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10. ESTIMATED COSTS (3000 OR EQUIVALENT \$) -						
A. FUNDING SOURCE	FIRST FY			LIFE OF PROJECT		
	B. FR	C. L/C	D. TOTAL	E. FX	F. L/C	G. TOTAL
AID APPROPRIATED TOTAL						6,550
(GRANT)	( )	( )	( )	( )	( )	( )
(LOAN)	( )	( )	( )	( )	( )	( )
OTHER U.S. 1.						
2.						
HOST COUNTRY						
OTHER DONOR(S)						
TOTALS						6,550

11. PROPOSED BUDGET APPROPRIATED FUNDS (3000)									
A. APPROPRIATION	B. PRIMARY PURPOSE CODE	PRIMARY TECH. CODE		E. 1ST FY <u>86</u>		M. 2ND FY <u>87</u>		K. 3RD FY <u>83</u>	
		C. GRANT	D. LOAN	F. GRANT	G. LOAN	I. GRANT	J. LOAN	L. GRANT	M. LOAN
(1) ST/RD				600		600		600	
(2) LAC				150		150		150	
(3)									
(4)									
TOTALS				750		750		750	

A. APPROPRIATION	N. 5TH FY <u>89</u>		O. 5TH FY <u>90</u>		LIFE OF PROJECT		12. IN-DEPTH EVALUATION SCHEDULED
	Q. GRANT	P. LOAN	R. GRANT	S. LOAN	T. GRANT	U. LOAN	
(1) ST/RD	750		750				MM    YY [ 0   1   8   9 ]
(2) LAC	- 0 -		- 0 -				
(3)							
(4)							
TOTALS	750		750				

13. DATA CHANGE INDICATOR. WERE CHANGES MADE IN THE PID FACESHEET DATA, BLOCKS 12, 13, 14, OR 15 OR IN PRP FACESHEET DATA, BLOCK 12? IF YES, ATTACH CHANGED PID FACESHEET.

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**Development Strategies for Fragile Lands  
Project Paper**

**936-5438**

**October, 1985**

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## ACRONYMS

AGR	Office of Agriculture
AID/W	Agency for International Development/Washington, D.C.
ARDO	Agriculture and Rural Development Officer
ASSIST	Associated S&T Project
CAPS	Central American Peace Scholars Project
CIMMYT	International Maize and Wheat Improvement Center (Mexico)
DAI	Development Alternatives, Inc.
DESFIL	Development Strategies for Fragile Lands
FLI	Fragile Lands Initiative
FLWG	Fragile Lands Working Group
FNR	Office of Forestry, Environment, and Natural Resources
GOE	Government of Ecuador
IDRC	International Development Research Center
IQC	Indefinite Quantity Contract
LAC	Bureau for Latin America and the Caribbean (AID)
LAC/DR	Office of Development Resources
LAC/DR/RD	Division of Rural Development
LAC/DR/EST	Division of Education, Science, and Technology
LDC	Less Developed Country
LOP	Length of Project
NGO	Non-Government Organization
OAS	Organization of American States
OSDBU	Office of Small and Disadvantaged Business Utilization (AID)
PD&S	Program Development and Support
PID	Project Identification Document
PP	Project Paper
PVO	Private Voluntary Organization
R&D	Research and Development
RDO/C	Regional Development Office/Caribbean
ROCAP	Regional Office for Central American and Panama
S&T	Bureau for Science and Technology (AID)
S&T/RD/RRD	Office of Rural and Institutional Development, Division of Regional and Resource Development
TA	Technical Assistance
USAID	United States Agency for International Development (Overseas Mission)
USAID/E	Ecuador
WMS II	Water Management Synthesis II Project

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Figure 1 Time Graph of Major Project Outputs - Following page 31

## ANNEXES

A. The following Annexes are attached:

1. December 14 Cable and Response Summary
2. Fragile Lands Problem Focus
3. Logical Framework
4. ASSIST Projects Participation Memo
5. Initial Environmental Examination

B. The following Annexes are incorporated by reference to reduce the bulk of this PP. They are available from S&T/RD/RRD (235-8860) to anyone interested in a specific annex.

6. Mission Suggestions on PID
7. Assessments Paradigm
8. Bolivia Team Building Report
9. Peru Pilot Assessment
10. WMS II Sample Format
11. Existing Mission Projects
12. Report on Donor Meeting Results
13. Report on Ecuador Visit
14. Report on ROCAP Visit
15. Social Soundness Analysis
16. Benefits of DESFIL's Networking
17. Economic Analysis
18. Expected Mission Buy-ins under DESFIL
19. Haiti Targeted Watershed Management Assessment

## I. SUMMARY AND RECOMMENDATIONS

**Summary.** Latin America's steep slopes and humid tropical lowlands are under increasing economic and population pressure. Depletion of soil and water resources and rapid, accelerating deforestation as subsistence agriculture expands to marginal areas threaten the ability of Latin American and Caribbean (LAC) countries to feed their people. The issue is not just degradation of fragile lands and consequent loss of livelihood for millions of small scale farmers. Equally important is protection of downstream investments in infrastructure, such as hydro-electric projects and maintenance of productivity in irrigated agriculture.

The Development Strategies for Fragile Lands (DESFIL) project results from common concern expressed by the LAC Missions' agriculture and rural development staffs, the LAC Bureau, and the Rural Development (RD), Agriculture (AG), and Forestry and Natural Resources (FNR) Offices of the Science and Technology Bureau. A joint Working Group assessed the dimensions of the fragile lands problem, and a draft proposal was discussed and refined at the 1984 Agriculture and Rural Development Officers conference in Mexico. The DESFIL Project has thus brought to bear the knowledge and experience of a wide range of policy and technical professionals to define the parameters of a frighteningly serious problem and to propose steps to deal with that problem. The Fragile Lands Initiative forms a programmatic core for this effort. Eleven ongoing S&T projects address aspects of the fragile lands problem; it is a concern also of projects in progress or planned in individual missions. In addition, the activities of other donors are focused on fragile lands as national and international awareness of their economic importance and their very fragility grows.

The DESFIL Project is the executive arm for the Fragile Lands Initiative. Working through a contract organization, DESFIL will provide technical services for assessments of fragile land problems; design strategies with missions and host countries to address fragile lands issues; and execute a variety of special tasks in support of LAC mission initiatives regarding fragile lands and the development of sustainable agricultural and environmental development efforts in steep slope and humid tropical forest settings. DESFIL will promote, coordinate, and bring focus to research and technical networks working on fragile lands problems. It will make innovative use of telecommunications and computer technologies in these tasks.

DESFIL will help coordinate the relationships between AID and other donors regarding fragile lands concerns, through organization of periodic meetings as well as through systematic sharing of information on fragile lands research and development activities.

DESFIL itself is intended as an initial effort to carry forward the activities contemplated under the Fragile Lands Initiative. Over the life of DESFIL, monitoring and evaluation will provide for rapid adjustments in its actions. This will ensure close support for promising strategies, technologies and policies for sustainable steep slope agriculture and humid tropical forest utilization endeavors as they emerge from research and direct

experience. While DESFIL as a project has relatively limited objectives, the Fragile lands Initiative which guides and defines those objectives is expected to continue to evolve and to influence development policies among donors and Latin American countries over coming decades. Only if perceived in this light can the potential impact of this initiative be achieved.

The Fragile Lands Initiative and the DESFIL project have an LAC orientation. Both can be broadened to respond to fragile lands problems in other geographic regions. The current focus is the result of specific initiative and a policy focus by the LAC Bureau undertaken in collaboration with S&T.

Recommendations. The Agency should support the Fragile Lands Initiative and its principal implementing arm -- the DESFIL project. Core resources from S&T/RD of 6.1 million augmented by \$.450 million from the LAC Bureau should be authorized. A mission buy-in level of \$10.4 million for the first five years and \$36.3 million for the ten year life of the project is expected.

After the project is initiated in LAC, the door should remain open to collaborate with other bureaus and to expand the Fragile Lands Initiative into other regions.

## II. PROJECT BACKGROUND AND DETAILED DESCRIPTION

### A. Background and Justification

#### 1. Agency Policy and LAC Strategy

Both the Foreign Assistance Act and the Agency's policy on Food and Agricultural Development state AID's commitment to assist developing countries attain self-sustaining economic growth. The latter emphasized increasing and sustaining agricultural productivity and raising incomes, with special attention to food production.

Economic self-reliance and secure food production are both dependent on maintaining (at the minimum) productive resources within the developing countries. Realizing that sustainable agricultural production requires sound planning and clear understanding of natural resource potentials and limitations, in 1983 the Administrator determined that it is AID policy:

- o to assist governments in the examination and implementation of natural resource management;
- o to offer assistance in overcoming practices which result in problems such as range degradation, declining soil productivity, and fuelwood shortage due to alteration of habitats by human endeavor;
- o to support research and the transfer of appropriate technologies which will contribute to the solution of these and other management issues;
- o to work with other development agencies to seek consistent policies and procedures which address the complex interactions in the management of environment and natural resources for sustainable economic growth. (Environmental and Natural Resources Aspects of Development Assistance, Policy Determination PD-6).

DESFIL is designed to help implement this policy through the Fragile Lands Initiative (FLI) for the Latin America/Caribbean (LAC) Region over the next ten years.

This initiative focuses on LAC for three reasons. The concern with fragile lands is one of four priorities in the LAC Regional Strategy statement, thus the LAC Bureau has established it as a critical need. The Agriculture and Rural Development Officers (ARDO) meeting in 1981 had earlier identified inadequate management of fragile lands as one of the most serious problems affecting agricultural development. Finally, agricultural research teams visiting missions in 1983 recognized this concern as a pre-eminent one for research. From a Bureau, mission, and research perspective then, the issue of fragile lands and their associated problems was deemed important and of high priority. Discussions between S&T and LAC offices indicated a willingness to work collaboratively on the problem.

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The current LAC strategy statement posits a program incorporating sustainable productive use of natural resources based on the assumption that rural development is an agriculturally led process. Bureau efforts will concentrate on increasing staple food productivity and diversification into higher value non-traditional crops for domestic consumption and export in order to increase significantly the incomes of small farmer households. This strategy identifies, as an important constraint to developing small commercial agriculture, the destructive use of steepplands and tropics, indicating it is "the direct result of too many people and too little concern."

The LAC Bureau strategy recognizes that, while nearly all LAC missions have projects in natural resources management, these need to be assessed as a basis for further strategy development. Below are elements of the Bureau strategy which relate to the LAC-S&T FLI:

<u>Program Element</u>	<u>Response</u>
a. <u>Inadequate conservation awareness by public and government</u>	o Mass communications programs, policy dialogue, and analytical studies.
b. Incipient resource management institutional capability	o Resource management programs, including reforestation, agro-forestry, and watershed management
c. Incipient or negative use control policies	o Policy dialogue, with analytical studies on settlement, land concessions, and timber marketing.
	o Tenure reform.

## 2. Background

Pressures on fragile lands in the LAC region have been increasing more dramatically in recent years as opportunities for further development in more stable and better endowed areas become exhausted. As mentioned above, the LAC ARDO Conference in 1981 identified inadequate management of fragile lands as one of the most serious agricultural development problems. The concern became one of the four priorities in the LAC Regional Strategy statement and further, the agricultural research teams of 1983 established it as a high priority for research. While the problem has been recognized, more attention and resources are needed to address it.

During the past eighteen months, LAC/DR and S&T have been working together to develop an approach for collaborating with missions on a fragile lands initiative that would address both research and technical support needs. As a first step, S&T contracted Development Alternatives, Inc. (DAI) to prepare a theme paper that would outline the dimensions of the problem. The paper, entitled Fragile Lands, set out for discussion a synthesis of the causes of the problem, the impacts, the developmental issues, and alternative intervention strategies. A Fragile Lands Working Group (FLWG), composed of representatives from LAC/DR (RD and EST) and S&T (RD, AGR, and FNR) supervised the development of the paper. It was sent to LAC missions and regional offices in August for review and comment.

Following the distribution of the theme paper, the FLWG began to sketch out possible program ideas for the Fragile Lands Initiative. Representatives of the FLWG traveled to eight missions (Ecuador, Peru, Costa Rica, Panama, Dominican Republic, Jamaica, Haiti, and Guatemala) and two regional offices (ROCAP and RDO/C) in September and October 1984 to discuss the theme paper and to tap the collective wisdom of field personnel on possible program elements. These ideas were incorporated into a concept paper which was presented for discussion and further program design at LAC's November, 1984 ARDO meeting at CIMMYT in Mexico.

The ARDOs endorsed the concept paper, which was entitled "Development Strategies for Fragile Lands." They recommended further that the program concept be expanded to include establishment of a high level, international consultative group on fragile lands involving key donor agencies. This was adopted as one of the objectives of the initiative.

The FLWG cabled a summary of the Fragile Lands Initiative as it emerged from the CIMMYT meeting to all LAC missions in December. (Annex 1 contains the cable sent and a summary of responses from the missions.) All mission responses were favorable and most wish to participate in the FLI. Based on this endorsement from LAC missions, the FLWG set about transforming the concept paper into a Project Identification Document (PID).

On February 15, 1985 the FLWG sent a draft copy of the PID to all missions and simultaneously began the review process in AID/W. The Agriculture, Environment and Natural Resources, and Rural Development Sector Councils reviewed the PID. It was approved on March 11, 1985. Four missions responded to the draft PID, endorsed it, and offered suggestions.

### 3. Conditions

a. Problem - For purposes of the Fragile Lands Initiative, fragile lands has a two part definition. First, it is limited to the steep slopes and humid tropical lowlands of the LAC region. It thus does not include all areas of potential fragility (e.g., coastal margins, wet and dry areas, etc.). Second, it refers to lands in these categories that are highly subject to deterioration under common agricultural, silvicultural, and pastoral use systems and management practices (Bremer, et al, 1984). This definition combines elements of use with a resource base of a fragile nature. It contrasts with the concept of ecological fragility or fragile ecosystem, which lacks the element of use.

The fragile lands problem arises when destructive patterns of use are practiced on a natural resource base subject to deterioration. Latin America's steep slopes and humid tropical lowlands are coming under increasing population pressure which results in their misuse and in the rapid decline/degradation of the rural resource base. The depletion of soil and water resources and the rapid and accelerating deforestation under expanding agriculture threaten the long term ability of LAC countries to feed their people.

b. Nature and extent of problem - Although the specific nature and extent of the fragile lands conditions varies from country to country, it is clear that the problem of fragile land degradation has led to serious environmental and socio-economic consequences throughout the Latin America and Caribbean region. Accelerated soil erosion has not only resulted in decreased agricultural productivity, but increased sediment deposits have produced flooding, loss of hydro-electric capacity, damage to downstream crops and fields, and navigational problems. Loss of vegetation has increased runoff, contributing to landslides and flash floods. A less obvious but important consequence has been the loss of biological diversity.

These physical conditions have profoundly affected the social and economic welfare of farmers and non-farmers alike. Falling incomes coupled with the lack of alternate opportunities have forced farmers to move to ever more marginal lands or to already overcrowded urban areas. Deteriorating soil quality has also limited the economic options open to farmers as poor soils cannot support many types of crops. Increased flood and landslide activity has resulted in loss of life and property as well as general economic disruption.

In general, deterioration of the natural resource base is a primary obstacle to the continued improvement of both farmers and non-farmers in LAC. It is a region-wide problem.

c. Causes of the problem - The degradation of fragile land in LAC is caused by a multitude of factors. Physical conditions such as excessive rainfall, thin soils, poor soil composition, steep slopes, extensive arid zones with heavy seasonal rainfall, and large tropical rain forests make much of LAC susceptible to degradation. Improper agricultural policies, lack

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of alternate economic opportunities, environmental degradation in the highlands, and growing populations resulting in population pressure have contributed to migrants moving increasingly onto marginal lands. Often, farming practices such as slash and burn, slope clearing, and overgrazing are economically rewarding to the struggling farmers in the short run, but are not sustainable. This problem is accelerated by the land tenure system and distribution of land holdings in most countries and by increasing dedication of both good and marginal lands to extensive cattle raising.

Institutional factors are also important. There is often a lack of awareness of the problem on the part of the government, and more often than not, a lack of long-term commitment to solving it. Policy tools (price supports) and other direct (government guaranteed markets) and indirect (government transportation schedules) subsidies for preferred crops frequently encourage mismanagement of fragile lands. Conflicting priorities such as the government's eagerness to settle "virgin" land quickly to relieve population pressures and to meet food needs take precedence over promotion of sustained use of these lands.

Finally, although technological solutions to many fragile lands problems exist, in many cases these technologies are unknown, locally misapplied, or need adaptation to local conditions. Use of these technologies will require re-thinking and re-orientation, from considering only agricultural activities to considering economic practices on a broader scale (e.g., agro-forestry, commercial conversion of plant by-products, etc.) Gaining acceptance for these technologies and developing effective strategies for their dissemination remains a persistent problem.

#### 4. Need

Nearly all missions in the LAC region have projects which focus on some aspect of the fragile lands problem; these range from forestry management and agro-forestry to agricultural technology and small farmer development. Not surprisingly, missions in countries with the most pressing fragile lands problems tended to have the largest number in this area. Among these missions, activity areas with the greatest concentration of projects include Integrated Agricultural and Rural Development, Natural Resource Management, Land/Water Use, Water Management, and Forestry/Fuelwood.

Most missions have indicated their interest in obtaining assistance from the FLI, as illustrated in their responses to the December 14 cable which incorporated LAC ARDO responses (Annex 1). These responses, summarized in Table 1, strongly affirmed a need for assistance.

### B. Detailed Project Description

#### 1. Project Concept

a. Focus - The fragile lands problem in Latin America is as complex as it is serious. We cannot address the problem in its every dimension and so sought to reduce it to its most important elements. The series of analytical steps outlined above, and most significantly the visits to eight missions

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TABLE 1

SUMMARY OF MISSION RESPONSES

	STEP (a) Help mission to formulate strategy from environmental profiles	STEP (b) Estimate outcomes of current trends in use of fragile lands	STEP (c) Assess lessons learned for approaches, technologies, and policies	STEP (d) Synthesize, consolidate, analyze and share results of Step (c)
BOLIVIA	yes, immediately	yes	some completed	do later
COSTA RICA	not now	not now	not now	not now
DOM. REPUBLIC	now being done	need for FY 85	on contract now	workshop 8/85
ECUADOR	yes	yes	not urgent	n/a
HAITI	yes	yes	later	later
GUATEMALA	yes	yes	not urgent	n/a
HONDURAS	yes, late FY 85	yes, late FY 85	yes, urgent	yes, urgent
JAMAICA	yes	yes, early FY86	not urgent	n/a
NICARAGUA	not now	not now	not now	not now
PANAMA	no	no	yes, urgent	yes, urgent
PERU	yes, 3/85	yes, 3/85	yes, urgent	yes, urgent
RDO/C	yes	yes	yes	3rd qtr FY 86
ROCAP	IIED now doing	IIED now doing	3/85 workshop	ROCAP can do

isolated five elements which are critical to a meaningful approach to the problem. The net effect of focusing on any one of them in isolation would be negligible in most cases. Progress achieved through concentrating on these five within and across countries in the LAC region, on the other hand, is expected to act synergistically to produce significant improvements. This judgement has held up through continued dialogue with missions, test field assessments, and discussions with other donors. The five elements on which the project will concentrate are:

(1) Policy -- national and donor awareness and support.

