

P.D. AMM 078

AGENCY FOR INTERNATIONAL DEVELOPMENT
PROJECT IDENTIFICATION DOCUMENT FACESHEET
To Be Completed By Originating Office

1. TRANSACTION CODE
 A = Add
 C = Change
 D = Delete

PID
2. DOCUMENT CODE
1

3. COUNTRY/ENTITY
Somali Democratic Republic

4. DOCUMENT REVISION NUMBER

5. PROJECT NUMBER (7 digits)
 649-0122

6. BUREAU/OFFICE
A. Symbol AFR
B. Code 06

7. PROJECT TITLE (maximum 40 characters)
 CDA Forestry: Phase I -- Refugee Areas

8. PROPOSED NEXT DOCUMENT
A. 2 = PRP
 3 = PP
B. DATE MM YY 08 81 2

10. ESTIMATED COSTS
(\$000 or equivalent, \$1 =)
FUNDING SOURCE

9. ESTIMATED FY OF AUTHORIZATION/OBLIGATION
a. INITIAL FY 81 2
b. FINAL FY 81 2

a. AID Appropriated (RP) 6,000
b. OTHER 1.
2.
c. Host Country land, water, counterparts
d. Other Donor(s) 6,323
TOTAL 12,323

II. PROPOSED BUDGET AID APPROPRIATED FUNDS (\$000)

A. APPROPRIATION	B. PRIMARY PURPOSE CODE	PRIMARY TECH. CODE		E. FIRST FY		LIFE OF PROJECT	
		C. Grant	D. Loan	F. Grant	G. Loan	H. Grant	I. Loan
(1) RP	B 740	160		6,000		6,000	
(2)							
(3)							
(4)							
		TOTAL					

12. SECONDARY TECHNICAL CODES (maximum six codes of three positions each)
160 941 960

13. SPECIAL CONCERNS CODES (maximum six codes of four positions each)

15. PROJECT GOAL (maximum 240 characters)
To redress deforestation in Somalia caused by the refugee populations.

16. PROJECT PURPOSE (maximum 430 characters)
1. To commence reforestation and fuelwood production activities beginning in areas impacted by the additional fuelwood demands of refugees.
2. To build the institutional capability of the GSDR so they can oversee the management of these AID and other donor activities which support the GSDR Five-Year Forestry Plan.

17. PLANNING RESOURCE REQUIREMENTS (staff/funds)
Reassemble design team, including a design coordinator, Volag affairs specialist, assistant design officer, agronomist, REDSO/EA forester, and civil engineer/implementation specialist

18. ORIGINATING OFFICE CLEARANCE
Signature: Jim Kelly
Title: Mission Director USAID/Somalia
Date Signed: MM DD YY 06 18 82

19. Date Document Received in AID/W, or for AID/W Documents, Date of Distribution
MM DD YY 06 29 82

SOMALIA

CDA FORESTRY PHASE I: REFUGEE AREAS PROJECT
(749-0122)
PROJECT PAPER

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ABBREVIATIONS AND DEFINITIONS

NRC	National Refugee Commission
NRA	National Range Agency
GSDR	Government of the Somali Democratic Republic
RSR	Refugee Self-Reliance
S-R	Self Reliance
PVO	Private and Voluntary Organization (sometimes: Volag)
PP	Project Paper (AID internal document)
PID	Project Identification Document (AID internal document)
AID/W	Aid Headquarters in Washington, D.C.
ECPR	Executive Committee Project Review
FY	Fiscal Year (unless otherwise noted, of the U.S.A.)
WFP	World Food Program
CEAR	European Committee for Aid to Refugees (French)
UNHCR	United Nations High Commission for Refugees
CDSS	AID's Country Development Strategy Statement
GU	One of two Somali rainy seasons
DER	The other one
STATE/RP	Department of State's Office of Refugee Programs
ELU	Emergency Logistics Unit of NRC
RHU	Refugee Health Unit of GSDR Ministry of Health
PL-480	U.S. Public Law No. 480
RPA	Refugee Project Assistant
RAO	Refugee Affairs Officer
FFPO	Food-for-Peace Officer
ERDGS	Ecumenical Relief and Development Group in Somalia
ADU	Anti-Desertification Unit of the NRA
CDA	Cooperation for Development in Africa

Executive Summary

A. Goal

This proposed project constitutes the first stage of a major U.S. initiative within the framework of a new multi-donor cooperative effort. The primary goal of this collective effort is to assist the Government of Somalia (GSDR) to undertake a larger volume of forestry and fuelwood planting programs as part of its overall social and economic development efforts.

B. Purposes

This phase is designed to support reforestation and fuelwood production efforts in and near refugee camps which:

- redress deforestation caused by the presence of refugees;
- provide tree planting, fuel conservation and work opportunities, accessible to both refugees and their neighboring populations; and
- strengthen the institutional capability of the NRA at headquarters and in the field.

C. Components

The six components which make up the Project are consistent with the three Project purposes listed above. No component will rely on the success or failure of any other, but all are viewed as necessary in developing experience and initiating long term action programs to reach the Project goals. The Project's six components are:

1. Institution Building through technical assistance to the NRA plus training of regional or district foresters, plantation and nursery managers and extension agents and assistance to the Afgoi Forestry School.
2. Reforestation and Fuelwood Production - ("REF Sub-Projects"), designed and implemented principally by U.S. based Private and Voluntary Organizations (PVOs) in refugee camps and surrounding areas, including the establishment of fuelwood plantations adjacent to refugee camps.
3. Fuelwood Conservation to demonstrate and promote improved stoves and other wood-saving technologies.
4. Natural Resources/Land Use Survey to complete a national natural resources and land use survey and mapping for Somalia.
5. Fuelwood Supply/Demand Assessment to examine in depth woodfuel supply and demand and marketing systems.
6. Project Monitoring and Management Assistance through expatriate personal services contractors based in refugee areas.

D. Analyses

The technical, social, administrative and economic analyses included in the Project Paper (PP) conclude that the Project is feasible. All issues raised in reviewing the Project during the course of its design development have been addressed. The Project meets all applicable statutory requirements and is consistent with the AID/State policy and program guidelines for refugee projects and Mission and GSDR development strategies.

E. Funding

Funding for the Project is authorized by the Foreign Assistance and Related Programs Appropriations Act, 1982, and the Migration and Refugee Assistance Act of 1962, as amended. Because the authorization for this funding does not come from the Foreign Assistance Act the provisions of that Act relating to the use of funds (such as procurement source requirements) do not apply to this Project as a matter of law and accordingly this PP reflects greater flexibility regarding certain procurement requirements than is normally permitted in an AID project. The provisions of certain other federal statutes and the limitations contained in the FY82 Appropriations Act do apply to this Project and these have been adhered to in the design of the Project. Applicable statutory provisions are indicated in the statutory checklist in Annex XXII.

F. Approval and Fiscal Summary

The Project Identification Document (PID) for the Project was approved in AID/Washington on July 14, 1982 and the USAID Mission in Somalia was authorized permission to continue its Project efforts under the provisions of the amended Redlegation of Authority 140. In this regard, the Mission has finalized the PP, and will authorize and obligate full funding in FY 1983 according to the following summary chart:

Table 1
Basic Fiscal Summary
Non-Counterpart Cost

Component 1:		
Component 2:	Institution Building Assistance for the NRA	\$450,000
Component 3:	Reforestation and Fuelwood Production (RFP Sub-Projects)	3,688,000
Component 4:	Fuelwood Conservation/Testing	632,000
Component 5:	Natural Resources/Land Use Survey	500,000
Component 6:	Fuelwood Supply/Demand/Marketing Assessment	400,000
	Project Monitoring and Management	330,000
	TOTAL:	6,000,000

INTRODUCTION

This proposed project constitutes the first stage of a major U.S. initiative within the framework of a new multi-donor cooperative effort. The primary goal of this collective effort is to assist the Government of Somalia (GSDR) to undertake a larger volume of forestry and fuelwood planting program as part of its overall social and economic development efforts. This phase is designed to support reforestation and fuelwood production efforts in and near refugee camps which redress deforestation caused by the presence of refugees; provide tree planting, fuel conservation and work opportunities, accessible to both refugees and their neighboring populations; and strengthen the institutional capability of the NRA at headquarters and in the field.

At a cost of about \$4 million over three years, the project will finance GSDF institution building assistance combined with on-site training, management and non-food commodity components of four or more forestry and fuelwood sub-projects. The sub-projects will be implemented by voluntary agencies, U.S. and Somalia, operating in and around refugee camps under the sponsorship of the National Range Agency.

The following sections provide a brief description of the problem, a statement of the project purposes and the relation of the project to Mission CDSS and U.S. strategy, GSDR forestry priorities and the CDA coordinating framework.

A. The Problem and the Setting

By 1979, deforestation and overgrazing in Somalia, with accompanying desertification of fuelwood and rangeland fodder supplies, had already thrust that country into the category described by the FAO as one of "acute scarcity conditions". Supplies were no longer adequate to meet minimum fuelwood needs even through overcutting. The volume of tree planting needed to meet fuelwood needs from sustained annual yields has been estimated at 50,000 hectares a year through the year 2000. So far as can be determined, current annual planting may be as much as 300 ha a year, but virtually all of this is for sand dune stabilization. To the best of our knowledge, there is no fuelwood planting going on.

This already urgent situation was drastically compounded by the massive inflow of refugees from the Ogaden border conflict in numbers which, three years later, remain at a level of about half a million population. Living under crowded conditions in some 34 camps set up for their temporary care and maintenance, these new residents have systematically denuded the already degraded surrounding countryside, scouring and rescouring as much as 500,000 hectares every day, for daily needs of fuelwood and fodder.

Put in monetary terms, refugees are mining about \$35 million worth of fuelwood annually,* a GSDR involuntary contribution to the refugees' care and maintenance not reflected in UNHCR and other donors reports on annual costs. Resultant desertification, soil erosion, depletion of water tables, silting and continuing refugees fuelwood demand have dangerously increased the pressure on Somalia's already threatened national resource base.

It is logical and appropriate, therefore, that this first installment of what is intended to be a much longer term continuing contribution to the GSDR's national forestry development efforts be (1) geographically situated near the refugee camps for optimum impact on the deforestation caused by the refugee presence, and (2) be financed from the special refugee self-reliance appropriation.

E. The Project Purposes

The specific purposes of this phase of the CDA Forestry Sector Assistance Project are:

- To strengthen the institutional capability of the National Range Agency at headquarters and in the field, so that it can coordinate and manage the larger volume of forestry and fuelwood planting programs which will be initiated under this project and related assistance from other donors.
- To establish basic decentralized tree seedling supply services together with some out-planting, in refugee camp regions, which can be replicated elsewhere in the country.
- To test and demonstrate the soil conservation and agricultural productivity benefits of much wider use of agroforestry.
- To undertake larger scale tree planting and fuelwood production plantations, beginning on lands neighboring the refugee camps. These are intended to test and demonstrate the feasibility of major fuelwood supply interventions to meet, initially, town charcoal and fuelwood demand.
- To test the social and economic feasibility of wider diffusion of fuel conserving wood stoves and the substitution of mud-bricks for wood in rural construction.

* Even at only 500,000 refugees consuming .7m³ of fuelwood per person per year (lower than estimated national p/c consumption of 1.0m³), valued at \$107 per m³ = \$37,450,000, from Somalia's capital stock of fuelwood supplies.

- To provide the GSDR (or other fuelwood supply entities) with a source of revenues from the fuelwood plantations, which could cover recurring costs and funds for capital establishment costs of additional plantations.
- In addition to amenity planting within the camps, to provide refugees who do not have access to agricultural plots with an opportunity to earn some additional income, through food-for-work incentive programs covering manual labor needed for tree planting along canals, riverbanks and larger fuelwood or shelterbelt plantations.

C. Relationship of Project to Mission CDSS and U.S. Strategy

This project is responsive to the recommendations of the State/AID team on "Policy and Strategy for Refugee Affairs in Somalia", which visited Somalia in January, as well as USAID's FY 1984 CDSS presentation and priorities.

1. U.S. State/AID Refugee Policy

The task of the Policy Team was to recommend a redefinition of U.S. policy toward the Somali refugee situation now that the crisis has passed and the feeding, care and maintenance of the refugees had been stabilized. The Policy Team was especially concerned with opportunities for constructive activities on the part of the refugees which would reduce the refugees' dependency, provide at least partial self-support for some refugees; and compensate for some of the environmental damage caused by refugees, especially through reforestation.

To these ends, the team recommended that a project be developed for funding through the portion of the FY 82 refugee assistance appropriation that was to be transferred from State to Aid, to provide technical assistance, operating personnel, commodities and in-country training for activities which would help the refugees become more self-reliant. With special reference to compensation for environmental damage caused by refugees, the team recommended "that funding from the special appropriation be used for the CDA forestry project which relies on refugee labor, and addresses deforestation caused by the refugees' presence."

2. USAID/Somalia FY 1984 CDSS

The FY 1984 CDSS for Somalia stresses the urgency of arresting the process of serious deforestation and desertification, particularly in areas surrounding the refugee camps, and identified this project as a first-phase U.S. contribution to the broader CDA multi-donor assistance program, intended to provide the Somali government with the means to carry out immediate interventions as well as develop a long-term natural resource planning capability.

