 SA-18
Agency for International Development
Washington, D.C. 20523
(703) 235-2827

PURPOSE

To strengthen less developed countries (LDCs) in their institutional ability to better manage and conserve their natural resources, in the interests of sustainable development.

AID-FINANCED INPUTS

1. Personnel for project management;
2. Short- and medium-term advisory services; and
3. Pilot natural conservation strategy preparation.

MAJOR OUTPUTS

1. Short-term technical advisory service to missions;
2. Pilot national conservation strategies in selected LDCs; and
3. Studies and reports related to the four major thematic areas.

AFRICA-SPECIFIC ACTIVITIES

Country Profile Planning Teams consulted with Missions in Cameroon, Senegal, and Niger in 1984.

SUMMARY

The project provides short to medium-term advisory services to AID Missions and host government institutions to improve their capacity for environmental protection and natural resources management, surveying, planning, assessment and project design, using a large informal network of specialists coordinated through a central management group. The project has four thematic areas: (1) planning and preparation of country environmental profiles or similar studies on the status of renewable natural resources; (2) institutional development of LDC environmental nongovernmental organizations; (3) identification and testing of approaches to integrated national resource development; (4) linking natural resource management to agricultural development programs.

STATUS

The Project Paper was approved in May 1982 and extended in 1985. Twenty-two African Missions and both REDSOs responded to the PID, suggesting ways in which proposed technical services could be of use. This response, as well as other sources, have provided the basis for selecting pilot project sites.

DOCUMENTS AND REPORTS

PID, 3/81
Project Paper, 3/82
"Mid-term Evaluation: Environmental Planning and Management, Cooperative Agreement No. DAN-5517-A-00-2066-00," 4/84
"Planning for Phase II Environmental Profiles in Niger, Senegal, Rwanda and Cameroon," IIED, John Majira and William Webber, 7/84
"Country Environmental Profiles: A Booklet for Producing Environmental Profiles Based on an Evaluation of Profiles Conducted Prior to 1983," 6/84
"Directory of U.S. Foundations and Private Organizations Working on Conservation and Development Issues in the Third World," 5/84
"Sustainable Agriculture in Development Assistance," 8/84
"Country Environmental Profile, Process and Product: An Evaluation of Profiles Conducted Prior to 1983 and Recommendations for Improvement," 1985
Revised Project Paper, 3/85
"Environmental Planning and Management: Amendment No. 1," 4/20/85
"Environmental Planning and Management: Amendment No. 2," 4/26/85
"Possibilities for Integration of Ecological Land Use Capability Classification and Agroecosystem Analysis Techniques," 12/85

PROJECT	SECTOR/SUBSECTOR/ACTIVITY		%	APP. CAT.	OBLIGATIONS BY FISCAL YEAR ($000) THROUGH ACTUAL FY82	FY83	FY84	FY85	ESTIMATED FY86	PROJECT STATUS	LENGTH OF PROJECT/PACD
936-5518 Centrally Funded Coastal Resources Management	AGR	NRE	100	FN	--	100	--	1,600	144	Active	8/83 - 5/90

AID INPUTS	($000)
Total LOP	5,000

CONTRACTOR

The National Oceanic and Atmospheric Administration (NOAA).

The University of Rhode Island
Kingston, Rhode Island
International Center for Marine Resource Dev.
Room 114, Woodward Hall
Kingston, RI 20881
Gerald Donovan, Director
(404) 792-2474

AID CONTACT

Molly Kux, ST/FENR, Rm. 506G SA-18
Agency for International Development
Washington, D. C. 20523
(703) 235-2827

PURPOSE

To assist less developed countries (LDCs) to develop and manage their coastal resources on a sustainable basis.

AID-FINANCED INPUTS

1. Personnel (67 person months);
2. Training;
3. Research; and
4. Travel and other expenses.

MAJOR OUTPUTS

1. Planning tools for managers including maps of coastal resources;
2. Coastal Zone Management plans;
3. Revised policies, laws and regulations;
4. LDC institutions strengthened;
5. Short-term technical assistance;
6. Research;
7. Regional workshops;
8. Training for LDC professionals; and
9. Publications and reports.

HOST COUNTRY AND OTHER DONOR CONTRIBUTIONS

Cooperating country governments and AID Missions are contributing approximately 25% of the cost of the project, including salaries of counterpart personnel, funding of participant training, part of the research costs, and administrative support. Additional contributions are being explored with UN organizations.

AFRICA-SPECIFIC ACTIVITIES

To date no work has been conducted in Africa. However, future programs in Africa are being considered.

SUMMARY

LDC planners and developers concerned with coastal area resources and area residents who are dependent on coastal resources for their livelihood and food will be the primary beneficiaries of this project. This project applies and adapts U.S. coastal resource management experience in selected LDCs. It supports three pilot programs in up to three geographic areas that will assist LDCs in establishing an effective administrative mechanism and a management plan for the development of their coastal resources. Pilot programs are accomplishing this by providing long-term and short-term technical assistance and by supporting research and training necessary to prepare and implement coastal resources management policies and programs.

STATUS

The National Academy of Sciences conducted a comprehensive study as background for the PID preparation. The PID was approved in March 1983. The National Oceanic and Atmospheric Administration (NOAA) provided assistance in the design of the PP which was approved in FY 84. Activities have been initiated in two countries in Asia and Latin America, (Sri Lanka and Ecuador). A third country was to be selected in 1986. The project focuses on the conflicts over use of resources such as mining of coral reefs for lime resulting in extensive coastal erosion, loss of mangrove forests and reduced fishery production. A resident advisor was placed in the countries selected to work with appropriate coastal conservation entities for the purpose of developing plans to provide short-term technical advisors and to develop a cooperative research program which focuses on providing scientific data needed for management decisions.

DOCUMENTS AND REPORTS

PID, 3/84
Project Paper, 6/84
ST/FNR, ABS, FY 84, and FY 85 FY 86

PROJECT	SECTOR/SUBSECTOR/ACTIVITY		%
936-5519 Centrally Funded Forest Resources Management	AGR	FOR	100

APP. CAT.	OBLIGATIONS BY FISCAL YEAR ($000) THROUGH ACTUAL FY82	FY83	FY84	FY85	ESTIMATED FY86
FN	1,926	1,090	2,615	1,125	2,008
SD	1,270	200	175	25	—

PROJECT STATUS	LENGTH OF PROJECT/PACD
Active	9/80 - 9/87

AID INPUTS	($000)
Total LOP	19,821

CONTRACTOR

RSSA with USDA Office of International Cooperation and Development
Forest Service (Gary Wetterberg)
P.O. Box 2417
Washington, D.C. 20013
(703) 235-2432
RSSA through Peace Corps
George Mahaffey (202) 254-8890
PSC REDSO/ESA Nairobi

AID CONTACT

Dan Deely, ST/FNR, Room 503, SA-18
Agency for International Development
Washington, D.C. 20523
(703) 235-2245

PURPOSE

To improve delivery of effective forestry assistance to less developed countries (LDCs), by providing AID Missions and LDCs with ready access to sound technical advice and quality professional field support in forest resources; and by mobilizing Peace Corps capabilities in support of collaborative grassroots level village forestry projects and PL-480 Food Projects.

AID-FINANCED INPUTS

1. One Forestry Support Program (FSP) field staff member is based in Nairobi, in REDSO/ESA. One coordinator is based in Washington.
2. Personnel in Washington (up to seven) and field (up to six);
3. Training; and
4. Consultancies, studies, workshops and commodities.

MAJOR OUTPUTS

1. Development of an International Forest Resources Experts Network;
2. Peace Corps/AID cooperative demonstration projects;
3. FSP/Peace Corps/AID cooperative demonstration projects, including PVO PL-480 Food Projects;
4. Forestry training programs for Peace Corps volunteers and host country counterparts;
5. Workshops and conferences, general forestry and natural resources training support for LDCs; and
6. Technical assistance and information to missions and LDCs, and to PL 480 Food Projects.

AFRICA-SPECIFIC ACTIVITIES

Peace Corps activities include provision of special training and demonstration programs for PCVs and counterparts working with private

STATUS

The project was authorized in August 1980. It was amended in September 1983 for an additional five years and an increased LOP to $19,821,000. As a result of the Amendment, the training component of the original project has been strengthened by providing for a training coordinator for host country nationals. The amendment further provides for continuation of Forestry Support Program activities and investigation of AID/PC collaborative activities in PL-480 ($280,000). In addition, the Forestry Support Program will provide agency strategy implementation; initiation of agency forestry research; support for private forestry enterprise, strengthening of U.S. forestry institutions; and supporting linkages between agriculture and forestry.

The FSP was established in March 1981. Jim Seyler started in Nairobi (REDSO/ESA) and Tim Resch in Washington, in August 1981. FSP maintains an international forestry experts roster of over 2500 individuals and 250 institutions. Using this data base, it has been able to advise on the recruitment of over 125 short- and long-term AID assignments in Africa. Worldwide FSP staff and consultants have provided short-term technical assistance to over 65 assignments. FSP has directly participated in the design, management and evaluation of forestry projects in numerous countries (50) world-wide, representing approximately $150 million in new forestry projects. Studies of the potential for AID/Peace Corps/Host Country collaboration in forestry have been conducted by consultants in 11 African countries. These are Benin, Botswana, Kenya, Liberia, Mauritania, Mali, Niger, Senegal, Tanzania, Burkina Faso and Zaire. A Peace Corps forestry workshop sponsored by this project was held in Mombasa, Kenya in May 1982. Pre-service U.S. training has been provided to forestry volunteers going to Senegal, Mali, Niger, Burkina Faso and Kenya.

voluntary organizations to support tree-planting in Africa under the PL-480 program. The Forestry Support Program provides technical assistance, reports, studies and training on a national and regional basis.

SUMMARY

This project consists of two major components: (1) the FSP, to provide AID/W and field Missions with technical advice in tropical forestry and natural resources (in areas including fuelwood, natural woodlands, agroforestry, reforestation, community resource use, and so forth), and to locate long-term staff and short-term consultants for AID or cooperative AID/Peace Corps projects (in areas such as forestry economics, remote sensing, plantation establishment, soils, and so forth); and (2) a joint AID/Peace Corps Forestry Initiative to provide technical programming and backstopping expertise to Peace Corps and to develop collaborative community based forestry projects that can be staffed by Peace Corps Volunteers.

DOCUMENTS AND REPORTS

PID, 5/80
Project Paper, 7/80
Peace Corps Progress Report: Washington, D.C. 1981
"An Assessment of the Potential for Peace Corps/AID/Host Country Cooperation in Social Forestry Projects", Peace Corps, Washington, D.C. (11 country study)
"Review of CILSS Forestry Sector Program Analysis Papers," F. Weber, 1982
FSP Progress Report, 7/82
Project Evaluation, 9/82
Project Amendment, 6/83
Jackson, J.K. "Management of the Natural Forest in the Sahel," 1983
"Procurement Worksnop on Strengthening Forestry Research in Kenya." 1983
"Food Aid in Forestry--PL 480 supported Forestry Projects Worldwide," Peg Clement
"Community-level Forestry Development: Options and Guidelines for Collaboration in PL-480 programs," and numerous field trip reports concerning approximately 100 consultancies.
FSP Progress Report, AID/W 11/81; 11/85

PROJECT	SECTOR/SUBSECTOR/ACTIVITY		%	APP. CAT.	OBLIGATIONS BY FISCAL YEAR ($000) THROUGH ACTUAL FY82	FY83	FY84	FY85	ESTIMATED FY86	PROJECT STATUS	LENGTH OF PROJECT/PACD
936-5545 Centrally Funded Agroforestry Research and Training	AGR	FOR	100	FN	1,000	--	--	--	--	Completed	9/82 - 3/86

AID INPUTS	($000)	CONTRACTOR	AID CONTACT
Total LOP	1,000*	International Council for Research in Agroforestry (ICRAF) P.O. Box 30677 Nairobi, Kenya	Michael Benge, ST/FNR, Rm. 509, SA-18 Agency for International Development Washington, D.C. 20523 (703) 235-2245

PURPOSE

To assist less developed countries (LDCs) to better manage their natural resources, and to increase the role of forestry on-farm production of food, fodder, energy, water and shelter by supporting research, development and training in agroforestry.

AID-FINANCED INPUTS

1. Personnel;
2. Training; and
3. Materials and equipment.

MAJOR OUTPUTS

1. Diagnostic methodology for land use problems, including on-farm testing and evaluation;
2. Agroforestry systems inventory and evaluation;
3. Training packages developed;
4. Agroforestry training courses sponsored; and
5. Network of collaborating agroforestry R&D institutions strengthened.

AFRICA-SPECIFIC ACTIVITIES

ICRAF has fulfilled its mandate to promote, initiate and support agroforestry research in Africa and developing countries world-wide, through the development of a methodology, an information dissemination program and an information documentation center. Project activities were implemented to develop world-wide applications; farm trials were conducted in Kenya, as well as other regions. Training includes three of five courses in Kenya (one per year), of two-to-three weeks, for African scientists, planners and development agents.

SUMMARY (Continued)

agreement with the International Council for Research in Agroforestry (ICRAF), located in Nairobi, Kenya; project resources provide assistance to ICRAF to support projects in their "Agroforestry Systems Research and Evaluation" and "Training and Education" programs.

STATUS

The Project Identification Document (PID) was approved in March 1982. The Project Paper was approved on June 24, 1982. The Cooperative Agreement between AID and ICRAF was negotiated October 1982. Progress of the project has followed the initial plan, except that the final write-up of the Diagnosis and Design Training Packages and of an agroforestry systems inventory summary report required an additional half year with a non-funded extension of the cooperative agreement until March 31, 1986.

Considerable progress has been achieved in the development and testing of the diagnosis and design methodology in field applications. It is considered to be an acceptable methodology for use on a larger scale in diagnosing land use problems, defining agroforestry potential, and designing technology generating research projects. The agroforestry systems inventory has provided an enormous amount of information on global agroforestry systems, technologies and components which enabled ICRAF to develop a rational classification system and identify research and development priorities. Five agroforestry research for development workshops had been held and over 100 LDC personnel have been trained in agroforestry systems inventory.

As of September 1986, the project was completed and the design of a separate follow-on project had been submitted.

SUMMARY

The project utilized an interdisciplinary approach to focus on: (1) research on existing agroforestry around the world, development of a practical methodology for diagnosis of land use problems, and design of productive agroforestry management solutions; (2) training (in the use of the methodology for diagnosing land use problems) provided to research scientists, resource planners and development agents at sites where the methodology has been applied and evaluated (included development of training materials); and (3) expansion and strengthening of an international network of LDC agroforestry research and development institutions, through the research and training activities supported by the project. The project is being implemented via a cooperative

DOCUMENTS AND REPORTS

PID, 2/23/82
Project Paper, 6/24/82
Cooperative Agreement, 8/82
"Progress Report No. 6, January - March, 1984," 4/84
"Progress Report No. 7, April - June," 6/84
"Progress Report No. 8, July - September, 1984," 9/84
"Progress Report No. 9, October - December, 1984," 12/84
FY 84 ABS Activity Data Sheet (ST/FNR)
Mid-term Evaluation
Quarterly Implementation Reports

*Worldwide

CENTRALLY FUNDED

PROJECT	SECTOR/SUBSECTOR/ACTIVITY		%	APP. CAT.	OBLIGATIONS BY FISCAL YEAR ($000) THROUGH ACTUAL FY82	FY83	FY84	FY85	ESTIMATED FY86	PROJECT STATUS	LENGTH OF PROJECT/PACD
936-5547 Centrally Funded Forestry/Fuelwood Research and Development	AGR	FOR	100	FN	—	—	—	2,800	—	Active	9/85 - 9/88

AID INPUTS	($000)
Total LOP	40,000*

CONTRACTOR

International Council for Research in Agroforestry (ICRAF)
P.O. Box 30677
Nairobi, Kenya
(Africa Bureau only)

AID CONTACT

Ian G. Morison, ST/FNR Rm 503 SA-18
Agency for International Development
Washington, D.C. 20520
(703) 235-2559

PURPOSE

To support and stimulate applied and basic research that utilizes research networks to provide less-developed countries (LDCs) with the scientific and technical information necessary to increase their production of forestry goods and services. Major emphasis is placed on forestry/fuelwood production research to increase the production and use of multipurpose species for agroforestry applications.

AID-FINANCED INPUTS

1. Personnel (220 person months);
2. Travel; and
3. Commodities.

MAJOR OUTPUTS

1. Improvement of multipurpose/fuelwood tree species;
2. Research networks established;
3. Case studies/social inventories;
4. Management methods for tropical forest;
5. Country forestry research plans; and
6. Information management systems.

HOST COUNTRY AND OTHER DONOR CONTRIBUTIONS

Funding for the International Union of Forestry Research Organizations (IUFRO) Conference and other specific activities generated by this project is sought from the World Bank, the Canadian International Development Agency (CIDA), the Danish International Development Authority (DANIDA), the Swedish International Development Agency (SIDA) and others.

AFRICA-SPECIFIC ACTIVITIES (Continued)

plants to be used in agroforestry systems; (c) increased production of genetically improved seed/plant material for five to ten selected species; (d) training of in-country agroforestry technical groups needed to implement the collaborative research in each cooperating country; (e) the identification of local or country specific agroforestry research problems. During 1987 planned Africa specific activities include the following: (1) support Africa species networks, through technical meetings, training courses, and information dissemination; (2) identification, evaluation and collection of multipurpose and commercial species; (3) assist with research design and data base improvements; (4) produce two or more case studies and hold technical workshops in Latin America and Africa, (5) further develop global research on biotechnology, systems management and research policy.

SUMMARY

This project concentrates on research in biotechnology, tropical-forest management, multipurpose tree selection and applied socio-economic theory. These research efforts are complemented by investigations in the biological sciences of fuelwood production, watershed management, genetic improvement of multipurpose/fuelwood and commercial timber species and mangrove management. The project also focuses on social science issues such as economic incentives, land tenure, social institution building and local participation. Additionally, it aims at fostering collaborative regional research strategies and networking among national research and development institutions.

AFRICA-SPECIFIC ACTIVITIES

Negotiations are underway with the International Center for Research in Agroforestry (ICRAF) for project support to multi-purpose tree-networking in the sub-humid bimodal highland zone. The agreement will be carried out over a five-year period. Expected outcomes are: (a) establishment of multi-purpose tree agroforestry technology/species inter-country research networks involving at least four participating countries; (b) the identification of superior species and strains of multi-purpose woody

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*Total project funding for F/FRED Cooperative Agreement ($2.4 million F/FRED centrally funded; $0.3 million Africa Bureau; $1.3 mission counterparts; $3.0 million Cooperative Agreement AID/ICRAF Asia Bureau).

STATUS

Progress has been made in the development of research policy guidelines and recommendations for data base management. Initial networking activities began in Asia among India, Bangladesh, Thailand, and Pakistan, Nepal and South Pacific and in the Latin American region. Global multipurpose species research was undertaken inviting participation from all regions.

DOCUMENTS AND REPORTS

Project Paper
FY 1987 Annual Budget Submission

PROJECT	SECTOR/SUBSECTOR/ACTIVITY		%	APP. CAT.	OBLIGATIONS BY FISCAL YEAR ($000) THROUGH ACTUAL FY82	FY83	FY84	FY85	ESTIMATED FY86	PROJECT STATUS	LENGTH OF PROJECT/PACD
936-5701* Centrally Funded Low Cost Energy Technologies	ENY	REN	75	FN	--	--	--	400	--	Active	5/85 - 12/86
	ENY	FUW	25								

AID INPUTS	($000)
Total LOP	400

CONTRACTOR

Volunteers in Technical Assistance (VITA)
1815 N. Lynn Street, Suite 200
Arlington, VA 22209
(703) 276-1800
Tim Wood

AID CONTACT

Samuel Schweitzer, Ph.D.
S&T/EY, Room #506, SA-18
Agency for International Development
Washington, D.C. 20523
(703) 235-8920

PURPOSE

To alleviate the strain on scarce fuel supplies, provide for very basic energy needs, and improve the quality of life for people in developing countries by assisting in the development and dissemination of small-scale renewable energy technologies.

AID-FINANCED INPUTS

1. Project director;
2. Woodstove advisor;
3. Computer system analyst; and
4. Short-term consultants for technology application assessments.

MAJOR OUTPUTS

1. A renewable energy data base will be established.

OTHER DONOR ACTIVITIES

Donor agencies in Canada, the Federal Republic of Germany, Holland and Sweden have indicated interest in providing funding for a woodstoves network.

SUMMARY

This project was designed to ensure that complete and current information is available to people and organizations throughout the world engaged in the research, development, and dissemination of small-scale renewable

* The previous contract was terminated and a new Agreement was signed 6/7/85.

SUMMARY (Continued)

energy technologies; and to promote and support research, development, dissemination, and evaluation of efficient, economic, and culturally acceptable small-scale renewable energy technologies. The Contractor will develop and implement three activities: (1) a renewable energy data base; (2) technology/applications assessments, and (3) an international woodstove network in support of the Renewable Energy Applications and Training Project.

STATUS

A renewable energy data base is currently being developed. A proposal for a woodstoves network has been developed and circulated to prospective donors. Donor agencies in Canada, the Federal Republic of Germany, Holland, Sweden and the U.S. have indicated interest in providing funding for the woodstoves network.

DOCUMENTS AND REPORTS

"PVO Energy Initiatives," 5/15/79
"Proposal for an International Program to Develop, Transfer, and Diffuse Low Cost Alternative Energy Technologies for Rural Areas of the Third World, Part I," 1979
"Progress Report - Energy Program," 1/4/80
"VITA Six Month Management Review: Low Cost Energy Technologies for Rural and Urban Poor," 4/14/80
"Low Cost Technology for Rural Poor: Project Evaluation Summary," 12/9/81
"Renewable Energy Dictionary," VITA, 1982
"Volunteers in Technical Assistance Renewable Energy Program: Audit Report, No. 0-000-82-46," 2/22/82
"Wind Energy Activities in Africa," 2/82
"Activities Relatives a l'Energie Eolienne en Afrique," 2/82
Project Paper, 7/85

PROJECT	SECTOR/SUBSECTOR/ACTIVITY		%	APP. CAT.	OBLIGATIONS BY FISCAL YEAR ($000) THROUGH ACTUAL FY82	FY83	FY84	FY85	ESTIMATED FY86	PROJECT STATUS	LENGTH OF PROJECT/PACD
936-5702 Centrally Funded Energy Technical Service Support	ENY	NSS	100	SD	1,041	243	300	200	200	Active	FY 1978 - Continuing

AID INPUTS	($000)
Total LOP	Continuing*

CONTRACTOR

Department of Energy (DOE) RSSA
1000 Independence Avenue, S.W.
Washington, D.C. 20585
Robert Jackson; (202) 252-6118
National Laboratories administered by DOE.

AID CONTACT

Shirley A. Toth
ST/EY, Room 508, SA-18
Agency for International Development
Washington, D.C. 20523
(703) 235-8918

PURPOSE

To provide short-term professional, scientific and technical consultants to respond to expressed AID Mission and LDC needs for advice on energy program planning and technology.

AID-FINANCED INPUTS

1. Personnel;
2. Travel; and
3. Analyses of energy programs.

MAJOR OUTPUTS

1. Technical evaluations and analyses of energy programs;
2. Field consultancies completed; and
3. Projects designed and implemented.

AFRICA-SPECIFIC ACTIVITIES

Activities in Africa include: a seminar on energy conservation and management, held in Togo; technical assistance in Sudan, Senegal, Mali and Liberia; and an energy conference in Sierra Leone.

SUMMARY

A full range of technical consultancies are provided to assist LDCs in: (1) energy analyses; and (2) formulation of specific projects and solutions to local energy problems through the adaptation and improvement

SUMMARY (Continued)

of conventional and non-conventional energy technologies, and the adoption of energy conservation approaches. These technical support services are made available upon the request of the AID field Missions.