Help missions and host countries, to develop public and donor awareness of the fragile lands problem. As part of this process, develop an understanding of:

- o the context in which policy is developed and the public/private sector relationship in policy;
- o policies that influence fragile lands;
- o constraints to policy change; and
- o incentives for decision makers and countries to change their policies.

(2) Strategic approach within countries.

Help missions and host countries to identify the magnitude and nature of the fragile lands problem in each country, select the areas most strategic for intervention, and suggest appropriate types of intervention. The priorities established will be built upon a triage approach (detailed later in the Technical Analysis section) which considers not only the level of degradation of each fragile area, but also the impact of that area on important downstream resources, such as hydroelectric installations or reservoirs.

(3) Institutional arrangements that are appropriate and

viable. Help missions and host countries to devise appropriate mixes of public and private sector involvement for program/project implementation. Identify opportunities for private and community initiative to work in this area. Increase the capacity of the private sector in developing expertise in natural resources management.

(4) Technology adaptation, spread, and development.

Assist regional and host country research institutions to select and adapt available technology for farming and managing fragile lands. Preliminary analysis suggests that workable technologies already exist for many fragile lands problems. DESFIL will help missions and host countries to develop programs and a basic strategy to spread technology. Further, it will identify technology gaps as they become apparent and coordinate research networks to address them. Finally, it will monitor the various technologies suggested and assess their degree of success or failure.

(5) Farmer incentive requirements.

Explore incentive systems that govern farmer behavior in order to help missions and host countries design effective fragile lands programs/projects and to assist in more effective policy formulation.

For more detailed analysis and presentation of these elements, see Annex 2.

## 2. Approach

The Fragile Lands Initiative is a common theme activity more akin to a program than a project. Missions have been developing projects that work on aspects of the fragile lands problem and the intensity of that development has increased since the dialogue with missions began in 1984. The Science and Technology (S&T) Bureau has at least eleven on-line projects in RD, AGR, and FNR (here called Associated S&T (ASSIST) projects) with well established contractors and cooperators that address one or more of the key elements of the problem outlined above. There is, at present, no Agency activity that, in the context of fragile lands, attempts to give focus to these activities or networks across common problems and approaches and to accumulate and disseminate knowledge. This very significant gap will be filled by the Development Strategies for Fragile Lands (DESFIL) project. DESFIL will help missions, host countries, and the ASSIST projects:

- o develop and implement mission and country strategies for dealing with the fragile lands problem on a long term basis;
- o focus on the critical fragile lands elements and approaches for carrying them out;
- o develop and implement networks for research on critical problems that are common to more than one location;
- o assist missions with monitoring of projects after their conclusion to assess impact and gain lessons learned;
- o synthesize the knowledge generated through this collaborative effort, with special attention given to policy dimensions;
- o sponsor and promote information dissemination networks for sharing of knowledge breakthroughs and relevant experiences within the five areas of concentration; and
- o stimulate and help coordinate international and donor attention to the fragile lands problem.

The Fragile Lands Initiative is an LAC region-wide program that involves missions, ROCAP, and ASSIST projects. DESFIL is the catalyst for the initiative and the glue that holds it together, to make of the whole something significantly larger than the sum of its parts. We will attempt to distinguish between the Fragile Lands Initiative and the DESFIL project throughout this paper. However, the reader should be mindful that this is a difficult and in some instances a not altogether useful distinction.

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### 3. Project Goal and Purpose

The goal and purpose statement illustrates the complementarity between the goal of the Fragile Lands Initiative and the goal/purpose of the DESFIL project. (Annex 3 contains the Logical Framework.) The larger (FLI) goal/purpose is to improve national, regional, and international strategies for fragile lands management and implementation of those strategies. The goal/purpose of the DESFIL project is to help make this happen and it rests on the premise that the approach set out herein will lead to that result -- namely, to start and maintain the process of sustained, productive, and ecologically sound use of fragile lands.

### 4. Project Outputs

The project will produce outputs at several levels -- country, regional (meaning LAC), and sub-regional (e.g., Andean, Central American and Panama, and Caribbean). Country level outputs in practically all cases will be funded and managed by missions. There will be no country level outputs produced outside the context of mission programs.

#### a. Country level - The project will help:

(1) Develop mission strategies for addressing the fragile lands problem (rapid assessment). This will be based on a rapid assessment carried out with and for the mission by a multidisciplinary team of experts drawn from the DESFIL project and ASSIST projects. These rapid assessments are expected to average three weeks in duration, preceded by a team building meeting either in the U.S. or the host country. They are intended to give the mission a basis for entering into a policy dialogue with the host country, leading up to and being sharpened by a more detailed country assessment that will help that country develop a strategic approach to the fragile lands problem. Most countries in the region have indicated a need for such a rapid assessment, although a few (e.g., Haiti and Bolivia) have completed or are currently in the process of doing one. These assessments use as a point of departure the recent round of Environmental Profiles, now completed for most of the countries in the region. (See Annex 9 for a sample framework of such an assessment)

(2) Develop country strategies for fragile lands problems (strategic assessments). As indicated above, strategic assessments to provide a basis for country strategies will be much more in-depth and comprehensive than the rapid assessments. While the rapid assessments are intended to give the mission some handles on the problem and a basis for strengthening policy dialogue on the fragile lands issue, these strategic assessments are meant to move the process into a collaborative mode with the host country and provide the basis for major policy, institutional, and program development. They will employ the triage approach (discussed below), and, as such, will require at least six weeks and perhaps a sequence of team visits. The nature of these assessments will depend upon the severity of the problem, the complexity and size of the country, and the amount of data and information already available. (See Annex 9)

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(3) Resolve specific program and project problems for missions and countries. Once a mission has a well defined strategy for working on the fragile lands problem (e.g., after the rapid or strategic assessments), the DESFIL project may help with specific mission initiatives, including assistance with project background studies, design studies, implementation plans, specific project problem analysis, and project evaluations.

(4) Design research activities aimed at resolving specific country level problems. These may start as probes into specific problems identified through mission or country strategy assessments, in connection with a specific project, or as a result of monitoring. Activities may address policy, technology, farmer incentives, or related issues. In many instances, these specific country probes may lead to networked research within and across participating countries. See B. 3. below (Regional Level).

(5) Conduct training assessments and planning. An integral part of strategic assessments and country strategies will be the identification of training needs and opportunities for placement of trainees in U.S. and other institutions. Some of the training programs will be available in the cooperating institutions of the ASSISTs. LAC Bureau is investing \$146 million in participant training for 7,000 trainees over the next five years in the Central American Peace Scholars (CAPS) Project. A significant number of these training positions is allotted to fields important to the fragile lands problem.

(6) Design and carry out strategy evaluations and adjustments. Using a time frame appropriate to the country situation, the DESFIL project will help missions and countries evaluate progress and performance on strategies and make adjustments as necessary. For planning purposes, these evaluations are suggested at four year intervals, but this may vary from country to country and be revised based on experience gained as the DESFIL project progresses.

In all this work, the DESFIL project will draw on the collective experience it will be gaining through working in a variety of country situations and using the interdisciplinary approach that is central to the Fragile Lands Initiative. It will focus on the major themes of policy, strategy, institutional arrangements, technology diffusion and development, and farmer incentive systems. DESFIL and the ASSIST projects will jointly and progressively build a knowledge and conceptual base for work in fragile lands which will strengthen their utility to missions and countries as the program matures.

b. Regional level - Regional outputs will draw heavily on and feed back into specific country activities. This feature gives the DESFIL project special advantages to missions, because the outputs planned at the regional level enrich country level activities substantially. At the regional level DESFIL will:

(1) Select methodologies for rapid assessments, in-depth strategic assessments, and team building. Some pilot work has been done

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already through DESFIL team preparations for rapid assessments in Bolivia, Peru, Haiti, and Jamaica. The task will be taken up in earnest by the DESFIL contractor and completed early in the first running year of the project. Improvements will be made in later years on the basis of experience gained through application. See Annex 6 for a report on the Bolivia team building and Annex 7 for the pilot assessment in Peru, both carried out as part of the design work for this project. Annex 19 represents an assessment conducted as a prefeasibility study for a project in Haiti. This work used the combined resources of three ASSIST projects and was, in effect, a test of this concept of collaboration and resource pooling which is a key to the Fragile Lands Initiative.

(2) Develop a procedure for annual workplan reviews with missions and ASSIST projects. Each year, missions will be asked to estimate requirements for fragile lands technical support and research. This information will be pooled by the FLWG and shared with ASSIST projects for incorporation, as appropriate, into their annual workplans. The model to be used for this will be that developed under the Water Management Synthesis II project. However, it will have to be adapted to the fragile lands situation and structure. (See WMS II sample format, Annex 10.)

(3) Establish thematic Research and Development (R&D) networks. In the course of the country-level rapid and strategic assessments and the collaborative activities of donors, specific problems common to more than one country will be identified. The most important of these problems will be addressed through networked research, consisting of country specific research or demonstration activities linked together through a network. The networks will be initiated by DESFIL or the ASSIST projects, as appropriate. Specific country research activities in the network will be sponsored by participating missions and host countries. The purpose of the networks will be to focus the research, share research responsibilities between countries based on comparative advantage, and strengthen individual research activities by giving them access to the range of expertise, accumulated knowledge, and research breakthroughs within each network.

International donors may take responsibility for some of the networked research or take part in the AID sponsored research. Networks include planning meetings, reporting workshops, information systems, training and observation, and information dissemination.

(4) Establish synthesis networks. The DESFIL project will establish synthesis networks that deal systematically with aspects of the fragile lands problem (e.g., one for steep slopes and one for lowland humid tropics). These synthesis networks will draw on the outputs of the more narrowly defined research networks above. Special attention will be given to policy synthesis in both of these areas.

(5) Develop a data base for countries and regional fragile lands data, case studies, evaluations, and policy analyses. Included among the evaluations and cases will be examples of technologies, approaches, and policies that have worked or failed. These will be shared systematically

throughout the participating projects and missions. The data base will include also a library covering all aspects of fragile lands problems. It will link existing centers of excellence (e.g., Amazon Research and Training Project at University of Florida) via a computer network.

(6) Undertake special studies. Some priority topics requiring exploration will fall outside of the scope of ASSIST projects. DESFIL will undertake special studies, in collaboration with participating missions, to investigate these and help find either a research or an action solution. Some of these may start off as country specific problems but be found to be relevant in other country situations. These special studies are — intended to be short term and exploratory.

(7) Organize donor coordination working group meetings. A series of meetings with donors has indicated a need for coordination and the potential for collaboration on the fragile lands problem. As a first step, a donor coordination working group will be set up and will meet periodically each year to exchange information, plan major international meetings that touch on the fragile lands problem, and plan and prepare for a high level, international consultative group in Latin America to meet once every two years or as often as necessary to achieve some coordination at the policy level. DESFIL will act initially as the secretariat for this donor working group, but only as a startup measure. As soon as possible, secretariat responsibilities should be transferred to one of the other participating agencies, such as the OAS. Alternatively, a rotational system could be devised to share this responsibility in annual or two year shifts among the participating donors. With participating donor agreement, DESFIL would initiate some division of labor based on donor comparative advantage.

(8) Stimulate and prepare for high level, international donor consultative meetings. A high level, international donor group is planned to meet once every two years to discuss the fragile lands problem. It is intended that this group share information on fragile lands strategies, create a better environment for policy dialogue within countries of the region, and move toward direction of resources for the fragile lands problem within the context of broad international understandings and guidelines.

c. Sub-regional level - All of the outputs described for the regional level can also be keyed to the sub-regional level. Already, the Haiti Mission is speaking in terms of a Caribbean discussion of the fragile lands problem, ROCAP is planning a networking project that could help sponsor the Fragile Lands Initiative networking activities for Central America, and there is a proposal originating with the Bolivia mission to work on fragile lands in the context of the Andean region. Meetings, networking, and special studies could all take place at the sub-regional level and as the project matures, this could become a regular pattern.

TABLE 2  
 PLANNED PROJECT OUTPUTS  
 (to be refined in annual work plan discussions with missions)

<u>OUTPUTS</u>	<u>YEAR</u>										<u>T</u>	
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>	<u>10</u>		
<u>Country Level</u>												
Mission strategies assisted	4	5	2	1								12
Country strategies assisted		4	5	2	1							12
Specific projects assisted	2	3	5	5	5	5	4	4	2			35
Training assessments (by number of participants)	10	20	30	20	10	10						100
Strategy evaluations assisted						4	5	2	1			12
<u>Regional Level</u>												
Methodologies for assessments	2	1										
Workplan review procedure	1											1
Thematic R&D networks		2	3	3	2	2						12
Synthesis networks		1	1	1								3
Data Base and Library		1	1									2
Special studies	4	4	4	4	2	2	2	1	1			24
Donor coordination working group meetings	2	2	2	2	2	2	2	2	2	1		19
Donor consultative meetings		1		1		1		1		1		5

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Table 2 sets out estimates of the number of outputs in each category, by year, that will be achieved over the life of the project. These are estimates based on the mission cable responses summarized in Table 1 (above) and on the anticipated carrying capacity of the project and missions in terms of new projects and special research activities over the next ten years. These estimates will be refined and made more precise as the FLWG and the DESFIL project contractor work with missions each year to develop the annual DESFIL work plan.

Table 3 reflects an attempt to attach a monetary value to the costs of each output. These costs, however, are not all attributable to the DESFIL project. This is a collaborative venture involving participation by missions, DESFIL, and collaborating ASSIST projects. Elsewhere in this paper (see Financial Plan Section), estimates of the budget breakdown by LAC contribution, anticipated mission add-ons, core funding, and funding from ASSIST projects is set out. The Financial Plan provides a breakdown of estimated annual core funding needs for the DESFIL contractor.

## 5. Project Inputs

DESFIL project inputs, like its outputs, occur at several levels: AID/W, mission/country, and international (including sub-regional). Inputs at each of these levels will be described below.

a. AID/W inputs - At the AID/W level there are three basic inputs: the Fragile Lands Working Group; the DESFIL contractor and S&T/RD/RRD project manager; and the ASSIST projects from RD, AGR, and FENR. These AID/W level inputs will be discussed individually.

(1) The Fragile Lands Working Group (FLWG) was organized at the outset of discussions between S&T and LAC/DR on a joint program to address the fragile lands problem in Latin America and the Caribbean. It is a multidisciplinary, multisector group made up of representatives from LAC/DR (RD and EST) and S&T (RD, AGR, and FNR). The LAC/DR/RD representative is the LAC counterpart manager of the DESFIL project while the manager of the DESFIL contract is the representative from S&T/RD/RRD. Members of the working group from S&T are managers of one or more of the ASSIST projects. The LAC Environmental Officer is the representative from LAC/DR/EST. The FLWG has planned and designed the DESFIL project in consultation with field missions and the LAC ARD Officers. It will continue to serve as the Steering Committee for the project to its completion. The group has been meeting once a week and probably will continue to do so as long as necessary for proper guidance of the project.

TABLE 3  
COSTS FOR PROJECT OUTPUTS  
(\$000)

OUTPUTS	YEARS									
	1	2	3	4	5	6	7	8	9	10
Very rapid assessments listed	(4) \$200	(5) \$250	(2) \$100	(1) \$ 50						
Very strategy development/management listed		(4) \$400	(5) \$500	(2) \$210	(1) \$105					
Specific country project/problem listed	(2) \$ 40	(3) \$ 60	(5) \$100	(5) \$110	(5) \$110	(5) \$110	(4) \$100	(4) \$100	(2) \$ 50	
Thematic R&D works established/listed (includes work development conference/workshops)		(2) \$200	(3) \$300	(3) \$300	(2) \$220	(1) \$125				
Thesis workshops facilitated/assisted	(1) \$ 60	(1) \$ 60	(2) \$120	(1) \$ 70	(2) \$140	(1) \$ 70	(2) \$150	(1) \$ 75	(3) \$225	(1) \$ 75
International or coordination conference initiated/listed		(1) \$100		(1) \$100	(1) \$110		(1) \$120		(1) \$140	
Policy evaluations listed							(4) \$120	(5) \$150	(2) \$ 60	(1) \$ 40
Local studies undertaken (short-term)	(4) \$ 60	(4) \$ 60	(4) \$ 60	(4) \$ 80	(4) \$ 80	(4) \$ 80	(3) \$ 90	(3) \$ 90	(2) \$100	(2) \$100
per year AND TOTAL	\$360	\$1,130	\$1,180	\$920	\$765	\$385	\$580	\$415	\$575	\$215 \$6,308

(2) The DESFIL project contractor will serve as a catalyst, broker, networker, and policy and information synthesizer for the Fragile Lands Initiative. The contractor will assist the FLWG in its planning and implementation role. It will help missions with development of technical requirements under the FLI and assist them with accessing the ASSIST projects for technical services and research, including development of an annual workplan for DESFIL. The contractor will be responsible for developing team building methods as well as selecting rapid and strategic assessment approaches. It will assist with and develop research networks, sponsor and carry out exploratory R&D activities, and assist with planning for mission participant training. The contractor will be responsible for overall information synthesis and dissemination, and for drawing policy implications from the collective experiences produced by the FLI. The contract will be guided by the FLWG and managed by a direct hire project manager from S&T/RD/RRD.

(3) The ASSIST projects are eleven projects from S&T/RD, AGR, and FNR which address one or more of the five substantive elements of the project described in II. B. 1. above. These are:

Agriculture (AGR)

931-1229 Soil Management Support Services (FY 79-88)  
936-4084 Agricultural Policy Analysis (FY 83-86)  
936-4099 Farming Systems Support (FY 82-87)\*  
936-4127 Water Management Synthesis II (FY 82-87)\*

Forestry, Environment and Natural Resources (FNR)

936-5517 Environmental Planning & Management (FY 82-87)  
936-5547 Forestry/Fuelwood Research and Development (FY 85-95)\*  
936-5519 Forest Resources Management (FY 86-96)

Rural and Institutional Development (RD)

931-1135 Human Settlement and Natural Resource Systems Analysis (FY 83-88)  
936-5301 Access to Land, Water, and Natural Resources (FY 84-88)  
936-5441 Institutional Development R&D  
936-5317 Performance Management

\* Projects Co-managed with S&T/RD.

All of these are capable of addressing some aspect or aspects of the fragile lands problem.