3. Relation to Refugee Self Reliance Project

The GDA Forestry Phase I - Refugee Areas Project is closely related to its companion intervention, the Refugee Self-Reliance Project.* Linkages have been facilitated by the fact that the IP design team worked on the two projects concurrently. Both are guided by objectives of increasing the motivation and capacity of the Somali refugees to improve their economic livelihood, develop productive skills and to participate in the development of their host country. The two projects are mutually reinforcing and together demonstrate elements of sound donor resource management. The Self-Reliance sub-projects provide a physical base for the initiation of reforestation and self-reliance activities aimed at changing dependency attitudes and for motivating refugees in developmental and self-improvement directions. These same sub-projects provide the locations on which tree planting activities along river banks, roads, canals, and in the field can spread beyond the camps and furnish environmental support for crop production activities. Both projects will be jointly guided, monitored and evaluated by field personnel selected for that purpose.

In addition, both projects will attempt to lay foundations for a subsequent broadening beyond their "refugee" origin to more squarely address two of Somalia's most pressing national issues: increased agricultural output and the mounting problem of deforestation.

D. GSDR Forestry Development Priorities

The GSDR, on its part, has recently accorded reforestation and fuelwood production a higher priority than in any previous development plan. At the ICARA conference in Geneva in April 1981, the GSDR asked for emergency assistance for "Afforestation for Refugee Camps" in four regions of the country where refugee fuelwood demands had accelerated desertification. This project directly responds to that request.

At the same time, the project's activities will provide substantive support for longer term objectives identified in the GSDR Five-Year Development Plan, namely:

- to strengthen the Forestry Department of the NRA in terms of members and technical training of staff;
- complete the delimitation, inventory and mapping of forest resources and prepare management plans which combine production and conservation;
- carry out a non-formal education program which will lead to greater participation by local population in forestry production and protection activities; and
- initiate a comprehensive program of tree planting trials to provide the technical knowledge for eventual large-scale afforestation, the development of village woodlots and greater integration of forestry and agricultural activities.

* AID Project No. 549-0123

E. The CDA Multi-Donor Coordinating Framework

This bilateral US project has its origin in a broader multi-donor coordinating approach dating back to October 1979 when representatives of Belgium, Canada, the Federal Republic of Germany, France, the United Kingdom and the United States agreed to work towards coordination of resources for joint projects within the framework of a Concerted Action for Development in Africa (CaDA), later shortened to "CDA" - Cooperation for Development in Africa. Italy joined this group in 1982.

At the suggestion of the United States, the CDA policy-level meeting in Brussels in December 1980 formally accepted a forestry/fuelwood initiative as part of the CDA program.

Based on agreed criteria developed by the initial six CDA member representatives, five African countries -- Senegal, Upper Volta, Burundi, Malawi and Somalia -- were selected for further coordination of efforts in the field and the development and support of new activities pursuant to this general program objective.

USAID/Somalia had expressed interest in participating in the CDA forestry initiative at an early stage in these discussions, and beginning in September 1981, began preparations for design of a major bilateral intervention.

Concurrently, USAID encouraged the GSDR to establish an ad hoc CDA steering committee for continuing review of forestry needs and proposed donor assistance and asked AID/W for \$250,000 in Program Development and Support funds to assist the GSDR in moving forward in measures considered of priority importance which were needed in the interim before a Project Agreement could be negotiated and signed.

Responding to the encouragement of the USAID Director, the Director General of the Ministry of Planning, in November 1981, organized a CDA Forestry and Fuelwood Steering Group, composed of representatives of the NRA, NRC, international and other foreign donors and voluntary agencies interested in reforestation, resident in Somalia. Chaired by the Director General of Planning, this group has been meeting approximately every four weeks since its inception November 5, 1981. Since December 10, 1981, members of the group have been responding cooperatively to a list of seven project activities presented by the Director General of NRA for initial interventions.

In addition, on March 4, 1982, the Director General of Planning announced the establishment of the NRA's Anti-Desertification Unit which, when fully staffed, will serve as an executive secretariat for the CDA steering group, in addition to other planning and coordinating duties.

Annex I provides additional details on CDA coordination within Somalia and on the GSDR Five Year forestry development plan and donor's responses to date. In addition, as requested by the PID approval cable, information is included on other USAID aid to forestry as well as a brief discussion on preliminary planning for second phase U.S. CDA forestry assistance. Annex XIII includes the GSDR letters establishing the CDA Steering Committee, the ADU, and minutes of the June 16, 1982 meeting.

I. DETAILED DESCRIPTION OF COMPONENTS

The primary goal of this project is, as stated at the outset: to assist the Government of Somalia to undertake a larger volume of forestry and fuelwood planting efforts as part of its overall social and economic development efforts. It is important to keep this longer range goal in mind, particularly in light of the size of the task. The planting of the larger scale fuelwood plantations contemplated under this project can provide only marginal impact on existing fuelwood shortages in any given locality. However, the test and demonstration of the social and economic feasibility of commercial sized fuelwood plantations can, if successful, encourage the GSDK and other donors to embark on the greatly expanded efforts which will be needed to meet the impending fuelwood shortage, already at a critical stage.

Meetings of the CDA Steering Group have already served to focus the attention and increase the interest of both donors and the GSDR on the severity of the problem. As described in Annex I, other donors as well as the U.S. are mobilizing increased resources for more closely coordinated collective assistance to this highly important national development task. This phase of U.S. assistance begins in and near refugee areas. Together with refugee related and other forestry projects supported by other donors as well as GSDR efforts elsewhere in the country, the collective effort under way has already begun to serve this project's primary goal.

The following sections provide an overview of the project as a whole, followed by detailed descriptions of each of the components. Additional financial details are found in tables FA1 to FA4, in Section III.

A. Overview.

The relationship of the project purposes, outputs and inputs, and the assumptions on which they are based are summarized in the logical framework attached as Figure 1.

LOGICAL FRAMEWORK FOR SUMMARIZING PROJECT DESIGN

Volume of the Summary September 24, 1981

Project Title: CDA FORESTRY PHASE I: REFUGEE AREAS PROJECT

DEVELOPMENT HYPOTHESES

MANAGABLE INTEREST

	NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
If Purpose, Then Goal	<p>Program Goal: The broader objectives in which this project contributes.</p> <p>To assist the GSDR to undertake a larger volume of forestry and fuelwood planting programs, as part of its overall social and development planning efforts.</p>	<p>Measures of Goal Achievement</p> <ul style="list-style-type: none"> -- ADU trained staff and CDA steering group exercising review and coordination responsibilities over GSDR and donor forestry activities. -- Total volume of larger scale tree planting efforts expanding throughout the country. 	<ul style="list-style-type: none"> -- Minutes and other records of ADU and CDA steering group review meetings. -- Increased outplanting of trees from NRA nurseries. -- Net annual additions to level of forestry activities. 	<p>Continuing long-term value of program project</p> <ul style="list-style-type: none"> -- CDA steering group will continue to serve as a forum for GSDR consultation. -- Other donors will meet aid commitments promptly. -- ADU will regularly monitor all forestry field activities, including WFP projects, and establish means of interproject exchange of results. -- GSDR will allot increased revenues to forestry budget to cover most project recurrent costs. -- GSDR will allocate land for larger scale fuelwood and shelterbelt planting. -- Project trained staff will be retained in GSDR or other jobs commensurate with training.
If Purpose, Then Purpose	<p>Project Purpose</p> <ol style="list-style-type: none"> 1) Redress deforestation caused by presence of refugees. 2) Provide tree planting, fuel conservation and work opportunities for refugee and neighboring local populations. 3) Strengthen the institutional capability of NRA at headquarters and in the field. 	<p>Conditions that will indicate purpose has been achieved: End of project status</p> <ol style="list-style-type: none"> 1) -- Four 75-ha agro forestry lots being farmed -- Five major fuelwood plantations nearing first harvest, management turned over to local entities 2) -- Substantial public planting in place 3) ADU staffed and functioning; workshops held; NRA field staff in place; Land use and fuelwood surveys completed. 	<ul style="list-style-type: none"> -- Number of trees and total hectares actually planted -- ADU staff in place, field staff in place. 	<ul style="list-style-type: none"> -- Labor will be available in sufficient supply for the larger planting efforts.
If Outputs, Then Purpose	<p>Outputs</p> <ol style="list-style-type: none"> 1) Trees planted in <ul style="list-style-type: none"> -- agro-forestry projects -- fuelwood plantations and shelterbelts -- shade, around public facilities 2) Expanded use of improved stoves 3) Trained WFP staff, NRA sponsored workshops; Land use survey and other planning studies 	<p>Magnitude of Outputs necessary or sufficient to achieve purpose</p> <ol style="list-style-type: none"> 1) Value of trees planted and growing: <ul style="list-style-type: none"> -- 100,000 in agro-forestry (100 hectares) -- 1,100,000 in fuelwood lots/shelterbelts (area) -- 1,300,000 in shade around public facilities 2) 10,000 stoves in regular use (i.e., about one-fourth of families contacted) 3) 25 NRA nursery and plantation managers trained; 5 regional or district foresters trained. 	<ul style="list-style-type: none"> -- Land use survey and fuelwood completed reports -- Number of stoves built and in use -- Number of NRA staff trained, or given permanent staff assignments. 	<p>Affording output to purpose (end point)</p> <ul style="list-style-type: none"> -- Community groups or PDCs will undertake systematic decisions on location, type and extent of tree planting, and on anti-project management.
If Inputs, Then Outputs	<p>Inputs, Activities and Types of Resources</p> <ol style="list-style-type: none"> 1) Tree seedlings provided, plus non-food support for WFP jobs planting trees. 2) Improved stoves, training and demonstration. 3) Technical Assistance and Studies: <ul style="list-style-type: none"> -- US Forest Advisor for ADU -- Land use and mapping survey -- Fuel supply/marketing study -- Monitoring Assistance 	<p>Level of Effort/Expenditure for each activity</p> <ol style="list-style-type: none"> 1) Reforestation and fuelwood production <ul style="list-style-type: none"> Subsubjects: \$ 3,400,000 2) Wood conservation: \$ 632,000 3) TS and Studies: <ul style="list-style-type: none"> -- Forestry Advisor 450,000 -- Land Use Survey 900,000 -- Wood Assessment 400,000 -- Program Monitor 130,000 	<p>Regular monitoring and evaluation of WFP and other subprojects by PDCs and by USAID monitors.</p>	<ul style="list-style-type: none"> -- Greater interproject learning system will be encouraged and promoted. -- PDC recruitment and operational schedules will meet projected schedules.

The project will provide \$6 million in grant funds for six project components as follows:

Component 1:	Institution Building Assistance for the NRA	\$ 450,000
Component 2:	Reforestation and Fuelwood Production (RFP Sub-Projects)	3,680,000
Component 3:	Fuelwood Conservation/Testing	632,000
Component 4:	Natural Resources/Land Use Survey	500,000
Component 5:	Fuelwood Supply/Demand/Marketing Assessment	400,000
Component 6:	Project Monitoring and Management	330,000

While there will be adjustments among components as program considerations arise, it is intended that the components above will be substantially adhered to. Although no component will rely on the success or failure of any other, each has the capability of complementing and reinforcing the progress of the other so that the impact of the combined efforts has the potential of producing a sectoral impact greater than simply the sum of the component parts.

Three of the components -- the natural resources/land use survey, the fuelwood supply/demand and marketing assessment and the provisions for project monitoring and management -- will provide significant inputs toward the goal of strengthening the planning, coordinating and management capabilities of the NRA. Direct technical assistance from this grant will be limited to one forestry advisor in the NRA's Anti-Desertification Unit (ADU) and possibly some short term consultants. The results of the other components, however, provide additional resources to the ADU whose staff is also expected to be increased by technical advisors provided by other donors.

Similarly, the four or more Refugee Forestry Sub-Projects will all be undertaking efforts which will adapt to different community locations a common technical "package" of seedlings, training and species testing, to provide several different kinds of tree planting activities, ranging from amenity household shade and fruit trees to larger scale fuelwood plantations. The on-site training of Somali nursery and plantation managers by the PVOs' technicians who will manage the several RFP Sub-Projects will also provide institutional support to the NRA by increasing its cadre of field trained staff.

Systematic exchange of experiences on costing, improved methods of seedling production and planting, and species trial results should enable a rapid diffusion of technical improvements leading to greater cost effectiveness. Nor need such diffusion be confined to refugee populations since neighboring indigenous Somalis are intended to share in the services. The larger fuelwood plantations, particularly, are intended to provide incremental additions to town and urban cash woodsupply markets and to enlist local community leaders and local charcoal and fuelwood marketing institutions in the initial planning of location, type and size of planting and in post-project management arrangements. It is anticipated that all refugee forestry sub-projects will use common systems of cost accounting and species trial research methods to enhance comparability of results.

B. Detailed Description of Components

1. Institution Building and Training (\$450,000)

As recognized by the OSDR, the Forestry Department has yet to be staffed up, in headquarters and in the field, to even the minimum levels of manpower called for by the size of the desertification problem and accompanying fuelwood consumption demands.

The Forestry Department staff now consists of 2 university graduates and 7 forest rangers trained abroad. These have responsibilities for, forest protection charcoal production (serves as counterpart to IWMPP consultant) village level forestry principal of the Forest Guards Training School at Jajame lecturer at the Forest Guards Training School sand dune fixation and counterpart to World Bank consultants.