STATUS

The project was originally authorized in August, 1978. In January, 1983, the Department of Energy (Brookhaven National Laboratory, Long Island) held a seminar in Togo on "Energy Conservation and Management in West Africa." One consultant from Argonne National Laboratory participated in the Africa Renewable Energy Evaluation, 1982. Other activities in Africa have included the following: Sudan: assistance provided to the Sudanese Petroleum Administration in the design of an energy management training program; Senegal: observation tour of the Bakel Solar Pump (one consultant from Sandia Laboratory to observe tests of a ThermoElectron turbine at SOFRETES, in France); Liberia: assessment of transport energy needs; Mali: two consultants from the Solar Energy Research Institute (SERI) for work on Mali Renewable Energy Project (688-0217); ECOWAS Conference: Funding for National Academy of Sciences participation in a conference on "Energy for Survival," held in Freetown, Sierra Leone, November 2-6, 1981.

DOCUMENTS AND REPORTS

"Energy Technical Servuce Support: Amendment No. 2," 11/29/82
Proceedings of conference on "Energy Conservation and Management in West Africa," held in January, 1983
"Energy Technical Servuce Support: Amendment No. 3," 11/28/84
"U. S.-based Short Courses in Renewable Energy Technologies: A Selective Guide for Developing Country Participants," 12/10/84

*LOP not given

CENTRALLY FUNDED

PROJECT	SECTOR/SUBSECTOR/ACTIVITY		%	APP. CAT.	OBLIGATIONS BY FISCAL YEAR ($000) THROUGH ACTUAL FY82	FY83	FY84	FY85	ESTIMATED FY86	PROJECT STATUS	LENGTH OF PROJECT/PACD
936-5710 Centrally Funded Photovoltaic Technology Program	ENY	REN	100	SD	3,421	--	250	--	--	Completed	7/79 - 6/85

AID INPUTS	($000)
Total LOP	3,674

CONTRACTOR

National Aeronautics and Space Administration, (NASA)
Lewis Research Center
2100 Brookpart Road
Cleveland, Ohio 44135
Bill Bifano (216) 294-6637

AID CONTACT

Shirley A. Toth, ST/EY, Rm. 720, SA-18
Agency for International Development
Washington, D.C. 20523
(703) 235-8918

PURPOSE

To facilitate the use of photovoltaics for a variety of applications in support of development assistance activities; and to demonstrate the suitability of photovoltaic (PV) power systems for meeting basic electrical requirements in rural areas of developing countries.

AID FINANCED INPUTS

1. Personnel for technical supervision and monitoring of field activities;
2. Equipment (photovoltaic systems); and
3. Training for host country officials and technicians.

MAJOR OUTPUTS

1. Photovoltaic systems installed in health clinics for lighting, and refrigeration;
2. Photovoltaic refrigerators installed and field-tested for vaccine storage in remote areas;
3. PV power supply for remote earth station installed and field-tested in Indonesia as part of ST/EY Rural Satellite Project;
4. Application studies determining cost and operation factors;
5. Host country officials and technicians trained; and
6. Consultancies completed.

AFRICA-SPECIFIC ACTIVITIES

The project began with an application in Burkina Faso. Countries programmed for installation of PV-powered health facilities include Kenya and Zimbabwe. Twenty PV-powered medical refrigerators were placed in 19 countries, including Zaire, Zimbabwe, Liberia, Burkina Faso and Ivory Coast.

SUMMARY

The program funed applications of photovoltaic technology in on-going socio-economic development projects, covering the phases of: (1) planning and studies, including survey, analysis and selection; (2) field-test support, covering project definition, load identification, acquisition, testing and evaluation; (3) collection of operational on-site data; (4) training and information dissemination; and (5) project management, providing descriptive material and technical assistance for existing and planned projects.

STATUS

This PASA was signed in August 1979. It was preceded by one in 1978, to examine the utility of photovoltaic technology in a third world country. Under it, a small water pump and grain grinder were set up in Tangaye, Burkina Faso, which NASA continued to backstop until June 30, 1983. Under the present PASA, NASA activities concentrated on rural health systems and rural satellite systems. Under a contract with the Solarex Corp., PV medical systems were installed in Zimbabwe and Kenya (two systems) in April/May 1983. In conjunction with the installations, technical seminars were presented for host country personnel. The seminar activity was implemented through a grant to the University of Michigan. Vaccine refrigerators were installed in remote health centers in Zaire and Zimbabwe. Additional units were installed in Liberia, Burkina Faso and the Ivory Coast in late 1983. The project was evaluated in February and again in December 1981. Project activities were completed in August 1985.

DOCUMENTS AND REPORTS

Project Paper, 1979
"DOE and AID Stand-Alone Photovoltaic Activities: Status Report #DOE/NASA/20485-15, NASA TM-83374," William J. Bifano and Anthony F. Ratajczak, 1983
NASA Management Reports on Photovoltaic Technology Project, 1983. NASA/Lewis Research Center, Cleveland, Ohio

PROJECT	SECTOR/SUBSECTOR/ACTIVITY		%	APP. CAT.	OBLIGATIONS BY FISCAL YEAR ($000) THROUGH ACTUAL FY82	FY83	FY84	FY85	ESTIMATED FY86	PROJECT STATUS	LENGTH OF PROJECT/PACD
936-5715 Centrally Funded Small Decentralized Hydropower (SDH)	ENY	REN	100	FN	3,024	800	127	500	—	Active	5/80 - 7/87

AID INPUTS	($000)
Total LOP	4,500*

CONTRACTOR

National Rural Electric Cooperative Association (NRECA)
1800 Massachusetts Avenue, N.W.
Washington, D.C. 20036
(202) 857-9500, Bard Jackson

AID CONTACT

Sam Schweitzer, ST/EY, Rm 508, SA-18
Agency for International Development
Washington, D.C. 20523
(703) 235-8902

PURPOSE

To expand supplies of electrical power by developing indigenous water power resources to serve local and regional needs.

AID-FINANCED INPUTS

1. Personnel (long-term and consultants);
2. Training;
3. Travel; and
4. Research.

MAJOR OUTPUTS

1. Field consultancies provided;
2. Participants trained; and
3. Engineering site studies and country studies completed.

AFRICA-SPECIFIC ACTIVITIES

Resource assessments, feasibility studies and economic analyses are being performed in African countries; regional workshops were held in East and West Africa.

SUMMARY

The project provides assistance in: (1) administration, developing arrangements with small decentralized hydropower (SDH) specialists to respond to requests from AID Missions and host country agencies, arrange workshops and seminars, and provide field support; (2) project identification, to identify potential hydropower sites for development, determine the role of SDH in a country's energy development, examine the projects from their technical, financial, economic, sociological, institutional and environmental aspects; (3) site selection and project design, to develop the assessment and design of new projects or SDH installations (including preliminary designs, investment and operating

STATUS (Continued)

Ghana:	08/81	Three-man team to assess country hydro potential.
Lesotho:	11/82	Two engineers to conduct country assessment for micro-hydro.
Liberia:	02/82	Two-man team to evaluate Peace Corps micro-hydro project (698.0407.07).
Madagascar:	06/83	Small-hydro workshop.
Rwanda:	06/81	Two-man team to assess potential for pilot project at Kaviri.
	06/83	Engineer assessed site for possible restoration.
	11/81	Two-man team for a detailed study of one site and an assessment of nine undeveloped sites.
Togo:	06/83	Economist to revise projected costs and benefits of two small hydro sites.
	04/81	Three-man team to conduct country assessment.
Sudan:	05/82	Country assessment.
Swaziland:	06/83	Small hydro workshop
Zaire:	05/82	Three-man team to assist with the preparation of a PID and survey.
Zaire:	01/81	Two-man team to outline strategy.
	08/85	A team to assess coutnry hydro potential.
	3/86	A follow-up World Bank project portfolio assessment.

As of September 1986, the project was being reviewed for redesign.

DOCUMENTS AND REPORTS

Project Paper, 8/79
"Zaire: A Proposed Small Hydropower and Rural Electrification Project," J. Howe, and S. Omkar; NRECA 3/81
"Rwanda: Small Decentralized Hydropower," Bard Jackson and J. Topik NRECA, 11/81
"Cape Verde: Assessment of Small Hydroelectric Potential in Cape Verde," D. Rubin, NRECA, 11/81

costs estimates, and evaluations of the aspects examined during project identification); (4) SDH data base development, surveying existing SDH facilities in developed and developing countries, providing descriptions of system performance, economics, implementation procedures and management, organizing a data base of hydropower resources, available technology and skills resources via manuals, bulletins and directories; and (6) training, developing classroom and hands-on training programs in SDH, for engineers, planners and operators from developing countries.

STATUS

The project was authorized in May 1980, and Africa activities began in 1981. To date the following technical assistance activities have been provided:

Burundi:	11/82	Two-man team to assess need for institution building for small hydro.
Cape Verde:	11/81	In-house desk study of hydro potential.

*Worldwide

"Togo: Small Decentralized Hydropower Study," W. Lawrence, et. al., NRECA, 11/81
"Liberia: Evaluation of Yandohun Micro-Hydro Project" A. Inversin and W. Lawrence, 2/82
"Lesotho: Recommended Activities in Small Hydropower Development," Bard Jackson (Principal Engineer) and Martin Johnson (President, The Johnson Co., Inc.), NRECA, 12/82
"Burundi: Institutional Requirements and Technical Alternatives for a Small Hydropower Program," Allen Inversin (Micro Hydro Engineer) and Robert Zimmermann, NRECA 2/83
"Togo: A Preliminary Assessment of Small Hydropower Potential," Paul Clark (Training and Information Specialist), NRECA 6/83
"AID Evaluation of the Small Decenteralized Hydropower (SDH) Program, Briefing Book," 6/22/84
"Zaire: PVO Approach to Mini-Hydropower Development: A Case Study for Africa," NRECA, 1985
"Zaire: Design, Construction, Moonauf Recommendations for the Koda Fall Electric Power System," NRECA, 1985
"Small Hydropower in Africa: Proceeedings of Workshop," June 20-23, 1983

PROJECT	SECTOR/SUBSECTOR/ACTIVITY		%	APP. CAT.	OBLIGATIONS BY FISCAL YEAR ($000) THROUGH ACTUAL FY82	FY83	FY84	FY85	ESTIMATED FY86	PROJECT STATUS	LENGTH OF PROJECT/PACD
936-5724 Centrally Funded Conventional Energy Technical Assistance	ENY	FOF	100	SD	—	—	8,531	2,250	950	Active	9/80 - 9/87

AID INPUTS	($000)
Total LOP	15,250*

CONTRACTOR

Bechtel National, Inc.
San Francisco, California 94105
(415) 768-6107
A variety of other contracts are used through IQC and RSSA arrangements.

AID CONTACT

Charles Bliss, ST/EY, Rm. 512, SA-18
Agency for International Development
Washington, D.C. 20523
(703) 235-8902

PURPOSE

To assist less developed countries (LDCs) to identify and evaluate potential indigenous conventional energy resources; and to develop and utilize them in a way that reduces the importation of petroleum and petroleum products.

AID-FINANCED INPUTS

1. Personnel;
2. Travel;
3. Logistical support; and
4. Commodities (computer hardware and software, documents, and so forth).

MAJOR OUTPUTS

1. Country-level programs;
2. Regional and/or global studies, research grant cycles;
3. Coordination workshops, conferences and publications; and
4. Evaluations (country programs and regional global activities).

HOST COUNTRY AND OTHER DONOR CONTRIBUTIONS

Host country institutions provide counterpart personnel salaries, facilities, logistical support, and certain other financial resources depending on the individual country and project needs. AID coordinates activities under this project with IBRD/UNDP country energy-assessments. Activities have taken place in Sudan, Malawi and Kenya. A number of minor activities have been conducted in other countries as well.

SUMMARY

The project supports enhancement of indigenous conventional energy supplies, improvement in LDC's information bases and capacity to plan and manage programs for the exploration of hydrocarbon and geothermal

STATUS

The project was approved in September 1980. Ten African countries responded to the announcement of the project. In 1983, two reconnaissance visits were made to Malawi, one for the purpose of assessing the country's coal potential in markets and the need for an analytical laboratory. The other involved an explanatory assessment of petroleum and natural gas resources. A four-person team from Bechtel visited Sudan in February 1982, to identify commodities necessary to rehabilitate the Blue Nile Power Grid (BNG). Subsequently, commodities were procured through the Commodity Import Program (CIP) with procurement, delivery, and so forth, contracted to Bechtel. This arrangement was maintained until 1984. An inventory and materials specialist also assisted the National Energy Administration in Sudan. Inventory activities have been completed. In February 1982, a reconnaissance visit was made to Kenya to study options to modify the refinery in Mombasa so that it could reprocess residual fuel and thus reduce the country's high petroleum importation. An analysis of options to convert the refinery was conducted by Arthur D. Little Company. With Energy Initiatives for Africa (EIA) funding, the contractor provided support to the Government of Kenya.

DOCUMENTS AND REPORTS

Project Paper, 9/80
"Hydrocarbon Resources of the ECOWAS Region: USGS," Washington, D.C., R. Mattick, 1981
"Conventional Energy Technical Assistance: Amendment No. 2," June 17, 1982
"Conventional Energy Technical Assistance: Amendment No. 3," December 28, 1983
"Options for the Modifications of the Mombasa Refinery," March 1983
"Options for the Modifications of the Mombasa Refinery: Executive Summary," March 1983
Report on Coal Slurry Fuel Technology, Burns and Roe

resources, through: (1) development of specific country-level activities, through reconnaissance visits, activity definition and implementation and (2) development of generic programs involving conventional technologies involved in the production of fuel briquettes from coal. The project employs a wide range of technical disciplines, including remote sensing of geological structures favorable for fossil fuel energy finds.

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*Worldwide

Final Report by Arthur D. Little on the Mombasa Refinery
"Assessment of Technological Readiness: Routes From Natural Gas to Transport," October 1, 1984
"Conventional Energy Technical Assistance: Amendment No 4," June 11, 1985
"Executive Summary and Overview," April, 1985
"Final Report: February 1982 through October 1984, Technical Assistance to ONAREP in the Development of Conventional Energy Resources," 1984

CENTRALLY FUNDED

PROJECT	SECTOR/SUBSECTOR/ACTIVITY		%	APP. CAT.	OBLIGATIONS BY FISCAL YEAR ($000) THROUGH ACTUAL FY82	FY83	FY84	FY85	ESTIMATED FY86	PROJECT STATUS	LENGTH OF PROJECT/PACD
936-5728 Centrally Funded Energy Policy Development and Conservation	ENY	NSS	100	SD	862	1,261	1,991	2,025	1,300	Active	8/82 - 12/86

AID INPUTS	($000)
Total LOP	7,600

CONTRACTOR

Hagler, Bailly & Company
2301 M. Street, N.W., Suite 400
Washington, D.C. 20037
(202) 463-7575

AID CONTACT

David Jhirad, ST/EY, Rm. 508E, SA-18
Agency for International Development
Washington, D.C. 20523
(703) 235-8918

PURPOSE

To assist LDCs in developing institutions, personnel and processes capable of effective energy policy-making; to provide technical assistance for the design of specific policies, action programs and investments needed to relieve critical current energy problems and minimize the effects of future energy crises; and to help LDCs achieve measurable improvements in the efficiency of energy use and the level of national energy self-sufficiency.

AID-FINANCED INPUTS

1. Personnel 150 person-months;
2. Travel;
3. Logistical support; and
4. Commodities (computer hardware and software, and documents).

MAJOR OUTPUTS

1. Country-level programs;
2. Regional and/or global studies, research grant cycles;
3. Coordination workshops, conferences and publications; and
4. Evaluations (country programs and regional global activities).

HOST COUNTRY AND OTHER DONOR CONTRIBUTIONS

Host country institutions provide counterpart personnel salaries, facilities, logistical support, and certain other financial resources depending on the individual country and project needs. AID coordinates activities under this project with IBRD/UNDP country energy-assessment programs and, where applicable, with IBRD's and other donors technical assistance projects in energy conservation. AID Missions also provide co-financing of most country-level activities.

SUMMARY (Continued)

country officials, AID personnel and technical assistance contractors, active in the predecessor and other projects; conservation services (including energy audits and transfer of energy auditing capability to LDC engineers and managers, studies, and program designs), and a research program to investigate selected economic and other social science areas related to energy policy development (including an analysis of the potential applications of microcomputers for energy planning, policy development and conservation in LDCs).

STATUS

In FY 83 a major conference was held to bring together energy policy-makers from 25 LDCs, AID staff, other donors' representatives, U.S. academics and consultants to share experiences and methodologies. Conservation advisory services also began in FY 83, including factory energy audits, training, technical consultations on energy management in industry, and transportation, preparation of information packages to promote efficient energy use, and development of innovative financing mechanisms. A research grant program has offered competitively-awarded grants to U.S. and LDC researchers annually since FY 83 to examine such policy issues as energy pricing and economic development, regulation of energy consumption, fuel transition and substitution, and energy in the agriculture and transportation sectors. In FY 84 new emphasis was given to developing publications and informal networks to better disseminate and synthesize experiences of various countries. Energy planning for agricultural systems became a major project theme. In FY 85, country-level energy planning assistance focused on Haiti, research results from the first grant cycle were received and disseminated through a series of occasional papers and seminars. Technical assistance for energy conservation was provided in Ecuador, Djibouti, Thailand and Indonesia, and a regional seminar on conservation in Latin America was supported.

AFRICA-SPECIFIC ACTIVITIES

During FY 83, a second phase of the Sudan energy planning assistance was funded jointly by ST/EY and AID/Khartoum. Several major activities are being undertaken including: petroleum pricing studies; electricity tariff review; a study analyzing petroleum allocation and distribution procedures and recommendations for improving these procedures, a prefeasibility study for a mini-refinery at Kosti; and organizational studies for the National Energy Administration (NEA). In addition, the NEA is now working with other government and private organizations to prepare a formal national energy plan. In March 1983, AID and the Economic Community West African states sponsored an energy conservation seminar which was attended by representatives from 14 West African countries. In FY 83 ST/EY provided support for an energy planning project in Liberia. This built on earlier work done by Oak Ridge National Laboratory. ST/EY's provision of short-term technical assistance complemented the services of a resident energy advisor provided under Energy Initiatives for Africa. This advisor worked with the Liberian National Energy Committee from 1983 until 1985.

SUMMARY

This project continues and expands upon efforts begun under Energy Policy and Planning (936-5703) on two levels: (1) country-level activities, including organizational and manpower development in energy policy-making and planning entities, establishment and maintenance of programs for energy data collection and analysis, analysis of energy resources, economic evaluation of energy supply projects/government policies/demand management needs/private-sector opportunities, preparation of energy plans, investment codes, laws, funding proposals, and so forth; and (2) global activities, including conferences bringing together host Country-level activities, as appropriate will continue and new activities will begin in two more countries. Regional and/or global analyses of selected issues will be undertaken. Inter-country coordination and information-sharing will continue. Micro-computer applications in energy-policy development and management will continue, as will selected research efforts relating to energy use in LDC economic development. Evaluation of earlier activities will be undertaken.

DOCUMENTS AND REPORTS

Project Paper, 5/82
"Investigation of Petroleum Supply and Distribution in Sudan," Douglas MacDonald, E/DI Europe, 6/81, (revised 9/81)
"Recommendations for the Short-Range (1981-1986) Reliability Improvement Programs; PEWC;" Shibu B. Dhar, ISTI-E/DI, 8/81
"An Examination of the Impact of Energy Supply Problems on Sudanese Industry and a Review of Energy Use and Energy Efficiency," Paul Thorne and Matthew Milukas, E/DI Europe and ISTI-E/DI, 11/81
"A Comparison of Sudanese Export Performance with Key Petroleum Imports." Report presented to H.E. Dr. Sharif El-Tuhami, D.M. Bess and Paul Cough, 12/81, ISTI-E/DI
"An Overview of Energy Problems and Planning Activities in Liberia," Paper presented at the USAID Conference on Energy Planning in Developing Countries, Reston, Virginia, February 23 - March 3, 1983
"Liberia Energy Balance," William Barron, Oakridge National Laboratory, 1984
"An Integrated National Energy Plan for Liberia," National Energy Committee, 1985

CENTRALLY FUNDED

PROJECT	SECTOR/SUBSECTOR/ACTIVITY		%	APP. CAT.	OBLIGATIONS BY FISCAL YEAR ($000) THROUGH ACTUAL FY82	FY83	FY84	FY85	ESTIMATED FY86	PROJECT STATUS	LENGTH OF PROJECT/PACD
936-5730 Centrally Funded Renewable Energy Applications and Training	ENY	REN	100	SD	—	—	—	900	500	Active	8/85 - 8/88

AID INPUTS	($000)	CONTRACTOR	AID CONTACT
Total LOP	8,200*	To Be Determined	Samuel Schweitzer S & T/EY Agency for International Development Room #506, SA-18, Washington, D.C. 20523 (703) 235-8902

PURPOSE

To assist developing countries in increasing the availability of energy through more effective use of renewable energy as well as the development of unused renewable resources.

AID-FINANCED INPUTS

1. Personnel (150 person-months);
2. Travel;
3. Training;
4. Operations; and
5. Research.

MAJOR OUTPUTS

1. Field consultancies;
2. Workshop participants trained;
3. Resource/technology assessments;
4. Evaluation and case studies;
5. Country investment portfolios;
6. Evaluation papers;
7. Applied research projects.

HOST COUNTRY AND OTHER DONOR CONTRIBUTIONS

Host countries provides support to the project in the form of personnel, local currency, training and extension services.

AFRICA-SPECIFIC ACTIVITIES

Activities have worldwide application (including African countries).

*Worldwide

SUMMARY

Program activities include: collecting and publishing state-of-the-art information (technical performance and cost information) on renewable energy technologies; evaluation analysis, publication and dissemination of renewable energy project experiences; and guidance to missions on designing renewable energy projects and systems. The project also provides technical assistance to missions, maintains a data bank on U.S. equipment manufacturers, suppliers and consultants, and pertinent literature; and establishes an information system for AID's renewable energy projects. The S & T/EY staff works closely with selected consultants, regional bureaus, missions and host country officials to assure full coordination of all aspects of assistance given under this project.

STATUS

This project is in initial stages of implementation. Consultancies and technical backstopping to existing field projects and to host countries collaborating in regional and mission activities is the first priority. Technology performance data continues to be collected for future analysis and evaluation and for project implementation and design. Research and policy studies in production and utilization of biomass fuels will be emphasized; development of networks for technical information exchange and institutional collaboration will be undertaken.

DOCUMENTS AND REPORTS

Project Paper, 7/85

PROJECT	SECTOR/SUBSECTOR/ACTIVITY			%	APP. CAT.	OBLIGATIONS BY FISCAL YEAR ($000) THROUGH ACTUAL FY82	FY83	FY84	FY85	ESTIMATED FY86	PROJECT STATUS	LENGTH OF PROJECT/PACD
936-9997 Centrally Funded Training in Coventional Energy	ENY	FOF	HRD	100	SD	4,521	1,850	2,108	2,100	1,600	Active	12/80 - 6/87

AID INPUTS	($000)
Total LOP	14,000*

CONTRACTOR

Institute for International Education (IIE)
918 Sixteenth St., N.W., 8th Floor
Washington, D.C. 20006
Robert Gorden (202) 898-0305

AID CONTACT

David Jhirad, ST/EY
Room. 800, SA-18
Agency for International Development
Washington, D.C. 20523

PURPOSE

To train LDC nationals in scientific, engineering, planning and managerial skills necessary to develop and manage indigenous conventional energy resources (oil, natural gas, coal, oil shale, tar sands, geothermal and hydroelectric).

AID-FINANCED INPUTS

1. Training for LDC participants (2,000 man-months).

MAJOR OUTPUTS

1. LDC participants trained to effectively assume posts in their government's energy ministries, national oil companies, utilities, and so forth.