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The Offices responsible for these projects have agreed to focus these projects in part on the fragile lands problem in LAC. Missions are now able to buy into these projects for research and services in accordance with the internal structure and mandate of each. What the DESFIL project will add is a central facility for annual planning and assembling multidisciplinary teams with members from various ASSIST projects. DESFIL will also disseminate the fragile lands information and experience generated by each project. The ASSIST projects will participate in rapid and strategic assessments, conduct problem oriented research, manage research networks in areas of their expertise and comparative advantages, and assist missions with training plans.

The list of ASSIST projects will change somewhat over the duration of the DESFIL project, as some of them phase out and as new projects relevant to the fragile lands problem begin. The design of these new projects may be influenced by the knowledge and definition of needs developed through the experience of the fragile lands initiative. See Annex 4 for statements from each collaborating office covering participation of these projects in the Fragile Lands Initiative and incorporation of fragile lands activities in their annual work plans.

b. Mission/country inputs - Inputs at the mission/country level include mission programs and projects and ultimately, as full collaboration develops, country programs and projects sponsored by other donors or by the countries themselves. Missions collaborating in the Fragile Lands Initiative will sponsor the fragile lands assessments (rapid & strategic), research activities, projects, and training programs that address at the country level the fragile lands problem. DESFIL and the ASSIST projects will support missions in this, as described above. In addition, existing mission projects in the fragile lands area (see Annex 11 for a listing of these) can be involved in the FLI and DESFIL project to the extent that they need assistance or can contribute to R&D networks and the collective LAC experience with fragile lands.

Moreover, besides regular feedback and critique from missions and participation of mission representatives in DESFIL evaluations, the periodic LAC ARDO conference will offer a forum for continued discussion of the FLI and improvements in the DESFIL project. This should be a regular item on the agenda of the ARDO conference.

c. International (including sub-regional) inputs - The principal input at the international level is donor cooperation. This was begun in the project design stage in a series of meetings with officials from the Organization of American States, Inter American Development Bank, World Bank, and United Nations. These meetings suggested a high degree of interest and more action than we had anticipated. There was expressed interest in cooperating on the Fragile Lands Initiative, and there is an obvious need to begin networking among the donors on this problem, including taking advantage of the existing donor networks on the environment. (See Annex 12 for a report on the results of donor meetings to date). If there is some division of labor (as mentioned above), then this would be an additional input.

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## 6. Linkages and Assumptions

The DESFIL project and fragile lands initiative are based on the assumption that the stated goal/purpose will be achieved if:

- o Missions develop strategies for cooperating with host country governments on the fragile lands problem, using DESFIL and ASSIST resources.
- o Host country governments define their fragile lands problems, develop a strategic approach to these problems, and change policies, programs, and institutions to implement this approach using mission dialogue and resources as well as DESFIL ones.
- o Missions develop and implement programs to assist host countries in this context.
- o International donors focus energy and resources on the problem, help raise awareness of the problem and viable approaches to it, and bring international pressures to bear to speed commitments and actions.
- o Conceptual, policy, and technical gaps in this field can be resolved sufficiently in the long term to overcome obstacles to progress.

These requirements have been studied, discussed with ARDO officers, agency technical representatives, and international donor representatives, and subjected to field consultations. This process led to identification of the outputs described in the section above. These outputs will lead to improved strategies for dealing with the fragile lands problem and to effective implementation of these strategies.

The inputs needed to produce these outputs also were carefully considered and analyzed. The input - output linkage table (Table 4) below shows the relationships between inputs and outputs, including the input responsible for producing a specific output, and the inputs that have a supporting role in that process. This table may help the reader in understanding the direct and indirect linkages between intended outputs and planned inputs.

## 7. How the Project Will Work

It should be clear by this point that the project focuses on missions and their work with host countries. Ultimately, of course, the success of the project depends upon host countries and their willingness and ability to address the fragile lands problem strategically; that is, with a sense of focus and a determination to make the necessary policy, institutional, and

technical changes. However, AID's primary vehicle for bringing about this change is through missions, mission policy dialogue, and mission programs. In this case, an international donor dimension also is introduced to increase awareness, pressures, and resources that will complement and strengthen mission fragile lands strategies.

Already there is growing mission commitment to work strategically on the fragile lands problem. This was started at the ARDO meeting at CIMMYT and has progressed through the continued dialogue between missions and the FLWG concerning the design of this project. This is evident from reports on mission visits, and mission programs discussed at various points in this paper. This commitment is necessary for the project to achieve its objectives as will be explained.

The first step in addressing the problem is a mission strategy. This strategy will be the basis for sharpening mission dialogue with the host country and for focusing mission programs and projects that are to be directed at the fragile lands problem. Participating missions will be assisted in development of these strategies by multidisciplinary teams consisting of representatives from appropriate ASSIST projects. The DESFIL contractor will help missions with planning for these teams and with gaining access to them through the relevant ASSIST projects. The DESFIL contractor will be responsible also for incorporating findings and conclusions into the DESFIL data base and for synthesizing and sharing it as appropriate with other participants in the FLI.

This is the basic model that will govern assistance to participating missions in all phases of the FLI's work with missions and host countries. It applies to in-depth analyses, strategy development, identification of research needs and research implementation, specific problem or project assistance, training assessments, strategy evaluations, and to development of annual input used by the FLWG as a basis for annual planning and coordination of work among the ASSIST projects and DESFIL project. The DESFIL contractor will, in all these cases, work with missions on initial planning, accessing ASSIST projects' resources, and debriefing on and synthesizing the work of these resources. Where necessary, the DESFIL contractor will fill gaps in teams or field individual experts not available through the ASSIST projects.

Missions that have direct links with one or more ASSIST projects and would prefer to 'go it alone' in terms of accessing and utilizing these resources, of course, will be free to do so. However, in these cases, the DESFIL contractor will monitor, review, and evaluate these activities and debrief the team so that information gained can be incorporated into the DESFIL data base and information synthesis networks.

DESFIL assistance will be limited to those missions that are interested in taking the strategic approach, both at the mission and country level. It will not be available for project assistance outside of the context of a fragile lands strategy.

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In the course of strategy development, special studies, and assistance to specific fragile lands oriented projects at the mission/country level, technologies, policies, and approaches will be discovered that need to be shared with other participating countries, adapted through further R&D, and field testing. This will be undertaken, where missions wish to sponsor additional work, by the ASSIST or DESFIL projects.

In addition, some of this work will lead to identification of critical problems of policy, technology, incentives, institutions, or methodology that require research and development for resolution. Much of this research can be handled most effectively through the kind of research network discussed in the output section (II. B.4.) above. These research networks will be organized and managed, in cooperation with concerned missions, by the ASSIST projects. The DESFIL contractor will assist in these networks as necessary, and will monitor the results of research networks for application to the data base of synthesis and information sharing networks.

The general rule that will apply in most cases to division of financial responsibility between missions and the DESFIL and ASSIST projects is that country level outputs will be funded by missions through add-ons or other mechanisms, while regional level outputs will be funded by DESFIL and ASSIST projects. This rule cannot be hard and fast, but is a guideline that will hold for most situations. Exceptions might be, for example, in instances where several countries (e.g., the Andean, ROCAP, or Caribbean countries) decide to get together to sponsor a sub-regional conference, workshop, training program, or research network.

International or donor coordination activities in the Fragile Lands Initiative will be the responsibility of the FLWG, assisted by the DESFIL contractor and as appropriate by the ASSIST projects. All of these activities will be coordinated with missions and guided by mission input. Specific planning for these activities should be a regular agenda item of the periodic ARDO conferences sponsored by the LAC bureau.

Each year, as noted above and described in more detail below, missions will be asked to identify their needs in the fragile lands area that fit into the context of this FLI and the DESFIL project. These needs will be assessed and coordinated by the FLWG with the assistance of the DESFIL contractor. The DESFIL contractor also will help missions with these annual needs assessments on request. Mission needs will be incorporated into a plan each year that will be allocated among the ASSIST projects and the DESFIL project so that they can develop their annual work plans. These work plans are the basis on which many S&T projects allocate staff, time, and money resources for the year and assess priorities. To the extent that mission requests cannot be accommodated in a given year, the mission will be helped with finding other sources of assistance by the FLWG.

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### III. FINANCIAL PLAN

#### A. Mission Buy-Ins

DESFIL is shaped as a common theme, ribbon project. An essential element of a common theme project is the activities carried out by developing county institutions and contractors supported through AID Mission initiated projects. The ribbon project concept is based on funding from S&T to backstop, enrich, and link individual mission projects and to strengthen them overall through distillations and syntheses of knowledge that will lead to improved policies, technologies, institutions, and implementation. This collaboration between the S&T and LAC Bureaus and participating missions extends to design, management, and funding of particular projects. Some elements of the common theme approach are being followed in planning and implementing the Water Management Synthesis II project in Asia and the Regional Sorghum and Pearl Millet Improvement program for southern Africa.

Another feature of these recent projects is that the missions are taking initiatives at an early stage and collaborating in the design of the common theme. As discussed above, LAC missions initiated the demand for assistance in containing degradation of fragile lands in their countries in 1981. Missions have been consulted individually and together throughout the design of the DESFIL project.

##### 1. Initial Project Year

Visits to missions in Peru, Bolivia, Ecuador, ROCAP, and Haiti during the project paper design process gave encouraging feedback on future financial support to DESFIL and to the ASSIST projects through mission-buy ins.

a. Peru - Two large ongoing projects, Soil Conservation and Decentralization, have components related to fragile lands. The mission desires to conduct ongoing evaluation of the economic viability and sustainability of the Soil Conservation project package, the initial evaluation of which has encouraged expansion of the project over the next year and a half. The DESFIL design "rapid assessment team" concurred with mission plans to proceed with implementation of its institutional strengthening at the departmental and municipal levels where fragile lands activities such as soil conservation and small scale irrigation can be fruitfully addressed. Both projects have funds which can be expended on DESFIL services.

In addition, the mission is developing a \$220 million project, Recapitalization of the Agricultural Sector, a portion of which will be assigned specifically to fragile lands activities. The project will begin in FY 86 and last for ten years.

Mission estimates of initial buy-in levels for DESFIL will in the neighborhood of \$3.0 million for the first five years of the project.

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b. Bolivia - The mission in Bolivia is in the process of defining its short-term strategy for fragile lands. Fragile lands activities are currently being funded through PL 480 funds; \$5 million in Bolivian pesos are currently being programmed for farming systems, forestry, and small, private organizational activities at least half of which are on fragile lands. The pesos will be supplemented with DA funds for DESFIL services.

c. Ecuador - The mission's Forestry Sector Support project includes a component that involves developing a watershed management capacity within the Instituto Ecuatoriana de Electrificación. This component currently includes 18 months of technical assistance (about \$150,000) for that purpose. The mission feels that DESFIL could:

- o define the appropriate roles of soil conservation, forestation, etc., for developing an overall approach to watershed management; and
- o identify factors that influence agriculturalist's resource management decisions in a particular watershed.

The Forestry Sector Support project is currently being reprogrammed, in response to new GOE legislation which allocates five percent of the revenues generated by taxes on oil production to forestry. The action will provide the Dirección Nacional Forestal with about ten million dollars annually in new revenues. GOE wants to channel USAID/E support to those forestry activities that will not directly benefit from the new legislation. The mission perceives that DESFIL could work effectively with the GOE in identifying priority areas for receiving the reprogrammed USAID/support, such as those linking sustainable production in humid tropical forests with technically feasible commercialization.

The mission also sees roles for DESFIL assistance in developing improved management of upland pastures, but the mechanism for financing this activity is less clear at present. There is also mission support for DESFIL collaboration with GOE agencies responsible for the farming systems and soil management components through the Rural Technology Transfer Systems project. (See Annex 13)

d. Haiti - The Haiti mission has already developed a strategy for fragile lands management and has enlisted the assistance of the DESFIL project in pursuit of that strategy. A program of stabilization and development in strategic watersheds is planned. The mission estimates the need for ninety-six person months under various DESFIL planned outputs, or a total of \$1.152 million for the first five years.

e. ROCAP RD office (Costa Rica) - ASSIST project and ST/RD/RRD personnel visited here to explore potential for ROCAP assistance and collaboration in carrying out DESFIL objectives. Several projects could be directly supportive of DESFIL and benefit from it. These include Watershed Management, a new networking project, and proposed Fragile Lands project. Discussions on terms of collaboration are in process with ROCAP. (See Annex 14)

f. Statistics for LAC mission buy-ins to the ASSIST projects show \$1.9 million in 1984 and 1985, and \$1.3 million (estimated) for 1986. A significant percentage of these services would be coordinated through DESFIL. We anticipate an increase in this overall figure as a result of the new activities stimulated by the LAC-S&T Fragile Lands Initiative.

Several countries, including Bolivia, Peru, Ecuador, Jamaica, Haiti, and Panama plan expanded fragile lands efforts which may tap DESFIL services as soon as the project begins. Ten missions requested services in the next year (see Annex 1). A complete table of projected mission buy-ins for the first five years of the project will be included in the PIO/T, based on responses to the cable mentioned above and subsequent communications with missions. Estimates for the first year of DESFIL suggest \$150,000 each from Ecuador and Bolivia, \$600,000 from Peru, \$180,000 from Haiti, up to \$150,000 from Panama, and perhaps \$170,000 total from several other countries -- a total of \$1,400,000 per year or \$10,410,000 (\$10.4 million) for the first five years. (see Annex 18) LAC Bureau has reviewed these estimates and agrees that they are reliable -- perhaps even a bit low.

## 2. Subsequent Project Years

Beginning early after the contract is signed, the DESFIL contractor will make annual visits to all missions requesting DESFIL services for the coming year. Through interviews with mission staff, DESFIL will conduct forward planning and assist in drawing up research agendas to communicate to each ASSIST project for inclusion in its annual workplan. When services needed by the mission do not match ASSIST project research mandates, and cannot be provided by DESFIL directly, the DESFIL contractor will assist the mission in drawing up the technical content of a scope-of-work to be sent out for IQC, competitive contracting, or to other agencies (universities; U. S. Park Service; U.S. Fish and Wildlife Service; U. S. Department of Agriculture; etc.).

Plans for each mission's fragile lands activities will estimate the number of person days for specified tasks by the specialty of the person. Funding sources for outside assistance will be identified in current mission projects, PD&S, etc.

The planning exercise facilitates all mission requests being processed at the same time (probably in January). Workplans for ASSIST projects should be laid out by early February to assist them in planning for key personnel in those projects. Missions will, of course, continue to have independent access to agency or other services as required. However, in the latter case, DESFIL will be available to help them develop a scope of work if the assistance needed relates to development of fragile lands.

The DESFIL contractor will keep a ledger for each mission for each ASSIST project keeping track of balance and drawdown. The ledger will inform the annual planning visits to missions as the basis to discuss amounts drawn down to date during the current year and to replenish through allocations in the next fiscal year.

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The annual planning exercise with each mission which wishes to participate in fragile lands activities in the coming year is expected to assist the missions to allocate some of their resources for agricultural productivity and land base expansion to fragile lands problems. It is not unlikely, based on predictions from the missions visited in LAC during the project paper development, to expect mission buy-ins to increase 1.5 to 2 times their initial level. Therefore, an estimated total amount of mission buy-ins over the LOP of DESFIL is as follows:

Years 1-5 @ 1.4 (x.2/year)	104 million
Years 6-10 @ 2.8 (x.2/year)	<u>25.9 million</u>
<b>TOTAL</b>	<b>36.3 million</b>

**B. Core Budget**

The total estimated core cost for the ten year life of project of DESFIL is 6.55 million. Of this total, S&T/RD would contribute 6.1 million and LAC/DR would initially add \$450 thousand. Table 5 shows the proposed distribution over the LOP (in thousands of dollars).

**TABLE 5**

**Distribution of Central Funding and Mission Buy-ins  
over DESFIL Life of Project  
(in thousands of dollars)**

FY	<u>Core</u>		Mission	<u>Total</u>
	<u>S&amp;T</u>	<u>LAC</u>	<u>Buy-ins</u>	
1	\$600	\$150	\$ 1,400	\$ 2,150
2	600	150	1,680	2,430
3	600	150	2,016	2,766
4	750		2,419	3,169
5	750		2,903	3,653
6	750		3,483	4,233
7	750		4,180	4,930
8	600		5,016	5,616
9	400		6,019	6,419
10	<u>300</u>		<u>7,223</u>	<u>7,523</u>
<b>TOTAL</b>	<b>\$6,100</b>	<b>\$450</b>	<b>\$36,339</b>	<b>\$42,889</b>

The initial year's budget is shown in Table 6. Amounts budgeted for workshops, studies, and domestic travel will decrease in subsequent years because other donors and mission buy-ins will pay for some of those activities. For example, the Swiss are funding a workshop for land use strategy in Bolivia and other donors have expressed interest in sharing or sponsoring subregional and regional conferences in the future.

C. Contributions from S&T Projects

Each ASSIST project has a mechanism for full, partial or joint funding of specific research activities relating to fragile lands. The mandate of each project states the criteria for its contribution. It is not appropriate to add the dollar amount of ASSIST project contributions to DESFIL's budget because they are already included in the budget of each ASSIST project. However, the services extended to LAC missions in assisting wise management of fragile lands development will extend mission and DESFIL capabilities considerably. Procedures for coordinating DESFIL and ASSIST projects are discussed in the implementation plan.

TABLE 6

Initial Year Budget for DESFIL

<u>Salaries</u>	\$170,000
1 FT Senior Program Manager @ 60,000	\$ 60,000
2 FT Program Coordinators @ 40,000	80,000
1 FT Administrative Asst. @ 30,000	30,000
<u>Fringe Benefits</u> (@ 22% of FT Salaries)	<u>37,400</u>
SUBTOTAL:	207,400
<u>Consultants</u> (250 days @ \$260/day)	65,000
<u>Travel</u>	
15 domestic trips @ \$1200 each	18,000
15 international trips (includes consultants) @ \$2,000 each	<u>30,000</u>
SUBTOTAL:	48,000
<u>Other Direct Costs</u>	
Workshop @ \$40,000	40,000
Quick studies, 4 @ \$15,000 each	60,000

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Other (communication, printing and reproduction, postage)	15,000
<u>Overhead</u> (@ 100% of salaries, fringes)	207,400
<u>Fixed Fee</u> (estimated)	<u>65,000</u>
GRAND TOTAL	\$747,800

D. Contributions from Other Bureaus

During development of the DESFIL project for the LAC region, spokesmen for central regional bureaus asked when they might be able to buy services from DESFIL. Because DESFIL was developed in direct response from LAC missions as a group, it has not budgeted funds for services to missions in other regions. If a groundswell of demand arises similar to that occurring among LAC missions for fragile lands development, DESFIL will have to reassess its funding with the bureaus and missions demanding services.

E. Procurement Plan

The DESFIL contractor will be contracted on a cost-reimbursable, level of effort contract with milestones at two-year intervals where continuation of the contract can be negotiated based on performance.