The country has 16 Administrative Regions. In each Region there is an IPA Coordinator who is responsible for administration and coordination of range and wild-life programs in addition to forestry. Forestry representation at the Regional Forest Officer level is only in 5 Regions: North-West, Toddeer, Lower Shebelli, Lower Juba, and Day Regions. None of these officers has had formal forestry training. The duties of the RFO's include station control, charcoal production, wood cutting, nurseries and plantations. In addition, there were 40 nursery foremen, 175 forest guards and 200 charcoal guards in addition to 60 wild-life guards. 27 of the forest guards have received some training.

Following the recommendations of two years of exploratory FAO/IMPP missions, this project, in cooperation with other donors, will fund up to two of several headquarters' positions believed essential to monitor and support the project's proposed field operations in and near refugee camps, as well as related forestry programs being supported by other donors.

Under the direction of the Director General of the URA expatriate counterparts working with senior Somali officials will be assigned to the following positions:

- A General Program Coordinator, to be assigned as executive secretary to the newly formed Anti-Desertification Unit.
- A Forestry Technical Advisor, with special attention to larger scale plantations management.
- A Community (social) Forestry Technical Advisor.
- Short-term expert consultants as needed to organize site and species specific test and demonstration trials of indigenous and selected exotic species in the nurseries and planting sites established by this project.

Strengthening of headquarters staff will be complemented by concurrent assistance to the Afsoi Forestry School and by on-site training provided to URA and other Somali forestry assistants and nurserymen seconded to this project's tree seedling supply and larger tree planting programs. As indicated in the summary above, the project will result in the on-site training of five regional or district foresters and up to 25 nursery manager/extension agents. U.S. or third country participant training will also be possible.

In addition, as described below, the project will finance a fuelwood supply and consumption study which will provide improved base line data on which firmer longer range GSDR development planning can proceed. Completion of Somalia's land use survey and mapping will also strengthen this planning base.

Status: The U.S. has tentatively identified a candidate whose qualifications enable him to serve as the Forestry Technical Advisor. See Annex II for a scope of work and budget for the U.S. technician, a summary description of the current staffing and organization of the Department of Forestry, the proposed functions and staffing of the ADU and supplementary details on the FAC/UNDP illustrative budget for proposed overall Forestry Department staffing assistance.

2. Reforestation and Fuelwood Production (RFP Sub-Projects) (\$3,600,000)

Complying with the GSDR's request for accelerated reforestation efforts in and around refugee camps * the project will provide a wide variety of tree planting activities, together with the necessary technical on-site training, seedling and water supply services in the regions in which refugee camps are concentrated.

* The GSDR request is described on pages 142-151 in the official presentation to donors at the International Conference on Assistance to Refugees in Africa, held in Geneva in April 1981. Start-up funding was provided by UNHCR during 1981 and 1982 for pilot forestry activities in Gorioloi, Belet Men and Gado region and a few camps in the Northwest.

Implementation will be through voluntary agencies, in partnership with district NRA foresters and nurserymen and other local government officials. In addition to the voluntary agencies, implementation is also possible through Somali public or private sector agencies. Activities carried out under this project will complement, but not duplicate, similar efforts being carried out or proposed by other voluntary agencies and donors. (For example, by ERDGS, UNHCR and the Government of Germany in the vicinity of Belet Uen in Northern Hiran, and by UN Volunteers, World Vision and Oxfam, with UNHCR support, in the Northwest Region.)

The project includes at least five kinds of tree planting activities in and near refugee camps, involving tree seedling supply and testing services of varying scales.

- Larger scale plantings: In management units of 25 to 50 hectares of intensively planted fuelwood lots or less densely planted shelterbelts, together with the requisite tree seedling nursery. (For units of 25 hectares, intended to be planted at one time in the year, a nursery of about 87,500 capacity will suffice. This size could handle a one-time spring rainy season planting of 25 hectares. If the nursery is restocked concurrently with the spring rainy season planting, that capacity could handle another 25 hectares during the autumn rainy season of the same year, or a total of 50 hectares in one year). The project will include up to five such larger scale fuelwood plantations and probably three or four major shelterbelt plantings.
- Agro-forestry: To test and demonstrate soil conservation and agricultural productivity increases possible through interplanting of nitrogen fixing trees and agricultural crops on agricultural land farmed by refugees. Three or four of these demonstration plots of up to 75 hectares each will be included.
- Tree planting for other specialized tasks: For soil conservation or other purposes, not directly benefitting the refugees, such as roadside, canal and river bank planting, green fencing or windbreaks at the perimeter of the camp. If these activities are taken up on any significant scale, a tree nursery of 20,000 to 40,000 seedling capacity would be needed. Food-for-Work projects could cover labor costs of such plantings.
- Amenity planting: Shade, fruit or ornamental tree planting in individual refugee family enclosures, or around schools and other public buildings within the camps. For each camp of 20,000 population, a nursery of up to 10,000 might meet this need.

-- Research and Seed Production: The lack of seeds in sufficient quantity, quality and variety, either from indigenous or other sources, continues to hamper nursery expansion possibilities and therefore increased tree planting possibilities in Somalia. Although several PVOs have some fast growing species from which seeds are already available in quantity, much remains to be done to develop high quality in-country seed sources. At least two research test and demonstration plots will be established in each of the three regions in which activities are undertaken by this project, concurrently with the operational programs. This will enable site-specific, soil-specific tests of indigenous and exotic species so that improvements and cross-breeding can take place, without delaying the larger scale fuelwood planting efforts. (A list of suitable species is included in the Technical Annex III, page 19.)

It is anticipated that up to six of the larger scale plantations will be established in the refugee camp regions to be serviced by this project. Each of these will need to have a tree seedling nursery stocked with species tailored to the nature of the site, the quality of the soil and water available, and more importantly, to the purpose which has the highest priority. (Shelterbelts or windbreaks can be designed which also produce fuelwood, but if they are clear cut for fuelwood they cease to serve their purpose as wind-breaks or shelterbelts.)

Several voluntary agencies have submitted preliminary proposals to carry out these tasks in and around the designated refugee camps. Each includes in-service training for NRA foresters, plantation project supervisors and nursery managers.

Illustrative of the variety of tree planting and land management activities included in PVO preliminary proposals received to date, are the following. Tentative targets for Luuq represent the combined projection of two PVO proposals, coordinated to complement each other's activities in the same district. It should be emphasized that the proposals presented by each group were very preliminary and more formal proposals are now being formulated. However, the preliminary proposals formed the basis for the following illustrative types of planting efforts projected.

Forestry and Land Resource Planning

Luuq District, Gedo Region.

- Assist in establishing up to eight small nurseries, one for each camp.
- Three larger scale fuelwood plantations with accompanying tree seedling nurseries, planned in conjunction with local NRA and Luuq district officials as part of a longer range land use management program.
- Agro-forestry planting.
- Luuq district canal, riverbank and hedgerow planting under food-for-work.

Forestry and Fuelwood Production

Jalalaqsi, Hiran Region.

- Expansion of existing IIRA nurseries in Jalalaqsi and on the sand dunes near Jalalaqsi IV camp. A new nursery would be established at the relocation site on the Shebelli river.
- At least one larger scale fuelwood plantation in the vicinity of the existing camps.
- Agro-forestry planting.
- In connection with the relocation project a land use plan would include tree planting in shelter belts and grazing reserves.
- Household amenity planting and some small-scale road-side, riverbank planting under food-for-work.

Forestry and Land Resource Planning

Ooriolei, Lower Shebelli.

- Tree planting on sub-marginal land.
- Test and demonstration of agro-forestry on 75 hectares.
- Establishment of a second nursery to be placed near a proposed land use management unit. (One large-sized nursery is already established in the Ooriolei area.)

Status: Africare - Has formally submitted a proposal for fuelwood project in the Jalalaqsi camps area.

Save the Children Federation - Also has formally submitted a proposal for a project near the Ooriolei camps.

Interchurch Response for the Horn of Africa - Near completion of their proposal design and are awaiting a policy decision from New York as to whether or not to participate.

CARE - Has just finished a multi year plan and is negotiating a country agreement with the CSDE Ministry of Planning. They intend to present a fuelwood plantation proposal in October for AID and IIRC consideration.

World Vision and Trans century - Have expressed interest in preparing proposals.

3. Conservation of Fuelwood Use (\$632,000)

A pilot project carried out during 1982 in Ali Matan camp, Gedo Region, has tested the feasibility of interesting women refugees in constructing and using improved wood-burning stoves. As of June 1982, of the 500 stoves in the camps, 85 per cent are in daily use. This project will finance a two-year extension of this effort. It will continue to demonstrate the improved stoves in the other Gedo region camps, train refugee and native Somali masons and housewives in the construction, use and maintenance of the stoves, establish a wood stove demonstration center in Mogadishu, and more widely promote the use of the improved stoves which are developed. Fuelwood savings of as much as 50 per cent have been claimed by refugee women using the stoves. More precise testing and measurement of claimed savings will be made under the expanded project.

Status: VITA is preparing a revised project and is seeking bridge funding for the technician who designed and carried out the pilot project. A refugee counterpart and a team of refugee women trainers are continuing the expanding project in Gedo camps.

4. Completion of Somalia's Land Use Survey and Mapping (\$500,000)

An essential component of any long-range forestry and fuelwood production plan for Somalia will be adequate and up-to-date soil, water, rainfall, vegetation, woodland and forest information. Ground-truthed aerial surveys and detailed maps have already been completed for the Northern, Northwest, Central and Bay regions of Somalia. The National Parks Agency has received a request for financing the completion of the land use mapping, in the remaining southern region, which is the area in which most of the activities being supported under this and the Refugee Self-Reliance projects are located. The estimated time required is about eighteen months.

Status: MRA has already received a draft contract from a candidate contractor. Justification for non-competitive award of this contract and procurement from Code 935 is set forth in Annex XII. No decision has been made by the MRA or AID, however, to utilize the Annex XII described contractor.

5. Fuelwood Supply/Demand and Marketing Systems in Somalia (\$400,000)

A study is proposed to undertake an in-depth survey of fuelwood supply/demand and pattern of use in Somalia, using household and other sampling surveys and including as complete as possible a current description of charcoal and fuelwood production and marketing systems. The study will be developed in consultation with the NRA and reviewed by both the NRA and NRC officials involved in forestry. The study will include training of Somali survey teams who will be able to carry out follow up sampling and/or undertake studies in areas which could not be covered in the study. The time period is estimated at about 12 months. It is considered important that it be launched as soon as possible so that results can be made available to PVOs undertaking RFP sub-projects and to other project participants, so results can be used in community discussions on fuelwood lots.

Status: A preliminary draft proposal has been received from a contractor, extending in greater depth preliminary current fuelwood and charcoal assessments made in mid 1992 in the course of a national energy assessment study undertaken for the CSOR, financed by the IBRD. The contractor's recent experience, including clearances and Somalia governmental and private contacts already made, may make it desirable to contract with this institution to avoid implementation delays that would greatly delay the availability of base data essential for national planning.

6. Project Monitoring and Management (\$330,000)

Pursuant to the Mission's role in monitoring and reporting on the changing refugee situation, scopes of work for USAID Personal Service Contractors known as Food Monitors were revised. The new scopes incorporated responsibility for programming and monitoring both the Refugee Self-Reliance and the CDA Forestry: Phase I projects. Monitoring the performance of the CDA Forestry project will include efforts in program design, management, evaluation of impact, effectiveness and identification of problems; and periodic reporting, describing progress towards objectives, problems, issues and remedial action taken or recommended. However, primary management responsibility will be in the NRA.

USAID will conclude personal service contracts with persons without dependents who have the requisite management skills, a sensitivity to social considerations and with previous field experience in Somalia or similar field situations. Each should be posted to one of the areas of program concentration. A description of their functions, responsibilities and a detailed budget is provided in Annex IV. The estimated cost over two years of \$660,000 will be shared between the two projects. The CDA Forestry project budgets \$330,000 for this task.

Expertise is also available from Mission staff who will be used.

Status: Two of the three monitors have been employed.

II. PROJECT SPECIFIC ANALYSES.

The following sections summarize detailed analyses which are included in full in the Annexes and which conclude that the project as designed is, or can be, administratively, technically, socially and economically feasible. With appropriate safeguards outlined in the environmental assessment, the project will not result in damage to the environment and should, on balance, materially assist water and soil conservation efforts in and near the planted areas. Information requested in the PID approval cable (Annex IV) on fuelwood marketing and on coordination with other donors is included in separate sub-sections, each of which also has more detailed supplementary Annexes. Alternative approaches are also briefly discussed.

A. Administrative Feasibility

As described previously in this project paper, under the policy guidance of the Director General of the NRA, the primary implementing agents under this project will be the NRA and the voluntary agencies who are already working in Somalia. Although USAID will monitor and regularly evaluate those activities, management responsibility, including procurement, recruitment, housing and other logistic support, as well as organization and supervision of the food-for-work component will be the joint responsibility of the NRA and the implementing PVO. Administrative feasibility, therefore depends on whether the particular agencies selected are, in fact, capable of exercising these enhanced management tasks, and whether the NRA can now or during the project be able to provide policy guidance and increasing monitoring capability. The following sections discuss NRA, PVO and USAID administrative capabilities.

1. PVO Administrative Capability

USAID believes that adequate managerial capacity exists on the part of each agency being considered.* With specific reference to preliminary proposals already discussed with the PVOs and used for illustrative purposes in this project paper, Interchurch Response, Save-the-Children and CARE all have existing head-quarters and field camps with modest but fully adequate logistic and housing support. ICA and SCF proposed programs represent an extension and expansion of pilot projects already initiated with UNHCR and their own funding.