AFRICA-SPECIFIC ACTIVITIES

See "Status" for number of trainees by country and level of training.

SUMMARY

The project provides: (1) graduate level academic training in science and engineering related to conventional energy, ranging from several month periods to two year programs leading to MS degrees, and (2) on-the-job practical training through internships with U.S. oil companies, utilities, mining enterprises, seismic and drilling companies and research institutions, tailored to the participants' individual professional needs, and the needs of their countries.

*Worldwide

STATUS

The project was authorized in October 1980. The number of participants trained from African countries to date are as follows:

Country	Academic	Non-academic
Somalia	2	1
Tanzania	9	5
Kenya	6	8
Sudan	9	17
Liberia	4	14
Burundi		1
Rwanda		1
Togo		1
Ghana		3
Niger		1
Ivory Coast		3
Mali		4
Seychelles	1	1
Lesotho		2
Senegal		1
Botswana		1
Cameroon		4
Total:	31	68

Total African Trainees: 99
Worldwide Statistics: 404
Total number of participants LDCs worldwide is 32.
Total Trained Worldwide: 404

DOCUMENTS AND REPORTS

Project Paper, 1980
Progress Report, IIE, Washington, D.C., 4/82 and 6/83
Evaluation, 7/85
Brochures in English, Spanish and French

PROJECT	SECTOR/SUBSECTOR/ACTIVITY %	APP. CAT.	OBLIGATIONS BY FISCAL YEAR ($000) THROUGH ACTUAL FY82	FY83	FY84	FY85	ESTIMATED FY86	PROJECT STATUS	LENGTH OF PROJECT/PACD
936-5538 Centrally Funded Applying Science & Technology to Development		SD	13,000	5,000	3,163	4,046	4,000	Active	/81 - /86

AID INPUTS	($000)
Total LOP	36,000

CONTRACTOR

National Academy of Sciences
National Research Council (NRC)/
Board on Science and Technology (BOSTID)
2101 Constitution Avenue
(202) 334-2000

AID CONTACT

John Daly, Office of Science Advisor
Room 720 SA-18
Agency for International Development
Washington, D.C. 20523

PURPOSE

To stimulate and support research and development on specific LDC development problems to strengthen LDC scientific and technological institutions.

AID-FINANCED INPUTS

1. Funding for individual research grants; and
2. Technical assistance (workshops and seminars).

MAJOR OUTPUT

1. Research reports;
2. Workshops and seminars; and
3. Disseminated research results

AFRICA-SPECIFIC ACTIVITIES

Research grants gave been approved in the People's Republic of the Congo, Kenya, Malawi, Senegal and the Sudan.

SUMMARY

The project is implemented by the National Research Council (NRC)/Board on Science and Technology Development (BOSTID). It focuses on scientific and technological aspects of problems related to health and human welfare, energy, increased food production, resource conservation and use, industrialization and employment, and development policy planning. The primary areas of emphasis are: (1) grain amaranth; (2) fast growing trees; (3) biological nitrogen fixation; (4) mosquito research; (5) rapid epidemiological assessment; and (6) acute respiratory infection in children. Program activities are collaborative, based on personal contact between LDC scientists, engineers and administrators and their U.S. counterparts. Research involving developement engineering, pilot projects and field-testing is emphasized. The total amount of most grants ranges from $50,000 to $150,000. Research may be carried out over a period of two, three, or four years.

Implementation consists of four integrated elements: (1) selective grants, overseen by the project-established Committee on research Grants

SUMMARY (Continued)

(CRG) to directly support research and development of high priority problems not currently receiving significant attention; (2) overseas workshops, seminars, advisory groups, and linkage activities; (3) studies on specific development problems, policy issues,a nd innovative technological applications; and (4) mechanisms such as seminars and panels to inform AID of important developments.

STATUS

The project was authorized in 1981. The first grants were made in 1982. The first two years concentrated to identifying sound research and development projects and grantee institution, developing a plan to allocate funds among research areas and starting projects. Thereafter, 50% of the funding was for research grants and the rest of overseas activities, study reports, reports to AID and staffing. As of March 1986, there were two research grants on nigrogen-fixing trees, totalling $245,185. Research on tropical trees consisted of ten grants totalling $989,420 and two completed grants totalling $159,654. In 1985 twelve grants were approved in Chile the People's Republic of the Congo, Kenya, Malawi, Mexico, Panama, the Philippines, Senegal and Sudan.

The NAS also carries out selected studies, workshops and other activities related to the development of LDC research programs, including a major dissemination effort of NAS findings. Examples include: (1) a major international conference (July 26-30, 1982) on applications of biotechnology to development which defined priorities for research in health, agriculture and energy applications likely to pay off in five to ten years; (2) a workshop (September 29-October 2, 1982) on the biology of insect vectors of animal and human diseases, with specific reference to research and training needs: (3) a workshop (November 4-9, 1984) on applications of microcomputers to agriculture, health and energy in developing countries; and (4) a series of publications on fast growing tree species which may be used for fuelwood.

DOCUMENTS AND REPORTS

"BOSTID Research Grants Program," Office of International Affairs, NAS/NRC, 7/2/85

PROJECT	SECTOR/SUBSECTOR/ACTIVITY		%
936-5542	AGR	NRE	18
Centrally Funded	AGR	FOR	17
Innovative	AGR	CRO	15
Scientific	ENY		15
Research	HLT		15
	ENG		20

APP. CAT.	OBLIGATIONS BY FISCAL YEAR ($000) THROUGH ACTUAL FY82	FY83	FY84	FY85	ESTIMATED FY86
SD	7,059	4,830	6,637	5,654	6,026

PROJECT STATUS: Active

LENGTH OF PROJECT/PACD: FY 1981 - Continuing

AID INPUTS	($000)
Total LOP	Continuing

CONTRACTOR

Multiple Grantees

AID CONTACT

John Daly, Office of Science Advisor
Room 720 SA-18
Agency for International Development
Washington, D.C. 20523

PURPOSE

To encourage the expansion of innovative scientific research in support of development.

AID-FINANCED INPUTS

1. Funding for individual research grants.

MAJOR OUTPUTS

1. Research reports.

AFRICA-SPECIFIC ACTIVITIES

Although research grants in agricultural production and other areas were in African countries, no forestry or energy research grants were in Africa. However, future research grants in Africa may encompass these areas.

SUMMARY

Research on terrestrial resources, marine resources, physical science, energy and health science is emphasized. Proposals are sought principally within the following six priority research modules: (1) biotechnology/immunology; (2) plant biotechnology; (3) chemistry for world food needs; (4) biomass resources and conversion technology; (5) biological control; and (6) biological diversity. The project uses a

SUMMARY (Continued)

variety of innovative grant mechanisms to challenge LDC and U.S. scientists to submit new ideas for tackling old programs. The continuation of existing research activities is not supported. All proposals are submitted to scientific review panels and are selected on a highly competitive basis. Funding periods normally do not exceed three years and most proposals do not exceed $150,000. If research funded by the project leads to major follow-up proposals, these are forwarded to AID and other donor research programs for consideration. The forestry component consists of research in agroforestry resources, tropical plants, leguminous trees, nitrogen-fixing trees, pine forests, palm and other areas.

STATUS

The project began in September 1981. Response from the scientific community has been enthusiastic. In FY 1981, 120 submissions were received; nearly 500 were received for the FY 1985 competition. The majority of submissions originated in LDCs. Two-thirds of the proposals funded in FY 1984 were awarded directly to LDC institutions. An additional one-third involved active LDC collaboration with U.S. scientists. As of April 1986, there were 33 grants in the forestry area totalling $4,272,888.

DOCUMENTS AND REPORTS

FY 1987 Congressional Presentation (status description)
Office of Science Advisor listing of grant submissions

PROJECT	SECTOR/SUBSECTOR/ACTIVITY		%	APP. CAT.	OBLIGATIONS BY FISCAL YEAR ($000) THROUGH ACTUAL FY82	FY83	FY84	FY85	ESTIMATED FY86	PROJECT STATUS	LENGTH OF PROJECT/PACD
938-0216 Centrally Funded (FVA) CAPE Promotion & Preservation of Renewable Natural Resources (Matching Grant)	AGR	FOR	100	SD	2,698	—	—	—	—	Completed	9/81 - 12/85

AID INPUTS	($000)
Total LOP	2,698

CONTRACTOR

Cooperative for American Relief Everywhere (CARE)
660 First Avenue
New York, New York 10016
(212) 686-3110
Beryl Levinger

AID CONTACT

John Grant, FVA/PVC/TR-I
Room 227B SA-8
Agency for International Development
Washington, D.C. 20523

PURPOSE

To improve and sustain the well-being and agricultural productivity of the rural poor in less developed countries through the promotion and preservation of renewable natural resources.

AID-FINANCED INPUTS

1. Technical assistance;
2. Program implementation; and
3. Program administration.

MAJOR OUTPUTS

1. Woodlots and individual planting programs;
2. Wood-burning stoves disseminated; and
3. Training.

HOST COUNTRY AND OTHER DONOR CONTRIBUTIONS

CARE made use of Peace Corps volunteers who provided technical assistance to agroforestry projects and leveraged significant levels of private cash, i.e., $2.7 million. Replication of successful agroforestry strategies were evident.

SUMMARY

CARE implemented the project through a coordinated program of host government-sponsored activities, community-supported projects, and private initiatives, and individual efforts in forestry and land management. The project was aimed at: (1) increasing fuelwood supplies through the establishment of woodlots and of individual planting

SUMMARY (Continued)

programs, reforestation, and soil conservation projects, and through the introduction of improved wood-burning stoves; (2) stabilizing and increasing agricultural production through soil conservation and forestry activities such as terracing, microcatchments, agroforestry and windbreaks; and (3) improving the quality of life through conservation and ecological measures to check deforestation, desertification and erosion.

STATUS

This matching grant supported 10 agroforestry projects. Under this grant, CARE provided valuable technical input through specific projects as well as enhancing its reporting, monitoring and strategic planning capabilities in this sector. It provided short-term consultant response to CARE field mission requests for project design, training assistance and evaluation. During the life of the project, approximately 8.6 million trees were planted, 20,000 acres reforested, and 90,000 participants benefitted. The program drew on the assistance of approximately 40 Peace Corps volunteers and also utilized Food for Peace Commodities. In AID's recent annual review of this grant, the success of the centralized approach to program coordination was demonstrated by the high regard for CARE's program among AID's technical assistance experts and other donors. The project was completed in December 1985. CARE Matching Grant activities are being continued under project 938-0267.

DOCUMENTS AND REPORTS

"Annual Report/Yearbook: CARE Renewable Natural Resources Program: FY 1983 Annual Report," 8/8/83
FY 85 ABS Activity Sheet (938-0267)

PROJECT	SECTOR/SUBSECTOR/ACTIVITY		%
938-0267	AGR	FOR	35
Centrally Funded	AGR	CRO	35
(FVA)	HLT		30
CARE Matching Grant			

APP. CAT.	OBLIGATIONS BY FISCAL YEAR ($000) THROUGH ACTUAL FY82	FY83	FY84	FY85	ESTIMATED FY86
SD	--	--	--	3,400	3,800
FN	--	--	--	200	--

PROJECT STATUS: Active

LENGTH OF PROJECT/PACD: 1985 - 1990

AID INPUTS	($000)
Total LOP	8,500

CONTRACTOR

Cooperative for American Relief Everywhere (CARE)
660 First Avenue
New York, New York 10016
(212) 686-3110
Beryl Levinger

AID CONTACT

John Grant, FVA/PVC/TR-I
Room 227B SA-8
Agency for International Development
Washington, D.C. 20523

PURPOSE

To consolidate and strengthen CARE's enterprise in providing funding and technical assistance for field projects to carry out CARE's comprehensive developmental strategies in agroforestry, primary health care (PHC), microenterprise development, and food aid.

AID-FINANCED INPUTS

1. Technical assistance;
2. Program implementation; and
3. Program administration.

MAJOR OUTPUTS

1. Approximately 160 projects provided with technical assistance;
2. Sixteen projects directly funded and operational; and
3. Forty-eight training workshops held and six training and field manuals prepared and disseminated.

HOST COUNTRY AND OTHER DONOR CONTRIBUTIONS

CARE is contributing $16,358,000 to this program.

SUMMARY

Under this five year matching grant, AID is providing partial support for CARE's multisectoral program with a thematic approach of rural capital formation (RCF). CARE's goal is to increase the availability and productive use of capital in the rural areas focusing on: (a) increased land productivity (agriculture and environmentally- related projects); (b) human resource development; (c) infrastructure development in support of capital formation; and (d) microenterprise

SUMMARY (Continued)

development (credit, marketing and skills training). Sectoral strategies in agroforestry, microenterprise development, PHC and food aid have been developed by CARE and represent a major commitment of CARE's present and future resources.

As in the case of CARE's previous matching grant in agroforestry (938-0216), this grant will fund some 18 discrete projects worldwide, including five projects originated under the first matching grant, as well as in-house and field capacity to provide technical assistance to CARE's country missions. Ten to twelve new or substantially modified projects are being added during the course of RCF implementation in the PHC and microenterprise development sectors. Four field-based regional technical assistance teams are being established to provide technical assistance, (e.g. project design, evaluation planning and execution, technical backstopping, and training). Regional and country-specific workshops will be conducted for CARE staff and selected project participants on technical operational issues, such as water use management, sylviculture, small business administration, and health education systems. Workshops will also be held for general development topics, (e.g., project design, program monitoring and evaluation, participatory processes, and staff training). Six training and field manuals will be produced on subjects related to design, implementation and evaluation.

STATUS

The project began in the fourth quarter of FY 1985. It is basically on schedule. In May 1986, CARE began hiring new staff and setting up regional technical support.

DOCUMENTS AND REPORTS

Congressional Presentation, Project Activity Sheet, FY 1986

PROJECT	SECTOR/SUBSECTOR/ACTIVITY		%	APP. CAT.	OBLIGATIONS BY FISCAL YEAR ($000) THROUGH ACTUAL FY82	FY83	FY84	FY85	ESTIMATED FY86	PROJECT STATUS	LENGTH OF PROJECT/PACD
938-0268 Centrally Funded (FVA) World Wildlife Fund Matching Grant	AGR	NRE	100	SD	—	—	—	335	335	Active	8/85 - 10/88

AID INPUTS	($000)	CONTRACTOR	AID CONTACT
Total LOP	1,000	World Wildlife Fund (WWF) 1255 23rd Street N.W. Washington, D.C. 20037 Ms. Paige MacDonald	John Grant, FVA/PVC/TR-I Room 227B SA-8 Agency for International Development Washington, D.C. 20523

PURPOSE

To provide support to the grantee's development program in order to improve the management of critical wildland areas to assure that they can be used sustainably in support ot development needs while preserving ecological values.

AID-FINANCED INPUTS

1. Technical assistance;
2. Program implementation; and
3. Program administration.

MAJOR OUTPUTS

1. Protected wildlife; and
2. Trained local staff and residents.

HOST COUNTRY AND OTHER DONOR CONTRIBUTIONS

The World Wildlife Fund is contributing $1,196,76 for salaries, operating expenses and direct project costs. Approximately one-third of the project funds are for activities in African countries.

AFRICA SPECIFIC ACTIVITIES

A direct in-country grant is being provided to Malawi. Discussion have also been held concerning adding activities in Zambia and the Central African Republic.

SUMMARY

This is a 50/50 matching grant, implemented by WWF. The program focuses on the development of strategies for watershed protection, fisheries,

SUMMARY (Continued)

2. Wildlife areas where forestry or other resource development projects can be undertaken in buffer zones surrounding the designated unit, without causing damage to the central area;

3. Wildland areas that protect key resources for the benefit of people in adjacent areas. Examples are fisheries nurseries which sustain artisinal and commercial fishing outside the critical area, and watershed protection areas which can sustain downstream hydroelectricity, potable water and irrigation services.

Direct, in-country program support is being provided to Haiti, Dominica, St. Lucia, Barbados, Mexico, Guatemala, Honduras, Costa Rica, Botswana, Rwanda, Ecuador and Peru.

STATUS

Project funding began in September 1985. As of September 1986, the bulk of activity in Africa has been focused on developing a project in Lake Malawi, integrating the National Park and World Heritage Site with sustainable use of the fishery resources in the surrounding communities. Reportedly, the lake may be the biologically most diverse fresh water fishery in the world, while at the same time providing 70% of the protein needs of Malawi. The proposal has been through two drafts and discussions have been held with the Peace corps concerning their possible involvement. Discussions have also been held concerning the Lunagwa Integrated Rural Development Project in Zambia. Zambia is not presently an approved country for the Wildland program; however, if upon further investigation this project appears capable of fulfilling its promise, a formal request may be sent forth for approval. The effort represents a new approach to African wildlife seeking to improve management of a

wildland utilization and management of native forests in three broad categories:

1. Wildland areas where a major management objective involves sustainable/rational use of natural resources, particularly as they relate to people living within them. These include areas such as natural reserves and parks inhabited by indigenous tribes and rural communities;

national park and upgrade the living standards of local residents through conservation, sustainably utilization and control of wildlife and other natural resources of the area. Several other projects, including one in the Central African Republic are also being investigated.

DOCUMENTS AND REPORTS

Grant authorization and project description, 9/27/85
Status Report, 4/7/86

U.S. PL 480 TITLE II CONTRIBUTION TO WORLD FOOD PROGRAM
FOOD FOR WORK

COUNTRY/PROJECT NO./TITLE			TOTAL COST TO WFP ($000)	DURATION	U.S. CONTRIBUTION ($000)
Burkina Faso (Upper Volta)	2239 Exp	Multipurpose Rural Development	33,293	10/81 - 10/86	1,349

ACTIVITY

Involves a reforestation sub-project (some 8,300 hectares), strengthening water resources, erosion control works, establishment of village woodlots, nurseries, and maintenance of plantations (20,000 hectares).

PL 480 TITLE II FOOD FOR WORK THROUGH PVO

COUNTRY	PRIVATE VOLUNTARY ORGANIZATION	VALUE OF COMMODITIES ($000)	ACTIVITIES
Burkina Faso	Catholic Relief Services	191	This program has an extensive sub-activity in reforestation, specifically in tree planting of neem, cassia, eucalyptus, nere and flamboyants. Remuneration for labor is in the form of commodities. Interviews conducted during 1984 by Peg Clement with CRS staff members in New York revealed that there probably is limited forestry activity in Food for Work schemes in Burkina Faso, but no documentation was available. Older figures show that under the auspices of CRS, $1,914,000 worth of commodities (or 229.5 metric tons) was imported to be used as remuneration for labor in extensive reforestation efforts, specifically in tree planting of neem, cassia, eucalyptus, nere, and flamboyants.

PL 480 TITLE II FOOD FOR WORK THROUGH PVO

COUNTRY	PRIVATE VOLUNTARY ORGANIZATION	VALUE OF COMMODITIES ($000)	ACTIVITIES
Burundi	Catholic Relief Services	303	This Food for Work Program has a sub-activity in which commodities are to be used as remuneration for labor in small reforestation projects, such as land clearing, tree planting and soil conservation measures. No specific figures are available, at this time, with respect to total number of hectares or density of tree plantations.

COUNTRY/PROJECT NO/TITLE

Cape Verde Emergency Food Aid

The Cape Verde Section 206 program is the only one in Africa with significant conservation forestry components. A mid-term evaluation of this program took place in October, 1983.

Cape Verde received Title II Emergency Food Aid from FY 77 to 1981. Revenues from food aid sales financed a large labor-intensive rural public works program in reforestation and environmental rehabilitation. During this period, 95,000 trees were planted (55,000 in FY 80 and 40,000 in FY 81) and many soil and water conservation measures and hydro-geological surveys were undertaken. Cape Verde has had a three year Section 206 Food for Development Program since FY 82 in lieu of recurrent emergency food aid programming. According to a Mission staff member on home leave, 15,000 MT of corn is provided to the GOCV annually, which accounts for roughly one-third of the total food aid of the country. The corn is made available for purchase by workers who themselves receive cash remuneration for their labor. There is evidently no corruption in the system.

The program funds the following activities in soils and water conservation:

Eastern Santiago: Control of soil erosion in four watershed areas (three are extensions of rural works under AID Rural Works project 655-0001), through the construction of soil and water retention structures (check dams, terraces, dikes, contour ditches). Tree planting, not foreseen in the original Project Paper, is indeed taking place as a conservation measure, and involves 200 hectares of fruit trees.

Sao Filipe and Sao Francisco: Control of soil erosion in two watershed areas, through construction of soil and water retention structures, and a large-scale reforestation which includes the following benchmarks:

- 200 hectares of watersheds, with 100,000 trees for pasture research;
- 1,300 hectares with 650,000 trees (native and imported species) to establish part of the national forest reserve (to provide saplings for reforestation programs around the country).

Tarrafal: Extension of conservation works implemented as part of the Tarrafal Water Resources Project (655-0003) to a greater area of the valley next to the original project site, through construction of terraces, contour ditches, dikes, water catchment dams, and some tree planting. Achievements between January 1982 and June 1983 were 87,350 trees planted.

U.S. PL 480 TITLE II CONTRIBUTION TO WORLD FOOD PROGRAM
FOOD FOR WORK

COUNTRY/PROJECT NO./TITLE			TOTAL COST TO WFP ($000)	DURATION	U.S. CONTRIBUTION ($000)
Congo	2658	Reforestation	2,000	3 years	N/A

ACTIVITY

This project was requested April 27, 1982. No documentation found on dates, tonnage and dollar commitment.

PL 480 TITLE II FOOD FOR WORK THROUGH PVO

COUNTRY	PRIVATE VOLUNTARY ORGANIZATION	VALUE OF COMMODITIES ($000)	ACTIVITIES
Djibouti	Catholic Relief Services	3,084	Under the auspices of CRS, $3,084,000 (or 587 metric tons) of food was procured for forestry projects and construction of water catchment basins begun in 1982 and continued in FY83 in Ali Sabieh district. Also described were the establishment of a nursery and the planting of seedlings, using refugee and national labor. This FFW activity was described as being one small component and supplemented with ESF funds and an OPG to CRS.

Objectives

1. To initiate and support activities which will sustain and develop the productivity of arid and semi-arid land; and

2. To initiate among others, forestry community-level activities which will make more food available to nutritionally vulnerable people.

Accomplishments to Date

In FY 82, approximately 7,000 acacia tree seedlings were planted in the Aramadoule refugee camp and in Ali-Sabieh district. An estimated 55,000 seedlings were produced by March 1983 for reforestation in Ali Sabieh district. (New York offices of CRS provided the statistic of 40,425 seedlings planted in the Aramadoule nursery between July and September 1983, including kumquat, lemon, cyprus, acacia, and guava.) In addition, two hectares of land were cleared; an irrigation system was installed; and 120 date palm seedlings were planted. Several hundred more seedlings were imported and planted in the 1983 season. Other tree plantings were:

1. Two hectares for 286 sweet orange seedlings;
2. 520 other fruit seedlings in three other districts; and
3. 500 lemon or banana seedlings in February 1983 in Dikhil district.

So far, it is reported that there is a 100% take rate in the plantations. Program costs for the forestry components were $19,500 (for tools, watering cans, equipment, and so forth).

U.S. PL 480 TITLE II CONTRIBUTION TO WORLD FOOD PROGRAM
FOOD FOR WORK

COUNTRY/PROJECT NO./TITLE			TOTAL COST TO WFP ($000)	DURATION	U.S. CONTRIBUTION ($000)
Ethiopia	2488 Exp	Rehabilitation of Forest, Grazing and Agricultural Land	88,334	1980-1985	23,254

ACTIVITY

This project (approved July 1979) was an outgrowth of two ongoing WFP projects: #2241 "Rehabilitation of Agricultural Land" and #2393 "Reforestation." The latter had received no U.S. commodity support, but achieved 95% of its target. The former, which did receive Title II support, achieved only 11% of its target for food utilization. The broad objectives of the newer joint project are to improve future agricultural productivity in degraded catchments and sub-catchments by applying suitable soil and water retention techniques of vegetation and conservation of lands used for food crops, grazing, or forest products. Activities include the determination of how much deforested land is experiencing or facing degradation, the reforestation of 9,300 hectares annually, terracing, production of seedlings, the protection of hillsides prone to erosion and land degradation over 8,107 hectares, terrace construction over 27,000 kilometers, forestry road construction, and the planting of some 14 species of trees over some 13,500 hectares in a two-year period.