Based on review of capability statements provided by OSDBU, no contractor was found who was competent of handling the technical and managerial requirements of DESFIL. It therefore is appropriate that the contract be presented in the competitive marketplace. However, the Request for Proposal in the Commerce Business Daily will encourage bidders for the primary contract to provide minority subcontracting plans that ensure the participation of minority and women-owned firms in the project. The activities which may be best subcontracted are particular quick studies, and, perhaps, one or more workshops.

IV. EVALUATION PLAN

Evaluation of DESFIL will combine continuous project monitoring; regular assessments by LAC ARDOs as part of their periodic meeting agendas; and external evaluations every second year after the project is initiated. The S&T/RD/RRD Project Officer and the DESFIL contractor will maintain a continuously updated information base to monitor project inputs and outputs in relation to annual workplans. The Project Officer and the FLWG will collect materials dealing with ASSIST activities on fragile lands problems, and on similar activities DESFIL and undertakes in collaboration with missions. The regular conferences of LAC ARDOs will be requested to review and assess DESFIL activities and the Fragile Lands Initiative as part of their agendas. Their comments will be reviewed by the FLWG, and incorporated into the ongoing planning of DESFIL operations. Beginning twenty-four months after

mobilization of the DESFIL contractor, external evaluations of project progress and contractor performance funded outside the contract, will provide guidance and determine strategies for future operations. Approximately \$100,000 will be set aside for this purpose. This procedure will allow for adequate control of project implementation, while allowing the flexibility required to meet changing needs and expectations within the LAC missions over the life of the project. Upon completion of the initial DESFIL project, a final evaluation will determine lessons learned, and provide guidance for follow-on activities to meet the needs of the Fragile Lands Initiative in Latin America and, if feasible and desirable, in other regions as well.

## V. IMPLEMENTATION PLAN

### A. Responsibility of Project Entities

The project will be implemented by the DESFIL contractor, under direct administrative management of the S&T/RD/RRD project officer. The project officer will also serve as chairperson for the joint LAC-S&T Fragile Lands Working Group (FLWG). LAC/DR will appoint an associate project manager, who will assist the S&T/RD/RRD project manager in carrying out his/her responsibilities, and coordinate project activities within LAC. Communications between AID and the DESFIL contractor will be the responsibility of the S&T/RD/RRD project officer; communications between AID/W and LAC missions will be the responsibility of the LAC/DR/RD associate project manager. The Fragile Lands Working Group, composed of representatives from each of the three cooperating S&T Offices (Rural Development, Agriculture, and Forestry and Natural Resources), the S&T/RD/RRD project officer, and the LAC/DR/RD associate project manager, will provide advice and guidance to the DESFIL contractor and will serve as a policy body for the Fragile Lands Initiative. This body will meet monthly and will be chaired by the DESFIL S&T/RD/RRD project officer.

LAC Missions and LAC/DR will participate in project management through the LAC/DR/RD associate project manager's participation in the Fragile Lands Working Group; through reviews of the Fragile Lands Initiative and the DESFIL project at LAC ARDO conferences; and by using ASSIST project resources in addition to the resources provided by the DESFIL contractor.

DESFIL is designed to support the Fragile Lands Initiative and to assist LAC missions directly. The DESFIL contractor will coordinate and facilitate the use of ASSIST project resources with regard to fragile lands issues as well. Since each ASSIST project has its own purpose, funding procedures, contractors and cooperators, and cycles of activity, a process will be established to access these projects. The first step will be for the DESFIL project officer to determine the parameters for possible ASSIST project cooperation through discussion with each ASSIST project officer. This discussion, and agreements reached, will be formalized in Memoranda of Understanding by the Project Officers and their Office Directors. The next step will be to reach similar agreements between ASSIST project officers and

their respective contractors/cooperators. As circumstances change during the life of DESFIL and ASSIST projects, these working agreements may be revised through similar discussions, agreements, and memoranda.

The DESFIL contractor will be primarily responsible for execution of the activities of the project, as stated in the Project Paper and as elaborated upon in the terms of reference for the contract. One aspect of such activity will be the contractor's use of information provided him by the project officer, upon the advice of the FLWG, concerning the terms of reference and potential use of ASSIST projects for specific tasks outlined in long-term and annual workplans. Where missions, the DESFIL contractor or the FLWG identify specific tasks lying within the purview of ASSIST projects, the DESFIL contractor will provide ASSIST project officers and missions with the information required for development of scopes-of-work and funding procedures. Mission buy-ins to ASSIST projects will be subject to the conditions obtaining with regard to each such project and will fall outside the formal scope of DESFIL activities and funding.

The DESFIL project officer will provide the DESFIL contractor with information on active ASSIST projects in time for the contractor to include this information in discussions with missions prior to preparation of the contractor's initial workplan. The contractor will indicate to missions which tasks might be performed by ASSIST projects, and missions may choose to arrange for those tasks to be done by means of a buy-in to the ASSIST project directly. Thus a mission or regional strategy for fragile lands will incorporate a set of desirable goals; a time-frame for planning and execution; a specification of resources required; the sources from which these may be obtained, including in-mission, local, DESFIL, and ASSIST projects; and the procedures for obtaining these resources. Mission and country needs, and the tasks specified by the FLWG for research, networking, archiving, and donor coordination, form the basis for the contractor's workplan. Operations will be monitored both by the contractor and the DESFIL project officer and associate project manager, and overall project progress will be monitored by the FLWG.

#### B. Component Implementation Models

Annual Work Plans will be developed by the DESFIL contractor through periodic consultations with missions and a process to be worked out by the contractor that is satisfactory to both missions and the FLWG. These workplans will permit both ASSIST projects and DESFIL to estimate annual allocations of resources to specific mission needs and plans. They will permit DESFIL to plan its collaborative course of action for a given year, including its own schedule of visits to missions to help develop specific technical scopes of work and add-ons for field support and R&D.

Special studies will be carried out by the DESFIL contractor in response to specific needs that arise that are not within the scope of ASSIST projects. Special studies will also be carried out for some of the synthesis

work for which DESFIL is responsible. For example, the contractor might commission a study drawing on its data base and other sources to do a synthesis of policies that negatively (or positively) affect fragile lands. Special studies also can be used by the DESFIL contractor for development of methodologies; e.g., for strategy assessments, evaluations, or work plan development.

Donor coordination and involvement will be the responsibility of the FLWG at the regional level and missions at the national and sub-regional level. In all cases, DESFIL will manage and facilitate relationships with and among donors as necessary. For example, at the regional level, the DESFIL contractor will serve as the initial secretariat to the donor meetings on fragile lands, until a donor based secretariat can be established.

Field support and research and development teams (e.g., for strategies, project design/evaluation, problem oriented research) typically will be interdisciplinary and their membership will come from the relevant ASSIST projects and the DESFIL contractor. Missions will be assisted by the DESFIL contractor in planning for, requesting, organizing, and preparing these teams for field activity. Duplicates of reports produced by these teams will be retained in the DESFIL data base for later synthesis and dissemination as appropriate. Teams will be financed by mission add-ons to ASSIST projects and DESFIL and supplements from these projects as appropriate and feasible.

Thematic R&D Networks will be promoted by DESFIL and by the ASSIST projects. It is expected that these networks will be developed around problems common to more than one country such as: (a) experimental bench terracing; (b) fragile lands policy analyses; (c) soil erosion estimation; (d) downstream damage estimation; (e) farmer incentives; (f) upland irrigation; (g) land tenure problems in fragile lands; etc. For the most part, these networks will be developed and managed by the relevant ASSIST projects in cooperation with participating missions. Country research will be funded or co-funded by missions while networking costs will be borne primarily by ASSIST projects. The DESFIL contractor will monitor all thematic networks for information content. Relevant information and findings will go into the DESFIL data base for synthesis and dissemination, as appropriate.

These are the main components of the DESFIL & Fragile Lands Initiative. These models are intended to illustrate how they will work and who will be responsible.

### C. Timing

Tables 2 and 3 on outputs give a good indication of the time phasing of DESFIL planned activities. This will change, of course, as annual work plans are developed and the events of the next decade unfold. However, the basic pattern is likely to hold. That is, in the first years of the project mission and country strategy development will be the dominant activity. This

will be followed by a focus on research into critical problems identified and on development and implementation of policies, projects, and programs to implement these strategies. Throughout it all, to strengthen strategies and policy dialogues and to help focus more resources on the problem, donor coordination will be promoted. In the out years, the emphasis will be on strategy evaluation and adjustment. The Time Graph (Figure 1) will help illustrate this distribution of events throughout the project. It is derived from Table 2.

## VI. PROJECT ANALYSIS

### A. Technical Analysis

The purpose of this section is to examine the project and its elements of timeliness, research, and the complementarity of the actors in the Fragile Lands Initiative. In addition, it will assess the impact on the primary audience of DESFIL-host countries, donors, and research institutions.

#### 1. Project Elements

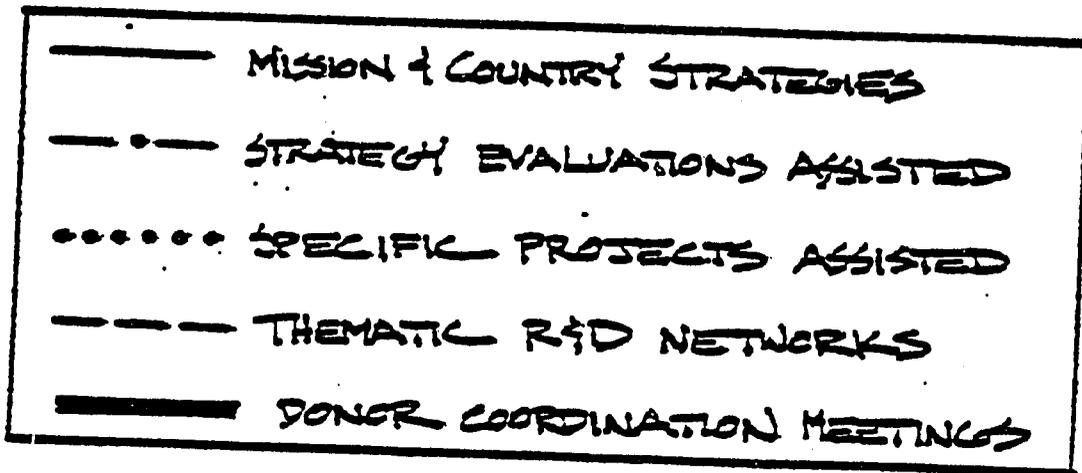
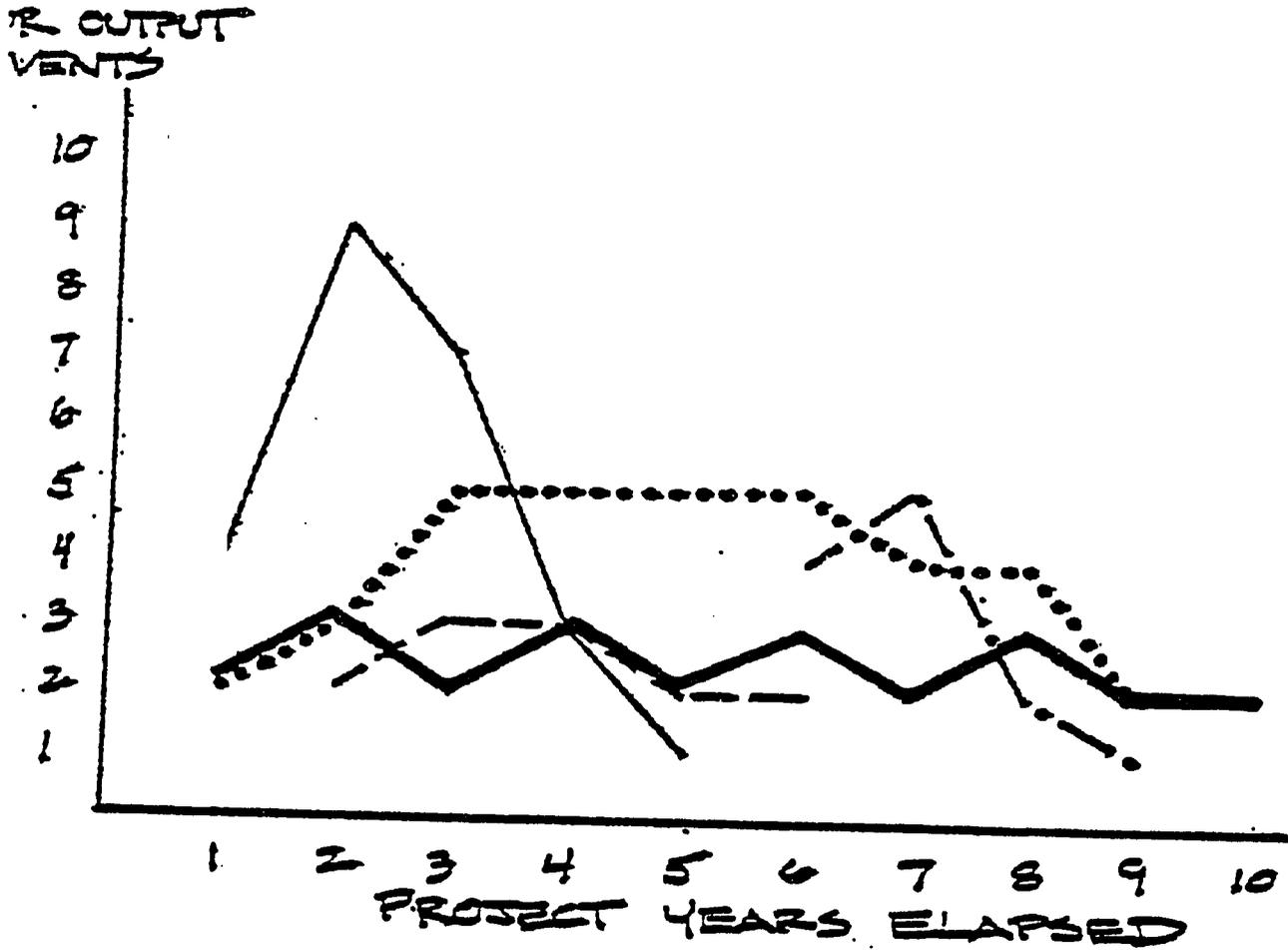
a. Timeliness - Plucknett (1976) estimates that between sixty and seventy-five percent of the world's humid tropics are hill lands. In Latin America and the Caribbean, steep lands account for fifty percent of the total land area, ranging from low of forty percent in Colombia to a high of eighty percent in Haiti, the Dominican Republic, Honduras, and Panama (Posner & McPherson, 1982). Much of the remainder lies in the humid tropic lowlands. In Latin America, most of the land is potentially fragile.

There is no broad consensus on the proportion of the steep land area that is degraded, how severe the damage is, or how rapidly it is progressing, although there is universal agreement that the problem is widespread & growing worse. Erosion rates are increasing, eroded hillsides become more prominent, and the fallow period of small farmers shortens. Authors (e.g., Posner & McPherson, 1982) discuss "accelerated erosion" & "severe erosion". Deforestation in the humid tropical lowlands is more rapid, increasing within the last ten years (Nations & Komer, 1984). Siltation is reducing the effective life of irrigation projects & hydro-electric dams to one-half of their projected period. In some countries, the silt load has increased 300 percent in the last twelve years (Santos, 1981). Reduction in the species mix of flora and declining numbers of fauna, sometimes to the point of extinction, is a critical problem and worsening rapidly (Steinhart, 1984).

The Fragile Lands paper (Bremer, et al, 1984) clearly indicates that, given the dimensions of the problem, a diminishing window of opportunity exists to slow, halt, and (possibly) reverse the degradation in fragile lands. Failure to act now will make future interventions far more difficult

Figure 1

# TIME GRAPH OF MAJOR PROJECT OUTPUTS



and infinitely more costly. Missions, as indicated above, are initiating bi-lateral activities but the scope, scale, and universality of the problem is such that a regional approach is indicated. It was out of this need that the Fragile Lands Initiative and this project arose. DESFIL is both urgently needed and timely.

Because the size of the fragile lands problem, DESFIL will use the triage approach, within the range of cases that are amenable to intervention. There are some places where the condition is so large, or where AID's investment would have so little impact, that no intervention is proposed. However, within the range of situations where investment makes sense, there is still a need to set priorities. One purpose of the assessments (mission & country), discussed above, would be to establish these priorities for action. After the priorities are set, then a program of interventions, and specific projects, can be initiated which reflect these priorities. The exception to this triage approach would be where an intervention outside the normal list of priorities might be necessary because of possible impact on an critical off-site structure; e.g., a hydro-electric dam or an irrigation project.

b. Research - Although DESFIL will perform multiple functions (e.g., networking, information dissemination, donor coordination, etc.), one of its critical roles will be to conduct research. Bremer, et al, (1984) indicates that much of the prior research to develop improved agricultural technologies has focused heavily on lowland areas, those areas most resembling temperate zones, or on the more favorable ecological zones. Discussions with S&T technical staff, with missions, and at the ARDO 1984 CIMMYT meeting indicate that there are appropriate, selected technologies available for and applicable to fragile lands. These are scattered and need to be collected systematically. DESFIL will attempt to do this through its lessons learned, monitoring, information dissemination, and networking functions.

Moreover, it is clear that additional research is needed on selected topics. Where these topics are outside the focus of the ASSIST projects and relevant to the Fragile Lands Initiative (FLI), DESFIL will conduct research on them. For example, farmer incentives is one of the problem foci of the FLI and while of interest to several ASSIST projects, it is a research theme in none. Examination of the fragile lands in LAC indicates that many of the survival and traditional farming practices of small farmers are causing much of the degradation on fragile lands. It is not possible, short of martial law tactics, to change these practices without understanding and using the incentive systems that govern small farmer behavior. This is a major constraint to successful policy and programs in the fragile lands areas. DESFIL will conduct research on the topic.

c. Complementarity - Management or advisory links exist between the FLWG and DESFIL and the Offices of S&T/RD, AGR, and FNR. Financial and administrative links exist between ST/RD and DESFIL. Each of the actors has a role and contribution to the overall initiative as well as to the

other actors in the system. This is the proposed relationship for the ten year DESFIL project and could continue for the estimated fifteen year impact of DESFIL assuming carry on mission projects which start in the FLI time span.

## 2. Impact on Primary Audience

DESFIL is a central bureau project working with other S&T projects and with mission programs and projects (and through them, with host country programs and projects). Its primary audiences, therefore, are host countries, donors, and research institutions.

a. Host country - DESFIL's intended impact here will be in three areas - strategy, policy, and technology. Through the mechanism of the strategic assessments (see II. B. 4. a. (2)), DESFIL will assist the host country develop a strategy for dealing with its fragile lands problems which will include establishing a priority list of specific areas for intervention. The strategic assessment, together with the rapid assessment for the missions, will be the basis for a policy dialogue between missions and host country governments. Changes arising out of these discussions should provide a better policy and institution framework in which to introduce new technologies. The technologies will derive more from adaptation and tailoring of existing elements rather than the development of new ones although the latter may occur. DESFIL, directly or working through the ASSIST projects, will provide these to missions and host country governments.

b. Other donors - As indicated earlier ( see II. B. 5. c.), DESFIL will cooperate with other donors. The project's intended impact here will be in information sharing and in coordinated strategy/policy of major donors in the LAC region. The former should provide guidance for better project design among all donors while the latter will develop a more consistent and uniform approach to the fragile lands problem as well as focused resources to address it.

c. Research institutions - DESFIL's intended impact on regional research institutions will be two-information sharing through thematic R&D networks established by DESFIL directly or through one or more of the ASSIST projects and support for conferences and workshops held by and/or at these research institutions on topics relevant to the fragile lands problem and the research program of the institution.