CARE has not, to date, engaged in development-oriented efforts in Somalia but the recruitment and management capability demonstrated in their Emergency Logistics Unit (ELU) services has been outstanding. CARE has six field offices near or in camps and has a good record in food-for-work programs elsewhere in Africa, including forestry projects in Chad and Niger.

* Additional details are provided in Annex 4 in the Refugee Self-Reliance Project Paper (AID No. 649-0123).

Africare has assisted the NRC in its refugee program through its resident staff and technicians since 1970, including construction, irrigation and community development. The management responsibilities implicit in their large relocation effort contemplated under the Refugee Self-Reliance projects will require a substantial enlargement of headquarters and field based staff. The forestry component, however, is not necessarily dependent on the prior development of the relocation area, and much of the afforestation and other tree-planting activities can be carried out in and around the existing Jalalaqsi camps. Africare's ability to recruit qualified staff willing to serve in Somalia has been well demonstrated.

Other agencies have also expressed interest in adding forestry activities to their current programs. Subject to the availability of project funds, additional proposals could be considered and would be screened against the following administrative criteria:

- The agency must have an existing headquarters base to provide in-country logistic support and, preferably, an existing field base and staff within which forestry technicians could be easily accommodated.
- The agency should have a demonstrated ability to recruit qualified staff willing to serve under refugee camp-based conditions in Somalia.
- The proposal must meet the management and other technical criteria outlined in the technical feasibility section.
- For agencies undertaking larger scale firewood plantations, the agency must be willing to use a cost accounting system that permits comparability of results with those of other fuelwood plantations funded under the project.*

2. NRA Administrative Capability

As summarized in Section I.B. above, the Forestry Department of the National Range Agency has only a few high level experienced administrators or technicians. Its pool of middle and junior management and field staff are very thinly spread, a factor which is a serious constraint to any development oriented program. (See Annex II for a description of current staff and status.)

* The use of the method outlined in "Cost and Financial Accounting in Forestry: A practical manual" by K. Openshaw (Pergamon Press) 1980, has been suggested. The choice of accounting method will be agreed on during negotiations on the sub-project agreements.

As described in previous sections, the GDA Forestry project will attempt to deal with the situation through (a) institutional support to the National Range Agency to increase its planning and coordinating capabilities particularly in the newly authorized Anti-Desertification Unit, and (b) through in-service training components for counterpart Somali staff to be employed by voluntary agencies implementing individual forestry and fuelwood production sub-projects.

An immediate improvement for NRA administrative capability will be the availability after the project, in regions where the sub-projects are to be undertaken, of middle level field personnel whose academic qualifications have been enhanced by practical on-site training and experience.

3. USAID and REDSO/EA

USAID will have the administrative responsibility, with technical support from REDSO/EA, of carrying out the AID/USAID administrative requirements for project implementation. AID, in conjunction with the NRA, will review and approve:

- (a) PVO and Somali organization Forestry Sub-Project proposals.
- (b) Host country contracts for technical assistance and consulting services; and
- (c) PASA or contract(s) for technical assistance to the NRA.

USAID, in carrying out these responsibilities will involve a number of Mission offices and staff.

The major share of administrative and monitoring responsibilities for the Project will lie with the USAID Project Manager. He will, along with the Project Manager for the Refugee Self Reliance Project and Refugee Affairs Officer (RAO), supervise the Refugee Project Monitors (RPMs) who will have project administration and monitoring responsibilities (see Annex IV for specific duties). The Project Manager will also have the responsibility to coordinate project activities with the NRA, the Ministry of Planning, other GSDR agencies and PVOs related to AID procedures and regulations. Supporting the Project Manager in this involvement will be the USAID Refugee Affairs Office (USAID/RA), the Projects Office (USAID/PROJ), the Controller's Office (USAID/CON), the Management Office (USAID/MGT) and the Agriculture Office (USAID/AGR).

In addition to the USAID staff and office inputs to the project, AID/REDSO/EA will provide project support for technical, environmental, social soundness, contracting, and legal issues arising from Project initiation, implementation and evaluation.

The administrative, management, monitoring and evaluation inputs to the Project by USAID and REDSO/EA will represent a significant allocation of staff time to achieve sound and effective project implementation and required support to the GSDR and PVOs. In this regard current USAID staff and REDSO/EA support capabilities have been determined to be adequate to initiate Project implementation. USAID will, however, undertake an analysis of the Project related workload that will be generated over time to determine if the recommendation of the "Daway Report" concerning positioning of an additional Project Officer, dedicated to management of refugee self reliance activities, is justified.

B. Technical Feasibility

Soil, weather and water conditions in Somalia place a number of fairly serious constraints on agricultural and reforestation projects anywhere in that country.

Despite these constraints, the technical analyses applied to the region-specific preliminary PVO proposals submitted during PID reviews have concluded that the forestry interventions proposed are technically feasible. This conclusion is based on the assumption that the recommended administrative technical and social guidelines and criteria are adhered to in the course of the project. The guidelines, costs, options and constraints of the various alternative options possible under the RFP sub-project are provided in Annex III. Related soil and water constraints are elaborated in a monograph included as Annex 16 in the Refugee Self-Reliance Project Paper, entitled "Technical Constraints to be Considered in Planning Agricultural Self Reliance Projects in Somalia".

It should be emphasized that the establishment costs of insuring adequate technical management are substantial, as much as \$5,000 per hectare, even on Class I land. However, as summarized in the section on economic feasibility, the economic benefits for the larger fuelwood plantations can be sufficient to make the investment worthwhile.

The technical criteria against which the proposed sub-projects should be approved are the following:

- A permanent source of water must be assured and its use dedicated to the specific tree planting and fuelwood production project. This is essential, whether the plantation is located on rainfed or irrigated land.
- An assured and appropriate source of seeds must be available.
- Tree species must be selected to match the specific soil and water characteristics of the site as well as chosen to satisfy anticipated local demand. Each major planting area site should also have a research test and demonstration plot so that quality of species can be maintained and improved on-site seed sources can be developed.

- Adequate technical knowledge, management and supervision must be in place and applied continuously, both at the tree seedling nursery and at the larger out-planting project sites. The corollary to this is that reforestation projects in Somalia will need to have intensive on-site training of Somali counterparts, both of managers and of out-planting labor force supervisors.
- Adequate manual labor supply must be assured in advance before large-scale out-planting projects are begun. If labor is short, the size of the planting effort should be scaled to the labor supply. Absence of adequate management and shortage of labor have been major handicaps in reforestation efforts launched under WFP Project 719.

It may be noted that there are many species of trees which are more tolerant of the saline soil and water conditions characteristic of Somalia than are many agricultural crops. Once tap roots are well established, many of these species are able to survive conditions of drought which are otherwise fatal to many agricultural crops. Furthermore, many fast-growing species are able to regenerate without replanting, through coppicing, if not perennially, at least every three years or so. Hence, the intercropping of trees and food crops, which is a feature of most of the agricultural projects proposed under the companion Refugee Self Reliance Project, may provide a form of crop insurance, or at least cash crop alternatives to food crops, which can be particularly appropriate for Somalia's climate and terrain.

C. Social Analysis

Partially as a result of the refugee presence, problems of environmental degradation and resource loss in capital fuelwood are of unprecedented magnitude in Somalia. Improving the national stock of fuelwood will depend on actions which increase its supply or reduce its demand. Among the former, are tree planting and fuelwood plantations; the latter include cooking methods that use fuel more efficiently. Commitment of time and labor to activities which entail planting and caring for trees in order to gain benefits from them at a later time is relatively unknown in rural Somalia, as is commitment of time and labor to learning about constructing and maintaining a new stove or using a new construction material. New and unfamiliar activities must compete with ongoing activities which have a far more immediate and striking benefit. Refugees who have no long term interest in the land and who cannot be assured any long term benefits from it may have little inclination to devote their time to care and maintenance of trees without remuneration for their efforts. However, work opportunities which make the purchase of fuelwood easier may directly meet locally perceived needs, and refugees offer a potential labor pool for large-scale efforts.

The following sections discuss social feasibility by activity type, cross cutting issues, and social benefits.

1. Social Feasibility: by Activity Type

- a. Demand for amenity plantings in individual refugee family enclosures, for shade, fruit or ornamental purposes, is likely to be high. Experience to date in the camps indicates that, when seedlings are made available to individual households, refugees may be willing to contribute a small amount of labor to receive them. Proper seedling care is dependent on effective extension.
- b. Specialized community planting around the periphery of camps, and along canals and farm perimeters, is unlikely to be affected through volunteer refugee labor because of the uncertain land tenure situation of refugees. However, based on pilot projects in Somalia, self-help approaches to specialized planting are socially feasible when activities are located in local towns and villages. Refugee Food-for-Work labor is appropriate for initial planting, and for protection and maintenance over the short term; however, some community support will be required if trees are to be properly maintained over the long term in camp areas.
- c. Large scale planting activities will be facilitated (and potential negative effects averted) if the selection of land units, particular uses within them (agro-forestry, intensive fuelwood, grazing reserve), allocation of end products, and the conditions for labor are arrived at based on (1) on-site understanding of management and use, (2) decisions which involve not only local leaders (town and district leaders, local officials and the regional NRA) but the population at large, and (3) recognition of rights on the part of those with valid claims. (The latter can be addressed through such compensatory measures as alternative plots, permission to graze, cash reimbursement, or guaranteed share of benefits). An important issue is local preference for particular species: assessment of demand for alternate species will be needed, since species which are preferred are more likely to be valued and purchased. Given that systematic planting of woodfuel is an untried intervention in Somalia, arrangements for management of fuelwood lots and for eventual marketing of their products require careful consideration, to ensure that they are socially and economically feasible. Analysis of fuelwood supply and marketing systems and guidelines for feasible marketing operations are included in Section D, Economic Analysis, and Annex V.
- d. Agro-forestry. Tree planting in association with individual farm plots, whether refugee or non-refugee plots, is likely to meet with success in Somalia, assuming farmers perceive the benefits (improved soil fertility, soil conservation and wood products over the long term) as worth the labor required to plant and care for the trees. Agro-forestry has been tried with initial success on a small scale with refugees; here refugees have assumed responsibility for the trees as one condition for receiving a farm plot. The Project will support efforts based on this concept.
- e. Energy-Saving Technologies. Effective diffusion of energy-saving technologies will depend on careful extension efforts and on working through existing women's organizations and networks. Evidence suggests that mud-stoves can be highly acceptable to refugee women in Somalia, who assume for themselves the tasks of construction and maintenance. User acceptability of the mud-stove may be high precisely because of the magnitude of the fuel shortage. Sustainability will depend on careful training of trainers in the new techniques. New technologies which are simple to construct and maintain, and extension approaches which involve users in decisions about construction and design, are recommended. Pilot efforts should be monitored to assess conditions of user acceptability, diffusion, and over the long run, sustainability; pending evidence of sustainability, pilot efforts should be widely replicated.

2. Social Feasibility: Cross-Cutting Issues

a. Participation. Worldwide experience with forestry projects suggests that feasibility of Project activities will be enhanced by steps taken on the part of implementing voluntary agencies to develop (1) an understanding of local social infrastructure, and (2) collaborative working relationships with local leadership. Relevant individuals include official camp administration, local Somali government representatives, representatives of woodfuel cooperatives, elders and other traditional leaders, and representatives of formal and informal community organizations. Voluntary agencies should assess ways to maximize participation in project decisions concerning types of planting activities, their precise location, and the way in which they are to be managed. Over the long term, simply "getting trees into the ground" is not adequate: for reforestation activities to succeed, they must be sustained through participation and support by those individuals who have a say in the use and management of local land resources.

b. Women. Social feasibility of Project activities which involve planting and care of trees (whether in refugee camps or Somali communities) will be enhanced if they have the support of local women. Women, who have primary responsibility for provision of domestic fuel and who are the major users of forest products for cooking and construction, have a vested interest in activities which increase the supply of forest products, and are in a position to publicize and demonstrate the effectiveness and long-term value of tree planting.

c. Extension. Feasibility and impact of sub-project activities will be enhanced by inclusion of appropriate extension efforts. Training of extension workers should include social issues, and their scope of work should incorporate approaches to maximize community participation.

d. Food for Work. Although large-scale food-for-work efforts are as yet untried the record is good for participation by non-refugees in small-scale forestry activities on a food-for-work basis in Somalia. The Project will direct a major proportion of forestry work opportunities toward women beneficiaries. Motivation to participate in food-for-work will depend on the reward structure and, especially for women, on flexibility in timing and scheduling of work. Women's wages should be adequate to justify (in their terms) removal from alternate activities. Ideally, wages should be sufficient to permit fuel purchase. Since forestry labor at the crucial planting and post-planting period coincides with peak agricultural work, implementing agency staff may need to make a special effort to hire an adequate number of workers. The level of participation in food-for-work may affect the implementation rate of some sub-project activities or even require that their scope be modified.

3. Social Benefits

Project activities include several kinds of planting, each of which has somewhat different benefits and beneficiaries:

- Refugee women will receive seedlings for amenity planting and refugee households will benefit from the shade, the supplemental fodder from leaves and branches, and in the case of fruit trees, from a modest supplemental cash crop;

- Refugee men and women will benefit from additional income earned in food-for-work opportunities, when they are hired to work in nurseries, perform planting or to plant or care for trees:
- Benefits from specialized community planting will accrue to the community as a whole, refugee and indigenous, by virtue of the incremental addition to the regional wood supply, relieving somewhat the pressure on the surrounding rural areas:
- Benefits from agro-forestry will accrue to participating refugee and non-refugee farm households:
- Benefits from ultimate sale of harvested wood from plantations will depend on whatever management and marketing arrangements are made between the voluntary agencies, the NRA and local authorities.