PL 480 TITLE II FOOD FOR WORK THROUGH PVO

COUNTRY	PRIVATE VOLUNTARY ORGANIZATION	VALUE OF COMMODITIES ($000)	ACTIVITIES
Kenya	Catholic Relief Services	4,914	This Food for Work Program has a sub-activity in which commodities are to be used as remuneration for labor. New York-based CRS staff indicated that there is limited Food for Work forestry activity presently being implemented in Kenya. Old figures reveal that under the auspices of CRS, $4,914,000 worth of commodities (or 1603 metric tons) was utilized as remuneration for labor under a Food for Work scheme that included terracing of semi-arid lands in northern Kenya; also Kilifi, Marsabit, and Kitui districts. Planting of hardwood trees and soil conservation projects are continuing from previous years in the Kwale district. FY80: 288 acres tree planting; FY81: 15 acres tree planting; 950 acres terraced; FY82: 50 acres terraced.

U.S. PL 480 TITLE II CONTRIBUTION TO WORLD FOOD PROGRAM
FOOD FOR WORK

COUNTRY/PROJECT NO./TITLE			TOTAL COST TO WFP ($000)	DURATION	U.S. CONTRIBUTION ($000)
Kenya	2589	Rural Development and Settlement in Arid and Semi-Arid Areas	5,512	1983-88	3,307

ACTIVITY

Assistance to three sub-projects: Bura Project, for reforestation activities; Bura Irrigation Settlement Project, establishment of 5,800 hectares of afforestation plantations for building poles and firewood, a tree nursery, planting of shade and amenity trees, and establishment of a forestry research station; and the Margarini Land Settlement Project, tree planting and soil conservation. Arid Region Irrigation Development Projects, six irrigation schemes developed with a soil conservation and reforestation program in the six schemes. Baringo Semi-Arid Areas Pilot Project, forestry nursery for seedlings production of selected species for planting in soil conservation areas.

U.S. PL 480 TITLE II CONTRIBUTION TO WORLD FOOD PROGRAM
FOOD FOR WORK

COUNTRY/PROJECT NO./TITLE			TOTAL COST TO WFP ($000)	DURATION	U.S. CONTRIBUTION ($000)
Kenya	2669	Rehabilitation Activities in the Turkana District	4,001	New Pending Approval	N/A

ACTIVITY

Consists of 12 different sub-projects which include irrigation schemes, forestry development, construction of feeder roads and shallow well construction. The forestry component will involve shelterbelt and woodlot establishment, including setting up of nurseries, construction of bunds, digging of holes, planting of trees, and maintenance works.

U.S. PL 480 TITLE II CONTRIBUTION TO WORLD FOOD PROGRAM
FOOD FOR WORK

COUNTRY/PROJECT NO./TITLE	TOTAL COST TO WFP ($000)	DURATION	U.S. CONTRIBUTION ($000)
Liberia 703 Afforestation	2,264	4/72 to 1985	615 (figures unreliable)

ACTIVITY

The establishment of 20,000 acres of man-made forests. Expansion 703 PI a three year project, was requested in March 1982. Project was evaluated in 1982 and revised.

U.S. PL 480 TITLE II CONTRIBUTION TO WORLD FOOD PROGRAM
FOOD FOR WORK

COUNTRY/PROJECT NO./TITLE	TOTAL COST TO WFP ($000)	DURATION	U.S. CONTRIBUTION ($000)
Madagascar 2661 Forestry and Regional Development	3,030	3 years 1982-85	440

ACTIVITY

Assistance to seven sub-projects--reforestation of Mangoro Valley and two regional plantations for a total of 18,000 hectares pine and 1,400 hectares Eucalyptus. Also, maintenance of a forestry training center, and of forestry resources; establishment of pilot projects for rehabilitation of degraded lands, and pasture development.

U.S. PL 480 TITLE II CONTRIBUTION TO WORLD FOOD PROGRAM
FOOD FOR WORK

COUNTRY/PROJECT NO./TITLE			TOTAL COST TO WFP ($000)	DURATION	U.S. CONTRIBUTION ($000)
Malawi	2145 Exp II	Forestry Development on the Viphya and Chambe Plateaux	3,064	1983- 86	904

ACTIVITY

Project emphasis has shifted from expansion and development of forest resources for export-oriented pulp mill to conservation and maintenance of resources. Assistance to: Chambe Basin for harvesting 500 hectares of pine plantation; construction of a 15 km. forest access road linking the Viphya plantation with the main road network; maintenance of the Viphya plantation.

U.S. PL 480 TITLE II CONTRIBUTION TO WORLD FOOD PROGRAM
FOOD FOR WORK

COUNTRY/PROJECT NO./TITLE			TOTAL COST TO WFP ($000)	DURATION	U.S. CONTRIBUTION ($000)
Mali	2231 Exp II	Multipurpose Project for Development of Rural and Natural Resources	31,167	3 years 1985-1987	8,457

ACTIVITY

Includes assistance for a forestry resources sub-project. In the regions of Bamako, Mopti and Segou: clearing and planting 1,750 hectares; management and opening up of firebreaks 1,700 km; opening up of roads 200 km; forest lodges, 45; production of: plants 9 million; charcoal 1,000 tons, firewood 220,000 steres (one cubic meter); building poles 30,000; and kapok 2,000 cubic meters. (Total of 1,248,300 man-days). This project will expand the above as well as add another small sub-project: training in forestry conservation and management.

U.S. PL 480 TITLE II CONTRIBUTION TO WORLD FOOD PROGRAM
FOOD FOR WORK

COUNTRY/PROJECT NO./TITLE		TOTAL COST TO WFP ($000)	DURATION	U.S. CONTRIBUTION ($000)
Mozambique 2514	Forestry Development in Manica and Maputo Provinces	19,371	4/81 - 4/86	N/A unclear if there is U.S. committment

ACTIVITY

Plantation (36,500 hectares), fire control (216,000 hectares), wood production and road construction.

U.S. PL 480 TITLE II CONTRIBUTION TO WORLD FOOD PROGRAM
FOOD FOR WORK

COUNTRY/PROJECT NO./TITLE			TOTAL COST TO WFP ($000)	DURATION	U.S. CONTRIBUTION ($000)
Niger	2646	Multipurpose Rural Development	2,131	1 year	751

ACTIVITY

Multipurpose project includes planting of green belts, 700 hectares; regeneration of natural vegetation, 480 hectares of Gao trees and 600 hectares of Acacia Albida; reforestation in the Bouza district planting of 20 kms of windbreaks of eight hectares of village woodlots; community reforestation program 30 hectares as an experiment to combat desertification and achieve optimum agro-sylvo-pastoral equilibrium; and bush fire control works, 1,400 kms. of firebreaks (12 meters wide) in each of seven areas.

U.S. PL 480 TITLE II CONTRIBUTION TO WORLD FOOD PROGRAM
FOOD FOR WORK

COUNTRY/PROJECT NO./TITLE			TOTAL COST TO WFP	DURATION	U.S. CONTRIBUTION ($000)
Senegal	2230 Exp I	Integrated Agricultural Development in the Sine Saloum Area	6,105	10/82 - 10/86	624

ACTIVITY

Includes assistance for the establishment of windbreaks and Eucalyptus and Acacia planting, 10,000 hectares; to reduce soil erosion; establishment of wood-lots (about 5,500 hectares) and soil fertilization; and construction of village seed stores. Project was evaluated in December 1980 under original phase.

PL 480 TITLE III

COUNTRY	PROGRAM COST ($000)
Senegal	28,000

ACTIVITIES FINANCED

Title III funds support the following energy, forestry/natural resources activities at approximately the levels indicated:

Agricultural Policy Studies ($1,991,000): These studies analyze food price policy, marketing, and investment potential. They are being performed by the Societe Nationale d'Etudes de Developpement en Afrique (SONED) and ISRA (Institut Senegalais de Recherches Agricoles). In addition, Princeton University in association with the Ministry of Plan and Cooperation is analyzing the effect of a series of factors upon a strategy of agricultural development for Senegal. These factors include fluctuations in climate, prices, and exchange rates, the levels and policies of foreign aid agencies, and the functioning of Senegal's development organizations and agricultural credit system.

Decentralization of Research ($4,315,000): As part of AID's assistance to Senegal's major effort to decentralize agricultural research by ecological regions Title III funds are being used in the construction and equipment of seven regional research centers and one experimental station. In addition, these funds provide support to ISRA's Production Systems Research Department which undertakes farming systems research, as well as to ISRA's Macro-Economic Unit to carry out research on food, nutrition, and agricultural policies.

Environmental Rehabilitation Study ($229,000): The Ministry for the Protection of Nature will conduct a comprehensive study analyzing the constraints (technical, legal, financial, political, and social) to sound natural resource use in the Groundnut Basin. The analysis will lead to recommendations for measures to be taken to protect and rehabilitate the Groundnut Basin's natural resource base, consistent with the increased productivity of the agriculture sector. In conducting this study, the Ministry will invite the select participation of all concerned GOS agencies and of interested donors so that the conclusions and recommendations will receive broad support.

The study team will first identify and carefully examine the reasons for the deterioration of the Groundnut Basin. Next the team will postulate alternative strategies to promote intensive agriculture, fuelwood self-sufficiency, water management and increased mass awareness and participation in environmental conservation. The team will then focus upon the most appropriate course of action, including specific pilot studies and activities, and outlining specific quantifiable inputs necessary to rehabilitate Senegal's natural resource base in the Groundnut Basin. The study will produce a final report to be critiqued by a committee of GOS and donor representatives for eventual submission to the President.

Fund for Land Regeneration ($314,000): Title III financing will be made available to support pilot projects and applied research in the Groundnut Basin for land and water management, soil regeneration, and fuelwood production. Priority will be given to activities involving substantial village participation, a minimal demand on Government infrastructure, and appropriateness to the rural milieu.

COUNTRY	PROGRAM COST ($000)
Senegal (cont'd)	

ACTIVITIES FINANCED

The ultimate goal of this fund is to increase the Government's practical knowledge concerning land regeneration activities and to further develop the institutional capacity necessary to implement such activities. Examples of activities that may be funded are: earth dams for water harvesting or salt intrusion prevention; livestock corrals and feedlots plus manure pits for compost production; Acacia albida intercropping; establishment of windbreaks; soil liming, green manure production, deep plowing, or soil treatments, or applied research in these areas.

Hydrogeological Study ($1,086,000): The Division of Hydrological Studies in the Ministry of Hydraulics will carry out a study of the subterranean aquifer in an area beginning in the eastern Sine-Saloum and stretching to Tambacounda. This study will aid in the planning of development activities in an area of Senegal which will be very important for future resettlement programs. This groundwater study is directly linked to the idea of improved resource management. By providing new knowledge of aquifer capacities, the study will contribute to the rational development of this land primarily for agricultural production. It will also build upon other studies done in recent years by the Division of Hydrological Studies. The Sine and Gambia River Basins (to the West), the Casamance (to the South), Senegal Oriental (to the East), and the Maestrichtean (deep aquifer) studies will all be enhanced due to the interrelationships existing between aquifers in these zones. In addition, by implementing the study, the Division of Hydrological Studies will further develop its capacity to mount similar efforts in the future.

Diourbel Village Reforestation ($114,000): This project, which was previously funded bilaterally (685-0247), will be continued under Title III. Funds will be made available to the Forestry Service in order to continue to aid village groups to develop the technical and organizational capacity needed for the establishment and maintenance of village-level tree nurseries, thus decreasing dependence on outside sources for seedlings. Seedlings will be produced for village woodlots, soil regeneration with Acacia albida, shade and fruit trees, and windbreaks. Forestry agents, in collaboration with Peace Corps volunteers, will continue to aid villagers in determining reforestation activities that most closely correspond to their development needs.

Village Woodlot Development ($969,000): The Government Forestry Service has requested local currency financing for the strengthening of infrastructure and equipment related to regional and departmental nursery construction and maintenance in the Fleuve, Sine Saloum, Louga, Diourbel, Cap Vert, Senegal Oriental, Thies and Casamance regions. The nurseries are directly linked to the development of rural woodlots which will be self-financed and maintained by villagers with the technical assistance of forestry agents. The Government increasingly sees popular participation as perhaps the key element in the fight against desertification and for environmental protection.

Adequate provision of seedlings will enable the Forestry Service, the regional development agencies and other rural sector ministries to better plan reforestation campaigns and meet the demand for seedlings in rural areas where, in the past, supply has either been insufficient or non-existent.

Niayes Reforestation and Dune Stabilization ($6,714,000): The provision of Title III funds will enable the Forestry Service to continue two highly successful dune stabilization projects which seek to protect the Niayes zone, a valuable vegetable producing area stretching north from Dakar along the coast.

COUNTRY	PROGRAM COST ($000)	ACTIVITIES FINANCED
Senegal (cont'd)		During 1985 and 1986 the Kayar project will meet the original Phase I objective of 3700 hectares of dune stabilization in the Niaga-Kayar-Mboro area. Extension funds will be used to expand south in order to protect Niayes in the Pikine area, just north of Dakar. Title III funds will also be used to support the Kebemer project (Fas Boye-Lompoul-Potou) which was begun in 1975 with UNDP financing that ended in 1983. Funds will be used primarily for expanding the band of trees situated on maritime dunes from 200 to 300 meters, and also for the stabilization of continental dunes, the regeneration of sandy soil through Acacia albida intercropping, the establishment of Eucalyptus and Anacardium (Cashew) windbreaks in gardening areas, and the plantation of 25 hectares of village woodlots. Bandia Forest - Maintenance and Research ($329,000): Title III funds will be used to maintain 2,000 hectares of fuelwood plantation established under the Fuelwood Production Project (685-0219), to continue accompanying research activities, and to begin natural forest management. Maintenance consists of weeding, pest control, clearing of fire lanes, and surveillance by guardians. Without maintenance, the plantation would be subject to forest fire, competition with weeds, and damage by pests and livestock. The National Center for Forestry Research will continue research in the following areas: improvement of nursery, plantation, and maintenance techniques; the effects of Eucalyptus on soil and water tables; adaptation of numerous tree species to climate conditions varying between regions. In addition, research will begin in 1984 on natural forest management techniques. This research will be extremely valuable to the GOS and donor organizations in planning future forestry projects throughout Senegal. Energy Conservationn Cookstove Program ($360,000): The Senegal Ministry of Scientific and Technical Research (MRST) has requested a two year extension of the successful cookstove program which was originally funded as one activity under Renewable Energy (685-0238). The Center for Renewable Energy Research (CERER) has managed this pilot activity. During the second phase, the project will concentrate on transferring cookstove diffusion efforts to the private sector, and developing the capacity of the rural development services (the Ministry of Social Development, the Rural Development Agencies, and the Rural-based Technical Extension Service--Centre d'Expansion Rurale Polyvalent) to facilitate this transfer. In addition, project personnel plan to develop a portable metal stove for fuel conservation in urban areas. Training in Improved Charcoal Production ($429,000): This program, which was previously funded under Renewable Energy (685-0238), seeks to slow environmental degradation in two regions of Senegal where charcoal production is the greatest, through the introduction into these areas of the Casamance kiln. An estimated 480 charcoal makers will be trained in the regions of Senegal Oriental and the Upper Casamance. The program will be carried out by the Forestry Service.

PL 480 TITLE III

COUNTRY	PROGRAM COST ($000)	ACTIVITIES FINANCED
Senegal (cont'd)		In an effort to accelerate private charcoal producer acceptance of this method, the creation of a model association is foreseen in each of the two target zones. These associations, composed primarily of charcoal makers who have received Casamance kiln training, will have access to credit for the purchase of tools, chimneys and fuel for transport of wood and charcoal. In addition, rural-based Forestry Service agents will be trained in Casamance kiln construction and production techniques at the recently created forestry training center in Kaolack. This will aid in developing the forestry service's capacity to monitor improved charcoal production activities when recently-trained charcoal makers return to their villages.

Source: "An Overview of the Current USAID Program in Senegal," USAID, May, 1984.

U.S. PL 480 TITLE II CONTRIBUTION TO WORLD FOOD PROGRAM
FOOD FOR WORK

COUNTRY/PROJECT NO./TITLE			TOTAL COST TO WFP ($000)	DURATION	U.S. CONTRIBUTION ($000)
Somalia	719 Exp	Rangeland Development and Reforestation		1974-1985	624

ACTIVITY

This project is the earliest donor-support reforestation activity in the country. When it started in 1974, it was envisaged as a development assistance from the World Food Program (WFP) to the Government of the Somali Democratic Republic which aime at assisting the restoration and development of rangeland productivity, the conservation and expansion of forest resources as a national asset, and the stabilization of sand dunes, while creating employment opportunities for those namades without livestock or any other source of income. An attempt to achieve these goals was effected by providing food for work and token incentive payment to workers. These workers were employed to establish and guard some 762 sites of range reserves, cooperative ranches, demonstration ranches and fodder farms in the rangelands throughout the country. The workers were also to be used in setting up some 95 sites of forestry activities comprising the demarcation and protection of forest reserves, the establishment of forest nurseries, forest research sites, plantations and town shelterbelts. Sand dunes would be stabilized through planting of shrubs and moving the dunes on the Indian Ocean coast. Food and incentives were also provided for workers mobilized for the tsetse fly control spraying operations along the Shabelli and Juba rivers. The objective was to open up the development of these areas for grazing and irrigated agriculture. The original phase of the project lasted for a little over five years at a cost of 3.5 million dollars. The project has since been expanded for six more years at an additional cost of 20.2 million dollars and was scheduled to terminate in June, 1985. However, a second expansion of 6.7 million dollars over three years has been proposed.

The evaluation of the original phase was done in November/December 1977, and the expansion phase was evaluated in April/May 1984 by a join WFP/FAO evaluation team. At the time it was felt the project had not accomplished as much as it should have. The range component was active on 218 sites (a total area of 30,000 km^2) utilizing 3,150 workers--an achievement of 18 percent of the target. Soil and water conservation activities (which were not originally included in the plan of operations) were being undertaken at about 20 locations, employing an average of 30 workers. Even though forestry activities were claimed to be going on in 222 sites (a 136 percent increase over the target), the actual evaluation of performance (output) was difficult because of the lack of records on the number of workers engaged in each activity, the duration of the engagement with the activity, the number of seedlings produced, distributed and actually planted, as well as the transfer of workers from one job to another according to the needs of the work. The estimated national production cost average of 220 person-days per thousand plants was thought to be extremely high when compared with production figures from other countries (Tunisia, six person-days per thousand plants; Nigeria, eight person-days per thousand plants). Accomplishments in sand dune stabilization were thought to be satisfactory since the project had made a contribution by stabilizing 1,500 hectares during the preceeding four years.

The evaluation recommended the intensification of the formation of grazing associations for the range component. This would be done through the thorough demarcation and accurate measurement of all range reserves and the establishment of a pricing policy for the fodder produced in fodder farms. The forestry component was required to attain an acceptable level of nursery productivity and forest tree plantation using the work norms of 67 person-days per 1,000 seedlings, 275 person-days per hectare for community tree planting and 125 person-days for sand dune stabilization. The number of nurseries were to be reduced and only those producing more than 100,000 seedlings per year were to be maintained.

Shortfalls in the project accomplishment have been blamed on the shortage of technical personnel, budgetary constraints, deficiencies in supervision and recording of project performance and the dispersion of project sites over a vast area, resulting in some logistic and administrative difficulties. Nevertheless, a second expansion of three years has now been proposed at a further cost of 6.7 million dollars. This new project is along the same lines as the on-going project, but has more modest targets. The proposal is awaiting approval by the Governing Council of WFP, and is expected to be obtained shortly.

PL 480 TITLE I SELF-HELP MEASURE

COUNTRY	PROGRAM COST ($000)
Somalia	15,000

SELF-HELP MEASURE

Self-Help Measure to be financed with local currency generated by sale of commodities includes continuation of a sand dune stabilization program to control encroachment on farm lands. Number of hectares targeted for stabilization in 1983 was 400.

From 1977 until December 15, 1982 $50 million was monetized into local Somali shillings for dune stabilizaton, shelter belts, and possibly a northern rangelands project. However, the money is simply attributed to the budget items in a general way. In the FY 82 agreement, that 2,500 hectares of sand dunes were to be stabilized in 1982 on farmlands. In the FY 83 agreement, another 400 hectares were to be stabilized. "The bulk of the generated local currency will be used to finance activities designed to increase agricultural, livestock, health, manpower, and private sector developmental objectives."

The GSDR is contributing the following amounts to the two forestry-related projects:

1. Forestry/Range Development:

FY84:	$300,000
FY85:	$200,000
FY86:	-
TOTAL:	$500,000

2. CDA Forestry Development:

FY84:	$700,000
FY85:	$700,000
FY86:	$500,000
TOTAL:	$1,900,000

Under #2, CDA Forestry, in a CARE Project Description (Refugee Reforestation in Hiran), it is noted that the GSDR contribution to the project comes from these PL 480 Title I sales revenues. This input amounts to:

- $25,073 for vehicles and running costs, furniture, office rent, and so forth in year one;
- $254,086 in year two;
- $296,707 in year three;
- $288,497 in year four for a total of $864,363.

U.S. PL 480 TITLE II CONTRIBUTION TO WORLD FOOD PROGRAM
FOOD FOR WORK

COUNTRY/PROJECT NO./TITLE			TOTAL COST TO WFP ($000)	DURATION	U.S. CONTRIBUTION ($000)
Sudan	2665	Restocking of the Gum Belt	6,531	1983-1988	'''

ACTIVITY

Assistance for planting of 82,400 feddans over 34,600 hectares of Acacia Senegal trees over a five year period and establishment of gum collectio at the village level.

U.S. PL 480 TITLE II CONTRIBUTION TO WORLD FOOD PROGRAM
FOOD FOR WORK

COUNTRY/PROJECT NO./TITLE			TOTAL COST TO WFP ($000)	DURATION	U.S. CONTRIBUTION ($000)
Sudan	2650	Development of Tea Production in Southern Sudan	1,140	New-pending approva	N/A-new

ACTIVITY

The development of 80 hectares of firewood plantations and the development of 425 hectares of tea.

PL 480 TITLE III

COUNTRY	PROGRAM COST ($000)	ACTIVITIES FINANCED
Sudan	20,000	Agreement was signed on December 22, 1979 for a total of 100 million dollars for the procurement of wheat on the most concessional terms over a period of five years (1979-84). Under this agreement the GOS agrees to fund policy studies and local costs of ongoing and specifically approved new development projects with the local currencies generated by the sale of Title III wheat. This is called the Rural Renewable Energy Project #650-0041 for FY81-87 but details are missing. The cost is $20 million. The project is primarily directed at reducing the consumption of wood through its more efficient utilization, as well as through the substitution of other renewable energies for wood. Efforts to increase the supplies of wood available for village energy purposes (as through small-scale reforestation efforts) will also be promoted. The project will also be concerned with developing alternative sources of energy for rural areas and with means to reduce labor and/or money expended in performance of work at the village level.* (The Federal Republic of Germany Renewable Energy Project will complement this project's purpose and goals.) An evaluation was done in October 1982.

*The latest evaluation of the Sudan Title III program was conducted October 2 - 17, 1982.