## B. Social Soundness Assessment

### 1. Introduction

The DESFIL Project addresses a range of problems of regional and multidisciplinary significance, focusing upon the concerns of the Fragile Lands Initiative, the efforts of Missions, and the involvement of donors in

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dealing with fragile lands. Its social impact, therefore, is necessarily indirect. Because of DESFIL's generalized applicability and indirect impact, social soundness assessment of the project (see Annex 14 for full assessment) will include:

- a. A review of major social factors responsible for accelerating fragile lands degradation in Latin America.
- b. an analytic description of target populations: those whose behavior the project intends to change, and those expected to benefit from such changes.
- c. An assessment of the sociocultural feasibility of DESFIL in the context of current institutional and socioeconomic settings in LAC.

## 2. Socio-economic Causes of Land Degradation and Associated Symptoms

a. Population and demographic change - In attempting to arrest fragile land degradation in the LAC region, one must first identify the social factors promoting its degradation. The basic cause of land abuse in the region is a growing rural population seeking access to resources, particularly land. In 1970, the rural population of Latin America was approximately 116.2 million; in 1980 it was 129.4 million. Despite evidence for an overall percent decrease in the rural population (from fifty-six to thirty-six percent between 1960 and 1980) and except for a few cases where there was a decline in rural population in absolute numbers, the number of rural inhabitants is expected to rise to 140.3 million by 1990. It is these absolute increases combined with the lack of alternate economic opportunity which contribute to increased use of marginal areas like steep slopes and lowland tropical areas. Migration patterns are also having an effect on land use.

b. Access - Another major cause of fragile land degradation is lack of access to lands, credit, and various inputs which promote proper land management. In the humid tropical lowlands specifically, environmental degradation is linked to settler improvement as access to land and other means of production is restricted. Development of these areas is critically linked to access to resources and management of them. One reason for the lack of access to lands is present land tenure arrangements. These tenure arrangements have developed out of past practices and are manifested in specific land holding mechanisms which promote unequal land distribution and prevent tenure security and access to alternative lands. Unequal access to land promotes land use patterns in which relative intensity is disproportionate to land quality. In Huallago, Peru, for example, small farmers, who were forced off the bottom lands but are now on the slopes, have inappropriate food crops (corn and beans), thus promoting erosion; grow appropriate cash crops (coca), which is illegal; and are least able to manage. Without tenure security, most land users are

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unwilling or unable to make long term investments in land maintenance. In addition, users with no formal title to land are denied access to credit and inputs necessary to practice sound land management.

Their socio-political situation is often coupled with geographical isolation, resulting in delayed growth of service networks which leads to market underdevelopment. Such a pattern inhibits farmers from investing in production systems with delayed pay-off and perpetuates their dependence on crops with low cash input, short term productivity and quick return. Investment in land improvement is reduced and participation in long term productive activities like agroforestry or silviculture are discouraged.

c. Incentives - Another social factor contributing to land degradation is the current social and economic incentive system. The current practices conducive to resource abuse are encouraged by short term, urgent needs for income and a lack of viable alternatives. These problems are aggravated by a high degree of heterogeneity in fragile lands systems making application of one technology to an entire region nearly impossible.

d. Institutions - There is a lack of host country institutions suitable to develop the proper technologies for fragile lands. The remoteness of fragile lands often makes them of little concern to central governmental agencies. Even if technologies were developed, it would be difficult to inform isolated, dispersed fragile lands users. Multiple and overlapping institutions promote unclear jurisdiction over remote areas, conflicting land use policies, and poor management of public resources. Current development policies are often inappropriate with regard to land colonization, pricing, taxation, tenure, and investment.

### 3. Target Population

In addressing the question of social impact, one must first determine who is on the land and who uses it. The principal users of fragile lands are the low income farmers on small plots of land (here called small farmers). A small farmer is defined as someone who uses the land primarily for subsistence cultivation, livestock, and fuelwood collection. These people are often poor, have little land, little capital, and low levels of education.

The circumstances of poverty are perpetuated by the environment in which the small farmers live. The lands they farm are marginal and isolated from vital country infrastructures like roads, markets, and social services. This limits access to educational opportunities and agricultural extension. Their poverty and labor constraints are often compounded by political policies which deny access to land titlage, credit, inputs, and technology. Because of these factors, the extent of their market contribution is marginal or small individually, but it may be large in comparison to the amount of land controlled. Each small farmer, therefore, has little incentive to adopt sound land management practices.

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Demographically, the small farmer population is characterized by a higher percentage of women-headed households and a higher average age of male farmers. A United Nations figure estimates that thirty percent of all households in Latin America and the Caribbean are headed by females. This means that the woman is the one who has assumed economic responsibility for herself and her children. In the Dominican Republic, the large proportion of rural households headed by women has caused a shift in land use from crop cultivation to livestock grazing. The latter is less labor intensive and can be more easily managed by women and children. This shift to livestock grazing exerts very different pressures on the land than previous cropping uses and may increase certain problems (gullying and soil compaction).

A higher average age of male farmers indicates that the young are not returning to land to serve as producers; instead, they are migrating to urban areas where they become consumers. This increases production pressure in some degree on those who remain in the rural areas which, in turn, increases pressure on fragile land use.

#### 4. Beneficiaries

a. Direct beneficiaries - The fragile lands common theme approach can strengthen institutions, develop human resources, generate research results, and provide information for decision-making. The direct beneficiaries of DESFIL will be host country institutions, donor agencies, and private groups. The host country government will be given technical assistance for:

- o identifying the problems of ecologically sound use of fragile lands,
- o upgrading its line agencies through training and networking,
- o strengthening regional capabilities to manage public fragile lands, and
- o providing agricultural extension services to private land holders in such lands.

Research institutions will benefit from participating in research networks for forestry, soil conservation, and water management and from sharing information on the theoretical and practical aspects of production on steep slopes and in humid tropical lowlands.

Donor agencies will also benefit through networks by sharing land use capability assessments, increasing their awareness of the limits and real productive potential of fragile lands, and defining ecologically sound technologies for their development. Collaboration will avoid not only unwise funding decisions which have led to degradation of fragile lands in

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the past (such as settlement programs in fragile areas with insufficient resource use planning), but also investments in low priority areas. Finally, donors' investments in infrastructure will be better protected through attention to upstream-downstream relationships.

Private groups, such as environmental educators and NGOs, will receive financial and technical assistance in promoting their efforts to raise awareness and resuscitate damaged areas.

b. Indirect beneficiaries - The indirect beneficiaries include small farmers on fragile lands and the residents of downstream areas. DESFIL, through government extension agents and appropriate private enterprises, will provide the means by which the small farmer can sustain production on fragile lands. They will themselves become the agents of wise resource use, protecting their own and, thus by extension, their downstream neighbors' lands. By protecting downstream resources such as hydro-electric plants, roads, reservoirs, and food producing lands, small farmers on the uphill slopes will help assure their access to electricity, markets, and a variety of products.

Downstream beneficiaries reap the same rewards, as well as protected water supplies. In addition to agro-ecological benefits, there is less need for diversion of national economic resources for social welfare payments to those now impoverished through unwise use of their land, water, and forest resources.

Both onsite and downstream beneficiaries will indirectly benefit from the increased efficiency and better use of national resources which accrue from DESFIL's networking activities.

c. Women beneficiaries - Changes in family structure have a direct effect on changes in land use. As noted above, many LAC countries have a substantial proportion of women-headed households. Women in these households would be indirectly affected by DESFIL through access to improved agricultural extension. In assessing the influence of women in fragile land use, the project should consider alternatives to all-male extension forces. In many instances, women cannot or will not communicate with a male extension worker, therefore obviating the success of any agricultural extension plan. The project can address this problem through training strategies for female extension workers.

In some areas of Peru, seasonal migration by both men and women is common. In such cases, the problem is the impact of migration on the small farmer's response to development. In the instances where men migrate in greater numbers, an even larger portion of women than is typical are left to conduct field preparation activities while the men are gone. These women would benefit from new technologies which would ease the preparation process and make it more environmentally sound. In addition, many rural

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women are being forced to leave the rural areas because they can no longer support themselves. Through technical assistance provided through DESFIL, projects could be designed which provide alternative employment in rural areas or which generate sustainable sources of agricultural income, such as multi-cropping systems or systems for improved pasturage. Such opportunities could mean that women need no longer leave and that they could contribute to sustained production of food and fuel.

## 5. Social Impacts

DESFIL will achieve its greatest impact by proceeding in a stepwise manner:

1. Establish networks and synthesize existing information;
2. Identify gaps in knowledge, address them; and
3. Constantly update knowledge base and share it widely.

DESFIL's first step includes either establishing itself as a node in existing networks, such as the Andean farming systems research network of Canada's International Development Research Center (IDRC), or acting as the lead institution for a new fragile lands network in the Latin America/Caribbean region. Regional networking allows neighboring countries which share opportunities and constraints for improving productivity and development to also share their experience. Networking reduces the cost of research, concentrates and mobilizes generally limited financial and human resources over the long-term. (Annex 15 details the benefits of DESFIL's networking efforts.)

As its contribution to existing networks or as the basis for a new network on fragile lands, DESFIL must begin by conducting an assessment of current projects in Latin America and the Caribbean which address sustainable fragile lands management. The project must also look at activities not strictly agricultural for dealing with people who are farming fragile lands, such as alternative employment in urban areas, restriction of inputs, etc.

DESFIL must conduct analyses of current projects to see what institutional arrangements, incentives, technologies, and methods are used, under what circumstances, and with what success. They must review Agency, host government, and other donor experience to see what alternative approaches have been tried, which have succeeded, and which have failed.

The second step is to define where are the knowledge gaps which must be researched in order to promote the most effective use of fragile lands. Some examples have already been identified:

- o Identification of traditional technologies and land management practices, identification of technologies that could be brought back into use, and explanation about why those technologies were abandoned;

- o Study of offsite impacts of fragile lands degradation, especially quantitative estimates of the downstream cost of mismanagement; and
- o Case studies which investigate key problems and quantify their aspects in multiple settings so that generalized strategies can be developed.

DESFIL can refine comprehensive techniques for assessing the long term sustainability of fragile lands management systems, such as Chayanov's theory which combines qualitative analysis and nonmonetary profit calculations with traditional economic variables. Other possibilities include Boserup's theory which explicitly links population density with innovation in household economic strategy, Tosi's natural forest management plan, and Stock's work with nature community organizations, currently being conducted in Peru under the Central Selva project. Such analytical considerations take into account how the size and composition of farm families influence their decisions for production and can greatly enhance the development of effective incentive programs and resource management policies.

It can also develop or refine standard methodologies for assessment of the impact of fragile lands interventions on affected groups. It can assess whether small farmers are being reached by programs for fragile lands development, whether their management of fragile lands has changed through programmed efforts, and whether their altered productive activities can sustain food and fuel production and income generation.

DESFIL can also develop and demonstrate methods for organizational analysis, social analysis, and resource economics which enable host countries, NGOs and PVOs, and other donors to strengthen their long-term capability to develop fragile lands in a wise and sustainable fashion and for the benefit of both onsite and downstream inhabitants.

As the third step, DESFIL can integrate findings of such studies into its data base and then must share the information widely through its network ties.

## 6. Feasibility

Interviews with international donors (Annex 11) and agency liaison staff and visits to several LAC missions during the design of the project (Annexes 7, 12, & 13) established DESFIL's feasibility for reaching its primary beneficiaries. The Agency participates in formal and informal networks at the technical level which can serve as DESFIL's avenue of increasing donor awareness. Such LAC missions as Peru have multiple projects with components relevant to fragile lands which demonstrate some interest by host country governments in wisely developing their fragile

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land areas. Research institutions are conducting pertinent, but piecemeal, investigations of soil, forest, and water use in some LAC countries. The interest is there; what is needed is to strengthen that interest, to expand knowledge of ecological constraints, and to promote better strategies for fragile lands development.

The feasibility of reaching the secondary beneficiaries (small farmers and downstream inhabitants) appears to be good, based on the experience of ASSIST projects such as Water Management Synthesis II.

Observations in Peru show some progress in generating and diffusing conservation oriented-technologies, (such as terracing, contour cultivation and protective strips between fields) as well as some experiments in agro-forestry. Bolivia's experience in the Chapare and Haiti's with Agro-Forestry Outreach also demonstrates the effectiveness of agro-forestry approaches. Most of the initiatives are based on private benefits on individual farms and involve investment of family labor. Missions in both Peru and Bolivia have expressed considerable interest in testing the long term economic viability of these practices and how relatively restricted pilot projects could be expanded.

#### 7. Likelihood of Sustaining Benefits

There is considerable variability in the capacity of LAC countries to sustain wise development of fragile lands. Close analysis of the situation in Peru, which currently has the broadest and best developed range of approaches to fragile lands development of any country in the LAC region, showed deficiencies in three broad areas:

- A. understanding and awareness of sustained resource use problems and a wider recognition of ecological interactions of project site to surrounding region;
- B. institutional weaknesses and lack of capacity, especially in public administration to deal with these problems; and
- C. rural development policies which limit the effective deployment of technical and administrative resources and which provide resource users with incentives to use and manage fragile lands for short term gains only.

Annex 7, the report of the Fragile Lands Rapid Assessment team, also points out that, at the heart of the resource management question in Peru is a set of policy related dilemmas having to do with incentives to encourage sustained use and the incidence of costs and benefits. The challenge currently confronting Peruvian policy makers is to balance the immediate need to increase agricultural production and productivity against the country's long term capacity to sustain those increases once they have been achieved. To do so requires a detailed appreciation of the value of existing natural systems and the cost of replacing them or restoring them after they have been destroyed or damaged by poor management.

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Particularly necessary are practices that coordinate a number of different decision makers at different points along a watershed or ecological system, in situations where the incidence of costs and benefits accrue disproportionately and in different time periods to the groups affected. The practical solutions to this sort of problem are extremely difficult, not only because of the wide geographic separation of the interest groups who benefit from those who bear the costs, but also because of their different time frames, the immediate (survival) for onsite fragile land managers, and the future (income) for downstream dwellers.

Thus, there are clear political and economic constraints to achieving wise long term strategies for development of fragile lands. Mechanisms for generating short term payoffs, either through increased yield or transfer payments for technological investments on fragile lands, must be developed in order that strategies be developed. In times of severe financial crisis, as now in Latin America and the Caribbean, such policies are difficult to promulgate. However, the consequences of not beginning now to raise awareness and to promote long term strategies for fragile lands development are clearly disastrous.

### C. Economic Analysis

#### 1. Introduction

The economic analysis of the Development Strategies for Fragile Lands (DESFIL) Project is primarily indicative for two reasons:

- o It is based on an indirect chain of events leading ultimately from the five project components (TA, donor coordination, research, policy guidance, and networking at USAID and regional level) to solid on-the-ground impacts; and

- o The range of benefits of these on-the-ground impacts is uncertain. Economic research on quantifying the economic impacts of resource management and soil conservation measures on fragile lands has lagged far behind work which quantifies economic impacts of new annual crop varieties or short term production inputs. Therefore, anecdotal evidence provides a rough idea, but no more, of the economic benefits of improved fragile land management. Also, no value is attached to unused land, although this may be a forested watershed above a hydro-power facility, etc.

In addition, the basic indicative statistics on land area at risk and land area under various management practices in the steep slope and humid tropical lowland areas of the LAC region are scanty. Therefore, a precise definition of the magnitude of the fragile lands problem is missing. (One benefit of DESFIL will be to increase the quality of information on the economics of fragile lands management.)

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Because the benefits to the project are difficult to trace (arising from their indirect nature) and because the economic data for on-the-ground impacts of fragile lands management are fragmentary, straightforward calculation of an internal rate of return to DESFIL is difficult. The most informative approach to analyzing the economic viability of the project is to examine the level of benefits which would be required to justify project costs, and then, based on the evidence available on the economics of fragile lands management, assess whether required level of benefits will occur. (This section is a summary of the analysis detailed in Annex 16; notes refer to those listed at the end of the Annex.)

## 2. Costs

It is important to analyze the benefits and costs of DESFIL's new funding alone. The ST contribution to the DESFIL project (excluding resources authorized already for ongoing ST projects) will be approximately 6.1 million. These funds will complement funds already authorized in other centrally funded projects and a much larger number of bilateral LAC projects. In addition, the DESFIL project will involve \$450,000 in new LAC funds for a total increment of 6.55 million in new fragile lands funding. Authorization of funds for all of the other current S&T and LAC mission projects has been based on assurances of economic viability; thus, they would, in any case, occur even without DESFIL. So the important economic question in assessing DESFIL is: Will the additional benefits from DESFIL's 6.55 million increment to other project resources justify the expenditure of that 6.55 million?

In answering this question it is important to distinguish the situation with the 6.55 million DESFIL project from the situation without it. A number of LAC bilateral activities on fragile lands are currently having positive economic impacts. A number of centrally-funded projects are currently doing research and providing TA which will also have positive economic impacts. It is reasonable to expect that these impacts would continue and even grow in the future, even in the absence of DESFIL. The benefits to DESFIL are reduced costs or increased impact in all these other project which will only occur as a result of DESFIL's TA, donor coordination, research, policy guidance, and networking.

That such additional benefits are likely to occur is attested to in the broad interest in these DESFIL components exhibited in the recent past by USAID and host country technical representatives involved in fragile lands activities. Whether such benefits are likely to justify DESFIL costs is a question examined below.

As stated above, it is important to distinguish DESFIL costs from costs of other activities which would be incurred even in the absence of DESFIL. These costs include bilateral and other centrally funded activities in the fragile lands area. DESFIL does not stand alone and has been designed to complement these projects and to help make them more.

effective, thereby raising their rate of return over what it would have been in its absence. Because these projects' costs would be incurred even without DESFIL, in this section we assemble the economic viability of DESFIL costs alone.

Based on an analysis of the LAC bilateral ARDN portfolio by Strategic Category, Table 7 lists the value of those categories which will benefit from DESFIL. These include the Technology Transfer subcategory (under Agricultural Productivity), the Colonization subcategory (under Access to Resources), and all of the Natural Resources Management category.