Depending on what arrangements are negotiated (see discussion of marketing systems in Annex V), a greater or lesser role in marketing, and a share in the benefits, should go to charcoal and woodfuel entrepreneurs. (Particular arrangements will await the results of studies (included in the Project) of the impact of different management and marketing options on demand, on the local economy and on individuals now involved in woodfuel and charcoal collection and marketing).

Other Project benefits include training in the care and maintenance of forestry resources and in agro-forestry -- information which is transportable, has potential to spread, and could have long term favorable impact on the environment. If energy-saving technologies are effectively diffused, reduced wood consumption implying savings in labor and cash should result. Spread effects of energy-saving technologies could be substantial.

It is important to understand that the quantitative impact of this Project on national or regional fuelwood supply is limited: however, the Project will strengthen national capacity to implement a forestry program and manage woodfuel resources. Each well-documented sub-project will test potentially replicable models for plantation management, including both community management of fuelwood (among the Somali population) and private fuelwood production or marketing.

4. Studies and Analyses

All sub-projects to be implemented through private voluntary agencies must include a thorough social analysis which addresses social feasibility and impact. Requirements in this regard can be found in Annex VI, and Annex VII. The Project will also support a comprehensive social and economic study of actual and potential demand, supply and use of fuelwood at the household and community levels in Somalia and of regional and national fuelwood marketing systems.

D. Economic Analysis

Introduction

The calculation of internal rates of return undertaken in the economic analysis summarized in this section applies only to the larger fuelwood components of this project. These plantations are intended to provide man-made supply interventions into Somalia's commercial fuelwood and charcoal marketing systems. However hypothetical such calculations may be, pending the post project results of these major pilot projects, a relatively formal economic analysis exercise is appropriate for this kind of activity.

This is not to imply that the other tree planting and fuelwood conservation components do not have economic justification. On the contrary, shade, roadside and canal planting, agro-forestry planting and shelterbelts can produce substantial economic benefits.

-- Non-fuelwood component benefits

Soil and water conservation and increased potential for improved agricultural yields from tree-planting activities of these types are known to have measurable economic returns. This is true whether or not they are quantifiable in the aggregate or in strictly monetary terms.

Wind erosion has already produced severe damage in several refugee camp locations where rains were insufficient to permit planting of crops on already prepared land. This can be prevented by prior shelterbelt/windbreak planting for soil erosion control.

In addition, interplanting of trees in agro-forestry systems including border planting, are reported from similar sub-Saharan African sites to have improved agricultural productivity in several ways. Agro-forestry systems have reportedly increased crop yields through improved moisture retention and protection from sun by as much as 15% over previous returns. Where nitrogen-fixing trees are used for these purposes, net yield increases of 30% from this factor alone have been reported. Although controlled field experiments remain to be undertaken to confirm the phenomenon, in Algeria and in Indonesia intensive reforestation, particularly along watersheds, has reportedly been accompanied by local increases in the volume of annual rainfall, restoration of previously low water tables, and a return to perennial flow in streams which prior to reforestation had become dry washes, subject to intermittent flow and/or flash flooding.

Cash benefits to individual farmers or householders can accrue from the sale of leaves from leguminous fast growing species for fodder and fertilizer, and improvement in the quality of eggs when feed produced from leucaena leaves is added to poultry diets has been demonstrated. Additionally, shelterbelts and wind-breaks can be designed to provide a wide variety of cash benefits from fodder and forage to fruits, nuts and grass for thatching and weaving.

Fuelwood savings from the use of improved wood-using stoves are claimed to be as high as 50% over the volume needed for the traditional 3-stone method (at an estimated value of \$107 per cubic meter, and one cubic meter per capita per year monetized savings could reach as much as \$250 per year for a family of five). Whether or not such savings can be reliably documented, the relatively rapid acceptance and, so far, continued use of improved mud stoves produced by pilot projects launched in the Gado region and in Qoriolei appear to reflect the pragmatic judgement by the users that these stoves do in fact save a substantial volume of fuel for individual households.

--- Economic analysis for fuelwood plantation component

Preliminary economic analyses were carried out for the larger plantations component of this project in the Project Identification Document. As requested in the PID approval cable, additional economic analysis has been undertaken in the Project Paper which includes alternative assumptions on the size of plantations, type of soil, yield, cutting and rotation intervals. Additionally, pre-harvest custodial and harvesting recurring costs have been included which were not taken into account in the PID analysis and an allowance made for supplemental income from fodder. The assumed retail price at which benefits were calculated is marginally lower than in the PID, \$107 per m³ as compared with \$111 (as the higher price option) in the PID.

As can be seen from the summary table, estimated economic rates of return, as calculated on the alternative assumptions are lower than in the PID probably due to the fact that pre-harvest and harvesting recurring costs are included and that the sizes of the plantations are in most instances substantially smaller than assumed in the PID. All of the IRRs calculated for the project paper are fully acceptable with the exception of options 2 and 5. These should not be attempted unless there are strong non-quantifiable reasons for doing so.

The following sections provide some general comments applicable to both the PID and PP analysis, followed by a summary of the assumptions and estimated economic IRR's for the PID and PP analysis.

Detailed worksheets providing year by year costs and cash flows for the economic and financial analyses for the PID and economic costs for the PP are included in Annex VIII.

ECONOMIC ANALYSIS

Comparison of Selected Assumptions: PID and PP

Option	Plantation size (ha)*	Stocking rate/ha	MAI m3 **	Coppice/ yrs	Rotation/ years	Fodder T/ha	Economic IRR (%)***
PID 1	150(I or II-III irr.)	2,500	20-30	3	12	--	42.3 - 58.0
2	336 (II-III)	1,111	10-15	4	16	--	28.9 - 39.1
3	600 (III-IV)	625	5-8	6	18	--	27.8 - 37.1
4	1353 (V-VI)	277	2-3	7	21	--	18.8-24.7
PP 1	75 (I-irr.)	2,500	31	4	20	8	15.65
2	75 (I-II)	2,500	16.4	5	25	6	7.04
3	168 (III-IV)	1,111	10	6	30	4	19.65
4	300 (V-VI)	625	8.5	6	30	3	24.12
5	168 (V-VI)	1,111	5.4	5	25	2	17.23
6	300 (IV-V)	625	8.5	7	28	--	19.50
7	300 (III-IV)	625	8.5	8	32	--	19.55
8	168 (I)	1,111	13	3	32	--	17.39

* Roman numerals in parentheses indicate class of land. Unless identified as "irrigated" all is rainfed

** MAI=Mean annual incremental growth of wood, expressed as cubic meters per hectare.

*** For PID, range is given to show low output - high price and high output - high price

1. General Comments Applicable to Both Analyses

a. Overall establishment costs for fuelwood plantations in Somalia can be very high, as much as \$5,000 per hectare for closely planted lots, i.e. at 2m X 2m and a 2,500 per ha. stocking rate. This is because, given the arid and semi-arid climate, an assured water supply must be available throughout the first six months of outplanting, even for plantations destined to survive in rainfed land. The water supply must be sufficient for plantation needs and not diverted from livestock and people. Furthermore, a high level of technical planning and management capability is needed, salaried costs of which continue whether the rate of planting is fast or slow. Continuous supervision must be provided for the large numbers of unskilled laborers needed for outplanting, watering and weeding.

b. Nevertheless, given the current and growing scarcity of fuelwood and its rising price throughout the town and urban centers of Somalia, adequate investment and management could provide respectable economic returns in a reasonably short period of time.

c. It should be emphasized that these and any other estimates can only be considered to be hypothetical, pending actual experience with planting rates, survival rates and per hectare yields in each of the larger scale plantation sub-projects contemplated. The actual realization of proceeds, whatever they may turn out to be, depends on the nature and division of proceeds under whatever licensing and/or marketing arrangements are set up at the outset or in the course of the first year of the project.

d. None of the options necessarily represents what may emerge as a "real" plantation under one of the sub-projects. None of the voluntary agencies are likely to submit a proposal devoted to exclusively one option. Instead, they will look at the need of their target populations for food, fuel and fodder and the nature of the lands available to them, and assemble their forestry interventions accordingly.

"Implementation" risk will vary from area to area and from voluntary agency to voluntary agency, and the situation in a specific area may require an emphasis on an option (such as Four in the PID with its lower IRR) because of its greater intangible environmental benefits, a critical need for food from the most productive lands, or a need to take advantage of existing social organizations such as range associations and grazing reserves. Intangible environmental benefits, such as erosion control and protection from dust, most certainly increase as one moves to the more extensive options.

e. The plantation project component will be closely monitored and a cost evaluation, technical and economic, will be made at mid-point in the project, eighteen months from the time the first outplanting takes place.

2. Economic Analysis Presented in PID

The following options were used with these resultant economic internal rates of return:

- Option One 50 hectares of intensive fuelwood plantation/year @ 2500 trees per hectare (2m X 2m) planted on Class I rainfed or Class II or III irrigated sites provided irrigation system is already in place. Possible expected yield per hectare is 20 to 30m³ per year after the third year. Plantation size 150 ha.
- High Output: 120 M3 in Y 4, 60 M3 in Y 6, 60 M3 in Y 8
Low Output: 80 M3 in Y 4, 40 M3 in Y 6, 40 M3 in Y 8
- IRR: High Output: 58.00%
Low Output: 42.80%
- Option Two 112.5 hectares of semi-intensive fuelwood plantations per year @ 1111 trees per hectare (3m X 3m) planted on rainfed Class II and III sites. Possible expected yield per hectare is 10 to 15m³ per year after the fourth year (with approximately 15% increase in labor, guards, barbed wire costs due to expansion in space). Plantation size 336 ha.
- High Output: 60 M3 in Y 5, 48 M3 in Y 9, 48 M3 in Y 13
Low Output: 40 M3 in Y 5, 32 M3 in Y 9, 32 M3 in Y 13
- IRR: High Output: 39.11%
Low Output: 28.88%
- Option Three 200 hectares of fuelwood plantation per year @ 625 trees per hectare (4m X 4m) planted on rainfed Class III and IV sites. Possible expected yield per hectare is 5 to 8m³ per year after the sixth year (with approximately 25% increase in labor, guards, barbed wire costs due to expansion in space). Plantation size 600 ha.
- High Output: 42 M3 in Y 6, 28 M3 in Y 10, 28 M3 in Y 14
Low Output: 25.25 M3 Y 6, 17.50 M3 Y 10, 17.50 M3 Y 14
- IRR: High Output: 37.13%
Low Output: 27.80%

Option Four 451 hectares of shelterbelt @ 277 trees per hectare (6m X 6m) on rainfed Class V and VI sites. Possible expected yield per hectare is 2 to 3m³ per year after the seventh year (with approximately 35% increase in labor, guards, barbed wire costs due to expansion in space).
• Plantation size 1353 ha.

High Output: 14 M3 in Y 7, 10 M3 in Y 12, 10 M3 in Y 17
Low Output: 9.33 M3 Y 7, 6.67 M3 Y 12, 6.67 M3 Y 17

IRR: High Output 24.74%
Low Output 18.79%

The following assumptions were used in reaching the PID preliminary estimates

- 1) A value of So.Sh. 2,000 per cubic meter (i.e. \$111 per cubic meter, at a conversion rate of So.Sh. 18) was assigned to the estimated fuelwood outputs.
- 2) Only Option One was fully costed. Costs for Option Two, Three and Four were determined by inflating Option One costs by 15 per cent, 25 percent, and 35 percent respectively.
- 3) The base data was calculated in terms of U.S. dollars. For the economic analysis, shilling costs and benefits were converted at So.Sh. 18.00 per dollar. (This exchange rate was used because it was closer to the real value than was the then official rate of So.Sh. 12).
- 4) No output foregone was included as a cost in the case of Options Three and Four as these will only be undertaken on very marginal lands. For Options One and Two, a net value of So.Sh. 2,000 per hectare was assigned to each hectare for each year it would be devoted to forestry. This figure was then reduced to So.Sh. 1,500 per hectare to allow for the possibility of crop failure.
- 5) No harvesting, marketing and transportation costs in relation to wood output have been factored into this preliminary analysis. To do so, would lower the internal rates of return (as borne out in the PP analysis). It was not possible to make this adjustment, however, as too little was known about what these costs are likely to be, particularly in respect to marketing and transportation.
- 6) No allowance was made for benefits from sale of either fodder or poles.

3. Economic Analyses Undertaken in the PP

The following options were fully and independently costed with the resulting economic internal rates of return as shown.

Option One Nursery capable of producing 87,500 trees per year.
Planting target of 25 hectares of intensive woodlot a year over three years on an irrigated site. Each woodlot yields 3,500 M3 in Y4 & Y8, 3,000 m3 in Y12 & Y16 and 2,500 M3 in Y20. Mean annual incremental yield per ha (MAI) is assumed to be 31 M3. Plantation size 75 ha.

Tree species: *leucaena leucocephala*.
Coppice 4 years; rotation 20 years; Fodder 8T/ha.