U.S. PL 480 TITLE II CONTRIBUTION TO WORLD FOOD PROGRAM
FOOD FOR WORK

COUNTRY/PROJECT NO./TITLE			TOTAL COST TO WFP ($000)	DURATION	U.S. CONTRIBUTION ($000)
Tanzania	2667	Assistance to Refugee Settlements	968	3 years	N/A-new

ACTIVITY

Activities include 1) agriculture and infrastructure development in Kigoma Region, including land clearing, reforestation in three districts (195 hectares), 2) fishpond construction, 3) road upgrading, and 4) establishment of educational facilities.

U.S. PL 480 TITLE II CONTRIBUTION TO WORLD FOOD PROGRAM
FOOD FOR WORK

COUNTRY/PROJECT NO./TITLE		TOTAL COST TO WFP ($000)	DURATION	U.S. CONTRIBUTION ($000)
Togo	402 Multi-Purpose Ext II Rural Development	8,304	4 years	N/A

ACTIVITY

Some forestry activity noted--1,500 hectares of plantations, 90 km of fire-breaks, and 20 km of forest tracks.

U.S. PL 480 TITLE II CONTRIBUTION TO WORLD FOOD PROGRAM
FOOD FOR WORK

COUNTRY/PROJECT NO./TITLE			TOTAL COST TO WFP ($000)	DURATION	U.S. CONTRIBUTION ($000)
Uganda	2642Q	Multipurpose Rural Development in Karamoja Region	1,384	New Pending 1 year for Quick-Action project, then 3 years for Multi-Year Project	5,368

ACTIVITY

Emphasis on tree plantations and soil preservation; rehabilitation of a nursery and establishment of nine others; four plantations to be rehabilitated and extended. Production of charcoal also. Supportive of the UNSO anti-desertification project.

U.S. PL 480 TITLE II CONTRIBUTION TO WORLD FOOD PROGRAM
FOOD FOR WORK

COUNTRY/PROJECT NO./TITLE			TOTAL COST TO WFP ($000)	DURATION	U.S. CONTRIBUTION ($000)
Zambia	2612	Assistance to Forestry	1,784	4 yrs 1983-1987	not yet programmed

ACTIVITY

Assistance is for 12,500 workers and their families for the planting of 1,000 hectares per year of pine and Eucalyptus in centers of industry within the copper belt. Also includes production of fuelwood, charcoal, and building materials and establishment of village woodlots, forestry plantation and rehabilitation of deforested areas around cities to help assure availability of fuelwood and charcoal to increasing urban populations.

APPENDICES

APPENDIX A

INDEX OF PROJECTS BY COUNTRY

Notes:

1. Projects are organized alphabetically by country.

2. Projects which have activities in more than one country, such as Sahel, Africa Regional and Centrally Funded projects, are listed under each country where the project is active.

3. Projects which are Africa-wide or region-wide, which have no specific country activities designated are listed as such.

INDEX OF PROJECTS BY COUNTRY

TABLE A.1

COUNTRY & PROJECT NO.	TITLE	TYPE OF FUNDING	PAGE NO.
Benin			
625-0944	Niger River Basin Developmental Planning II	Sahel Regional	136
936-5519	Forest Resources Management	Centrally Funded	186
Botswana			
633-0209	Renewable Energy Technology (BRET)	Bilateral	35
936-5519	Forest Resources Management	Centrally Funded	186
936-9997	Training in Conventional Energy	Centrally Funded	203
Burkina Faso			
625-0911	CILSS Ecologist	Sahel Regional	130
686-0231	Sequenaga IRD African (PVO)	Bilateral	37
686-0235	Forestry Education Development	Bilateral	38
686-0934	Southwest Regional Reforestation	Bilateral	39
698-0420	Remote Sensing/West Africa	Africa Regional	145
936-5519	Forest Resources Management	Centrally Funded	186
936-5710	Photovoltaic Technology Program	Centrally Funded	195
Title II	FFW/World Food Program Multi-purpose Rural Development 2239 Exp	PL-480	211
Title II	FFW/Catholic Relief Services	PL-480	211
Burundi			
695-0103	Alternative Energy Peat II	Bilateral	41
695-0105	Forest Bururi	Bilateral	43
698-0407.33	Improved Rural Technology Farm Dryers	Africa Regional	141
931-1209	Environment and Nat'l Resource Expanded Inf Base	Centrally Funded	174
936-5715	Small Decentralized Hydropower	Centrally Funded	196
936-9997	Training in Conventional Energy	Centrally Funded	203
Title II	FFW/Catholic Relief Services	PL-480	212

COUNTRY & PROJECT NO.	TITLE	TYPE OF FUNDING	PAGE NO.
Cameroon			
625-0944	Niger River Basin Developmental Planning II	Sahel Regional	136
931-1135	Human Settlements Natural Resource Sys. Anal.	Centrally Funded	172
936-5517	Environmental Planning and Management	Centrally Funded	184
936-9997	Training in Conventional Energy	Centrally Funded	203
Cape Verde			
655-0005	Sal Desalination and Power	Bilateral	45
655-0006	Watershed Management	Bilateral	47
655-0013	Watershed Management II	Bilateral	49
936-5715	Small Decentralized Hydropower	Centrally Funded	196
Title II	Section 206 Food Aid	PL-480	213
Chad			
677-0051	PVO Development Initiatives	Bilateral/ PL-480	50
Comoros			
602-0001	Care (PVO) (OPG)	Bilateral	52
Congo			
Title II	FFW/World Food Program Reforestation 2658	PL-480	214
Djibouti			
603-0013	Energy Initiatives	Bilateral	53
936-5728	Energy Policy Development and Conservation	Centrally Funded	200
Title II	FFW/Catholic Relief Services	PL-480	215
Ethiopia			
Title II	FFW/World Food Program Rehabilitation of Forest Grazing and Agricultural Land 2488 Exp	PL-480	216

COUNTRY & PROJECT NO.	TITLE	TYPE OF FUNDING	PAGE NO.
Kenya			
615-0172	Arid & Semi-Aril Lands Dev. (Kitui)	Bilateral	65
615-0205	Renewable Energy Development	Bilateral	67
698-0414	Regional Remote Sensing Facility	Africa Regional	144
698-0427	Environmental Training and Resource Management	Africa Regional	163
698-0436	Regional Remote Sensing II (East Africa)	Africa Regional	167
931-1209	Environment and Natl Resource Expanded Inf Base	Centrally Funded	174
936-5519	Forest Resources Management	Centrally Funded	186
936-5545	Agroforestry Research and Training	Centrally Funded	188
936-5710	Photovoltaic Technology Program	Centrally Funded	195
936-5724	Conventional Energy Technical Assistance	Centrally Funded	198
936-9997	Training in Conventional Energy	Centrally Funded	203
Title II	FFW/World Food Program Rural Development and Settlement in Arid and Semi-Arid Areas 2589	PL-480	218
Title II	FFW/World Food Program Rehabilitation Activities in the Turkana District 2669	PL-480	218
Title II	FFW/Catholic Relief Services	PL-480	217
Lesotho			
632-0206	Renewable Energy Technology	Bilateral	69
632-0215	Land Conservation and Range Development	Bilateral	71
632-0221	Agricultural Prod. & Industrial Support (LAPIS)	Bilateral	73
698-0424.32	EIA Subproject/Lesotho	Africa Regional	158
931-1135	Human Settlements Natural Resource Sys. Anal.	Centrally Funded	132
936-5301	Access to Land, Water, and Natural Resources	Centrally Funded	182
936-9997	Training in Conventional Energy	Centrally Funded	203
Liberia			
698-0424.03	EIA Subproject/Liberia	Africa Regional	151
936-5519	Forest Resources Management	Centrally Funded	186
936-5702	Energy Technical Service and Support	Centrally Funded	193
936-5710	Photovoltaic Technology Program	Centrally Funded	195

COUNTRY & PROJECT NO.	TITLE	TYPE OF FUNDING	PAGE NO.
Kenya			
615-0172	Arid & Semi-Aril Lands Dev. (Kitui)	Bilateral	65
615-0205	Renewable Energy Development	Bilateral	67
698-0414	Regional Remote Sensing Facility	Africa Regional	144
698-0427	Environmental Training and Resource Management	Africa Regional	163
698-0456	Regional Remote Sensing II (East Africa)	Africa Regional	167
931-1209	Environment and Natl Resource Expanded Inf Base	Centrally Funded	174
936-5519	Forest Resources Management	Centrally Funded	186
936-5545	Agroforestry Research and Training	Centrally Funded	188
936-5710	Photovoltaic Technology Program	Centrally Funded	195
936-5724	Conventional Energy Technical Assistance	Centrally Funded	198
936-9997	Training in Conventional Energy	Centrally Funded	203
Title II	FFW/World Food Program Rural Development and Settlement in Arid and Semi-Arid Areas 2589	PL-480	218
Title II	FFW/World Food Program Rehabilitation Activities in the Turkana District 2669	PL-480	218
Title II	FFW/Catholic Relief Services	PL-480	217
Lesotho			
632-0206	Renewable Energy Technology	Bilateral	69
632-0215	Land Conservation and Range Development	Bilateral	71
632-0221	Agricultural Prod. & Industrial Support (LAPIS)	Bilateral	73
698-0424.32	EIA Subproject/Lesotho	Africa Regional	158
931-1135	Human Settlements Natural Resource Sys. Anal.	Centrally Funded	132
936-5301	Access to Land, Water, and Natural Resources	Centrally Funded	182
936-9997	Training in Conventional Energy	Centrally Funded	203
Liberia			
698-0424.03	EIA Subproject/Liberia	Africa Regional	151
936-5519	Forest Resources Management	Centrally Funded	186
936-5702	Energy Technical Service and Support	Centrally Funded	193
936-5710	Photovoltaic Technology Program	Centrally Funded	195

COUNTRY & PROJECT NO.	TITLE	TYPE OF FUNDING	PAGE NO.
Liberia (cont'd)			
936-5715	Small Decentralized Hydropower	Centrally Funded	196
936-5728	Energy Policy Development and Conservation	Centrally Funded	200
936-9997	Training in Conventional Energy	Centrally Funded	203
Title II	FFW/World Food Program Afforestation 973	PL-480	219
Madagascar			
698-0424.87	EIA Subproject/Madagascar	Africa Regional	162
936-5715	Small Decentralized Hydropower	Centrally Funded	196
Title II	FFW/World Food Program Forestry and Regional Development 2661	PL-480	220
Malawi			
612-0215	Agricultural Research and Extension	Bilateral	76
698-0424.12	Energy for Small and Medium Enterprises	Africa Regional	154
936-5724	Conventional Energy Technical Assistance	Centrally Funded	198
938-0268	World Wildlife Fund (Matching Grnnt)	Centrally Funded	
Title II	FFW/World Food Bank Program Forestry Development on the Viphya and Chambe Plateaux 2145 Exp II	PL-480	221
Mali			
625-0944	Niger River Basin Planning Phase II	Sahel Regional	136
688-0205	Land Use Inventory	Bilateral	77
688-0217	Renewable Energy	Bilateral	79
688-0235	Forestry Sector Development Project	Bilateral	81
688-0937	Village Reforestation (AIP) (Mali)	Bilateral	84
931-1135	Human Settlements Natural Resource Sys. Anal.	Centrally Funded	172
931-1311	Soil Management CRSP	Centrally Funded	179
936-5519	Forest Resources Management	Centrally Funded	186
936-5702	Energy Technical Service and Support	Centrally Funded	193
936-9997	Training in Conventional Energy	Centrally Funded	203
938-0216	Care Promotion & Preservation of Renewable Natural Resources (Matching Grant)	Centrally Funded	206

COUNTRY & PROJECT NO.	TITLE	TYPE OF FUNDING	PAGE NO.
Mali (Cont'd)			
Title II	FFW/World Food Program Multipurpose Project for Development of Rural and Natural Resources 2231 Exp II	PL-480	222
Mauritania			
936-5301	Access to Land, Water, and Natural Resources	Centrally Funded	182
936-5519	Forest Resources Management	Centrally Funded	186
Mozambique			
Title II	FFW/World Food Program Forestry Development in Manica and Maputo 2514	Centrally Funded	223
Niger			
625-0915	Niger River Basin Developmental Planning II	Sahel Regional	132
625-0940	Sahel Water Data Network Management II-Niger	Sahel Regional	134
625-0944	Niger River Basin Planning Phase II	Sahel Regional	136
683-0226	Rural Sector Human Resources Development	Bilateral	85
683-0230	Forestry and Land Use Planning	Bilateral	87
683-0240	Niamey Department Development Phase II	Bilateral	89
683-0242	Integrated Livestock Production	Bilateral	92
683-0246/47	Rural Sector Development Grant	Bilateral	93
698-0424.04	Energy Conservation Audit in Elect. Utilities	Africa Regional	153
931-1135	Human Settlements Natural Resource Sys. Anal.	Centrally Funded	172
931-1311	Soil Management CRSP	Centrally Funded	179
936-5517	Environmental Planning Management	Centrally Funded	184
936-5519	Forest Resources Management	Centrally Funded	186
936-9997	Training in Conventional Energy	Centrally Funded	203
Title II	FFW/Multipurpose Rural Development	PL-480	224
Nigeria			
625-0944	Niger River Basin Planning Phase II	Sahel Regional	136
698-0424.04	Energy Conservation Audit in Elect. Utilities	Africa Regional	153

COUNTRY & PROJECT NO.	TITLE	TYPE OF FUNDING	PAGE NO.
Rwanda			
698-0424.01	Communal Afforestation (Energy Init for Afr.)	Africa Regional	150
698-0427	Environmental Training and Resource Management	Africa Regional	163
698-0427.96	Environmental Trng. and Mgmt. in Africa (ETMA)	Africa Regional	165
698-0502.96	Gituza Forestry	Africa Regional	169
936-5715	Small Decentralized Hydropower	Centrally Funded	196
936-9997	Training in Conventional Energy	Centrally Funded	203
Senegal			
625-0012	Gambia River Basin Development	Sahel Regional	126
625-0621	OMVS Data and Institutional Development	Sahel Regional	129
625-0958	OMVS Groundwater Monitoring Project	Sahel Regional	137
685-0202	Range and Livestock Development	Bilateral	95
685-0219	Fuelwood Production	Bilateral	97
685-0233	National Plan for Land Use and Development	Bilateral	98
685-0235	Cereals II (Agroforestry)	Bilateral	99
685-0260	Community Ennterprise Development	Bilateral	101
685-0283	Reforestation Sector Grant	Bilateral	104
698-0424.04	Energy Conservation Audit in Elect. Utilities	Africa Regional	153
936-5517	Environmental Planning Management	Centrally Funded	184
936-5519	Forest Resources Management	Centrally Funded	186
936-5702	Energy Technical Service and Support	Centrally Funded	193
936-9997	Training in Conventional Energy	Centrally Funded	203
Title II	FFW/World Food Program Integrated Agricultural Development in the Sine Saloum Area 2230 Exp I	PL-480	225
Title III	Development Program Assistance	PL-480	226
Seychelles			
936-9997	Training in Conventional Energy	Centrally Funded	203
Sierra Leone			
698-0424.04	Energy Conservation Audit in Elect. Utilities	Africa Regional	153
936-5702	Energy Technical Service and Support	Centrally Funded	193

COUNTRY & PROJECT NO.	TITLE	TYPE OF FUNDING	PAGE NO.
Somalia			
649-0108	Central Rangeland Development Project	Bilateral	105
649-0113	Bay Region Development	Bilateral	108
649-0122	CDA Forestry I	Bilateral	109
649-0134	Juba Development Analytical Studies	Bilateral	111
698-0424.49	EIA Subproject/Somalia	Africa Regional	159
931-1135	Human Settlements Natural Resource Sys. Anal.	Centrally Funded	172
936-9997	Training in Conventional Energy	Centrally Funded	203
Title I	Self-Help Measure	PL-480	231
Title II	FFW/World Food Program Rangeland Development and Reforestation 719 Exp	PL-480	230
Sudan			
650-0020	Western Sudan Agriculture Research	Bilateral	113
650-0041	Renewable Energy Project	Bilateral	115
650-0059	Energy Planning and Management	Bilateral	117
650-0064	Eastern Reforestation (OPG)	Bilateral	120
650-K603/K604/ K606B/K608	Commodity Import Program	Bilateral	121
698-0427	Environmental Training & Resource Management	Africa Regional	163
931-1135	Human Settlements Natural Resource Sys. Anal.	Centrally Funded	172
931-1209	Environment & Natl. Resource Expanded Inf. Base	Centrally Funded	174
936-5702	Energy Technical Service and Support	Centrally Funded	193
936-5715	Small Decentralized Hydropower	Centrally Funded	196
936-5724	Conventional Energy Technical Assistance	Centrally Funded	198
936-5728	Energy Policy Development and Conservation	Centrally Funded	200
936-9997	Training in Conventional Energy	Centrally Funded	203
Title II	FFW/World Food Program Restocking of The Gum Belt 2665	PL-480	232
Title II	FFW/World Food Program Development of Tea Production Southern Sudan 2650	PL-480	233
Title III	Development Program Assistance	PL-480	233

COUNTRY & PROJECT NO.	TITLE	TYPE OF FUNDING	PAGE NO.
Swaziland			
936-5301	Access to Land, Water, and Natural Resources	Centrally Funded	182
Tanzania			
621-0160	Village Environment Improvement	Bilateral	123
698-0414	Regional Remote Sensing Facility	Africa Regional	144
698-0427	Environmental Training & Resource Management	Africa Regional	163
931-1209	Environment & Natl. Resource Expanded Inf. Base	Centrally Funded	174
936-5519	Forest Resources Management	Centrally Funded	186
936-9997	Training in Conventional Energy	Centrally Funded	203
Title II	FFW/World Food Program Assistance to Refugee Settlements 2667	PL-480	234
Togo			
936-5702	Energy Technical Service and Support	Centrally Funded	193
936-5715	Small Decentralized Hydropower	Centrally Funded	196
936-9997	Training in Conventional Energy	Centrally Funded	203
Title II	FFW/World Food Program Multi Purpose Rural Development 402 Ext.II	PL-480	235
Uganda			
698-0414	Regional Remote Sensing Facility	Africa Regional	144
931-1209	Environment & Natl. Resource Expanded Inf. Base	Centrally Funded	174
938-0216	Care Promotion & Preservation of Renewable Natural Resources (Matching Grant)	Centrally Funded	
Title II	FFW/World Food Program Multi Purpose Rural Development in Karamoja Region 2642Q	PL-480	236
Zaire			
931-1135	Human Settlements Natural Resource Sys. Anal.	Centrally Funded	172

COUNTRY & PROJECT NO.	TITLE	TYPE OF FUNDING	PAGE NO
Zaire (cont'd)			
936-5301	Access to Land, Water, and Natural Resources	Centrally Funded	182
936-5519	Forest Resources Management	Centrally Funded	186
936-5710	Photovoltaic Technology Program	Centrally Funded	195
936-5715	Small Decentralized Hydropower	Centrally Funded	196
Zambia			
Title II	FFW/World Food Program Assistance to Forestry 2612	PL480	237
Zimbabawe			
931-1135	Human Settlements Natural Resource Sys. Anal.	Centrally Funded	172
931-1209	Environment & Natl. Resource Expanded Inf. Base	Centrally Funded	174
936-5710	Photovoltaic Technology Program	Centrally Funded	195
Projects With Regional or Africa-wide Programs (No Specific Country Affiliation)			
625-0973	Sahel Water Data and Management III	Sahel Regional	139
698-0424	Energy Initiatives for Africa	Africa Regional	147
698-0424.23	EIA Subproject/Sub-Saharan Africa	Africa Regional	155
698-0457	Remote Sensing II/West Africa	Africa Regional	168
931-1229	Soil Management Support Services	Centrally Funded	176
936-4142	Integrated Pest Management and Env. Protection	Centrally Funded	181
936-5518	Coastal Resources Management	Centrally Funded	185

APPENDIX B

SUMMARY OF ENERGY, FORESTRY AND NATURAL RESOURCES PROJECTS IN THE AFRICA REGION

OBLIGATIONS BY FISCAL YEAR

Notes:

1. Table B.1 summarizes obligations by fiscal year for projects having energy, forestry or natural resources activities in Africa. The figures in Table B.1 include bilateral, Sahel and Africa regional) and centrally funded projects. PL-480 projects are not included.

2. Table B.2 summarizes fiscal year obligations by sector/subsector, calculated on the basis of the percent of the total life of project allocated to each sector/subsector.

3. Table B.3 lists fiscal year obligations for individual Africa Bureau projects having energy, forestry or natural resources activities. These include bilateral, Sahel and Africa regional projects. Projects are grouped according to status (planned, active and completed in FY 1985 or FY 1986), organized by country and project number in ascending order.

4. Table B.4 lists fiscal year obligations for individual centrally funded projects having energy, forestry or natural resources activities in Africa. These include Bureau for Science and Technology, Office of Science Advisor and Food and Voluntary Assistance (FVA). PL-480 projects are not included. Projects are grouped according to status (planned, active and completed in FY 1985 of FY 1986), organized by project number in ascending order. Figures are worldwide, rather than specific to activities in Africa.