TABLE 7

Funding Levels for Categories of LAC ARDN Portfolio  
Expected to Benefit from DESFIL  
( \$000 )

<u>Strategic Category</u>	<u>LOP Funding</u>
Technology Transfer	62,537
Colonization	2,072
Natural Resource Management	
Watershed Management	6,117
Forestry	19,283
Conservation	9,047
Irrigation	23,752
Other	7,651
TOTAL:	130,459

### 3. Benefits

There are four categories of DESFIL benefits, as shown in the matrix in Table 8. The matrix is based on two distinctions. The first is between impacts at the site of the activity versus those which occur elsewhere. An example of an on-site benefit would be increased yields resulting from terracing. An example of an off-site benefit would be reduced maintenance costs on downstream irrigation which result from land stabilization measures upstream reducing silt loads. The second distinction is between DESFIL's beneficial impacts on those activities which would have occurred even in the absence of DESFIL versus benefits of those bilateral or other activities which will be undertaken only as a result of DESFIL activities.

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TABLE 8  
Matrix of DESFIL Benefits

	On-going or planned activities	New Activities
On-site	<p><u>Benefit 1</u></p> <p>Benefits occurring at the site of the intervention in activities which would occur even with no DESFIL project.</p>	<p><u>Benefit 3</u></p> <p>Benefits occurring at the site of the intervention in new activities resulting from DESFIL</p>
Off-site	<p><u>Benefit 2</u></p> <p>Benefits occurring away from the site of the intervention in activities which would occur even with no DESFIL project.</p>	<p><u>Benefit 4</u></p> <p>Benefits occurring away from the site of the intervention in new activities resulting from DESFIL</p>

An example of the first kind of benefit would be DESFIL information or networking leading to a cost reduction in the terracing which might already be going on in a bilateral project. An example of the second kind of benefit would be increased production in a new bilateral soils project which would not have been designed in the absence of DESFIL. It is likely that in the early years of the project, in particular, most DESFIL benefits will occur through increasing the effectiveness of activities of other projects which would have been going on even in the absence of DESFIL. Increments to effectiveness will involve either reducing costs or increasing benefits of those projects via dissemination of research results and technologies that have worked elsewhere. With increased networking, donor coordination, and TA, projects which would not have been developed in the absence of DESFIL may be undertaken by donors, governments, and PVO's. The discounted return to these projects, net of their discounted costs, is attributable to DESFIL.

It is surprising that so little economic assessment of off-site benefits has occurred for LDC's, because it is off-site benefits, such as reduced siltation, which are widely recognized for their effects on politically and economically important, visible infrastructure projects. The quantification of off-site benefits from U.S. experience is not applicable, even as an indicative measure, to LDC's, given the very different values of irrigated agriculture, a prime off-site beneficiary, in the U.S. and in LDC's. The one example we have found of off-site benefits in LDC's comes from a watershed management project in Morocco.<sup>1</sup>

The overall rate of return to the Moroccan project's investment, based on assessing both on-site and off-site benefits, is sixteen percent. The project's activities include soil conservation and reforestation activities covering 40,000 ha, or twenty-two percent of the watershed. At a fifteen percent discount rate, the net present value of aggregate off-site benefits for the first twenty-nine years of the project's benefit stream is \$8,424,000. Assuming ten percent inflation since the study, done in 1982, the value today of benefits off-site is \$9,266,400 or \$231 per hectare of managed watershed.

We have several examples of LDC projects with on-site benefits from fragile lands management. The Costa Rica Natural Resources Conservation PP (515-0145) of 1979 estimated an economic return of seventeen percent to unsubsidized investment costs in pasture management and tree crops. The per hectare net present value of benefits at fifteen percent is fifteen dollars in 1979 dollars or approximately nineteen dollars in 1985 dollars.

Other economic assessments of on-site benefits of fragile lands management come from bench terracing projects in Peru and Guatemala carried out by the U.S. Soil Conservation Service with AID funding. In Guatemala, project farmers' terraces were subsidized, but a number of farmers outside the project have been impressed enough with the project's results to incur the costs of terracing their land with no subsidy. This is solid evidence of clear on-site economic return, even though we cannot quantify it.<sup>4</sup> Cash farm incomes in the project itself have increased from thirty to fifty percent, although it is unclear if this nets out the cost of any subsidies or additional labor. A similar bench terracing project in Peru may be generating roughly equivalent on-site benefits. Here, yield increases achieved through soil conservation practices aimed at increasing water retention are approximately 140 percent for potatoes.

#### 4. Comparing Costs and Benefits.

This section calculates the benefit level required to justify DESFIL project costs. It then constructs two alternative benefits scenarios according to the second and third approaches to benefits estimation mentioned in the preceding section. Table 9 sets out project costs for the ten year LOP. The net present value of those combined ST and LAC costs at a fifteen percent discount rate is \$2,567,000. The task here, given the uncertainty and lack of data, is to see if a scenario of DESFIL benefits which exceeds and thereby justifies that cost figure is reasonable to expect.

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TABLE 9: DESFIL Project Costs  
(\$000)

FY 1	600	150
FY 2	600	150
FY 3	600	150
FY 4	750	0
FY 5	750	0
FY 6	750	0
FY 7	750	0
FY 8	600	0
FY 9	400	0
FY 10	300	0

Net Present Value = 2,567,000

Our first approach is to see what order of magnitude of per hectare benefits, spread over how many hectares, would be required to justify project costs. Because we do not have estimates of hectareage in the humid tropical lowlands, the analysis under this approach is confined to hectareage in steep lands (as shown in Table 6, Annex 16)—a total of 1,622,208 square kilometers in steeplands in AID-recipient LAC countries. The equivalent in hectares is 162,220,800. Posner and McPherson estimate that over twenty-five percent of tropical American steeplands is in annual crops; this amounts to approximately 40,500,000 hectares which may be at risk of environmental degradation in AID-recipient LAC countries.

Assume that the DESFIL project will have some effect on only three

TABLE 10  
Hectares of Steeplands to be Impacted by DESFIL  
If Project Costs are to be Justified

<u>Year</u>	<u>New Hectares Affected</u>
1 - 5	0
6	250,000
7	250,000
8	250,000
9	250,000
10	215,000
11-20	0

NOTE: The \$6.29 figure in the text is arrived at by discounting the hectareage figures in the table back to the present at fifteen percent and dividing the result into the "target" benefit of \$2,567,000.

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percent of this land area (1,215,000 ha), from years six to ten of the project. Under this scenario, shown in Table 8, the net present value of benefits on three percent of vulnerable LAC steeplands would have to be \$6.29 per hectare to justify DESFIL costs.

Considering the indicative estimates of net present value of off-site benefits (\$231/ha in Morocco) and on-site benefits (\$15/ha in Costa Rica), it is not unreasonable to expect DESFIL to reduce costs or increase benefits in such projects by a net present value, of \$6.29 per hectare. If this amount were spread over fifteen years (and most benefits to activities such as terracing and tree planting are likely to have such a life), it would amount to less than \$1 in annual benefits per hectare due to DESFIL. This is shown on Table 11 for hectares impacted by DESFIL in year 8 of the project in this hypothetical scenario. This is of course only one of innumerable quite plausible scenarios indicating that a "target" DESFIL benefit of \$6.29/ha (net present value) on three percent of vulnerable steeplands is quite reasonable to expect.

TABLE 11  
Hypothetical Benefits Incidence  
for Land Impacted by DESFIL  
(In Year 8)

<u>Year</u>	<u>Per Hectare Benefit</u>
1 - 7	0
8 -22	\$1

Net Present Value = \$6.72

It is important to note here that, due to data unavailability, this calculation includes no benefits in the humid tropical lowlands. Calculation of such benefits would reduce the "target" steeplands benefit level required to justify DESFIL costs.

The other approach to assess the reasonableness of expecting project benefits to justify costs involves the level of on-going or planned bilateral LAC projects. Table 5 has a total of \$130,459,000 in LOP funding in those functional categories likely to benefit from DESFIL. If the average LOP is five years, this amounts to twenty-six million dollars of annual funding. Assume that this level of funding in the functional categories affecting fragile lands use will remain constant. (In fact, it may well grow.) Also assume that DESFIL will lead to benefits in fifty percent of those bilateral LAC projects concerned with fragile lands, or in projects totalling thirteen million dollars per year. Finally, assume that DESFIL's positive impacts on the on-the-ground activities of these projects translates into tangible benefits only after Year Five of DESFIL, and that DESFIL's effects are felt in activities which take place up to five years beyond DESFIL's LOP.

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Table 12 sets out the bilateral investments in fragile lands areas which likely will have taken place even without DESFIL, but whose impact will be greater as a result of interaction with DESFIL. If an acceptable discount

TABLE 12  
Hypothetical Bilateral LAC Investments in Fragile Lands  
Whose Impacts are Increased by DESFIL  
(\$000)

<u>Year</u>	<u>Investment</u>
1 - 5	0
6 - 15	13,000

Net present value = \$32,440,000

rate to LAC in authorizing its projects is fifteen percent, then the net present value of the benefits of those projects even in the absence of DESFIL must be at least \$32.44 million. The increase in benefits to those LAC projects which we need to justify DESFIL costs is \$2,567,000, or an eight percent increase in benefits of those LAC projects. It is not unreasonable to expect DESFIL's TA, donor coordination, research, policy guidance, and networking to lead to an increase of eight percent in benefits in half of those bilateral LAC activities related to fragile lands management. If by Year Six of the project, LAC fragile lands activities double, a four percent increase in their benefits, due to DESFIL, would justify DESFIL costs.

The following other economic considerations are discussed in Annex 16: the magnitude of the problem, economic aspects of project design and technology choice, subsidies, and economic policies.

D. Environmental Concerns

The Initial Environmental Examination (Annex 5) determined that no significant environmental impacts will result from DESFIL's activities. In fact, the project will have only positive environmental impact on the region.

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TO USAID MISSIONS IN LATIN AMERICA PRIORITY

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ADM: AID

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TAGS:

SUBJECT: FRAGILE LANDS INITIATIVE

REFERENCE: STATE 34838

1. AT THE RECENT LAC ARDO CONFERENCE HELD AT SINYIT, (SEE REFTEL) THE LAC/ST FRAGILE LANDS WORKING GROUP (PLWD) PRESENTED A DRAFT PROPOSAL FOR A JOINT LAC/ST PROGRAM ON FRAGILE LANDS. THE PROPOSED INITIATIVE IS THE RESULT OF COMMON CONCERN AMONG LAC BUREAU, LAC MISSIONS, AND ST (D, AGR AND FHR) ABOUT THE PROBLEM OF FRAGILE LANDS DEVELOPMENT. THE PROBLEM WAS IDENTIFIED FIRST BY THE 1981 ARDO CONFERENCE AND SUBSTANTIATED AS A PRIORITY PROBLEM IN 1983 BY THE AGRICULTURAL RESEARCH TEAMS THAT VISITED MANY COUNTRIES IN THE REGION. IT IS A HIGH PRIORITY IN THE LAC STRATEGY PAPER.

2. STATED VERY SIMPLY, THE PROBLEM IS THAT LATIN AMERICA'S STEEP SLOPES AND HUMID TROPICAL LOWLANDS ARE SUFFERING UNDER INCREASING POPULATION PRESSURE WHICH RESULTS IN THEIR MITIGATE AND IN THE RAPID DECLINE/DEGRADATION OF THE RURAL RESOURCE BASE. THE DEPLETION OF SOIL AND WATER RESOURCES AND THE RAPID AND ACCELERATING DEFORESTATION UNDER EXPANDING AGRICULTURE

WEAKEN THE ABILITY OF LAC COUNTRIES TO FEED THEIR

PROBLEM WAS AGAIN CONFIRMED AT THE CONFERENCE. IN ADDITION, THE ARDO GROUP STATED THAT THE PROPOSED RESPONSE TO THE CONCERN WAS INNOVATIVE BUT INADEQUATE, BECAUSE THE PROBLEM TRANSCENDS AID'S ABILITY TO ADDRESS IT EFFECTIVELY ALONE. THE ARDO GROUP STRENGTHENED THE PROPOSED PROGRAM BY SETTING AS ITS SHORT-TO-MEDIUM-TERM OBJECTIVE THE DEVELOPMENT OF INTERNATIONAL STRATEGY-POLICY AMONG MAJOR DONORS. STRATEGY DEVELOPMENT WOULD BE LAUNCHED THROUGH A HIGH LEVEL CONFERENCE (OR SERIES OF CONFERENCES) ON THIS SUBJECT AND WOULD BE MONITORED THROUGH REGULAR MEETINGS OF DONOR REPRESENTATIVES (AID, ISRD, BID, OAS, ETC.). THE PROGRAM, ARDO GROUP URGED, SHOULD BE LONG-TERM -- MORE THAN TEN YEARS -- IN ORDER TO HAVE AN IMPACT ON THIS PROBLEM.

3. THE DEVELOPMENT STRATEGIES FOR FRAGILE LANDS PROGRAM PRESENTED TO THE ARDO GROUP SUGGESTED CONCENTRATION FIVE PRIORITY AREAS. THESE WERE:

A) NATIONAL/DONOR AWARENESS AND POLICY SUPPORT. CONCENTRATE ON DEVELOPING PUBLIC AND DONOR AWARENESS OF THE FRAGILE LANDS PROBLEM. FOCUS ALSO ON UNDERSTANDING THE CONTEXT IN WHICH POLICY IS DEVELOPED, POLICIES THAT INFLUENCE FRAGILE LANDS, AND THE CONSTRAINTS TO POLICY CHANGE.

B) NEED FOR A STRATEGIC APPROACH WITHIN COUNTRIES. IDENTIFY THE MAGNITUDE AND NATURE OF THE FRAGILE LAND PROBLEM IN THE COUNTRY TO SELECT THOSE AREAS MOST STRATEGIC FOR INTERVENTION. CONCENTRATE ON THOSE LANDS WHERE IT STILL IS POSSIBLE TO INDUCE STABILIZATION OR IMPROVEMENT.

C) APPROPRIATE INSTITUTIONAL ARRANGEMENT. IDENTIFY APPROPRIATE MIXES OF PUBLIC AND PRIVATE SECTOR INVOLVEMENT FOR PROGRAM/PROJECT IMPLEMENTATION.

D) FARMER INCENTIVE REQUIREMENTS. GAIN AN UNDERSTANDING OF THE INCENTIVE SYSTEMS THAT GOVERN FARMER BEHAVIOR AND HOW TO USE THIS UNDERSTANDING IN THE DESIGN OF THE FRAGILE LANDS PROGRAMS/PROJECTS.

E) TECHNOLOGY ADOPTION AND SPREAD. IDENTIFY AND ADAPT AVAILABLE TECHNOLOGY FOR USE ON FRAGILE LANDS MANAGEMENT AND FARMING. DEVELOP PROGRAMS AND A BASIC STRATEGY FOR TECHNOLOGY SPREAD. IDENTIFY AND RESEARCH TECHNOLOGY GAPS.

3. THE PROGRAM CALLED FOR ACCESSING RESOURCES OF A NUMBER OF RELEVANT ST PROJECTS. THAT IS, AT LEAST EIGHT ST PROJECTS FROM ST/RO, AGR, AND FHR WHICH ADDRESS ASPECTS OF THE FIVE POINT APPROACH ABOVE WOULD BE USED TO HELP MEET THE RESEARCH AND TECHNICAL ASSISTANCE NEEDS OF THE LAC BUREAU AND MISSIONS IN ADDRESSING THE FRAGILE LANDS PROBLEM.

6. TO ARRIVE AT THE SHORT-TERM OUTPUTS, THE ARDO GROUP RECOMMENDED SEVERAL STEPS BE TAKEN AS A MATTER OF PRIORITY (I.E., WITHIN THE NEXT YEAR TO TWO YEARS AND STARTING THIS SUMMER WHEN THE PROJECT IS SCHEDULED TO BEGIN):

A) ASSIST PARTICIPATING MISSIONS WITH DEVELOPMENT OF A STRATEGIC APPROACH TO THE FRAGILE LANDS PROBLEM WITHIN THEIR OWN COUNTRIES.

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01 INCLUDE IN THESE RAPID ASSESSMENTS A PROJECTION/ESTIMATION OF CONSEQUENCES OF CURRENT TRENDS IN FRAGILE LANDS DEGRADATION AND OFF SITE IMPACTS IN ORDER TO DEVELOP A STRONG CASE FOR HIGH LEVEL FRAGILE LANDS POLICY/STRATEGY.

02 DEVELOP AN ANALYTICAL ASSESSMENT OF SUCCESSFUL AND UNSUCCESSFUL APPROACHES, TECHNOLOGIES, AND POLICIES IN THE FRAGILE LANDS AREA FOR COUNTRIES OF THE REGION.

03 SHARE THESE ANALYTICAL ASSESSMENTS AFTER SYNTHESIS AND CONSOLIDATION.

04 EXPLORE PROSPECTS FOR COORDINATION WITH OTHER DONORS ON THIS PROBLEM. (SEE PARA 2).

7. THIS INFORMATION (6 ABOVE) WILL BE PULLED TOGETHER IN A FORMAT THAT CAN BE SHARED WITH OTHER DONORS. IT CAN SERVE AS A BASIS FOR DISCUSSIONS WITH THESE DONORS TO ESTABLISH PRIORITIES FOR ADDRESSING THE LAC FRAGILE LANDS PROBLEM.

8. SPECIFIC OUTPUTS AND OUTCOMES OF THE PROGRAM WOULD BE:

SHORT-TERM (3 YEARS):

- CONTINUATION OF THE JOINT LAC-ST FRAGILE LANDS WORKING GROUP (FLWG) BASED ON COLLABORATING UNITS AND PROJECTS TO PROVIDE AND DEVELOP A MECHANISM AND INSTITUTIONAL BASE FOR BROKERING AND OTHERWISE SUPPORTING A LONG TERM PROGRAM OF RESEARCH, POLICY DIALOGUE, TECHNICAL ASSISTANCE AND INTERNATIONAL COLLABORATION ON FRAGILE LANDS, FOR EVALUATING RESULTS AND PROGRESS, AND FOR CONTINUITY.

- STRATEGIC FRAMEWORK FOR PARTICIPATING MISSIONS TO GUIDE THEIR PROGRAMMING AND POLICY DIALOGUE IN THE FRAGILE LANDS AREA.

- AN ASSESSMENT (REGIONAL OR SUB-REGIONAL) OF CURRENT TRENDS AND THEIR COSTS IF LEFT UNABATED, BASED ON SPECIFIC COUNTRY ANALYSES. BASELINES FOR EVALUATION OF FUTURE GAINS OR LOSSES ARE ESTABLISHED.

- A SYNTHESIS OF APPROACHES, TECHNOLOGIES, AND POLICIES THAT WORK AND THOSE THAT DON'T IN THE CONTEXT OF FRAGILE LANDS SUSTAINED DEVELOPMENT.

- A MAJOR CASE FOR LONG TERM INTERNATIONAL COLLABORATION IN ADDRESSING THE FRAGILE LANDS PROBLEM.

- THE BASIS FOR A SET OF INFORMATION SHARING RESEARCH AND TECHNICAL ASSISTANCE NETWORKS IN THE REGION.