IRR: 15.65%

Option Two Nursery capable of producing 87,500 trees per year.
Planting target of 25 hectares of intensive woodlot a year over three years on a Class I or II site. Each woodlot yields 2,250 M3 in Y5 & Y10, 2,000 M3 in Y15 & Y20 and 1,550 M3 in Y25. MAI: 16.4M3. Plantation size 75 ha.

Tree species: *leucaena leucocephala*.
Coppice 5 years; rotation 25 years; Fodder 6T/ha.

IRR 7.04%

Option Three Nursery capable of producing 87,500 trees per year.
Planting target of 56.25 hectares of semi intensive woodlot a year over three years on Class III or IV site. Each woodlot yields 4,050 M3 in Y6 and Y12, 3,378 M3 in Y18 & Y24 and 3,036 M3 in Y30. MAI: 10 M3. Plantation size 168 ha.

Tree species: *leucaena leucocephala*.
Coppice 5 years; rotation 30 years; Fodder 4T/ha.

IRR: 19.55%

Option
Four Nursery capable of producing 87,500 trees a year.
Planting target of 100 hectares a year over three
years on a Class V or VI site. Each woodlot yields
6,000 M3 in Y6 & Y12, 5,400 M3 in Y18 & Y24 and
4,800 M3 in Y30. MAI: 8.6 M3. Plantation size 300 ha.

Tree species: *Leucaena leucocephala*
Coppice 6 years; rotation 30 years: Fodder 3T/ha.

IRR: 24.12%

Option
Five Nursery capable of producing 87,500 trees a year.
Planting target of 56.25 hectares of semi intensive
woodlot a year over three years on a Class V or VI site.
Each woodlot yields 1,667 M3 in Y5, Y10 & Y15, 1,406 M3
in Y20 and 1,125 M3 in Y25. MAI: 5.4 M3. Plantation
size 168 hectares.

Tree species: *P. juliflora*, *D. sissoo*, *A. nilotica*,
A. tortilia, etc.
Coppice 5 years; rotation 25 years: Fodder 2T/ha.

IRR 10.23%

Option
Six Nursery capable of producing 87,500 trees a year.
Planting target of 100 hectares of woodlot a year over
three years on a Class IV or V site. Each woodlot yields
6,300 M3 in Y7 & Y14 and 5,000 M3 in Y21 & Y28. MAI: 8.5 M3.
Plantation size 300 ha.

Tree species: *A. indica* and *C. siamea*
Coppice 7 years; rotation 28 years: No fodder.

IRR: 19.59%

Option
Seven Nursery capable of producing 87,500 seedlings a year.
Planting target of 100 hectares of woodlot a year over three
years on a Class III or IV site. Each woodlot yields 8,000 M3
in Y8 & Y16, 6,400 M3 in Y24 and 4,300 M3 in Y32. MAI: 8.5 M3.
Plantation size 300 ha.

Tree species: *E. Camaldulensis*
Coppice 8 years; rotation 32 years.

IRR 19.55%

Option Nursery capable of producing 87,500 trees a year.
Eight Planting target of 56.25 hectares a year over three
years on a Class I site. Each woodlot yields 6,750 M3
in Y8 & Y16, 5,400 M3 in Y24 and 4,500 M3 in Y32.
MAI: 13M3. Plantation size 168 ha.

Tree species: *E. camaldulensis*
Coppice 8 years; rotation 32 years.

IRR: 17.39%.

The following assumptions were used in reaching the PP preliminary estimates.

- 1) Fuelwood is valued retail at \$107 per cubic meter in the economic analysis. We believe that this is a conservative estimate. Options 1-5 are assumed to yield forage in addition to fuelwood and these are valued at \$20 per ton in the economic analysis. Each of the options will also have significant benefits in the form of poles, but potential returns from sale of poles have been excluded from the analysis in order to be conservative.
- 2) An exchange rate of So.Sh. 18 per dollar is used in the economic analysis because it is closer to the real value than is the official rate of So.Sh. 15.
- 3) Because they are assumed to be located on irrigated or better drylands, Options 1, 2 and 8 will result in lost agricultural output. In the economic analysis this has been valued at So.Sh. 3,000 per hectare on irrigated land and So.Sh. 1,500 on Class I-II lands. These estimates include an allowance for crop failure. No lost agricultural output was considered in the case of Options 3-7 as they will be implemented on marginal lands.
- 4) Pre-harvest custodial recurring costs were set at \$133 per hectare. Harvesting recurring costs were set at \$13 per cubic meter of fuelwood harvested.*
- 5) To simplify the calculations, the nursery and planting operation was assumed to plant only over a period of three years with the hectareage planted during this period then yielding its benefits over time (reduced by harvest recurring costs). In reality, of course, more hectares could be planted beyond year three. This would involve some additional costs and yield additional benefits and would most likely raise the IRR's somewhat.
- 6) No sensitivity analysis was felt to be necessary due to the large number of options considered.

* Details on how these were calculated are found in Annex V. It should be noted that pre-harvest custodial costs were averaged on a yearly basis over the entire rotation age. This assumes that the plantations will require some form of protection over their entire economic life; e.g. protection from animals during the first 2-3 years and protection from poaching during subsequent years. However, the necessity for the latter has yet to be proven in Somalia, and if poaching proves not to be a problem, custodial costs could be reduced by up to 30%, both over time and over space.

4. Socio-Economic Considerations and Guidelines

Given the particular stage at which the pilot fuelwood supply interventions are being tested in Somalia, it is arguable whether economic analyses of this sort, with or without harvesting costs, are valuable except as a hypothetical or theoretical exercise.

The economic justification is similar to a case in which roads of any sort, paved or unpaved, are proposed to be introduced into an economy on which "free" desert tracks had served equally adequately for traverse by camels or jeep. Cost effectiveness justifying public expenditure for introduction of paved roads would need to be based on overall longer term economic development priorities, including service to urban and port areas and the cost of any feasible alternatives.

In the present instance, fuelwood plantations intended to service primarily town and urban areas, are proposed as publicly financed interventions into an economy in which all fuelwood supplies, urban and rural, have up to now been provided as a "free" resource to the collectors subject to only token collection fees, if at all. Charcoal cooperatives and individual users have borne the costs of harvesting, transport and sale and presumably, would or could do so in the future.* The fuelwood planting interventions represent a major, almost paradigm, shift in government and popular attitudes towards the value of natural resources and the rights of the general public to free access to and use of their benefits.

It will be all the more important to ensure that, at the outset of each major fuelwood plantation effort, the guidelines to promote social as well as economic effectiveness are well understood and followed by the voluntary agencies to whom sub-project management is entrusted.

The following preliminary guidelines are suggested for any voluntary agency or other entity planning to establish a fuelwood plantation enterprise in Somalia. They address social and administrative (training, cost accounting) considerations:

a. Social Guidelines. Before any decisions as to site location or type of planting are made, discussions must be entered into by the agency with representatives and leaders from the towns or villages near potential plantation sites, and with individuals (e.g. fuelwood entrepreneurs) likely to be affected by the plantation. These discussions should include, but not be limited to, eliciting community preferences and choices, and reasons for them, on:

- Type of planting option desired: fuelwood only; fuelwood plus shelterbelt; fuelwood as a perimeter planting for a town or village grazing reserve; other land management options depending on the adjacent Somali community concerned.

* As requested by the PID approval cable, an analysis has been made of marketing options under which post-project management responsibilities for recurring costs prior to the first harvest as well as harvesting/marketing responsibilities and costs might be distributed. Possible sources of funding for recurring costs during the period of negative cash flows are suggested. Details are provided in Annex V.

- Location of the site to be planted: Before planting proposals are made, there should be at least an informal understanding that the site is consistent with the planting option desired.
- The kind of post project management arrangements preferred or desired: These need not be settled at the beginning of the planting, but it should be made clear before planting is started that post project management will be turned over to local management after three years and that decisions on how that should take place should be discussed and decided during the project period.

Also care should be taken to ensure that entrepreneurial opportunities and private sector participation is encouraged in any marketing system established. Other social guidelines, applicable to planning and negotiating the management of fuelwood plantations, are found in Annex VII, "Guidelines for Social Analysis in Sub-Project Submission". In addition, more precise guidelines should emerge from the Fuelwood Supply and Marketing Study to be funded under the project.

b. Training Guidelines. It is important that from the outset the choice of trainees for management positions in the fuelwood plantation component of the sub-project be indigenous Somalis, rather than refugees so that Somalis can be in place for post-project management. (Refugee trainees can be accommodated in the nurseries but fuelwood manager trainees should be Somalis.) The relevant guidelines are:

- As soon as possible after the post project management decision referred to above is made, the Somali counterpart appropriate to post management control should be brought on board to receive the requisite training for post project management.
- If the Somali trainee in place is not the same as the one identified for post project management control, dual trainee incumbency can be permitted for a short time. (The NIA will need trained managers in other posts and the trained manager can be transferred when appropriate.)

c. Cost Accounting Guidelines. Regardless of social benefits, it is important that actual overall costs be recorded from the outset of the project. Hence it is expected that a common form of cost accounting will be developed by USAID and recommended to the sub-project plantation managers. These should include AID project costs but not be limited to them. The following costs should be included in a cost accounting system:

- Pre-project establishment costs, subdivided by related tree-seedling nursery costs, and pre-project planting costs.
- An estimate of all post USAID project costs, whether financed by the USAID project or not, broken down by source of funding.

E. Environmental.

Pursuant to the guidance in the PID approval cable, an environmental assessment was performed for the CDA Forestry project after the initial environmental examination. This was done to further investigate any potential problems which may result from forestry plantings in extreme arid conditions.

As indicated in the environmental assessment,* the primary concerns here are impacts resulting from large scale fuelwood plantations, more specifically land clearance, water use, pesticide applications, and soil erosion. These problems, which are discussed in detail in the assessment, can most likely develop during the first stages of sub-project implementation. However, if the guidelines presented in the environmental assessment are followed, the chance of early implementation problems should be reduced drastically.

The project, while concentrating on fuelwood production, will address basic problems of resource deterioration by initiating activities needed in areas such as fuelwood conservation, woodstove development, fuelwood demand, supply studies, a wide variety of tree planting activities, including road and canal plantings and green fencing, forestry training and strengthening National Range Agency capabilities in forestry and natural resource conservation and management.

F. Alternative approaches

There are no practical alternatives to wood as a household fuel for all of rural and most of urban Somalia. A potential may exist for development of some lignite, oil shale and geothermal power, but these resources are not expected to contribute significantly to Somalia's energy supply over the next decade or more, nor could they meet household needs on any practical scale.

The importation of kerosene has been suggested as a means of slowing down deforestation until new fuelwood plantations can begin to restore woodlands and increase yields sufficiently to permit supplies to be met from net annual increments of wood. The UNRWA Refugee Agriculture and Self Reliance Workshop held March 1-4, 1982 recommended that "immediate relief to provide alternative fuels (such as kerosene) be explored to alleviate the pressure on the forests and to meet urgent short-term needs".**

With reference to the national problem, Urhart and Ovenshaw*** have analyzed the costs of substituting kerosene and/or liquid petroleum gas (LPG) in bottled form for fuelwood and charcoal, particularly for use in urban areas. Both analysts concluded that such a substitution would have to be a government-financed and subsidized intervention and would require arbitrary prohibition of the use of charcoal. Kerosene using stoves would also need to be imported and subsidized.

* See Annex VIII.

** Summary Report of the Workshop, 31 March 1982, UNRWA Branch Office, mimeo, p.1.

***Urhart (1978) op.cit., pp 14-18; and Ovenshaw (1982) op.cit., pp 27-29, 39 and 43.

Both analysts have concluded that even if foreign exchange were to be available for so large an additional public expenditure, the costs as compared with the capital costs of large scale fuelwood plantations clearly favor public expenditure for investment in fuelwood plantations on a large scale. Furthermore, after adjusting for stove efficiencies and subsidies, fuelwood and charcoal are still much more cost-effective than kerosene in terms of equivalent energy delivered to the cooking pot.*

Since other fuels cannot provide viable substitutes, the only practical alternatives would be what is the most effective way to launch a fuelwood planting program in Somalia.

The obvious alternative attack would be to rely on host country management for the tree nursery and fuelwood planting activities which are the core of any national reforestation and fuelwood production programs. However, the NRA does not now have the management capability to implement these projects and in fact has stated that the in-service on-site training built into the projects will be welcomed because it will add substantially to the management capability now lacking. Related activities carried out since 1975 under WFP Project 719 have been weakened by the absence of adequate on-site supervision, a situation current WFP officials are now engaged in remedying.

Given that current charcoal production methods are estimated at 10 per cent efficiency and that refined woodfuel and charcoal stoves can save up to 50 per cent of fuel consumption, a two-pronged approach to fuelwood is the solution. Both conservation and planting are emphasized in the proposed project.

* See Annex VIII-C for excerpts from Openshaw's analysis.

III. Financial Plan

A. Introduction

The financial plan is presented as illustrative tables at the end of the Financial Analysis Section (Tables FA1 to FA4). They show the financial requirements of the project by year, category of input, component of project, foreign currency, local cost, and grantee and non-grantee (PVO and other donors) contribution. The Food-for-Work input to the project is shown as a GSDR local cost contribution to the Project. Other expected donor contributions to PVO Sub-Projects are included with PVO contributions and grouped under the heading of "Non-Grantee Contributions". The rate of conversion for all local currency costs is Somali Shillings 12.5 per US \$1.00. The illustrative tables at the end of this section represent a consolidation of the budgets of PVO sub-projects submissions, presented as preliminary project proposals to the Mission and PID design team. These were summarized individually in annexes to the PID. Although they must be considered illustrative until the proposals are finalized and submitted for formal Mission Project Committee review, nevertheless the consolidated tables represent "real" estimates based on much more individual sub-project detail than is usually available at this stage. The cost estimates contained in these tables will be refined during review of PVO proposals according to criteria contained in Annex 9 and Handbook 3 App. 6A.