TABLE B.1

SUMMARY OF PROJECTS WITH ENERGY FORESTRY AND NATURAL RESOURCES ACTIVITIES IN THE AFRICA REGION

TOTAL PROJECT OBLIGATIONS BY FISCAL YEAR
($000's)

****** AFRICA BUREAU ******

FY	PLANNED	ACTIVE	COMPLETED	TOTAL
82*	0	153,689	31,255	184,944
83	0	51,875	1,364	53,239
84	0	50,542	17,037	67,579
85	8,223	74,366	0	82,589
86	9,210	25,672	0	34,882
TOTAL AFRICA	17,433	356,144	49,656	423,233

****** CENTRALLY FUNDED ******

FY	PLANNED	ACTIVE	COMPLETED	TOTAL
82*	0	25,029	8,609	33,638
83	0	12,199	200	12,399
84	0	40,422	250	40,672
85	0	33,248	300	33,548
86	0	20,215	0	20,215
TOTAL CENTRALLY FUNDED	0	131,113	9,359	140,472
TOTAL ALL	17,433	487,257	59,015	563,705

*Cumulative through FY82

TABLE B.2

SUMMARY OF PROJECTS WITH ENERGY FORESTRY AND NATURAL RESOURCES ACTIVITIES IN THE AFRICA REGION

FISCAL YEAR OBLIGATIONS BY SECTOR/SUBSECTOR*

****** AFRICA BUREAU ******

FY	ENERGY	FORESTRY	NATURAL RESOURCES	OTHER**
82***	29,591	27,742	40,688	86,924
83	8,518	7,986	11,713	25,022
84	10,813	10,137	14,867	31,762
85	13,214	12,388	18,170	38,817
86	5,581	5,232	7,674	16,395
TOTAL AFRICA	67,717	63,485	93,111	198,920

****** CENTRALLY FUNDED ******

FY	ENERGY	FORESTRY	NATURAL RESOURCES	OTHER**
82***	8,914	11,437	8,948	4,339
83	3,286	4,216	3,298	1,599
84	10,778	13,828	10,819	5,247
85	8,890	11,406	8,924	4,328
86	5,357	6,873	5,377	2,608
TOTAL	37,225	47,760	37,366	18,121

*Calculated on the basis of the percent of the total LOP funding associated with each sector/subsector
**Includes agriculture, health and education components
***Cumulative through FY82

TABLE B.3

TOTAL OBLIGATIONS FOR AFRICA BUREAU PROJECTS WITH
ENERGY, FORESTRY AND NATURAL RESOURCES
BY FISCAL YEAR ($000's)
*** PLANNED (APPROVED) ***

PROJECT NUMBER	COUNTRY/REGION TITLE	APP CAT	FY82	FY83	FY84	FY85	FY86
698-0456	AFRICA REGIONAL						
	REGIONAL REMOTE SENSING II/EAST AFRICA	FN	0	0	0	0	750
698-0457	AFRICA REGIONAL						
	REMOTE SENSING II/WEST AFRICA	FN	0	0	0	1000	0
688-0235	MALI						
	FORESTRY SECTOR DEVELOPMENT PROJECT	SH	0	0	0	1723	1960
625-0973	SAHEL REGIONAL						
	SAHEL WATER DATA AND MANAGEMENT III	SH	0	0	0	0	2000
685-0283	SENEGAL						
	REFORESTATION SECTOR GRANT	SH	0	0	0	5500	4500
TOTAL PLANNED --			0	0	0	8223	9210

TOTAL OBLIGATIONS FOR AFRICA BUREAU PROJECTS WITH
ENERGY, FORESTRY AND NATURAL RESOURCES
BY FISCAL YEAR ($000's)
*** ACTIVE IN FY 1986 ***

PROJECT NUMBER	COUNTRY/REGION TITLE	APP CAT	FY82	FY83	FY84	FY85	FY8
698-0407.7	AFRICA REGIONAL						
	MICRO-HYDROELECTRIC ACTIVITY	FN	95	0	0	0	(
698-0420	AFRICA REGIONAL						
	REMOTE SENSING/WEST AFRICA	FN	1755	0	850	0	(
698-0424	AFRICA REGIONAL						
	ENERGY INITIATIVES	SD	468	2420	2298	750	150(
		SH	0	0	750	0	(
698-0427	AFRICA REGIONAL						
	ENVIRONMENTAL TRAINING & RESOURCE MANAGEMENT	SD	3872	810	1895	127	62
		SH	310	0	0	0	(
698-0427.96	AFRICA REGIONAL						
	RUHENGERI RESOURCE ANALYSIS & MANAGEMENT	FN	0	0	0	650	(
698-0502.96	AFRICA REGIONAL						
	GITUZA FORESTRY	FN	0	0	0	2500	(
686-0231	BURKINA FASO						
	SEGUENAGA IRD AFRICARE (PVO)	SH	4955	0	0	550	(
		FN	0	0	0	1000	(
686-0934	BURKINA FASO						
	SOUTHWEST REFORESTATION PROJECT	SH	0	0	0	1000	(
695-0103	BURUNDI						
	ALTERNATIVE ENERGY PEAT II	SD	5106	1200	500	1525	66
695-0105	BURUNDI						
	FOREST BURURI	FN	1144	0	0	0	
655-0013	CAPE VERDE						
	WATERSHED MANAGEMENT II	SH	0	0	1611	2000	200
677-0051	CHAD						
	PVO DEVELOPMENT INITIATIVES	SH	0	0	0	3725	400
602-0001	COMOROS						
	CARE (PVO)	FN	0	0	780	400	70
603-0013	DJIBOUTI						
	ENERGY INITIATIVES	ES	4000	0	0	0	
675-0208	GUINEA						
	APPROPRIATE TECHNOLOGY (PVO)	SH	0	100	150	250	15
615-0172	KENYA						
	ARID & SEMI-ARID LANDS	SD	0	0	0	10900	
615-0205	KENYA						
	RENEWABLE ENERGY DEVELOPMENT	SD	4800	0	0	0	
632-0215	LESOTHO						
	LAND CONSERVATION AND RANGE DEVELOPMENT	FN	5290	2969	1609	2132	
632-0221	LESOTHO						
	AGRICULTURAL PRODUCTION & INSTIT. SUPPORT	FN	0	0	0	1363	42

TOTAL OBLIGATIONS FOR AFRICA BUREAU PROJECTS WITH
ENERGY, FORESTRY AND NATURAL RESOURCES
BY FISCAL YEAR ($000's)
*** ACTIVE IN FY 1986 ***

PROJECT NUMBER	COUNTRY/REGION TITLE	APP CAT	FY82	FY83	FY84	FY85	FY8
612-0215	MALAWI AGRICULTURE RESEARCH AND EXTENSION	FN	0	0	0	5100	(
688-0937	MALI VILLAGE REFORESTATION (AIP)	SH	495	160	0	0	(
683-0226	NIGER RURAL SECTOR HUMAN RESOURCES DEVELOPMENT	SH	5030	0	0	0	(
683-0230	NIGER FORESTRY AND LAND-USE PLANNING	SH	1684	800	1355	0	38
683-0240	NIGER NIAMEY DEPARTMENT DEVELOPMENT PHASE IV	SH	6036	2500	2500	5092	200
683-0242	NIGER INTEGRATED LIVESTOCK PRODUCTION	SH	0	10110	0	3284	(
683-0246/47	NIGER RURAL SECTOR DEVELOPMENT GRANT	SH	0	0	5000	2500	55
625-0621	SAHEL REG. (SENEGAL) OMVS PLANNING AND POLICY DEVELOPMENT	SH	0	0	0	3000	(
625-0012	SAHEL REGIONAL GAMBIA RIVER BASIN DEVELOPMENT	SH	9512	3882	471	2000	(
625-0911	SAHEL REGIONAL CILSS ECOLOGIST	SD	6527	1800	725	681	100
625-0915	SAHEL REGIONAL NIGER RIVER BASIN DEVELOPMENTAL PLANNING II	SH	500	0	0	0	
625-0940	SAHEL REGIONAL SAHEL WATER DATA NETWORK MANAGEMENT II-NIGER	SH	3529	1250	2221	700	
625-0944	SAHEL REGIONAL NIGER RIVER BASIN PLANNING PHASE II	SH	6714	0	0	0	
625-0958	SAHEL REGIONAL OMVS GROUNDWATER MONITORING PROJECT	SH	0	4651	0	0	
685-0235	SENEGAL CEREALS II (AGROFORESTRY)	FN	1711	291	0	0	
649-0108	SOMALIA CENTRAL RANGELAND DEVELOPMENT PROJECT	FN	10680	4264	0	0	
649-0113	SOMALIA BAY REGION DEVELOPMENT	FN	8748	2423	0	0	
649-0122	SOMALIA CDA FORESTRY I	FD	0	6000	0	0	
649-0134	SOMALIA JUBA DEVELOPMENT ANALYTICAL STUDIES	FN	0	50	5200	2750	55
650-0020	SUDAN WESTERN SUDAN AGRICULTURE RESEARCH	FN	25383	0	0	0	
650-0041	SUDAN RENEWABLE ENERGY PROJECT	SD	1500	0	1000	1000	50

TOTAL OBLIGATIONS FOR AFRICA BUREAU PROJECTS WITH
ENERGY, FORESTRY AND NATURAL RESOURCES
BY FISCAL YEAR ($000's)
*** ACTIVE IN FY 1986 ***

PROJECT NUMBER	COUNTRY/REGION TITLE	APP CAT	FY82	FY83	FY84	FY85	FY86
650-0059	SUDAN						
	ENERGY PLANNING AND MANAGEMENT	SD	0	0	4355	0	700
650-0064	SUDAN						
	EASTERN REFORESTATION (OPG)	MR	0	0	4550	0	0
650-K603/	SUDAN						
	COMMODITY IMPORT PROGRAM	ES	16200	0	7582	15000	0
635-0202	THE GAMBIA						
	SOIL AND WATER MANAGEMENT UNIT	SH	1085	1662	0	0	0
635-0203	THE GAMBIA						
	MIXED FARMING RESOURCE MANAGEMENT	SH	6000	1303	1697	0	0
635-0205	THE GAMBIA						
	FORESTRY PROJECT	SH	1575	0	0	0	0
635-0219	THE GAMBIA						
	AGRICULTURAL RESEARCH AND DIVERSIFICATION	SH	0	0	0	3960	3960
TOTAL ACTIVE --			153689	51875	50542	74366	25672

TOTAL OBLIGATIONS FOR AFRICA BUREAU PROJECTS WITH
ENERGY, FORESTRY AND NATURAL RESOURCES
BY FISCAL YEAR ($000's)
*** COMPLETED IN FY 1985 ***

PROJECT NUMBER	COUNTRY/REGION TITLE	APP CAT	FY82	FY83	FY84	FY85	FY86
698-0407.33	AFRICA REGIONAL						
	IMPROVED RURAL TECHNOLOGY FARM DRYERS	SD	73	0	0	0	0
698-0410.35	AFRICA REGIONAL						
	COMMUNITY FORESTRY SCHOOL TREE NURSERY	SD	460	0	0	0	0
698-0414	AFRICA REGIONAL						
	REGIONAL REMOTE SENSING FACILITY	FN	0	0	4094	0	0
633-0209	BOTSWANA						
	RENEWABLE ENERGY TECHNOLOGY (BRET)	ES	3304	0	0	0	0
686-0235	BURKINA FASO						
	FORESTRY EDUCATION DEVELOPMENT	SH	4658	0	0	0	0
655-0005	CAPE VERDE						
	SAL DESALINATION AND POWER	SH	2025	0	0	0	0
		SD	0	0	5765	0	0
655-0006	CAPE VERDE						
	WATERSHED MANAGEMENT	SH	5275	0	1000	0	0
632-0206	LESOTHO						
	RENEWABLE ENERGY TECHNOLOGY	SD	1600	0	0	0	0
688-0205	MALI						
	LAND USE INVENTORY	SH	3022	0	270	0	0
698-0217	MALI						
	RENEWABLE ENERGY	SH	1643	700	2174	0	0
685-0202	SENEGAL						
	RANGE AND LIVESTOCK DEVELOPMENT	SH	2100	300	0	0	0
685-0219	SENEGAL						
	FUELWOOD PRODUCTION	SD	3070	364	0	0	0
685-0233	SENEGAL						
	NATIONAL PLAN FOR LAND USE AND DEVELOPMENT	SH	2000	0	0	0	0
685-0260	SENEGAL						
	COMMUNITY AND ENTERPRISE DEVELOPMENT	SH	0	0	9000	0	0
621-0160	TANZANIA						
	VILLAGE ENVIRONMENT IMPROVEMENT	SD	0	0	499	0	0
TOTAL COMPLETED --			31255	1364	17037	0	0
AFRICA BUREAU TOTAL --			184944	53239	67579	82589	34882

TABLE B.4

TOTAL OBLIGATIONS FOR CENTRALLY FUNDED PROJECTS WITH

ENERGY, FORESTRY AND NATURAL RESOURCES

BY FISCAL YEAR ($000's)

*** PLANNED (APPROVED) ***

PROJECT NUMBER	COUNTRY/REGION TITLE	APP CAT	FY82	FY83	FY84	FY85	FYE
TOTAL PLANNED --			0	0	0	0	

TOTAL OBLIGATIONS FOR CENTRALLY FUNDED PROJECTS WITH
ENERGY, FORESTRY AND NATURAL RESOURCES
BY FISCAL YEAR ($000's)
*** ACTIVE IN FY 1986 ***

PROJECT NUMBER	COUNTRY/REGION TITLE	APP CAT	FY82	FY83	FY84	FY85	FY8
931-1135	CENTRALLY FUNDED						
	HUMAN SETTLEMENTS NATURAL RESOURCE SYS. ANAL.	FN	1445	400	1695	270	45
931-1229	CENTRALLY FUNDED						
	SOIL MANAGEMENT SUPPORT SERVICES	FN	0	0	4967	1000	100
931-1311	CENTRALLY FUNDED						
	SOIL MANAGEMENT CRSP	FN	0	0	7700	2750	260
936-4142	CENTRALLY FUNDED						
	INTEGRATED PEST MANAGEMENT AND ENV PROTECTION	FN	0	0	0	950	70
936-5301	CENTRALLY FUNDED						
	ACCESS TO LAND, WATER, AND NATURAL RESOURCES	FN	2225	535	636	464	44
936-5517	CENTRALLY FUNDED						
	ENVIRONMENTAL PLANNING MANAGEMENT	FN	0	0	250	0	
		SD	250	698	700	975	85
936-5518	CENTRALLY FUNDED						
	COASTAL RESOURCES MANAGEMENT	FN	0	100	0	1600	14
936-5519	CENTRALLY FUNDED						
	FOREST RESOURCES MANAGEMENT	FN	1926	1090	2615	1125	200
		SD	1270	200	175	25	
936-5542	CENTRALL FUNDED						
	INNOVATIVE SCIENTIFIC RESEARCH	SD	7059	4830	6637	5654	602
936-5545	CENTRALLY FUNDED						
	AGROFORESTRY RESEARCH AND TRAINING	FN	1000	0	0	0	
936-5547	CENTRALLY FUNDED						
	FORESTRY/FUELWOOD R&D	FN	0	0	0	2800	
936-5701	CENTRALLY FUNDED						
	LOW COST ENERGY TECHNOLOGIES	FN	0	0	0	400	
936-5702	CENTRALLY FUNDED						
	ENERGY TECHNICAL SERVICE AND SUPPORT	SD	1041	243	300	200	15
936-5715	CENTRALLY FUNDED						
	SMALL DECENTRALIZED HYDROPOWER	FN	3024	800	127	500	
936-5724	CENTRALLY FUNDED						
	CONVENTIONAL ENERGY TECHNICAL ASSISTANCE	SD	0	0	8531	2250	95
936-5728	CENTRALLY FUNDED						
	ENERGY POLICY DEVELOPMENT AND CONSERVATION	SD	862	1261	1991	2025	130
936-5730	CENTRALLY FUNDED						
	RENEWABLE ENERGY APPLICATIONS	FN	0	0	0	900	50
936-9997	CENTRALLY FUNDED						
	TRAINING IN CONVENTIONAL ENERGY	SD	4521	1850	2108	2100	160
938-0267	CENTRALLY FUNDED FVA						
	CARE MATCHING GRANT	FN	0	0	0	3400	
		SD	0	0	0	0	
938-0268	CENTRALLY FUNDED FVA						
	WORLD WILDLIFE FUND (MATCHING GRANT)	SD	0	0	0	335	33

TOTAL OBLIGATIONS FOR CENTRALLY FUNDED PROJECTS WITH
ENERGY, FORESTRY AND NATURAL RESOURCES
BY FISCAL YEAR ($000's)
*** ACTIVE IN FY 1986 ***

PROJECT NUMBER	COUNTRY/REGION TITLE	APP CAT	FY82	FY83	FY84	FY85	FY86
TOTAL ACTIVE --			25029	12199	40422	33248	20215

TOTAL OBLIGATIONS FOR CENTRALLY FUNDED PROJECTS WITH
ENERGY, FORESTRY AND NATURAL RESOURCES
BY FISCAL YEAR ($000's)
*** COMPLETED IN FY 1985 ***

PROJECT NUMBER	COUNTRY/REGION TITLE	APP CAT	FY82	FY83	FY84	FY85	FY86
931-1209	CENTRALLY FUNDED						
	ENVIRONMENT & NATL RESOURCE EXPANDED INF BASE	SD	2490	200	0	300	0
936-5710	CENTRALLY FUNDED						
	PHOTOVOLTAIC TECHNOLOGY PROGRAM	SD	3421	0	250	0	0
938-0216	CENTRALLY FUNDED						
	CARE PROMOTION & PRESER. OF REN. NAT. RES.MG	SD	2598	0	0	0	0
TOTAL COMPLETED --			8609	200	250	300	0
TOTAL --			33638	12399	40672	33548	20215

APPENDIX C

SUMMARY OF ENERGY, FORESTRY AND NATURAL RESOURCES PROJECTS IN THE AFRICA REGION

SECTOR/SUB-SECTOR/ACTIVITY

Notes:

1. Table C.1 summarizes planned, active and completed (in FY 1985 or FY 1986) Africa Bureau and centrally funded projects with activities in Africa, based on the percent of the total life of project (LOP) funding associated with each sector and subsector. PL-480 projects are not included.

2. Table C.2 summarizes planned, active and completed (in FY 1985 or FY 1986) Africa Bureau and centrally funded projects with activities in Africa, by sector, subsector and type of activity. PL-480 projects are not included.

3. Table C.3 lists individaul planned, active and completed (in FY 1985 or FY 1986) Africa Bureau projects. Percentages are based on the total LOP funding associated with each activity, by sector and sub-sector. This table lists project titles, project numbers, country, region, sector, sub-sector and activity for each project. This table is organized by status (planned, active, completed in FY 1985 or FY 1986), with projects within each status category, listed by country and project number, in ascending order.

4. Table C.4 summarizes planned, active and completed (in FY 1985 or FY 1986) centrally funded projects with activities in Africa. Percentages are based on the total LOP funding associated with each sector, subsector and activity. This table lists project titles, project numbers, country, region, sector, sub-sector and activity for each project. This table is organized by status (planned, active, completed in FY 1985 or FY 1986), with projects within each status category, listed by country and project number, in ascending order.

TABLE C.1

SUMMARY AFRICA BUREAU PROJECTS WITH ENERGY, FORESTRY AND NATURAL RESOURCES*
LIFE OF PROJECT FUNDING ($ 000'S)**
BY SECTOR/SUBSECTOR

	PLANNED	ACTIVE IN FY86	COMPLETED IN FY85	TOTAL
*** AFRICA BUREAU PROJECTS ***				
ENERGY	0	65,215	19,299	84,514
FUELWOOD	0	7,685	660	8,345
RENEWABLE	0	2,975	8,858	11,833
FOSSIL FUEL***	0	37,700	8,803	46,503
POWER	0	0	978	978
NO SPECIFIC SUBSECTOR	0	16,855	0	16,855
FORESTRY	25,500	40,768	10,987	77,255
NATURAL RESOURCES	6,000	109,779	12,882	126,161
TOTAL AFRICA BUREAU	31,500	215,762	43,168	290,430
*** CENTRALLY FUNDED PROJECTS ***				
ENERGY	0	51,884	3,674	55,558
FUELWOOD	0	100	0	100
RENEWABLE	0	13,000	3,674	16,674
FOSSIL FUEL	0	29,250	0	29,250
POWER	0	0	0	0
NO SPECIFIC SUBSECTOR	0	9,534	0	9,534
FORESTRY	0	68,931	2,698	71,629
NATURAL RESOURCES	0	52,691	3,100	55,791
TOTAL CENTRALLY FUNDED****	0	173,506	9,472	182,978
TOTAL	31,500	389,268	52,640	473,408

*Includes bilateral, Africa regional and Sahel regional projects
**Calculated on the basis of the percent of the total LOP funding associated with each sector/subsector
***Includes commodity imports ($28,700,000)
****Includes only centrally funded projets with activities in Africa
Centrally funded figures represent total LOP worldwide

TABLE C.2

SUMMARY OF AFRICA BUREAU PROJECTS WITH ENERGY, FORESTRY AND NATURAL RESOURCES
(BY ACTIVITY)*
($000's)

	PLANNED	ACTIVE IN FY86	COMPLETED IN FY85	TOTAL
ENERGY				
PLANNING & POLICY ANALYSIS (PPA)	0	9,725	942	10,667
TECHNOLOGY DEVELOPMENT (TDE)	0	4,765	4,904	9,669
TECHNOLOGY TRANSFER (TTR)	0	10,888	3,317	14,205
COMMODITY MARKETING (MKT)	0	2,730	0	2,730
INPUT SUPPLY (INP)	0	0	0	0
CREDIT DEVELOPMENT (CRE)	0	0	0	0
CONSTRUCTION (CON)	0	57	8,314	8,371
RESOURCE DEVELOPMENT (RED)	0	3,600	489	4,089
HUMAN RESOURCE DEVELOPMENT (HRD)	0	4,750	1,333	6,083
SECTOR SUPPORT (SEC)	0	28,700	0	28,700
NO ACTIVITY DESIGNATED	0	0	0	0
ENERGY TOTAL	0	65,215	19,299	84,514
FORESTRY				
PLANNING & POLICY ANALYSIS (PPA)	3,875	2,619	1,192	7,686
TECHNOLOGY DEVELOPMENT (TDE)	5,425	4,732	1,192	11,349
TECHNOLOGY TRANSFER (TTR)	0	10,925	1,023	11,948
COMMODITY MARKETING (MKT)	0	0	0	0
INPUT SUPPLY (INP)	0	0	0	0
CREDIT DEVELOPMENT (CRE)	0	0	0	0
CONSTRUCTION (CON)	0	0	0	0
RESOURCE DEVELOPMENT (RED)	3,875	17,738	4,406	26,019
HUMAN RESOURCE DEVELOPMENT (HRD)	2,325	4,754	3,174	10,253
SECTOR SUPPORT (SEC)	0	0	0	0
NO ACTIVITY DESIGNATED	10,000	0	0	10,000
FORESTRY TOTAL	25,500	40,768	10,987	77,255
NATURAL RESOURCES				
PLANNING & POLICY ANALYSIS (PPA)	1,750	19,949	5,431	27,130
TECHNOLOGY DEVELOPMENT (TDE)	0	9,300	1,373	10,673
TECHNOLOGY TRANSFER (TTR)	0	33,411	5,154	38,565
COMMODITY MARKETING (MKT)	700	0	0	700
INPUT SUPPLY (INP)	0	2,716	0	2,716
CREDIT DEVELOPMENT (CRE)	0	2,716	0	2,716
CONSTRUCTION (CON)	0	0	0	0
RESOURCE DEVELOPMENT (RED)	1,050	24,561	0	25,611
HUMAN RESOURCE DEVELOPMENT (HRD)	0	17,126	924	18,050
SECTOR SUPPORT (SEC)	0	0	0	0
NO ACTIVITY DESIGNATED	2,500	0	0	2,500
NATURAL RESOURCES TOTAL	6,000	109,779	12,882	128,661

*Includes bilateral, Africa regional and Sahel regional projects.
Activity designations are not provided for centrally-funded projects.
*Based on Life of Project funding.