- PREPARATIONS FOR A SERIES OF WORKSHOPS AND CONFERENCES INVOLVING INTERESTED DONORS, MISSIONS AND MOST GOV'TY REPRESENTATIVES.

MEDIUM TERM (3-5 YEARS):

- SERIES OF TECHNICAL AND POLICY LEVEL MEETINGS WITH DONORS TO ESTABLISH PRIORITIES.

- REGULAR MEETINGS AMONG DONORS TO REVIEW PROGRESS AND PROBLEMS.

- RESEARCH AND COLLABORATION NETWORKS ESTABLISHED AND WORK BEGUN ON PROBLEMS WITH REGIONAL OR SUB-REGIONAL

DIMENSIONS.

- MISSION PROGRAMS SHARPENED AS A RESULT OF IMPROVED POLICY DIALOGUE, BETTER INFORMATION AND TECHNICAL SUPPORT, STRATEGIC FRAMEWORK FOR PROGRAMMING, INCREASED DONOR COORDINATION AND AGREEMENT ON PRIORITIES, "DO'S" AND "DON'T'S", AND FEEDBACK FROM CONTINUOUS EVALUATION AND MONITORING.

LONG TERM (5-15 YEARS):

- SUBSTANTIAL AGREEMENT ON NATIONAL AND INTERNATIONAL APPROACHES TO FRAGILE LANDS DEVELOPMENT AND STABILIZATION. MAJOR RESOURCES BEING DEDICATED TO WORK ON THE PROBLEM.

- NATIONAL AND REGIONAL INSTITUTIONS, (E.G., THOSE INVOLVED IN NETWORKS) RESPOND AND DEDICATE CORE BUDGET AND PERSONNEL TO CONTINUOUS RD IN FRAGILE LANDS AREA.

- SIGNIFICANT IMPROVEMENTS IN SLOWING OR REVERSING NEGATIVE TRENDS. PRODUCTIVITY ON FRAGILE LANDS INCREASES.

- SOUND APPROACHES TO SETTLEMENT, DEVELOPMENT, AND PROTECTION OF FRAGILE LANDS. INSTITUTIONALIZATION OF THESE.

9. ACTION REQUESTED: MISSIONS SHOULD INDICATE IN A RETURNABLE:

(A) COMMENTS OR RECOMMENDATIONS ON THE PROPOSAL AS OUTLINED.

(B) WHETHER MISSION WISHES TO PARTICIPATE IN STEPS (A) - (C) IN PARA 6 ABOVE.

(C) WHETHER MISSION WILL NEED TECHNICAL ASSISTANCE FROM ST IN THESE STEPS (ST PROPOSES TO HAVE MULTIDISCIPLINARY TEAMS AVAILABLE TO WORK WITH MISSIONS). SPECIFIC SCOPES OF WORK, BUDGETS AND FUNDING ARRANGEMENTS CAN BE DEVELOPED AT A LATER DATE WITH INTERESTED MISSIONS.

(D) SOME SENSE OF TIMING FOR THE ABOVE -- WHETHER FY IS LATE, FY IS OR FY IS WOULD BE APPROPRIATE TIME FRAME FOR ASSESSMENTS.

(E) PROJECTS IN MISSION PORTFOLIO (PRESENT AND PLANNED) WHICH ADDRESS ASPECTS OF THE FRAGILE LANDS PROBLEM.

(F) WHETHER MISSION COULD USE ADDITIONAL INFORMATION OR TECHNICAL ASSISTANCE IN ANY OF THESE PROJECTS, AND TYPE OF ASSISTANCE, WHICH PROJECT AND ESTIMATE OF TIMING. AGAIN, COSTS AND SCOPE CAN BE DEVELOPED LATER.

10. TIMING BASED ON INFORMATION RECEIVED FROM MISSIONS, FLWG PLANS TO DEVELOP A DRAFT PID FOR DISTRIBUTION TO MISSIONS FOR COMMENT BY JANUARY. PID APPROVAL WILL BE FOLLOWED BY ST - LAC/DR/TRD FIELD VISIT

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11. FOR BOLIVIA, ECUADOR, PERU. POSSIBILITY EXISTS TO START RAPID ASSESSMENTS ON ANDEAN COUNTRIES IN EARLY FY 1983 AS PART OF PP DEVELOPMENT PROCESS, PER DISCUSSIONS AT CIMMYT CONFERENCE. ADVISE IF INTERESTED. FIELD VISIT WILL FOLLOW ASAP.

12. LACJON AND ST COMMEND THE ANDES FOR THE HIGH QUALITY OF THEIR INPUT INTO DISCUSSION OF THE FRAGILE LAND ISSUE. THEY MADE A MAJOR CONTRIBUTION TO THE PROPOSED PROGRAM AND THE FLUG LOOKS FORWARD TO CONTINUED WORK WITH THEM AS IT DEVELOPS.

13. REQUEST RESPONSES BY JANUARY 15. DAN

BEST AVAILABLE DOCUMENT

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TABLE 2  
SUMMARY OF MISSION RESPONSES

	STEP (a) Help mission to formulate strategy from environmental profiles	STEP (b) Estimate Outcomes of current trends in use of fragile lands	STEP (b) Assess Lessons learned for approaches, technologies, and policies	STEP (d) Synthesize, consolidate, analyze and share results of Step (c)
BOLIVIA	yes, immediately	yes	some completed	do later
COSTA RICA	not now	not now	not now	not now
DOM. REPUBLIC	now being done	need for FY 85	on contract now	workshop 8/85
ECUADOR	yes	yes	not urgent	n/a
HAITI	yes	yes	later	later
GUATEMALA	yes	yes	not urgent	n/a
HONDURAS	yes, late FY 85	yes, late FY 85	yes, urgent	yes, urgent
JAMAICA	yes	yes, early FY 86	not urgent	n/a
NICARAGUA	not now	not now	not now	not now
PANAMA	no	no	yes, urgent	yes, urgent
PERU	yes, 3/85	yes, 3/85	yes, urgent	yes, urgent
RDO/C	yes	yes	yes	3rd qrt FY 86

Development Strategies for Fragile Lands

Draft Proposal for a Joint LAC - S&T Program

Presented at

LAC ADO Meeting  
CIMMYT, Mexico  
November 15, 1984

Prepared by  
The Fragile Lands Working Group

## FRAGILE LANDS PROBLEM FOCUS

Five problem areas stand out that pose major obstacles to bringing about the preservation or sustained use of fragile lands. These, we believe, should be the major areas of concentration of the fragile lands initiative at the regional level. Working on these problems with missions and host countries should help to solve some of the more specific problems of physical degradation found throughout the region that inhibit sustained productive use or preservation of fragile lands.

- I. National/Donor Awareness and Policy Support -- How to Get Them. It is difficult and perhaps fruitless to work directly on fragile lands problems in the largely universal absence of policy support. Such support normally requires some degree of public awareness and pressure as a precondition because policies in support of fragile lands enhancement and sustained use usually can be interpreted as politically risky in the short term. Moreover, such policy can work to the disadvantage of privileged groups whose economic benefits are served by permissive policies or policy incentives that encourage degradation of lands for profit -- usually short term and short sighted.

Because of lack of political will, conflicting national goals that work against sound fragile lands management, ministerial mandates and turf problems, and all too frequently, self serving senior government officials and politicians, a sound policy framework for working on fragile lands does not exist in most countries and will be difficult to attain. The fragile lands initiative must focus at several levels in the policy arena:

- (o) Develop an understanding of the socio-economic, political, and cultural incentive systems that drive policy change and implementation in this area and try to bring about policy change or adjustment within that context, using these factors as leverage where possible, rather than engaging in direct policy confrontation.
- (o) Develop an awareness of the set of policies and institutions that influence fragile land use and attempt to minimize conflicts and irrationalities.
- (o) Identify persistent policy constraints and factor them into program/project approaches. Develop programs that are capable of success within these constraints.
- (o) Work on the public awareness void, being realistic and credible about consequences of present trends and suggesting approaches to problems that are politically and economically feasible within known constraints.

6/1

2. Need for Strategic Approach. In most countries of the region, the fragile lands problem is extensive. It is not practical or possible for countries to treat these problems across the board. Moreover, some areas have so little productive potential or already are so far gone that it would be wasteful of energy, money, and manpower to deal with them. It is sound, therefore, to locate those areas of a country which are in most serious need of attention and which also have sufficient productive potential to make investment in their future use worthwhile.

The fragile lands initiative should pool its resources for doing the type of analysis necessary for developing a strategic approach to working on the fragile lands problem. Rapid assessments should be stressed and R&D on such approaches should be initiated if needed. Strategic assessments should be able to indicate, at least in crude terms, the magnitude of the problem and its implications and to create a baseline that can serve as a basis for monitoring progress or further deterioration. Indicators should be straight forward and factual to the degree that politicians and other policy makers can readily interpret them.

3. Appropriate Institution Arrangements. For a variety of reasons, the performance of the public sector is disappointing in many countries. Moreover, for many purposes, the private sector is better suited for carrying out Fragile Lands objectives. The farmers working in fragile lands are private entrepreneurs. The Fragile Lands initiative should help identify approaches for working on the problem within the context of the private sector and private institutions, minimizing the requirement for government intervention and institutional responsibility. At the very least, every effort should be made to strike balance between government and private sector involvement. Also, in so far as possible, local institutions that are close to the problem should be involved if they have a stake or influence in local development. This is a relatively new area and considerable research will be required, both for a start and to continue the momentum.
4. Farmer Incentive Requirements. It is axiomatic that farmers cannot be talked out of their survival and usually can't be talked into something that won't produce some form of benefit in the short term. Therefore, even though many of the various survival and traditional farming practices of small farmers are causing much of the degradation on fragile lands, it is not possible, short of marshall law tactics, to change these practices without understanding and, again, using as leverage, the incentive systems that govern small farmer behavior. This is a major constraint to successful policy and programs in the fragile lands area and the new initiative should focus on it.

Analyses will have to be conducted to determine these incentive systems. Programs will have to be designed that can produce results either in spite of these constraints or through using them -- factoring them into policy and program design. These analyses will also have to address questions of land tenure, distribution, and local participation.

WS

5. Technology Adoption and Spread. There are technologies available that are appropriate for working in the fragile lands area. There also are gaps in technology that will have to be identified and addressed as the fragile lands initiative progresses. However, the most immediate problem seems to be the difficulty in creating awareness of what technologies are available, adapting them to local conditions, and getting these technologies adopted widely in the field. Part of this problem is technical -- reducing technologies to simple approaches that work under local conditions. The other part is socio-economic -- how to influence the farmers to change present destructive techniques in favor of land use, preparation, and farming approaches that will be productive on a sustained basis. This will require close collaboration at all stages among physical and social scientists. Conscientious sharing of information among projects and countries in the region will permit all participants to capitalize on success and failures in this area. In summary, the Fragile Lands initiative should work on technology from the standpoint of spreading workable technologies from country to country, helping to adapt them to local conditions or otherwise improving them, helping to spread their use within countries, and identifying and working on technology gaps.

ldp

## LOGICAL FRAMEWORK: Development Strategies for Fragile Lands Project (936-5438)

Narrative	Objectively-Verifiable Indicators	Means of Verification	Assumptions
<b>GOAL</b>			
Assist in regional program to arrest degradation of fragile lands to permit sustained production of food, income and fuel.	Production of food, income and fuel maintained or increased on steep slopes and humid lowlands in LAC with degradation of resources on fragile lands slowed, stopped or reversed.	<ul style="list-style-type: none"> <li>- Economic reports (country, FAO, IRDB, other)</li> <li>- Analyses from periodic satellite photomapping</li> </ul>	Conceptual, policy, and technical gaps in this field can be resolved sufficiently in the long term to overcome obstacles to progress
<b>PURPOSE</b>			
Assist in developing and implementing improved national and regional strategies for fragile lands management	<ul style="list-style-type: none"> <li>a. Resources committed and activities organized within USAID, host country governments, regional inter-governmental groups and donors.</li> <li>b. Feedback from fragile lands' indicators routinely gathered, shared between countries and donors, and utilized by policy makers.</li> </ul>	<ul style="list-style-type: none"> <li>- Annual budget submissions</li> <li>- Statement of mutual understanding by donors and inter-governmental groups</li> </ul>	Host countries agree to study their fragile lands problems, develop a strategic approach to these problems, and institutions to implement this approach
<b>OUTPUTS</b>			
<u>Country level</u>			
1. Mission strategies for addressing fragile lands problems developed.	Assessment team visits for three weeks in participating country. Reports produced and accepted.	1 and 2 - Project Records and Reports	Missions develop well thought out strategies for dealing with host governments on the fragile lands problem; and develop and implement programs to assist host countries in this context. International donors focus energy and resources on the problem, help raise awareness of the problem and
2. Country strategies for addressing fragile lands problems developed.	Assessment team visits for six weeks in participating country. Formulation of triage for participating country. Reports produced and accepted.		

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LOGICAL FRAMEWORK: Development Strategies for Fragile Lands Project (936-5438)

Narrative	Objectively-Verifiable Indicators	Means of Verification	Assumptions
3. Specific program and project fragile lands problems resolved for missions and countries.	Special studies; background, design, implementation, problem analysis, and evaluation.	Study Documents	viable approaches to it, and bring international pressures to bear to speed commitments and actions Research needs are identified and may feasibly be met.
4. Research activities designed to resolve specific country-level problems			
5. Training assessments and planning conducted	Training needs identified	Project Documents Evaluations	
6. Strategy evaluations designed Strategy evaluations carried out Strategies adjusted	Trainees placed in U.S. and other institutions Progress evaluated and adjustments made		Strategy Designs are feasible and are approved by missions.
<u>Regional and subregional levels</u>			
1. Methodologies selected for: - rapid assessments - in-depth strategic assessments - team building	Methodology(ies) documented and tested Communications with participating countries re methodologies Revisions to three methodologies	Methodology Reports	
2. Procedures for annual work-plan developed for: missions, ASSISTS	Information collected annually Information pooled by FLWG Information shared with ASSISTS Information integrated into ASSISTS	FLWG and Project Records	

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ANEX 3 (continued)

LOGICAL FRAMEWORK: Development Strategies for Fragile Lands Project (936-5438)

Narrative	Objectively-Verifiable Indicators	Means of Verification	Assumptions
OUTRIS (continued)			
3. Thematic research and development networks established for regions and subregions	3.- Specific shared problems identified - Systematic sharing of information (by newsletter, regular meetings) - Reports sent - Outputs disseminated to synthesis network	- Project Documents - Mission cable files - Evaluations	
4. Synthesis networks established for regions and subregions	4.- Network for steep slopes - Network for humid tropical lowlands - Outputs received from 3. above - Policies written and disseminated		
5. Data base developed for country, subregional and regional fragile lands data: case studies - evaluations - policy analyses	5.- Data base summarized periodically - Data summaries disseminated - Technologies identified		
6. Special studies undertaken	6.- Problems identified - Research or action solution identified - Short-term studies conducted		
7. Donor coordination working group meetings organized	7.- Periodic meetings held - Information exchanged - High level international consultative group for region meetings planned and prepared - Secretariat activities performed		
8. High level international donor consultative group meetings.	8.- Meetings held - Information prepared and distributed		

## ANEX 3 (continued)

LOGICAL FRAMEWORK: Development Strategies for Fragile Lands Project (936-5438)

Narrative	Objectively-Verifiable Indicators	Means of Verification	Assumptions
<b>INPUTS</b>			
<u>AID/W</u>			
1. Fragile Lands Working Group 2. DESFIL contractor	1. Weekly meeting of FLWG 2.- Annual visits to missions - Reports to FLWG 3. Quarterly monitoring of contractor 4. Research on fragile lands problems	FLWG Minutes Progress Reports Project Documents Evaluations	Mission Portfolios are appropriate
3. SI/RD/IRD project manager 4. SI associated projects (ASSISTs) <u>Mission/Country</u> Programs/projects	Mission sponsorship of assessments, research activities, projects, and training programs which address fragile lands problems		
<u>Regional/Subregional</u> Donor cooperation	Linkage of existing donor networks		Donors willing to cooperate

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April 11, 1985

MEMORANDUM

TO: Fragile Lands Working Group

FROM: Anson Bertrand, Director, S&T/AGR *Anson Bertrand*  
 Chris Russell, Director, S&T/RD *Chris Russell*  
 John Sullivan, Director, S&T/FENR *John D. Sullivan*

SUBJECT: Participation of S&T/AGR, RD, & FENR Projects in the Fragile Lands Initiative

The purpose of this memo is to establish the terms and basis under which projects in the Offices of Agriculture (AGR), Rural and Institutional Development (RD), and Forestry, Environment, and Natural Resources (FENR) will participate in the Development Strategies for Fragile Lands (DESFIL) Project. DESFIL is a ribbon project; will be housed in RD; and has several functions, including acting as a broker to help missions, as necessary, access participating projects in the Bureau of Science and Technology. The three Offices will collaborate in their participation in the Fragile Lands Initiative through the Fragile Lands Working Group. We concur in the plan to include a total of eleven S&T/AGR, RD, & FENR projects, three of which are co-managed.

Agriculture (AGR)

- 931-1229 Soil Management Support Services (SMSS)  
Raymond Meyer, P.O.
- 936-4084 Agriculture Policy Analysis (APA)  
Ernesto Lucas, P.O.
- 936-4099 Farming Systems Support\* (FSSP)  
Donald D. Osburn, P.O.
- 936-4127 Water Management Synthesis II\* (WMS II)  
Worth Fitzgerald, P.O.

Forestry, Environment, and Natural Resources (FENR)

- 936-5517 Environmental Planning & Management (EPM)  
Charles Paul, P.O.
- 936-5547 Forestry/Fuelwood Research & Development\* (F/FRED)  
Ian G. Morrison
- 936-5519 Forest Resources Management (FRM)

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Rural & Institutional Development (RD)

- 931-1135 Human Settlements & Natural Resources Systems Analysis (SARSA) Bob J. Walter, P.O.
- 936-5301 Access to Land, Water, & Natural Resources (ACCESS) David Atwood, P.O.
- 936-5317 Performance Management (PERF. MGT.) Jeanne North, P.O.
- 936-5441 Institutional Development R&D (ID/R&D) Ed Connerley, T.A.
- 936-4099 Farming Systems Support\* (FSSP) Ken Swanberg, P.O.
- 936-4127 Water Management Synthesis II\* (WMS II) Douglas Merrey, T.A.
- 936-5547 Forestry/Fuelwood Research & Development\* (F/FRED) Kathy Parker, T.A.

\*Co-Managed Projects

P.O. - Project Officer  
T.A. - Technical Advisor

Of these projects, SMSS, FSP, SARSA, & ACCESS have fragile lands elements built into their original research focus and thus fit well into DESFIL and the FLI. FSSP, WMS II, and F/FRED have topics of central concern to the FLI and are obviously closely related.