B. Basis for Cost Estimates

All project cost estimates are based upon current expatriate salary levels, local hired labor rates, current estimates for cost of equipment and vehicles delivered to Somalia, all as developed by the in-Country PVOs and USAID staff. A contingency and inflation factor was built into sub-project activity costs. The cost for Food-for-Work is based upon the estimated number of "worker days" being compensated at 1 kg. of sugar per worker day, having a value of US \$1.60. Consultant costs were based upon actual proposal submission made by in-Country consultants during the development of the PID and Project Paper. Current International air fares and per diem, and in-Country per diem were used for cost projections with inflationary adjustments for years 2 and 3.

C. Contingency and Inflation

Allowance for inflation and contingency have been built into years 1, 2 and 3 of the sub-project activities on an illustrative basis. Ten (10%) percent was established for contingency and sixteen percent (16%) for inflation. The bulk of the foreign exchange used for commodity procurement will take place in year one of the project. Technical Assistance, the other major users of foreign exchange, were not adjusted for inflation. Local cost components for sub-project activities were adjusted for contingency (10%) and inflation (16%) over the three year life of the project.

D. AID Inputs

As outlined in the following tables, A.I.D.'s contribution to the Project shall consist of financing of advisors, local support staff and facilities for the NRA technical assistance, equipment including vehicles, physical infrastructure, commodities, training, operational costs, Project personnel salaries and other direct and overhead costs of forestry activities, financing a study of fuelwood supply and demand trends for Somalia, financing the training in appropriate technology for fuelwood conservation, financing land use surveying/mapping for natural resource utilization, and the cost of expatriate Project monitoring and management technicians. U.S. or third country training may also be funded. The total cost to the U.S. to complete the project will be approximately \$6,000,000.

E. CSDR Inputs

Locally purchased POL and a portion of local staff salaries and other locally purchased commodities will be financed by the CSDR through the NRA using proceeds from the sale of AID Title II commodities under the 1981 Title II Agreement.* Payment of workers and staff will also be made available by the National Range Agency from its yearly operating budget, and together with the contribution for local goods and services, the total CSDR contribution to the project will be approximately So.Shs. 17,000,000 (1930,000) at So.Shs. 15= US \$1). Food-for-work rations may finance various labor intensive RFP Sub-Project activities. The estimated value of FFI commodities to be made available to the Project by separate agreements with IFP is \$970,000 (equivalent) and is treated in the tables as a CSDR contribution. (See item K below for more information on FFI).

F. PVO and other Donor Inputs

The sub-project activities, representing the major portion of project funding, will be implemented by Private and Voluntary Organizations (PVOs) or by qualified Somali private and public sector organizations. Contributions are expected from the majority of U.S. based PVOs operating on relief/refugee programs in Somalia. The contribution is expected to vary depending upon the nature of the sub-project activity and the financial capabilities of the PVO. Some sub-project activities will also be funded in part by other Refugee Organizations operating in Somalia, such as the UNHCR. This funding will flow directly to the PVO from the donor and be a part of the fiscal year financial plan of the donor. These other donor contributions have been included under the PVO headings in the financial tables which follow.

* An implementation letter under the Title II Agreement was issued by AID on 8 September. CSDR countersignature was obtained on 14 September. A copy of the letter is included as Annex XIX. The total of So.Shs. 27,000,000 is shared between this project and its companion Refugee Self-Reliance Project (FAS 0123).

G. Reasonableness and Firmness of Costs

The financial tables presented within this section of the PP are for illustrative purposes only. At the time of submission of sub-project proposals by the PVOs for review and approval by USAID the proposal will be reviewed for reasonableness, firmness, adequacy and detail of the projected cost and financial planning. Approval of the activity will be dependent, among other factors, on the accuracy and adequacy of the above.

H. Periodic Examination

As a part of the formalized evaluation plan for the project, periodic reviews will be undertaken by USAID to determine the degree of adequacy of the implementation plan and financial plan for the sub-projects. These reviews would determine the necessity for revisions of the financial plans and cash flow arrangements for the sub-project activities.

I. Disbursement Procedures

Disbursements of funds by USAID for Project Implementation is planned to be done using the following procedures with detailed instructions covered under subsequently issued Project Implementation Letters (PILs).

1. Technical Assistance for Institutional Support and Project Monitoring (Components I and VI).

These services will be contracted as a PASA, PSC or host country contract with the Forestry Officers and PSCs for Project Monitoring and Management consultants. Payments of both foreign exchange (FX) and local currency (LC) will be initiated through the USAID Controller's Office, based upon conditions of contract, for PASA or PSC. Host country contracting will follow Handbook 11 guidelines.

2. Consultant Services (Components III, IV and V).

These services will be contracted either by

- a. host country contracting (PIP Handbook 11) using A.I.D. Letter of Commitment and Bank Letter of Credit as the disbursement procedure for both FX and LC costs or
- b. A.I.D. contract with direct payment to the consultant by the A.I.D. financial office, for both the FX and LC costs, in compliance with the terms and conditions of the contract.

3. Reforestation and Fuelwood Production Sub-Project Activities (Component II)

Implemented by:

- a. PVOs - U.S. based: Sub-Project Implementation by the PVO will be carried out under a cooperative agreement, OPG or contract which will be incorporated into and be a part of the Sub-Project Agreement signed by USAID, GSDR and the PVO. Disbursement to the PVO will be made under a Federal Reserve Letter of Credit (FRLC).
- b. Somali based qualified private and public sector organizations and GSDR Agencies (Component II): Sub-Project implementation will be carried out under a cooperative agreement, grant, or contract which will be incorporated into and be a part of the sub-project agreement signed by USAID, the GSDR and the Somali organization. Disbursement to the Somali organization will be for local currency costs only and be made directly to the organization in the form of a Somali Shilling check. Payment requests will be made by the Somali organization to USAID and made in accordance with the terms of the agreement. The Somali organization's FX requirements for off-shore procurement of commodities or services would as defined under the terms and conditions of the agreement be a subject of an implementation letter exchange between the parties to the agreement.

4. Procurement of Commodities or Other Services.

Funding of the procurement of commodities and services for both FX and LC payment will be implemented under the following guidelines:

- a. For Technical Assistance Support (Components I and VI): FX procurement will be made by PIO/C procedures using the Letter of Credit as the method of disbursement preferably through a procurement services agent as outlined in c 2) below. Local cost procurement of goods and services will be made by letter request to USAID. USAID will approve, and the T.A. requesting office will procure locally and be reimbursed directly.
- b. For Consultants: Procurement, both FX and LC, would be initiated and implemented by the consultant under the terms and conditions of the contract.
- c. Sub-Project Activities (Component 3):
 - 1) U.S. Based PVO. Both FX and LC procurement would be implemented by the PVOs and paid through the FRLC.
 - 2) Somalia Based PVO and GSDR Agencies. Off-shore procurement would be undertaken by exchange of FRLC and USAID initiating procurement using the PIO/C procedure. USAID or Somali agencies would also have the option of initiating procurement with a commercial procurement services agent if the U.S.-based PVOs have set up such a service for facilitating their own Self-Reliance Sub-Project procurements.

J. Obligation Schedule

The umbrella Grant Agreement is expected to be signed in October 1982. Full funding of \$6,000,000 is anticipated to be made available at the beginning of year 1 activities in October 1982.

K. Food-for-Work

Estimates of FFW needed are thought to be on the liberal side. This is because some PVOs may require refugees to participate on a voluntary basis when they are to be the eventual direct beneficiaries of Project activities. The high estimates have been used because, if FFW is proven to be viable, the Mission would maximize the FFW inputs to camp areas as a means of facilitating a reduction in the amount of free food that presently goes to refugees and thereby reduce the overall cost to donors of the established care and maintenance program.

PVO sub-projects will likely be funded in a sequential manner. Lessons concerning FFW will be learned early on and applied to the design of subsequent PVO sub-projects. If, for example, FFW does not prove to be viable as a form of payment for unskilled refugee labor, funding may be switched to cash derived from AID, the GSDK or PVO contributions.

L. Post Project Recurring Costs

Recurring costs have been calculated for maintaining and harvesting the produce from larger fuelwood plantations which would be established under this project.* These are described in Annex V, Section E, together with suggested sources of revenue under which both continuing pre-harvest custodial costs and recurrent harvesting/marketing costs could be covered during the life of the plantation.

Recurring costs for small (about 20,000 seedling capacity) nurseries, servicing a village or a refugee camp are quite low, being limited primarily to the salary of one nursery man/watchman @ about \$1,000 a year plus casual labor for tending the seedlings before outplanting. In the case of NRA nurseries, salary costs of a manager can and should be absorbed in the regular budget with wages supplemented by FFW rations of the NRA under WFP project 719 as is the current case. A major weakness of the current NRA nursery operations is that, with few exceptions (Afgol and a few other larger nurseries), virtually all nursery operating costs are covered by FFW rations alone. As a result, management has often been in the hands of untrained workers.

* Custodial costs are estimated at \$10,000 a year for a 75,000 hectare plantation or about \$133 per hectare. Harvesting and marketing costs will vary with yields, and are estimated to be about \$13 per cubic meter of fuelwood harvested.

Recurring costs for larger seedling nurseries, of 87,000 capacity or more, should similarly be covered within the regular NRA budget, in cases where the NRA has undertaken to supply such services. These costs are understandably higher, totalling as much as \$8,000 a year, plus about \$7,000 in FFW labor costs when the nursery is operating at full capacity.

However, as suggested in Annex V, modest sales of poles and fodder, which are in short supply and do not compete with the existing charcoal and fuelwood marketing institutions, could easily cover the salaries and non-food components of such recurring costs.

Table Ff-1

Financial Plan, Illustrative
By Project Component and Category
(\$1000)

Three Year Life
of Project

PROJECT	CATEGORY (INPUTS)										PROJECT TOTAL	
	TECH. ASST.	CONSULT. SERVS.	PERSONAL	COMMODITIES	INTERST. COST.	TRAINING	OPERAT. COSTS.	CONTING. INFELT.	TOTAL CIP	CSPP		ONCs
I. Institutional Support to the Project ^{1/}	410	--	--	25	--	--	15	--	450	30	--	480
II. Rehabilitation & Fuelwood Production Sub-Projects	51	--	629	197	534	--	219	950	3,099	1,923	747	6,268
III. Fuelwood Conservation Sub-Project	150	--	197	75	--	70	170	--	632	15	--	647
IV. Natural Resources Land Use Survey/Mapping	--	500	--	--	--	--	--	--	500	--	--	500
V. Fuelwood Supply/Demand Assessment	--	400	--	--	--	--	--	--	400	--	--	400
VI. Project Monitoring & Management	330	--	--	--	--	--	--	--	330	--	--	330
Totals (\$1000)	1,701	900	796	597	534	70	405	950	5,000	1,908 ^{2/}	747	8,655

^{1/} Includes \$40 for training workshops under MRA auspices. The Project Agreement (Pro'n) will allow for shifting funds to cover the costs of U.S. or third country participant training as determined necessary by JI and JIP funded MRA advisers.

^{2/} CSPP contribution includes a food-for-work contribution of \$978,000.

Table FA-2
Financial Plan, Illustrative
By Category of Assistance and Year
 (\$1000)

		Project Year			
	AID	1	2	3	Totals
1.	Technical Assistance 1/	590	610	511	1,711
2.	Consultant Service	550	250	-	800
3.	Personnel	191	200	320	711
4.	Commodities	275	270	52	597
5.	Infrastructure Construction	244	244	45	533
6.	Training 2/	15	30	25	70
7.	Operational Costs	99	147	167	413
8.	Contingency and Inflation	380	350	240	970
	Sub-Totals (AID)	2,440	2,221	1,330	5,991
	Non-AID CSPR				
1.	P.L.-480 and others	150	305	305	760
2.	Food-for-Work	250	370	353	973
	Sub-Total (CSPR)	400	675	658	1,733
	PVOs	195	285	267	747
	Sub-Total (PVOs)	195	285	267	747
	Project Total	3,035	3,266	2,351	8,652

1/ Technical Assistance includes \$40 in USAID sponsored workshops.

2/ Training included in Fuelwood Conservation sub-project only. U.S. or third country participant training will be funded, if determined necessary by USAID and USAID funded USAID advisors, through a shifting of funds from other line items.

Table FA-3

Financial Plan, Illustrative
By Source/Category and Foreign Exchange/Local Currency^{1/}
(\$1000)

Category (Inputs)	AID		Non-AID ^{2/}		Total
	FY	LC	FY	LC	
1. Technical Assistance ^{3/}	1,100	501	-	-	1,701
2. Consultant Service	700	200	-	-	900
3. Personnel	-	700	-	100	1,100
4. Commodities	415	182	-	-	597
5. Infrastructure Construction	30	400	50	400	880
6. Training ^{3/}	-	70	-	-	70
7. Operational Costs	91	320	270	500	1,181
8. Contingencies/Inflation	420	530	-	-	950
9. Food-for-Work (labor)	-	-	-	270	270
Total:	2,917	3,183	320	2,200	6,620

^{1/} For a three year life of project.