TABLE C.3

AFRICA BUREAU PROJECTS WITH ENERGY, FORESTRY AND NATURAL RESOURCES
BY SECTOR/SUBSECTOR/ACTIVITY
*** PLANNED ***
($000's)

PROJECT NUMBER	COUNTRY/REGION TITLE	TOTAL LOP	SECTOR	SUB-SECTOR	ACTIVITY	PERCENT	AMOUNT
698-0456	AFRICA REGIONAL						
	REGIONAL REMOTE SENSING II/EAST AFRICA	2500	AGR	NRE		100	2500
698-0457	AFRICA REGIONAL						
	REMOTE SENSING II/WEST AFRICA	3500	AGR	NRE	TTR	50	1750
			AGR	NRE	HRD	30	1050
			AGR	NRE	MKT	20	700
688-0235	MALI						
	FORESTRY SECTOR DEVELOPMENT PROJECT	15500	AGR	FOR	TDE	35	5425
			AGR	FOR	PPA	25	3875
			AGR	FOR	RED	25	3875
			AGR	FOR	HRD	15	2325
625-0973	SAHEL REGIONAL						
	SAHEL WATER DATA AND MANAGEMENT III	9300	AGR	NRE		0	0
685-0283	SENEGAL						
	REFORESTATION SECTOR GRANT	10000	AGR	FOR		100	10000

AFRICA BUREAU PROJECTS WITH ENERGY, FORESTRY AND NATURAL RESOURCES
BY SECTOR/SUBSECTOR/ACTIVITY
*** ACTIVE ***
($000's)

PROJECT NUMBER	COUNTRY/REGION TITLE	TOTAL LOP	SECTOR	SUB-SECTOR	ACTIVITY	PERCENT	AMOUNT
698-0407.7	AFRICA REGIONAL						
	MICRO-HYDROELECTRIC ACTIVITY	95	ENY	REN	TDE	10	10
			ENY	REN	CON	60	57
			ENY	REN	TTR	30	28
698-0420	AFRICA REGIONAL						
	REMOTE SENSING/WEST AFRICA	3375	AGR	NRE	TTR	75	2531
			AGR	NRE	HRD	25	844
698-0424	AFRICA REGIONAL						
	ENERGY INITIATIVES	13500	AGR	FOR	TTR	15	2025
			ENY	NSS	TTR	10	1350
			ENY	NSS	HRD	5	675
			ENY	REN	TTR	10	1350
			ENY	FUW	TTR	15	2025
			ENY	NSS	PPA	20	2700
			ENY	FUW	MKT	10	1350
			AGR	FOR	TTR	15	2025
698-0427	AFRICA REGIONAL						
	ENVIRONMENTAL TRAINING & RESOURCE MANAGEMENT	7625	AGR	NRE	HRD	75	5719
			AGR	NRE	RED	25	1906
698-0427.96	AFRICA REGIONAL						
	RUHENGERI RESOURCE ANALYSIS & MANAGEMENT	650	AGR	NRE	TTR	40	260
			AGR	NRE	HRD	20	130
			AGR	NRE	PPA	40	260
698-0502.96	AFRICA REGIONAL						
	GITUZA FORESTRY	2500	AGR	FOR	TTR	30	750
			AGR	FOR	RED	40	1000
			AGR	FOR	HRD	10	250
			ENY	REN	TTR	20	500
686-0231	BURKINA FASO						
	SEGUENAGA IRD AFRICARE (PVO)	6505	AGR	FOR	PPA	5	325
			AGR	CRO	HRD	25	1626
			AGR	FOR	RED	5	325
			HLT		TTR	30	1952
			HLT		HRD	30	1952
686-0934	BURKINA FASO						
	SOUTHWEST REFORESTATION PROJECT	1000	AGR	FOR	RED	60	600
			AGR	FOR	TTR	20	200
			AGR	FOR	HRD	20	200
695-0103	BURUNDI						
	ALTERNATIVE ENERGY PEAT II	9000	ENY	FOF	TTR	20	1800
			ENY	FOF	HRD	10	900

AFRICA BUREAU PROJECTS WITH ENERGY, FORESTRY AND NATURAL RESOURCES
BY SECTOR/SUBSECTOR/ACTIVITY
*** ACTIVE ***
($000's)

PROJECT NUMBER	COUNTRY/REGION TITLE	TOTAL LOP	SECTOR	SUB-SECTOR	ACTIVITY	PERCENT	AMOUNT
			ENY	FOF	TDE	20	1800
			ENY	FOF	MKT	10	900
			ENY	FOF	RED	40	3600
695-0105	BURUNDI						
	FOREST BURURI	1144	AGR	FOR	RED	80	915
			AGR	FOR	HRD	5	57
			AGR	FOR	TTR	15	172
655-0013	CAPE VERDE						
	WATERSHED MANAGEMENT II	5611	AGR	NRE	RED	50	2806
			AGR	NRE	TTR	39	2188
			AGR	NRE	HRD	1	56
			AGR	FOR	RED	10	561
677-0051	CHAD						
	PVO DEVELOPMENT INITIATIVES	12725	AGR	FOR	RED	5	636
			AGR	CRI	MKT	40	5090
			AGR	CRI	RED	55	6999
602-0001	COMOROS						
	CARE (PVO)	1700	AGR	FOR	HRD	25	425
			AGR	FOR	RED	25	425
			AGR	NRE	HRD	25	425
			AGR	NRE	TTR	25	425
603-0013	DJIBOUTI						
	ENERGY INITIATIVES	4000	ENY	REN	TDE	20	800
			ENY	NSS	PPA	70	2800
			ENY	NSS	HRD	10	400
675-0208	GUINEA						
	APPROPRIATE TECHNOLOGY (PVO)	650	IND	FME	TTR	40	260
			EDU		HRD	40	260
			ENY	FUW	TDE	10	65
			ENY	FUW	TTR	10	65
615-0172	KENYA						
	ARID & SEMI-ARID LANDS	10900	AGR	FOR	RED	5	545
			AGR	FOR	TTR	5	545
			AGR	NRE	PPA	45	4905
			AGR	NRE	TTR	15	1635
			AGR	NRE	HRD	5	545
			AGR	NRE	RED	25	2725
615-0205	KENYA						
	RENEWABLE ENERGY DEVELOPMENT	4800	ENY	NSS	TTR	5	240
			ENY	NSS	HRD	5	240
			ENY	FUW	TDE	10	480

AFRICA BUREAU PROJECTS WITH ENERGY, FORESTRY AND NATURAL RESOURCES
BY SECTOR/SUBSECTOR/ACTIVITY
*** ACTIVE ***
($000's)

PROJECT NUMBER	COUNTRY/REGION TITLE	TOTAL LOP	SECTOR	SUB-SECTOR	ACTIVITY	PERCENT	AMOUNT
			ENY	FUW	MKT	10	480
			AGR	FOR	TTR	30	1440
			AGR	FOR	HRD	15	720
			AGR	FOR	TDE	10	480
			AGR	FOR	TDE	15	720
632-0215	LESOTHO						
	LAND CONSERVATION AND RANGE DEVELOPMENT	12000	AGR	CRL	RED	55	6600
			AGR	CRL	HRD	15	1800
			AGR	NRE	PPA	10	1200
			AGR	NRE	TTR	10	1200
			AGR	NRE	TDE	70	8400
632-0221	LESOTHO						
	AGRICULTURAL PRODUCTION & INSTIT. SUPPORT	26100	AGR	CRR	HRD	5	1305
			AGR	CRR	RED	45	11745
			AGR	FOR	RED	5	1305
			AGR	LIV	RED	40	10440
			AGR	LIV	HRD	5	1305
612-0215	MALAWI						
	AGRICULTURE RESEARCH AND EXTENSION	14000	AGR	FOR	TDE	2	280
			AGR	FOR	HRD	3	420
			AGR	CRO	TTR	40	5600
			AGR	CRO	TDE	30	4200
			AGR	CRO	HRD	25	3500
688-0937	MALI						
	VILLAGE REFORESTATION (AIP)	655	AGR	FOR	RED	70	458
			AGR	FOR	TTR	10	66
			AGR	FOR	HRD	10	66
			AGR	CRO	RED	10	66
683-0226	NIGER						
	RURAL SECTOR HUMAN RESOURCES DEVELOPMENT	5030	AGR	NRE	HRD	70	3521
			AGR	FOR	HRD	5	252
			AGR	FOR	TTR	5	252
			AGR	NRE	TTR	20	1006
683-0230	NIGER						
	FORESTRY AND LAND-USE PLANNING	3839	AGR	FOR	PPA	40	1536
			AGR	FOR	TTR	20	768
			AGR	FOR	HRD	10	384
			AGR	FOR	TDE	30	1152
683-0240	NIGER						
	NIAMEY DEPARTMENT DEVELOPMENT PHASE IV	13582	AGR	NRE	TTR	40	5433
			AGR	NRE	CRE	20	2716

AFRICA BUREAU PROJECTS WITH ENERGY, FORESTRY AND NATURAL RESOURCES
BY SECTOR/SUBSECTOR/ACTIVITY
*** ACTIVE ***
($000's)

PROJECT NUMBER	COUNTRY/REGION TITLE	TOTAL LOP	SECTOR	SUB-SECTOR	ACTIVITY	PERCENT	AMOUNT
			AGR	NRE	INP	20	2716
			AGR	CRR	TDE	20	2716
683-0242	NIGER						
	INTEGRATED LIVESTOCK PRODUCTION	17500	AGR	NRE	TTR	30	5250
			AGR	LIV	TTR	30	5250
			AGR	LIV	RED	25	4375
			AGR	LIV	MKT	10	1750
			AGR	LIV	HRD	5	875
683-0246/47	NIGER						
	RURAL SECTOR DEVELOPMENT GRANT	32000	AGR	NSS	SEC	100	32000
625-0621	SAHEL REG. (SENEGAL)						
	OMVS PLANNING AND POLICY DEVELOPMENT	6000	AGR	CRI	RED	60	3600
			AGR	CRI	HRD	10	600
			AGR	NRE	TDE	15	900
			AGR	NRE	PPA	15	900
625-0012	SAHEL REGIONAL						
	GAMBIA RIVER BASIN DEVELOPMENT	15865	AGR	CRI	RED	50	7932
			AGR	CRI	HRD	10	1586
			AGR	NRE	PPA	25	3966
			AGR	NRE	TTR	15	2380
625-0911	SAHEL REGIONAL						
	CILSS ECOLOGIST	12724	AGR	NSS	PPA	55	6998
			AGR	NSS	HRD	20	2545
			AGR	FOR	HRD	5	636
			AGR	NRE	HRD	5	636
			AGR	CRO	RED	15	1909
625-0915	SAHEL REGIONAL						
	NIGER RIVER BASIN DEVELOPMENTAL PLANNING II	1550	AGR	CRI	RED	80	1240
			AGR	CRI	HRD	10	155
			AGR	NRE	PPA	10	155
625-0940	SAHEL REGIONAL						
	SAHEL WATER DATA NETWORK MANAGEMENT II-NIGER	7700	AGR	NRE	RED	85	6545
			AGR	NRE	HRD	15	1155
625-0944	SAHEL REGIONAL						
	NIGER RIVER BASIN PLANNING PHASE II	11700	AGR	CRI	RED	70	8190
			AGR	NRE	PPA	30	3510
625-0958	SAHEL REGIONAL						
	OMVS GROUNDWATER MONITORING PROJECT	4651	PSU	NRE	RED	95	4418
			PSU	NRE	HRD	5	233
685-0235	SENEGAL						
	CEREALS II (AGROFORESTRY)	2029	AGR	FOR	TTR	20	406

AFRICA BUREAU PROJECTS WITH ENERGY, FORESTRY AND NATURAL RESOURCES
BY SECTOR/SUBSECTOR/ACTIVITY
*** ACTIVE ***
($000's)

PROJECT NUMBER	COUNTRY/REGION TITLE	TOTAL LOP	SECTOR	SUB-SECTOR	ACTIVITY	PERCENT	AMOUNT
			AGR	FOR	RED	70	1420
			AGR	FOR	HRD	10	203
649-0108	SOMALIA						
	CENTRAL RANGELAND DEVELOPMENT PROJECT	14944	AGR	LIV	RED	35	5230
			AGR	LIV	LTE	20	2989
			AGR	NRE	TTR	20	2989
			AGR	LIV	TDE	5	747
			AGR	LIV	CON	10	1494
			AGR	FOR	HRD	5	747
			AGR	NRE	HRD	5	747
649-0113	SOMALIA						
	BAY REGION DEVELOPMENT	11171	AGR	CRL	TDE	10	1117
			AGR	CRL	TTR	30	3351
			AGR	CRL	INP	10	1117
			AGR	CRL	RED	25	2793
			AGR	NRE	TTR	25	2793
649-0122	SOMALIA						
	CDA FORESTRY I	6000	AGR	FOR	PPA	10	600
			AGR	FOR	TTR	20	1200
			AGR	FOR	RED	65	3900
			AGR	FOR	TDE	5	300
649-0134	SOMALIA						
	JUBA DEVELOPMENT ANALYTICAL STUDIES	8554	AGR	NRE	TTR	40	3422
			AGR	NRE	PPA	30	2566
			AGR	NRE	HRD	30	2566
650-0020	SUDAN						
	WESTERN SUDAN AGRICULTURE RESEARCH	26000	AGR	CRL	TDE	77	20020
			AGR	CRL	HRD	3	780
			AGR	NRE	RED	20	5200
650-0041	SUDAN						
	RENEWABLE ENERGY PROJECT	4600	ENY	FUW	TDE	35	1610
			ENY	REN	TTR	5	230
			ENY	FUW	TTR	35	1610
			AGR	FOR	RED	25	1150
650-0059	SUDAN						
	ENERGY PLANNING AND MANAGEMENT	8450	ENY	NSS	PPA	50	4225
			ENY	NSS	HRD	30	2535
			ENY	NSS	TTR	20	1690
650-0064	SUDAN						
	EASTERN REFORESTATION (OPG)	4550	AGR	FOR	TTR	15	682
			AGR	FOR	RED	85	3868

AFRICA BUREAU PROJECTS WITH ENERGY, FORESTRY AND NATURAL RESOURCES
BY SECTOR/SUBSECTOR/ACTIVITY
*** ACTIVE ***
($000's)

PROJECT NUMBER	COUNTRY/REGION TITLE	TOTAL LOP	SECTOR	SUB-SECTOR	ACTIVITY	PERCENT	AMOUNT
650-K603/	SUDAN						
	COMMODITY IMPORT PROGRAM	28700	ENY	FOF	SEC	100	28700
635-0202	THE GAMBIA						
	SOIL AND WATER MANAGEMENT UNIT	2747	AGR	NRE	RED	35	961
			AGR	NRE	HRD	15	412
			AGR	NRE	TTR	20	549
			AGR	NRE	PPA	25	687
			AGR	NRE	HRD	5	137
635-0203	THE GAMBIA						
	MIXED FARMING RESOURCE MANAGEMENT	9000	AGR	CRL	RED	15	1350
			AGR	LIV	RED	20	1800
			AGR	NRE	TTR	15	1350
			AGR	CRL	INP	5	450
			AGR	CRL	PPA	20	1800
			AGR	CRL	HRD	5	450
			AGR	NRE	PPA	20	1800
635-0205	THE GAMBIA						
	FORESTRY PROJECT	1575	AGR	FOR	HRD	25	394
			AGR	FOR	RED	40	630
			AGR	FOR	TTR	25	394
			AGR	FOR	PPA	10	158
635-0219	THE GAMBIA						
	AGRICULTURAL RESEARCH AND DIVERSIFICATION	18000	AGR	CAL	TDE	50	9000
			AGR	CAL	TTR	20	3600
			AGR	CAL	HRD	20	3600
			AGR	FOR	TDE	10	1800

AFRICA BUREAU PROJECTS WITH ENERGY, FORESTRY AND NATURAL RESOURCES
BY SECTOR/SUBSECTOR/ACTIVITY
*** COMPLETED ***
($000's)

PROJECT NUMBER	COUNTRY/REGION TITLE	TOTAL LOP	SECTOR	SUB-SECTOR	ACTIVITY	PERCENT	AMOUNT
698-0407.33	AFRICA REGIONAL						
	IMPROVED RURAL TECHNOLOGY FARM DRYERS	73	ENY	REN	TDE	100	73
698-0410.35	AFRICA REGIONAL						
	COMMUNITY FORESTRY SCHOOL TREE NURSERY	460	AGR	FOR	TTR	50	230
			AGR	FOR	RED	45	207
			AGR	FOR	HRD	5	23
698-0414	AFRICA REGIONAL						
	REGIONAL REMOTE SENSING FACILITY	4122	AGR	NRE	TTR	40	1649
			AGR	NRE	PPA	40	1649
			AGR	NRE	HRD	20	824
633-0209	BOTSWANA						
	RENEWABLE ENERGY TECHNOLOGY (BRET)	3304	ENY	REN	TDE	30	991
			ENY	REN	TTR	30	991
			ENY	REN	PPA	10	330
			ENY	REN	HRD	10	330
			ENY	FUW	TDE	10	330
			ENY	FUW	TTR	5	165
			ENY	FUW	HRD	5	165
686-0235	BURKINA FASO						
	FORESTRY EDUCATION DEVELOPMENT	5958	AGR	FOR	HRD	50	2979
			AGR	FOR	PPA	20	1192
			AGR	FOR	TDE	10	596
			AGR	FOR	TDE	10	596
655-0005	CAPE VERDE						
	SAL DESALINATION AND POWER	9781	ENY	FOF	RED	5	489
			ENY	FOF	CON	85	8314
			ENY	POW	TTR	10	978
655-0006	CAPE VERDE						
	WATERSHED MANAGEMENT	6275	AGR	NRE	TTR	30	1882
			AGR	NRE	PPA	30	1882
			AGR	CRO	HRD	20	1255
			AGR	FOR	RED	20	1255
632-0206	LESOTHO						
	RENEWABLE ENERGY TECHNOLOGY	1600	ENY	REN	TTR	30	480
			ENY	REN	HRD	10	160
			ENY	REN	TDE	50	800
			ENY	REN	PPA	10	160
688-0205	MALI						
	LAND USE INVENTORY	5492	AGR	CRL	RED	40	2197
			AGR	CRL	HRD	10	549
			AGR	NRE	TDE	25	1373

AFRICA BUREAU PROJECTS WITH ENERGY, FORESTRY AND NATURAL RESOURCES
BY SECTOR/SUBSECTOR/ACTIVITY
*** COMPLETED ***
($000's)

PROJECT NUMBER	COUNTRY/REGION TITLE	TOTAL LOP	SECTOR	SUB-SECTOR	ACTIVITY	PERCENT	AMOUNT
688-0217	MALI		AGR	NRE	TTR	25	1373
	RENEWABLE ENERGY	4517	ENY	REN	TDE	60	2710
			ENY	REN	TTR	15	678
			ENY	REN	HRD	15	678
			ENY	REN	PPA	10	452
685-0202	SENEGAL						
	RANGE AND LIVESTOCK DEVELOPMENT	2400	AGR	LIV	RED	90	2160
			AGR	LIV	HRD	10	240
685-0219	SENEGAL						
	FUELWOOD PRODUCTION	3434	AGR	FOR	TTR	10	343
			AGR	FOR	RED	85	2919
			AGR	FOR	HRD	5	172
685-0233	SENEGAL						
	NATIONAL PLAN FOR LAND USE AND DEVELOPMENT	2000	AGR	NRE	PPA	95	1900
			AGR	NRE	HRD	5	100
685-0260	SENEGAL						
	COMMUNITY AND ENTERPRISE DEVELOPMENT	9000	AGR	CRO	TTR	25	2250
			AGR	CRO	HRD	15	1350
			AGR	CRO	RED	25	2250
			AGR	LIV	TTR	20	1800
			AGR	FOR	TTR	5	450
			AGR	LIV	HRD	10	900
621-0160	TANZANIA						
	VILLAGE ENVIRONMENT IMPROVEMENT	499	AGR	CRO	HRD	40	200
			AGR	NRE	TTR	50	250
			ENY	REN	TTR	5	25
			AGR	FOR	RED	5	25

TABLE C.4

CENTRALLY FUNDED PROJECTS WITH ENERGY, FORESTRY AND NATURAL RESOURCES
BY SECTOR/SUBSECTOR/ACTIVITY
*** PLANNED ***
($000's)

PROJECT NUMBER	COUNTRY/REGION TITLE	TOTAL LOP	SECTOR	SUB-SECTOR	ACTIVITY	PERCENT	AMOUNT

******* NONE *******

CENTRALLY FUNDED PROJECTS WITH ENERGY, FORESTRY AND NATURAL RESOURCES
BY SECTOR/SUBSECTOR/ACTIVITY
*** ACTIVE ***
($000's)

PROJECT NUMBER	COUNTRY/REGION TITLE	TOTAL LOP	SECTOR	SUB-SECTOR	ACTIVITY	PERCENT	AMOUNT
931-1135	CENTRALLY FUNDED						
	HUMAN SETTLEMENTS NATURAL RESOURCE SYS. ANAL.	5364	AGR	NRE		75	4023
931-1229	CENTRALLY FUNDED						
	SOIL MANAGEMENT SUPPORT SERVICES	6976	AGR	NRE		100	6976
931-1311	CENTRALLY FUNDED						
	SOIL MANAGEMENT CRSP	13050	AGR	NRE		100	13050
936-4142	CENTRALLY FUNDED						
	INTEGRATED PEST MANAGEMENT AND ENV PROTECTION	5800	AGR	NRE		100	5800
936-5301	CENTRALLY FUNDED						
	ACCESS TO LAND, WATER, AND NATURAL RESOURCES	5290	AGR	NRE		100	5290
936-5517	CENTRALLY FUNDED						
	ENVIRONMENTAL PLANNING MANAGEMENT	6115	AGR	NRE		100	6115
936-5518	CENTRALLY FUNDED						
	COASTAL RESOURCES MANAGEMENT	5000	AGR	NRE		100	5000
936-5519	CENTRALLY FUNDED						
	FOREST RESOURCES MANAGEMENT	19821	AGR	FOR		100	19821
936-5542	CENTRALL FUNDED						
	INNOVATIVE SCIENTIFIC RESEARCH	30206	AGR	NRE		18	5437
			AGR	FOR		17	5135
			AGR	CRO		15	4531
			ENY			15	4531
			ENG			20	6041
			HLT			15	4531
936-5545	CENTRALLY FUNDED						
	AGROFORESTRY RESEARCH AND TRAINING	1000	AGR	FOR		100	1000
936-5547	CENTRALLY FUNDED						
	FORESTRY/FUELWOOD R&D	40000	AGR	FOR		100	40000
936-5701	CENTRALLY FUNDED						
	LOW COST ENERGY TECHNOLOGIES	400	ENY	REN		75	300
			ENY	FUW		25	100
936-5702	CENTRALLY FUNDED						
	ENERGY TECHNICAL SERVICE AND SUPPORT	1934	ENY	NSS		100	1934
936-5715	CENTRALLY FUNDED						
	SMALL DECENTRALIZED HYDROPOWER	4500	ENY	REN		100	4500
936-5724	CENTRALLY FUNDED						
	CONVENTIONAL ENERGY TECHNICAL ASSISTANCE	15250	ENY	FOF		100	15250
936-5728	CENTRALLY FUNDED						
	ENERGY POLICY DEVELOPMENT AND CONSERVATION	7600	ENY	NSS		100	7600
936-5730	CENTRALLY FUNDED						
	RENEWABLE ENERGY APPLICATIONS	8200	ENY	REN		100	8200
936-9997	CENTRALLY FUNDED						
	TRAINING IN CONVENTIONAL ENERGY	14000	ENY	FOF		100	14000

CENTRALLY FUNDED PROJECTS WITH ENERGY, FORESTRY AND NATURAL RESOURCES
BY SECTOR/SUBSECTOR/ACTIVITY
*** ACTIVE ***
($000's)

PROJECT NUMBER	COUNTRY/REGION TITLE	TOTAL LOP	SECTOR	SUB-SECTOR	ACTIVITY	PERCENT	AMOUNT
938-0267	CENTRALLY FUNDED FVA CARE MATCHING GRANT	8500	AGR	FOR		35	2975
			AGR	CRO		35	2975
			HLT			30	2550
938-0268	CENTRALLY FUNDED FVA WORLD WILDLIFE FUND (MATCHING GRANT)	1000	AGR	NRE		100	1000

CENTRALLY FUNDED PROJECTS WITH ENERGY, FORESTRY AND NATURAL RESOURCES
BY SECTOR/SUBSECTOR/ACTIVITY
*** COMPLETED ***
($000's)

PROJECT NUMBER	COUNTRY/REGION TITLE	TOTAL LOP	SECTOR	SUB-SECTOR	ACTIVITY	PERCENT	AMOUNT
931-1209	CENTRALLY FUNDED ENVIRONMENT & NATL RESOURCE EXPANDED INF BASE	3100	AGR	NRE		100	3100
936-5710	CENTRALLY FUNDED PHOTOVOLTAIC TECHNOLOGY PROGRAM	3674	ENY	REN		100	3674
938-0216	CENTRALLY FUNDED CARE PROMOTION & PRESER. OF REN. NAT. RES.MG	2698	AGR	FOR		100	2698

TABLE C.5

SUMMARY OF AFRICA BUREAU PROJECTS WITH ENERGY, FORESTRY AND NATURAL RESOURCES BY ACTIVITY (PURPOSE CATEGORY)

*** PLANNED ***

ENERGY (ENY) FUELWOOD	TOTAL AMOUNT ($ 000's)
FUELWOOD TOTAL --	0

*** ACTIVE ***

ENERGY (ENY) FUELWOOD	TOTAL AMOUNT ($ 000's)
TECHNOLOGY DEVELOPMENT (TDE)	2155
TECHNOLOGY TRANSFER (TTR)	3700
COMMODITY MARKETING (MKT)	1830
FUELWOOD TOTAL --	7685

*** COMPLETED ***

ENERGY (ENY) FUELWOOD	TOTAL AMOUNT ($ 000's)
TECHNOLOGY DEVELOPMENT (TDE)	330
TECHNOLOGY TRANSFER (TTR)	165
HUMAN RESOURCES DEVELOPMENT (HRD)	165
FUELWOOD TOTAL --	660