^{2/} Non-AID includes a) CSOR contribution from PL-480, Title II and Food-for-Work
b) PVO and other refugee donors, i.e. UNHCR

^{3/} Same footnotes as Table FA-2

Table FA-4
Financial Plan, Illustrative
By Component of Assistance and Year
(\$1000)

AID	Component	Project Year			Totals
		1	2	3	
I.	Institutional Support to the NRA	130	150	170	450
II.	Reforestation and Fuelwood Production Sub-Projects	1,335	1,411	942	3,688 ^{1/}
III.	Fuelwood Conservation Sub-Project	170	235	227	632
IV.	Natural Resources Land Use Survey/Mapping	350	150	-	500
V.	Fuelwood Supply/Demand Assessment	300	100	-	400
VI.	Project Monitoring and Management	155	175	-	330
Sub-Total (AID):		2,440	2,221	1,339	6,000
GSDR					
I.	Institutional Support to the NRA	10	10	10	30
II.	Reforestation and Fuelwood Production Sub-Projects	370	745	718	1,833
III.	Fuelwood Conservation Sub-Project	10	20	15	45
Sub-Total (GSDR):		390	775	743	1,908
PVOs					
II.	Reforestation and Fuelwood Production Sub-Projects	195	285	267	747
Totals (\$1000):		3,335	3,266	2,354	8,955

^{1/} includes 25% contingency & inflation factor.

IV. IMPLEMENTATION ARRANGEMENTS

A. Roles and Responsibilities

Implementation responsibilities in USAID's Refugee Forestry Project will be shared between USAID/Mogadishu, the Ministry of Planning, the National Range Agency (NRA) and US-based PVOs and/or Somali institutions. In some instances the UNHCR may also be involved as a funding agency. Annex XVIII contains Annex I of the umbrella Grant Agreement. In it, roles and responsibilities are described as they will be presented in the Agreement. AID Policy Determination No. 60 (PD-68), which states a preference for host country contracting, has been considered in formulating the Project implementation plan.

Project Agreement

USAID and the Ministry of Planning, in consultation with the NRA, will sign a Project Agreement. The NRA will be named Project Implementation Agency and authorized representative for the grant. Procedures for the transfer of USAID and GSDR grant funds for the project and specific institutional responsibilities are discussed in the PP Financial Analysis (Section III) and will be defined in the Agreement and in subsequent implementation letters.

Institution Building Assistance (Component 1)

USAID and the NRA will co-sign a Project Implementation Order(s) (PIO) for USAID assistance to the Anti-Desertification Unit. Following USAID and NRA selection of a Forestry officer(s), USAID will, in the case of a PASA or Personal Services contract, make arrangements for his/her arrival in Somalia. The NRA will make all necessary arrangements regarding GSDR contributions to the Unit, including personnel and in-kind resources. USAID will monitor the Anti-Desertification Unit's performance on a regular basis.

Fuelwood Conservation Testing and Forestry Sub-Projects (Components 2 and 3)

A Fuelwood Conservation Testing project and Forestry Sub-Projects, through US-based PVOs, will be submitted to the NRA and AID for consideration and joint approval. If approved by both AID and the NRA, a sub-agreement under the Grant will be entered into with the NRA, AID and the PVO as signatories. Provision is made in this component of the Project for the possibility of funding one or more sub-projects designed and implemented by either public or private sector Somali institutions in a manner similar to that to be used to fund US PVO sub-projects. In this regard, such Somali institutions sub-projects will also need to meet the criteria for Sub-Project selection shown in Annex XV.

USAID anticipates funding between 4 and 6 forestry sub-projects. As stated, they will be selected and approved for funding by joint agreement of the NRA and AID, and endorsement by the CDA Steering Group under the Ministry of Planning.

Good proposals will be approved and funded on a "first come, first served" basis. USAID and the NRA will both monitor and evaluate the sub-projects. The NRA will be responsible for obtaining approvals, technical inputs, support and cooperation of other GSDR participating agencies. Implementing agencies will be required to include all USAID requested design components in their implementation plans. This will include requirements specified in the "Environmental Analysis" and the Project Environmental Assessment (EA) presented in Annex IX.

The details of UNHCR and other donor responsibilities and roles will be spelled out in separate agreements between these agencies and PVO or Somali implementing organizations. The UNHCR and other donors are not expected to become parties to any Project sub-agreement, but will work closely with AID, the NRC and PVOs to ensure full cooperation and coordination. Pertinent project documents will be shared prior to sub-project approval.

Other Project Components (Components 4 and 5)

USAID anticipates funding two studies under this project, an assessment of fuelwood supply and demand and marketing systems, and a land use survey of the Southern regions. USAID and the NRA will jointly approve the selection of contractors for these studies, following which the NRA, in consultation with the USAID, will arrange for host country or AID contracts for the conduct of these studies. The NRA and USAID will review and approve the findings of the studies.

The NRA will coordinate its efforts with the NRC, to ensure that the NRC is kept up to date on all refugee related activities.

Project Monitoring and Management (Component 6)

In order to properly monitor the implementation of the Refugee Forestry Project and related efforts, USAID will recruit monitors (RPAs) through direct AID personal services contracts. An implementation order under the Grant Agreement will be countersigned by the NRA to allow the contracting activities to proceed.

B. Procurement

Requirements concerning the procurement of goods and services are included in Annex XI. Considerations leading to the establishment of these requirements are given in Annex X. Disbursement procedures are itemized in the Financial Analysis (Section III).

In all procurement under the Project, minorities and women will be specifically encouraged to participate through organizations or as individuals. In all cases, the Project's implementing agencies will select or approve firms or individual consultants for the various assignments, subject to AID approval.

C. Implementation Schedule

A schedule for principal items of Project Implementation follows.

It is based on timing of initial steps as follows:

- (1) Project Approval (delegated to Mission in STATE 216674 ECPR PID approval cable) 10/82
- (2) Project Authorization (Mission has signing authority per STATE 178049 Africa Bureau Delegation of Authority, Revised) 10/82
- (3) Project Agreement signed 10/82
- (4) Initial Conditions Precedent met 10/82

Actual Project implementation will begin in October 1982 as indicated in the schedule. Evaluations will be performed per the Evaluation Schedule of Section V.

V. EVALUATION ARRANGEMENTS

The Refugee Forestry Project will be evaluated at two levels:

- (1) the national level, in the NRA and other ministries as they become involved in project activities; and
- (2) the regional/district level in and around refugee camps where the target population resides.

The evaluations will focus on the following components of the Refugee Forestry Project:

- (1) Institutional improvements;
- (2) Specific land use survey and fuelwood supply and demand and marketing systems assessment;
- (3) Sub-projects implemented principally by PVOs; and
- (4) Project monitoring management under the direction of the Project manager.

Evaluation is an integral part of project management. In the broad sense, evaluation takes in all forms of information feedback from the NRA, PVOs and USAID. Each activity and sub-project will have its own evaluation format and mechanisms through which data are analyzed and implementation problems are solved. 1/ The information feedback will be analyzed to:

- (1) improve design and execution; and
- (2) assess impact and relevance of design strategies, and determine factors associated with success or failure.

The basic process will consist in periodic reports from the PVOs, NRA and USAID on progress against implementation schedules, and scheduled self-evaluation(s) during the life of the Project (see evaluation schedule below).

1/ Each PVO type sub-project will contain project specific baseline data so that effective and useful assessment of lessons learned and the problems/opportunities identified can be made available to others in AID both during sub-project implementation and upon completion. Baseline monitoring and evaluation data on beneficiaries and benefits will be precise enough to permit measurement of benefits disaggregated to subgroups of refugees, to categories of households (women headed, men headed) and to men and women.

The responsibility for each evaluation activity is placed functionally and organizationally as close as possible to the user of the evaluation findings in order to facilitate effective and prompt utilization, i.e., GSDR agencies, PVOs and/or USAID. Where evaluation skills are lacking, the Project implementors will provide appropriate technical assistance and training to develop this capacity; for example, via advisor/managers placed in the NRA Anti-desertification Unit. These skills will also be developed as a regular component of PVO type sub-projects.

The evaluation schedule appearing at the end of this section shows four categories of evaluations taking place over the life of the Project. Each category has its own purpose and anticipated benefits to the Project and these are shown below in the order in which they occur.

Type of Evaluation	Purpose/Anticipated Benefits
1. Evaluation of Institutional and Managerial effectiveness	Determine the influence of Project and unit management practices and organizational structure on program, project and activity effectiveness; provide information needed to improve the management of refugee assistance.
2. Evaluation of on-going sub-projects and their individual activities	Provide feedback on findings into improved design and execution of individual sub-projects and activities; improve the composition of the overall Project and effectiveness of sub-projects.
3. Evaluation of Project and sub-project impact	Assess impact, evaluate relevance of design and strategies, and determine factors associated with success/failure; foster improved design of follow-on efforts.
4. Secondary analysis, aggregation of projects, evaluation i.e., types 1, 2 and 3	Derive information on the total effect of project strategies, project design and resource inputs under different socio-economic, environmental and institutional conditions. Permit better programming and design criteria (this evaluation will be external).

Taken as a whole, types 1, 2, 3 and 4 constitute the CDA Forestry Project evaluation system, with responsibilities for the execution of specific assessments divided between the participating GSDR agencies, individual PVOs and USAID as the following Evaluation Schedule shows. The chart lists the major Self Reliance evaluation activities. In illustrative form, these evaluation activities are shown as they take place over the life of the Project, indicated in stages of operation (which includes evaluation). At the bottom of the chart is the overall Evaluation Schedule by type of evaluation and approximate time when it will take place.

Specific evaluation plans will be incorporated into individual sub-project designs. A more refined evaluation plan will be developed during the Institutional and Managerial Effectiveness evaluation phase in year one of the Project.

Approximately three to four person months of contracted assistance will be required for the final (external) evaluation. The Project Agreement Annex I budget will indicate that funding of approximately \$40,000 may be required for this purpose. The \$40,000 is included in the detailed Financial plan of the Project Monitoring and Management component of the Project (see Annex IV).

PRELIMINARY EVALUATION SCHEDULE/PLAN

Major Forestry Activities	FY 83	FY 84	FY 85	FY 86
1. Support to NRA Anti-Desertification Unit - Mobilization and preparatory work plans - Implementation of work plans - Self Evaluations - Phase out				
2. Other project components - Organize programs - Implement activities - Assess findings(feedback) - Evaluate activity - Phase out				
3. Self Forestry Sub-Projects - Mobilization & approval of work plans - Procurement - Implementation of work plans - Self Evaluations - Phase out				
4. USAID monitoring/management - Workplan approved - Execution of work plan - Periodic assessments (including environmental) - Self Evaluation				
5. Evaluation schedule - Institutional managerial effectiveness - On-going projects - Project impacts - Secondary analysis				

VI. CONDITIONS PRECEDENT, COVENANTS AND NEGOTIATING STATUS

A. Conditions Precedent

To initial disbursement: Designation of authorized representatives with specimen signature(s).

3. Covenants

1. Agreement to establish an evaluation program as part of the Project, to include during implementation and after:

- a. evaluation of progress towards attainment of the Project objectives;
- b. identification and evaluation of problem areas of constraints;
- c. assessment of how such information can be used to help overcome problems; and
- d. evaluation of Project's development impact.

2. Agreement to establish a post construction repair and maintenance program for infrastructure improvements.

3. Agreement to name and assign qualified counterpart(s) for the AID sponsored technician in the Anti-Desertification Unit by December 1982.

4. GSDF agencies collaborating with non-grantee implementing organizations (basically PVOs) agree to:

a. name and nominate candidates for training in each of the relevant sub-projects in a timely and efficient manner by:

- requiring current and future students at the Afgoi Forestry School to participate in a six week training session at one or more of the sub-projects as developed and sponsored-by the PVOs.
- integrating these training sessions into the Afgoi Forestry School's curriculum.
- naming and nominating at least 15 nursery managers and/or forestry guards per year to attend a 2-3 week in-service training session(s) as developed by the voluntary agencies.

b. to assure that at least 6 candidates thus trained the first year and at least 12 candidates per year trained during years two and three will be assigned to the sub-projects in jobs equivalent in responsibility for which they have been trained, and maintained in such or similar jobs for a period of at least three years.

- c. to assure that capable trained staff or counterparts to project-financed technicians will be nominated and assigned to the sub-projects no later than December of 1983.
- d. to assure that sufficient revenues are earmarked in the 1985-1988 NRA - Forestry Department budget to cover recurring costs of plantations established during the Project period.
- e. to establish procedures which ensure that revenues from sub-project activities in excess of cost are used for expansion and/or maintenance of Project forestry activities and facilities.
- f. to assure that adequate and suitable land for use as implementation sites will be made available for approved RFP Sub Project activities.

C. Negotiating Status

The Vice Minister of Planning, Mr. Mohamed Omar Giana, in a letter dated January 25, 1982 and Dr. Abdullahi Ahmed Karani, General Manager of the National Range Agency, dated January 23, 1982, formally endorsed the USAID project strategy as outlined in the first draft PID of January 13th and as presented in the CDA multi-donor framework. The overall Project, as herein designed was officially requested by the GSDR in written correspondence from the Ministry of Planning. (See Annex XIII for copies of these letters.)

There are no major policy difficulties which might impede early signature of a project agreement and prompt cooperation in reviewing and approving proposed sub-projects as they become ready for implementation.