*** PLANNED ***

ENERGY (ENY) RENEWABLE ENERGY	TOTAL AMOUNT ($ 000's)
RENEWABLE TOTAL --	0

*** ACTIVE ***

ENERGY (ENY) RENEWABLE ENERGY	TOTAL AMOUNT ($ 000's)
TECHNOLOGY DEVELOPMENT (TDE)	810
TECHNOLOGY TRANSFER (TTR)	2108
CONSTRUCTION (CON)	57
RENEWABLE TOTAL --	2975

*** COMPLETED ***

ENERGY (ENY) RENEWABLE ENERGY	TOTAL AMOUNT ($ 000's)	
PLANNING & POLICY ANALYSIS (PPA)	942	
TECHNOLOGY DEVELOPMENT (TDE)	4574	
TECHNOLOGY TRANSFER (TTR)	2174	
HUMAN RESOURCES DEVELOPMENT (HRD)	1168	
RENEWABLE TOTAL --		8858

*** PLANNED ***

ENERGY (ENY) FOSSIL FUEL	TOTAL AMOUNT ($ 000's)	
FOSSIL FUEL TOTAL --		0

*** ACTIVE ***

ENERGY (ENY) FOSSIL FUEL	TOTAL AMOUNT ($ 000's)	
TECHNOLOGY DEVELOPMENT (TDE)	1800	
TECHNOLOGY TRANSFER (TTR)	1800	
COMMODITY MARKETING (MKT)	900	
RESOURCE DEVELOPMENT (RED)	3600	
HUMAN RESOURCES DEVELOPMENT (HRD)	900	
SECTOR SUPPORT (SEC)	28700	
FOSSIL FUEL TOTAL --		37700

*** COMPLETED ***

ENERGY (ENY) FOSSIL FUEL	TOTAL AMOUNT ($ 000's)	
CONSTRUCTION (CON)	8314	
RESOURCE DEVELOPMENT (RED)	489	
FOSSIL FUEL TOTAL --		8803

*** PLANNED ***

ENERGY (ENY) POWER	TOTAL AMOUNT ($ 000's)
POWER TOTAL --	0

*** ACTIVE ***

ENERGY (ENY) POWER	TOTAL AMOUNT ($ 000's)
POWER TOTAL --	0

*** COMPLETED ***

ENERGY (ENY) POWER	TOTAL AMOUNT ($ 000's)
TECHNOLOGY TRANSFER (TTR)	978
POWER TOTAL --	978

*** PLANNED ***

ENERGY (ENY) NO SPECIFIC SUBSECTOR	TOTAL AMOUNT ($ 000's)
NO SPECIFIC SUBSECTOR TOTAL --	0

*** ACTIVE ***

ENERGY (ENY) NO SPECIFIC SUBSECTOR	TOTAL AMOUNT ($ 000's)
PLANNING & POLICY ANALYSIS (PPA)	9725
TECHNOLOGY TRANSFER (TTR)	3280
HUMAN RESOURCES DEVELOPMENT (HRD)	3850
NO SPECIFIC SUBSECTOR TOTAL --	16855

*** COMPLETED ***

ENERGY (ENY) NO SPECIFIC SUBSECTOR	TOTAL AMOUNT ($ 000's)
NO SPECIFIC SUBSECTOR TOTAL --	0

*** PLANNED ***

FORESTRY (FOR)	TOTAL AMOUNT ($ 000's)
PLANNING & POLICY ANALYSIS (PPA)	3875
TECHNOLOGY DEVELOPMENT (TDE)	5425
RESOURCE DEVELOPMENT (RED)	3875
HUMAN RESOURCES DEVELOPMENT (HRD)	2325
NO ACTIVITY DESIGNATION	10000
FORESTRY TOTAL --	25500

*** ACTIVE ***

FORESTRY (FOR)	TOTAL AMOUNT ($ 000's)
PLANNING & POLICY ANALYSIS (PPA)	2619
TECHNOLOGY DEVELOPMENT (TDE)	4732
TECHNOLOGY TRANSFER (TTR)	10925
RESOURCE DEVELOPMENT (RED)	17738
HUMAN RESOURCES DEVELOPMENT (HRD)	4754
FORESTRY TOTAL --	40768

*** COMPLETED ***

FORESTRY (FOR)	TOTAL AMOUNT ($ 000's)
PLANNING & POLICY ANALYSIS (PPA)	1192
TECHNOLOGY DEVELOPMENT (TDE)	1192
TECHNOLOGY TRANSFER (TTR)	1023
RESOURCE DEVELOPMENT (RED)	4406
HUMAN RESOURCES DEVELOPMENT (HRD)	3174
FORESTRY TOTAL --	10987

*** PLANNED ***

NATURAL RESOURCES (NRE)	TOTAL AMOUNT ($ 000's)	
TECHNOLOGY TRANSFER (TTR)	1750	
COMMODITY MARKETING (MKT)	700	
HUMAN RESOURCES DEVELOPMENT (HRD)	1050	
NO ACTIVITY DESIGNATION	2500	
NATURAL RESOURCES TOTAL --		6000

*** ACTIVE ***

NATURAL RESOURCES (NRE)	TOTAL AMOUNT ($ 000's)	
PLANNING & POLICY ANALYSIS (PPA)	19949	
TECHNOLOGY DEVELOPMENT (TDE)	9300	
TECHNOLOGY TRANSFER (TTR)	33411	
INPUT SUPPLY (INP)	2716	
CREDIT DEVELOPMENT (CRE)	2716	
RESOURCE DEVELOPMENT (RED)	24561	
HUMAN RESOURCES DEVELOPMENT (HRD)	17126	
NATURAL RESOURCES TOTAL --		109779

*** COMPLETED ***

NATURAL RESOURCES (NRE)	TOTAL AMOUNT ($ 000's)	
PLANNING & POLICY ANALYSIS (PPA)	5431	
TECHNOLOGY DEVELOPMENT (TDE)	1373	
TECHNOLOGY TRANSFER (TTR)	5154	
HUMAN RESOURCES DEVELOPMENT (HRD)	924	
NATURAL RESOURCES TOTAL --		12882

TABLE C.6

SUMMARY OF CENTRALLY FUNDED PROJECTS WITH ENERGY, FORESTRY AND NATURAL RESOURCES BY ACTIVITY (PURPOSE CATEGORY)

*** PLANNED ***

ENERGY (ENY) FUELWOOD	TOTAL AMOUNT ($ 000's)	
FUELWOOD TOTAL --		0

*** ACTIVE ***

ENERGY (ENY) FUELWOOD	TOTAL AMOUNT ($ 000's)	
NO ACTIVITY DESIGNATION	100	
FUELWOOD TOTAL --		100

*** COMPLETED ***

ENERGY (ENY) FUELWOOD	TOTAL AMOUNT ($ 000's)	
FUELWOOD TOTAL --		0

*** PLANNED ***

ENERGY (ENY) RENEWABLE ENERGY	TOTAL AMOUNT ($ 000's)	
RENEWABLE TOTAL --		0

*** ACTIVE ***

ENERGY (ENY) RENEWABLE ENERGY	TOTAL AMOUNT ($ 000's)	
NO ACTIVITY DESIGNATION	13000	
RENEWABLE TOTAL --		13000

*** COMPLETED ***

ENERGY (ENY) RENEWABLE ENERGY	TOTAL AMOUNT ($ 000's)
NO ACTIVITY DESIGNATION	3674

RENEWABLE TOTAL -- 3674

*** PLANNED ***

ENERGY (ENY) FOSSIL FUEL	TOTAL AMOUNT ($ 000's)

FOSSIL FUEL TOTAL -- 0

*** ACTIVE ***

ENERGY (ENY) FOSSIL FUEL	TOTAL AMOUNT ($ 000's)
NO ACTIVITY DESIGNATION	29250

FOSSIL FUEL TOTAL -- 29250

*** COMPLETED ***

ENERGY (ENY) FOSSIL FUEL	TOTAL AMOUNT ($ 000's)

FOSSIL FUEL TOTAL -- 0

*** PLANNED ***

ENERGY (ENY) POWER	TOTAL AMOUNT ($ 000's)

POWER TOTAL -- 0

*** ACTIVE ***

ENERGY (ENY) POWER	TOTAL AMOUNT ($ 000's)
POWER TOTAL --	0

*** COMPLETED ***

ENERGY (ENY) POWER	TOTAL AMOUNT ($ 000's)
POWER TOTAL --	0

*** PLANNED ***

ENERGY (ENY) NO SPECIFIC SUBSECTOR	TOTAL AMOUNT ($ 000's)
NO SPECIFIC SUBSECTOR TOTAL --	0

*** ACTIVE ***

ENERGY (ENY) NO SPECIFIC SUBSECTOR	TOTAL AMOUNT ($ 000's)
nJ ACTIVITY DESIGNATION	9534
NO SPECIFIC SUBSECTOR TOTAL --	9534

*** COMPLETED ***

ENERGY (ENY) NO SPECIFIC SUBSECTOR	TOTAL AMOUNT ($ 000's)
NO SPECIFIC SUBSECTOR TOTAL --	0

*** PLANNED ***

FORESTRY (FOR)	TOTAL AMOUNT ($ 000's)
FORESTRY TOTAL --	0

*** ACTIVE ***

FORESTRY (FOR)	TOTAL AMOUNT ($ 000's)
NO ACTIVITY DESIGNATION	68931
FORESTRY TOTAL --	68931

** COMPLETED ***

FORESTRY (FOR)	TOTAL AMOUNT ($ 000's)
NO ACTIVITY DESIGNATION	2698
FORESTRY TOTAL --	2698

*** PLANNED ***

NATURAL RESOURCES (NRE)	TOTAL AMOUNT ($ 000's)
NATURAL RESOURCES TOTAL --	0

*** ACTIVE ***

NATURAL RESOURCES (NRE)	TOTAL AMOUNT ($ 000's)
NO ACTIVITY DESIGNATION	52691
NATURAL RESOURCES TOTAL --	52691

*** COMPLETED ***

NATURAL RESOURCES (NRE)	TOTAL AMOUNT ($ 000's)	
NO ACTIVITY DESIGNATION	3100	
NATURAL RESOURCES TOTAL --		3100

APPENDIX D
USE OF TECHNOLOGIES BY COUNTRY

Notes:

1. Technologies proposed for planned projects are also listed.

2. No distinction is made between technologies proposed and technologies in use in on-going projects; technologies proposed in the Project Paper and Project Status are listed.

3. Projects which have ended since the last publication of this report (Monares, 1983) are designated with a single asterisk and appear at the end of each technology grouping. Summaries for these projects are not included in this report.

4. A double asterisk indicates that the project has been redesigned and no longer contains components related to energy, forestry or natural resources.

TABLE D.1

TECHNOLOGY	PROJECT	
1. Pedal-powered pumps for water	625-0937.03*	Cape Verde Renewable Energy (AIP)
	615-0205	Kenya Renewable Energy Development
2. Hand pumps for water	633-0209	Botswana Renewable Energy Technology
	625-0937.03*	Cape Verde Renewable Energy (AIP)
	615-0205	Kenya Renewable Energy Development
3. Hydrams	615-0205	Kenya Renewable Energy Development
4. Photovoltaic electricity production	633-0209	Botswana Renewable Energy Technology
5. Photovoltaic pumps for irrigation and/or drinking water	698-0410.13*	Burkina Faso Solar Energy Demonstration (AIP)
	633-0209	Botswana Renewable Energy Technology
	603-0013	Djibouti Energy Initiatives
	688-0217	Mali Renewable Energy
	698-0410.22*	Rwanda Renewable/Improved Traditional Energy (AIP)
6. Passive solar heating and cooling	633-0209	Botswana Renewable Energy
	625-0937.03*	Cape Verde Renewable Energy (AIP)
7. Solar fish dryers	625-0937.03*	Cape Verde Renewable Energy (AIP)
	603-0013	Djibouti Energy Initiatives
	688-0217	Mali Renewable Energy
	625-0937.07*	Senegal Renewable Energy (AIP)
8. Solar crop or grain dryers	698-0407.33	Burundi Farm Dryers (IRT)
	625-0937.03*	Cape Verde Renewable Energy (AIP)
	615-0205	Kenya Renewable Energy Development
	688-0217	Mali Renewable Energy
	683-0039*	Niger Solar Energy
	698-0410.22*	Rwanda Renewable Energy (AIP)
	698-0407.09*	Togo Rural Solar Energy (IRT)

TECHNOLOGY	PROJECT	
9. Solar cookers	633-0209	Botswana Renewable Energy Technology
	625-0937.03*	Cape Verde Renewable Energy (AIP)
	650-0041	Sudan Renewable Energy
	698-0407.09	Togo Rural Solar Energy (IRT)
10. Solar greenhouses (growholes)	632-0206	Lesotho Renewable Energy Technology
11. Solar stills	625-0937.03*	Cape Verde Renewable Energy (AIP)
	603-0013	Djibouti Energy Initiatives
	698-0407.09*	Togo Rural Solar Energy (IRT)
12. Solar water heaters	633-0209	Botswana Renewable Energy Technology
	688-0217	Mali Renewable Energy
	698-0407.16*	Swaziland RDA Outreach (IRT)
	698-0407.09*	Togo Rural Solar Energy (IRT)
13. Evaporative coolers	633-0209	Botswana Renewable Energy
14. Windmills to pump water and/or generate electricity	633-0209	Botswana Renewable Energy Technology
	625-0937.03*	Cape Verde Renewable Energy (AIP)
	603-0013	Djibouti Energy Initiatives
	615-0205	Kenya Renewable Energy Development
	698-0410.22*	Rwanda Renewable Energy (AIP)
	698-0407.28*	Somalia AT Demonstration (IRT)
	621-0160	Tanzania Village Environment Improvement (OPG)
15. Mini-hydro	698-0424	AFR Regional Energy Initiatives for Africa
	632-0206	Lesotho Renewable Energy
	698-0407.07	Liberia Mini Hydro-Electric Activity (IRT)
	698-0410.22*	Rwanda Renewable Energy (AIP)
	650-0041	Sudan Renewable Energy
16. Hydropower	655-0005	Cape Verde Desalination & Power
	650-(K603)	Sudan Commodity Import Program
	650-0059	Sudan Energy Planning and Management
	936-9715	Small Decentralized Hydropower

TECHNOLOGY	PROJECT	
17. Biogas	625-0937.03*	Cape Verde Renewable Energy (AIP)
	632-0206	Lesotho Renewable Energy Technology
	682-0223*	Mauritania Alternative Energy
	698-0407.16*	Swaziland RDA Outreach (IRT)
	650-0041	Sudan Renewable Energy
18. Biogas refrigerators for village dispensaries	698-0410.22*	Rwanda Renewable Energy (AIP)
19. Improved charcoal production	698-0407.31*	AFR Regional Improved Rural Technology (IRT)
	615-0205	Kenya Renewable Energy Development
	635-0235*	The Gambia Forestry Educ. & Development
	625-0937	Senegal Renewable Energy (AIP)
	650-0041	Sudan Renewable Energy
	698-0407.25*	Uganda Charcoal Briquette Production (IRT)
20. Thatch insulation	633-0209	Botswana Renewable Energy Technology
	632-0206	Lesotho Renewable Energy Technology
21. Peat production	695-0103	Burundi Alternative Energy--Peat II
22. Peat stoves	695-0103	Burundi Alternative Energy--Peat II
23. Wood- & dung-burning stoves, charcoal kilns	698-0424	AFR Regional Energy Initiatives for Africa
	625-0911*	Sahel Regional VITA Woodstoves
	633-0209	Botswana Renewable Energy Technology
	695-0105	Burundi Bururi Forest
	625-0937.03*	Cape Verde Renewable Energy (AIP)
	635-0205	The Gambia Forestry Project
	615-0205	Kenya Renewable Energy Development
	632-0206	Lesotho Renewable Energy Technology
	688-0217	Mali Renewable Energy
	688-0937	Mali Village Reforestation (AIP)

TECHNOLOGY	PROJECT	
23. Wood- & dung-burning stoves, charcoal kilns (cont'd)	698-0424	AFR Regional Energy Initiatives for Africa
	675-0208	Guinea Appropriate Technology (PVO)
	625-0937	Senegal Renewable Energy (AIP)
	649-0122	Somalia CDA Forestry
	650-0041	Sudan Renewable Energy
24. Agroforestry (includes windbreaks, live fencing, etc.)	698-0427	AFR Regional Env. Training & Resource Mgnt.
	698-0502.96	AFR Regional Gituza Forestry (Rwanda)
	698-0424	AFR Regional Energy Initiatives for Africa
	625-0929*	Sahel Regional NAS Advisory Committee
	686-0934	Burkina Faso Southwest Regional Reforestation
	635-0220*	The Gambia Agroforestry Integration
	615-0172*	Kenya Arid & Semi-Arid Lands
	615-0205	Kenya Renewable Energy Development
	625-0937	Mali Village Reforestation (AIP)
	682-0201*	Mauritania Guidimaka IRD
	683-0230	Niger Forestry and Land Use Planning
	683-0240	Niger Integrated Livestock Production
	685-0219*	Senegal Fuelwood Production
	685-0235	Senegal Cereals II (Agroforestry)
	685-0247*	Senegal Village Woodlots
	649-0122	Somalia CDA Forestry
	650-0020	Western Sudan Agricultural Research
	650-0064	Sudan Eastern Reforestation
	936-5545	Agroforestry Research & Trng.
	936-5547	Fuelwood Forestry (R&D)
	938-0216*	CARE Promotion & Preservation of Natural Resources
	938-0267	CARE Matching Grant
25. Fuelwood Production	698-0424.01	AFR Regional (AIP) Commercial Afforestation
	698-0502.96	AFR Regional Gituza Forestry (Rwanda)
	633-0077**	Botswana Rural Sector Grant
	686-0231(OPG)	Burkina Faso Seguenega Integrated Rural Development
	686-0235	Burkina Faso Forestry Education and Development
	695-0105	Burundi Bururi Forest
	677-0051	Chad PVO Development Initiatives

TECHNOLOGY	PROJECT	
25. Fuelwood production (cont'd)	635-0205*	The Gambia Reforestation
	698-0410.35	Guinea Community Forestry School Tree Nursery
	615-0205	Kenya Renewable Energy Development
	612-0215	Malawi Agricultural Research and Extension
	625-0937	Mali Village Reforestation (AIP)
	683-0230	Niger Forestry and Land Use Planning
	685-0219*	Senegal Fuelwood Production
	649-0122	Somalia CDA Forestry
	650-0064	Sudan Eastern Reforestation (CPG)
	936-5538	Applying Science & Technology to Development
	936-5542	Innovative Scientific Research
26. Village woodlots	698-0502.96	AFR Regional Gituza Forestry
	698-0424	AFR Regional Energy Initiatives for Africa
	698-0427	AFR Regional Environmental Training & Resource Management
	625-0261**	Sahel Regional OMVS Integrated Development
	633-0209	Botswana Renewable Energy Technology
	635-0205	The Gambia Reforestation
	615-0205	Kenya Renewable Energy Development
	631-0221	Lesotho Agr. Prod. & Institutional Support (LAPIS)
	688-0937	Mali Village Reforestation
	685-0224*	Senegal SODESP Livestock Production
	685-0247*	Senegal Village Woodlots
	685-0260	Senegal Community Enterprise Development
	650-0041	Sudan Renewable Energy
27. Weather-measuring instruments, Telecommunications networks	625-0917*	Sahel Regional Water Data Network Management I
	625-0940	Sahel Regional Water Data Network Management II
28. Remote sensing and resource mapping, aerial photography	698-0414	AFR Regional Remote Sensing/East Africa
	698-0420	AFR Regional Remote Sensing/West Africa
	698-0427	AFR Regional Environment Training and Resource Management
	698-0456	AFR Reg. Remote Sensing II (East Africa)
	698-0457	AFR Reg. Remote Sensing II (West Africa)
	625-0911	Sahel Regional CILSS Ecologist

TECHNOLOGY	PROJECT	
28. Remote sensing and resource mapping, aerial photography (cont'd)	625-0012	The Gambia River Basin Development
	635-0203	The Gambia Mixed Farming & Resource Management
	615-0172	Kenya Arid & Semi-Arid Land Use
	688-0202*	Mali Land Use Inventory
	683-0240	Niger Niamey Department Development II
	683-0202*	Niger Range and Livestock
	625-0944	Niger River Basin Planning II
	625-0915	Niger River Basin Development Planning II
	685-0233	Senegal National Plan for Land Use & Development
	649-0168*	Somalia Central Rangelands Development
	649-0108	Somalia Central Rangelands Development
29. Soil conservation measures (terracing, dams, desertification)	698-0410.35	AFR Regional Community Forestry School Tree Nursery Program
	655-0006	Cape Verde Watershed Management
	602-0001	Comoros Care (PVO)
	625-0012	The Gambia River Basin Development
	615-0172*	Kenya Arid & Semi-Arid Lands Development
	688-0205	Mali Land Use Inventory
	635-0202*	Niger Soil and Water Management Unit
	635-0203	Niger Mixed Farming & Resource Management
	649-0122	Somalia CDA Forestry (Phase I) Refugee Reforestation
	649-0108	Somalia Central Rangelands Development
	621-0143*	Tanzania Arusha Planning & Village Development
	621-0160	Tanzania Lutheran World Relief Village Environment Improvement
	685-0224*	Senegal SODESP Livestock Production
	649-0113	Somalia Bay Region Development
	649-0134	Somalia Juba Development Analytical Studies
	931-1229	Soil Management Support Services
	931-1311	Soil CRSP Management
30. Pest management	936-4142	Integrated Pest Management and Environmental Protection

APPENDIX E

LIST OF ACRONYMS

ABEDA	Arab Bank for Economic Development in Africa
ABS	Annual Budget Submission (AID)
ABD	Arab Development Bank
AIP	Accelerated Impact Program (AIP)
ARD	Associates in Rural Development
BOSTID	Board on Science and Technology in Development (NAS)
CARE	Cooperative for American Relief Everywhere
CDA	Concerted Action for Development in Africa (also CADA)
CIDA	Canadian International Development Agency
CILSS	Permanent Interstate Committee for Drought Control in the Sahel
CP	Congressional Presentation (AID)
ECA	Economic Commission for Africa
EDA	European Development Fund of the Common Market (see FED)
ED/I	Energy Development, International
EEC	European Economic Community (Common Market)
ENDA	Environment and Development in Africa
FAO	Food and Agriculture Organization (UN)
FED	Fonds Europeens de Developpement/European Development Fund (see EDF)
IBRD	International Bank for Reconstruction and Development (World Bank)
IDA	International Development Association
IFAD	International Fund for Agricultural Development
ILCA	International Livestock Center for Africa
IMF	International Monetary Fund
IRD	Integrated Rural Development
IRT	Improved Rural Technology (AID)
IUCN	International Union for Conservation and Nature
NAS	National Academy of Sciences
NOAA	National Oceanic and Atmospheric Administration
NPS	National Park Service
NRECA	National Rural Electric Cooperative Agency
ODC	Overseas Development Council
OPG	Operational Program Grant (AID)
PACD	Project Assistance Completion Date (AID)
PASA	Participating Agency Service Agreement
PCV	Peace Corps Volunteer
PID	Project Identification Document (AID)
PP	Project Paper (AID)
PRP	Project Review Paper (AID)

PSC	Personal Services Contract (AID)
REDSO/EA	Regional Economic Development Services Office, East Africa
REDSO/W	Regional Economic Development Services Office, West Africa
RET	Renewable Energy Technology
RSSA	Resources Services Support Agreement
SECID	South East Consortium for International Development
SERI	Solar Energy Research Institute
SOFRETES	Company for Thermal and Solar Studies (French)
UNDP	United Nations Development Program
UNEP	United Nations Environmental Program
UNIDO	United Nations International Development Organization
UNSO	United Nations Sudano-Sahelian Office