In each case, we will establish a procedure for including fragile lands activities within project annual work plans. We are aware that the Fragile Lands Working Group (LAC/DR & S&T/RD, AGR, and FENR), with the DESFIL project, will develop an annual review process with LAC missions that will generate information on mission plans and requests that can be used in our work plan development. With projects that have appropriate focus and contracting mechanisms (e.g., SMSS, FSP, SARSA, & ACCESS), we are prepared now to accommodate bureau and mission incremental funding in the form of add-ons, PASAs, etc. In the event that adjustments are needed (in a project paper amendment, in a cooperative agreement, or in the contract) to enable a project to participate, we are prepared to do this in conjunction with the needs of the Fragile Lands Working Group and the Fragile Lands Initiative.

Clearances:

S&T/AGR, T. Gill	<u>          </u>
S&T/AGR, P. Church	<u>          </u>
S&T/FENR, C. Gallegos	<u>          </u>
S&T/FENR, C. Paul	<u>          </u>
S&T/RD, E. Chetwynd	<u>          </u>
S&T/RD, K. Kornber	<u>          </u>

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ENVIRONMENTAL ASSESSMENT

UNITED STATES INTERNATIONAL DEVELOPMENT COOPERATION AGENCY  
AGENCY FOR INTERNATIONAL DEVELOPMENT  
WASHINGTON, D.C. 20523

LAC/DR-IEE-85-25

ENVIRONMENTAL THRESHOLD DECISION

Project Location : LAC Regional

Project Title : Development Strategies for  
and Number : Fragile Lands  
: 936-5438

Funding : \$3,650,000 (G)

Life of Project : Ten years

IEE Prepared by : Catherine McIntyre  
S&T/RD/RRD

---

Recommended Threshold Decision : Negative Determination

Bureau Threshold Decision : Concur with Recommendation

Comments : None

Copy to : Christopher Russell, Director  
S&T/RD

Copy to : Eric Chetwynd, S&T/RD

Copy to : Catherine McIntyre, S&T/RD

Copy to : Albert Brown, LAC/DR

Copy to : IEE File

James S. Hester Date MAR - 7 1985

James S. Hester  
Chief Environmental Officer  
Bureau for Latin America  
and the Caribbean

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Initial Environmental Examination  
(IEE)

Project Location: Latin America/Caribbean Region  
Project Title: Development Strategies for Fragile Lands  
Funding: \$3.65 million  
Life of Project: Ten years  
IEE Prepared by: Catherine E. McIntyre, IDI  
S&T/RD

The Joint LAC - S&T Fragile Lands Working Group for the Development Strategies for Fragile Lands project has undertaken an Initial Environmental Examination of the project environmental impacts and has arrived at a recommendation for a Negative Determination.

Environmental Action Recommended

This Initial Environmental Examination has determined that no significant adverse environmental impacts will result from the project's activities. In fact, the project will have only positive environmental impact on the region. Therefore, the Office of Rural and Institutional Development of the Bureau for Science and Technology recommends that the project's activities be given a Negative Determination.

Concurrence: Christopher H. Russell Date: 2/2/85  
Christopher Russell, Director  
Office of Rural and Institutional Development  
Bureau for Science and Technology

Initial Environmental Examination  
Development Strategies for Fragile Lands Project

Description of Project

Latin America's steep slopes and humid tropical lowlands are coming under increasing population pressure which results in their misuse and in the rapid decline/degradation of the rural resource base. The depletion of soil, forest and water resources and the rapid and accelerating deforestation under expanding agriculture threaten the ability of Latin American and Caribbean (LAC) countries to feed their people.

A new project will be created to address the problem. It will be called the Development Strategy for Fragile Lands Project (DESFIL). The goal of the project is to arrest degradation of fragile lands to permit sustained production of food, income and fuel.

DESFIL's purpose is to implement improved strategies at national, regional and international levels for fragile lands management based on analysis, policy, action and collaboration. It aims to do so by:

- developing public and donor awareness of the fragile lands problem; and focusing on understanding the context in which policy is developed, which policies influence fragile lands, and constraints to policy change.
- identifying the magnitude and nature of the fragile land problem in each country; and selecting the areas most strategic for intervention, concentrating on lands where stabilization or improvement is still possible.
- devising appropriate mixes of public and private sector involvement for program/project implementation.
- exploring incentive systems that govern farmer behavior in order to design effective fragile lands programs/ projects.
- selecting and adapting available technology for farming and managing fragile lands; developing programs and a basic strategy to spread technology; and identifying technology gaps and coordinate research to address them.

Identification and Evaluation of Environmental Impacts

The project will have no significant negative effects on land use through changing the character of the land (it will not increase the population, extract natural resources, clear land or change soil characteristics); through altering natural defenses; through foreclosing important uses; or through jeopardizing humans or their works.

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The project will have no significant negative effects on water quality, its physical, chemical or biological states, or its ecological balance.

The project will have no significant negative effects on the atmosphere through air additives or pollution, or through land clearing.

The project will have no significant negative effects on natural resources through diversion or altered use of water, or through irreversible, inefficient commitments.

The project will have no significant negative effects on cultures of the region by altering physical symbols or diluting cultural traditions.

The project will have no significant negative effects on the socio-economic situation of the region through changes in economic/employment patterns, population or cultural patterns.

#### Conclusion and Recommendations

The above evaluation shows that no adverse environmental impacts will be made by the project. The project description further indicates that the project is designed to have highly positive impact on the fragile lands of the Latin American/Caribbean region. A negative determination is therefore recommended.

AGENCY FOR INTERNATIONAL DEVELOPMENT

PROJECT DATA SHEET

1. TRANSACTION CODE

A = Add  
 C = Change  
 D = Delete

Amendment Number

DOCUMENT CODE

3

2. COUNTRY/ENTRY  
 Bureau for Science & Technology

3. PROJECT NUMBER

936 - 5438

4. BUREAU/OFFICE  
 Office of Rural and Institutional Development

5. PROJECT TITLE (maximum 40 characters)

Development Strategies for Fragile Lands

6. PROJECT ASSISTANCE COMPLETION DATE (PACD)

MM DD YY  
 09/30/96

7. ESTIMATED DATE OF OBLIGATION  
 (Under "B" below, enter 1, 2, 3, or 4)

A. Initial FY 86 B. Quarter 1 C. Final FY 95

8. COSTS (\$000 OR EQUIVALENT \$) =

A. FUNDING SOURCE	FISCAL FY 86			LIFE OF PROJECT		
	B. FX	C. L/C	D. Total	E. FX	F. L/C	G. Total
AID Appropriated Total						
(Grant)	( 420 )	( )	( 420 )	( 6,100 )	( )	( 6,100 )
(Loan)	( )	( )	( )	( )	( )	( )
Other U.S. Rec. Bureau	150		150	450		450
Buy-ins (Mission)	1400		1400	36,339		36,339
Host Country						
Other Donors)						
TOTALS	1970		1970	42,889		42,889

9. SCHEDULE OF AID FUNDING (\$000)

A. APPROPRIATION	B. PRIMARY PURPOSE CODE	C. PRIMARY TECH. CODE		D. OBLIGATIONS TO DATE		E. AMOUNT APPROVED THIS ACTION		F. LIFE OF PROJECT	
		1. Grant	2. Loan	1. Grant	2. Loan	1. Grant	2. Loan	1. Grant	2. Loan
(1) EN	HB3/68	H		-0-		6,100		6,100	
(2)									
(3)									
(4)									
TOTALS				-0-		6,100		6,100	

10. SECONDARY TECHNICAL CODES (maximum 6 codes of 3 positions each)

020 060 070 TECH

11. SECONDARY PURPOSE CODE

12. SPECIAL CONCERNS CODES (maximum 7 codes of 4 positions each)

A. Code BS Sub Fal. RAG RDEV ENV INTR TECH  
 B. Amount 1,525 1.220m 1.220m 1.220 .305m .610m

13. PROJECT PURPOSE (maximum 480 characters)

To assist in improving national and regional strategies for management of fragile lands.

14. SCHEDULED EVALUATIONS

Interim MM YY 01/6/89 MM YY 01/6/90 Final MM YY 01/6/95

15. SOURCE/ORIGIN OF GOODS AND SERVICES

000  941  Local  Other (Specify) 935

16. AMENDMENTS/NATURE OF CHANGE PROPOSED (This is page 1 of c \_\_\_\_\_ page PP Amendment)

17. APPROVED BY

Signature *Ruth K. Zagorin*  
 Title Ruth K. Zagorin  
 Agency Director for S&T/HT

Date Signed MM DD YY  
 FEB 25 1996

18. DATE DOCUMENT RECEIVED IN AID/W, OR FOR AID/W DOCUMENTS, DATE OF DISTRIBUTION

MM DD YY

FEB 12 1986

**ACTION MEMORANDUM FOR THE AGENCY DIRECTOR FOR HUMAN RESOURCES**

**FROM:** S&T/RD, Christopher Russell *CR*

**SUBJECT:** Authorization of Development Strategies for Fragile Lands  
Project (936-5438) Document No. 0001

**Problem:** We request that you authorize funding of a ten-year (FY 1986 through FY 1995) project entitled Development Strategies for Fragile Lands (936-5438), with (1) an authorized life of project (LOP) core cost of \$6,100,000 from the Agriculture, Rural Development, and Nutrition Account, Section 103 of the Foreign Assistance Act of 1961, as amended, and (2) an authorized life of project total funding ceiling of \$42,889,000. This ceiling includes \$6,100,000 core funding from S&T, and at least \$450,000 from LAC, the balance to come from A.I.D. field missions.

**Discussion:** The purpose of the Development Strategies for Fragile Lands (DESFIL) project is to assist AID's Latin American and Caribbean (LAC) missions in developing and implementing improved national and regional strategies for fragile lands management. Latin America's steep slopes and humid tropical lowlands are being rapidly degraded as a result of inequitable access to land and economic opportunity, misguided development strategies, and inappropriate land use (both under- and over-use). Population pressure may also be a contributing factor in a few countries such as Haiti and El Salvador. Depletion of soil and water resources and accelerating deforestation pose serious threats to the economic stability of Latin American and Caribbean countries. The degradation of fragile lands endangers costly investments in infrastructure such as hydroelectric power systems, potable water systems, irrigation systems, road systems, etc. as well as the livelihoods of millions of small farmers.

The DESFIL project is designed to serve as the executive arm for the Fragile Lands Initiative in Latin America and the Caribbean. The Fragile Lands Initiative is a joint effort by the S&T and LAC Bureaus, including LAC missions, to assess the dimensions of the fragile lands problem and to develop strategies to address that problem over the next decade. DESFIL will work through a contractor to provide technical services for assessments of fragile lands problems; design strategies with missions and host countries to address specific fragile lands issues; execute special studies; promote, coordinate, and focus research and technical networks; and assist in coordinating the efforts of AID with other donors in dealing with fragile lands issues through systematic information sharing and periodic meetings. Thus, DESFIL is designed as a common theme project, responding to an expressed need of LAC missions. LAC representatives serve on the DESFIL Project's advisory body, the Fragile Lands Advisory Group (FLAG). An officer from LAC/DR/RD will serve as associate project manager for the project. LAC will contribute to the project at the rate of \$150,000 per year for the first three years of the project (see LAC memo dated 11/1985 attached). In addition, DESFIL will actively seek to involve the special resources of other S&T projects as they bear on aspects of fragile lands problems. S&T/AG and S&T/FENR are represented on the Fragile Lands Advisory Group.

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The Office of Rural Development recommends that the project be implemented initially under a five-year contract, to be awarded subject to fully open competition among qualified bidders. S&T/RD will provide an amount not to exceed \$3,300,000 and LAC Bureau an amount not to exceed \$450,000, for the core costs of this five year contract. LAC missions will provide an estimated \$10,400,000 in buy-ins to the contract during its five year life. The contract ceiling, therefore, will be approximately \$14,150,000. During the third year of the contract, an in-depth outside evaluation by technical experts will assess project progress and management performance. The remaining years of the project will be implemented according to the recommendations of the evaluation and based upon the availability of funds. A Congressional Notification for the project will be submitted in February 1986. The S&T/RD FY 1986 OYB contains \$420,000 for this project.

S&T core funding is \$6,100,000 for the 10 year life of project. LAC intends to contribute at least \$450,000 during the first three years of the project. Total mission buy-ins for the LOP period of ten years are estimated at \$26,339,000 (See LAC memorandum dated October 4, 1985, attached, where an estimated annual increase of 20% over the first year's buy-in requirements results in this total estimate for the life of the project). The core funds will support salaries and overhead costs for the DESFIL contractor; consultant fees for technical assistance and research specialists; travel and per diem expenses; computer equipment and software; fragile lands workshops; and special studies on fragile lands technical or policy issues. Mission-specific technical assistance for assessments and strategy design will be funded directly by mission buy-ins to the contract, to the extent possible. Because of the diversity of problems to be addressed, and the limited number of specialists working in tropical agriculture and forestry, certain technical services required for the project may be available only from organizations or individuals in free world developed countries in AID Geographic Code 935. A waiver of United States nationality requirement for suppliers of services is requested in order to permit the contractor to sub-contract services from Code 935 countries under these circumstances. The project has been reviewed and endorsed by the Rural Development Sector Council and was endorsed also by the Agriculture and the Energy and Natural Resources Sector Councils.

Recommendation: That you sign the Project Authorization for funding (Attachment B) authorizing (1) the Development Strategies for Fragile Lands Project (936-5438) with obligations to begin in FY 1986 and end in FY 1995, for a total authorized life of project core cost of \$6.1 million and a total life of project funding cost of \$42,919,000 and (2) the procurement of technical services having a cumulative value of \$1,000,000 from Geographic Code 935 countries.

Approved Red K Jagan

Disapproved \_\_\_\_\_

Date FEB 26 1986

Attachments: Attachment A - LAC memorandum dated October 4, 1985 and November, 1985  
Attachment B - Project Authorization for Funding  
Attachment C - Project Paper

Clearances:

S&T/RD/RRD:BWalter	(in draft)	Date:	<u>12/15/85</u>
S&T/RD/RRD:Echetwynd	(in draft)	Date:	<u>12/12/85</u>
S&T/RD/PO:BMcClusky	(in draft)	Date:	<u>01/06/86</u>
GC:STisa	(in draft)	Date:	<u>01/29/86</u>
LAC/DR/RD:DSteen	(in draft)	Date:	<u>01/31/86</u>
S&T/PO:GEaton	<u>Jim for</u>	Date:	<u>2/24/86</u>

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AGENCY FOR INTERNATIONAL DEVELOPMENT  
WASHINGTON, D.C. 20523

ANNEX 18 - 1 SUBJECT PAGE

1. Chris  
2. Eric  
3. Bob U.

MEMORANDUM

Date: October 4, 1985  
To: Mr. Chris Russel, S&T/R&ID  
From: Stephen Wingert, LAC/DR/RO  
Subject: Expected Mission Buy-Ins under DESFIL

The Development Strategies for Fragile Lands (DESFIL) Project contemplates a total of \$21 million in buy-ins from LAC Missions over the ten year life of the project. This sum was reached by visiting and surveying the various Missions, as was described in the Project Paper, in order to reach an accurate estimate of the initial year's demand. I have reviewed the data that is presented and believe that it is realistic given the degree of knowledge in the Missions concerning the services they can expect from this project.

A brief review of the types of Mission projects that are presently planned or that could reasonably be assumed to be generated through DESFIL support activities leads me to conclude that the future year estimates of demand are probably understated. Particularly in reference to the first five years of the project, where the projection of requirements is a straight line estimate with no increase, I believe that the project actually underestimates the buy-in levels.

Since an understated buy-in estimate has negative implications for our future ability to access this important source of technical services, I believe that an annual estimated increase of 20%, on a cumulative basis, should be projected over the initial year's requirements. This would raise the total amount of buy-ins projected to approximately \$10,400,000 over the first five years.

SA

AGENCY FOR INTERNATIONAL DEVELOPMENT  
WASHINGTON, D.C. 20523

cc: C. Russell

Eric C

NOV 19 1985

RECEIVED  
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MEMORANDUM  
NOV 21 1985

MEMORANDUM

TO : S&T/RD, Ruth Zagorin  
THRU : LAC/DP, William Wheeler *WB*  
FROM : LAC/DR/RD, Dwight Johnson *DJ*  
SUBJECT: LAC Bureau Contribution to the Development Strategies  
Fragile Lands Project

In accordance with the Rural Development Sector Council's request during its review of the Development Strategies for Fragile Land Project Paper, this memorandum confirms the participation of the Bureau for Latin American and the Caribbean in the project.

Subject to the availability of funds, the LAC Bureau intends to contribute at least \$150,000 in each of the coming three fiscal years, FY86, FY87, and FY88, for a total of at least \$450,000. Contributions for the current fiscal year will become available during the second quarter. The Bureau's contributions to the project will be obligated through a PIO/T.

## PROJECT AUTHORIZATION FOR FUNDING

Name of Country/Entity: Interregional  
Name of Project: Development Strategies for Fragile Lands (DESFIL)  
Number of Project: 936-5438

1. Pursuant to Section 103 of the Foreign Assistance Act of 1961, as amended, I hereby authorize the Development Strategies for Fragile Lands Project involving planned centrally funded S&T obligations not to exceed \$6.10 million in grant funds over a ten-year period from FY 1986 to FY 1995 subject to the availability of funds in accordance with the AID/OYB allotment process, to help in financing foreign exchange and local currency costs for the project. The project may also include such additional appropriated funding up to \$36.789 million as may be obligated for this purpose by A.I.D. regional bureaus, field missions, and A.I.D./W offices other than S&T/RD.

2. This project is designed to assist in improving national and regional strategies for managing fragile lands in Latin America and the Caribbean. Depletion of soil and water resources and rapid, accelerating deforestation threaten the ability of Latin American and Caribbean nations to feed their populations, and provide basic services, as inequitable access to land and economic opportunity, inappropriate land use, and misguided development strategies force expansion of subsistence agriculture onto steep slopes and into humid tropical forests. There is danger not only to fragile lands themselves, but also to downstream investments in hydroelectric projects, irrigation systems, and other infrastructure.

3. DESFIL will provide technical services for assessments of fragile lands problems; design strategies with missions and host countries to deal with fragile lands issues; and execute a variety of special tasks in support of LAC mission initiatives regarding fragile lands and the development of sustainable agricultural and environmental efforts in steep slopes and humid tropical lowlands. The project will promote, coordinate, and bring focus to research and technical networks working on fragile lands problems. It will coordinate relationships between AID and other donors regarding fragile lands concerns, through organization of meetings and through systematic sharing of information. DESFIL will also assist in coordinating mission needs with the resources available separately through an array of S&T projects which may also be able to assist in addressing aspects of fragile lands problems and concerns.

4. This project will work through a contract organization to meet the expressed concerns of LAC missions and countries for action addressing the problem of fragile lands. The project will utilize core resources of \$3.3 million from S&T/RD, during the first five years combined with \$.450 million from the LAC Bureau. In addition, an estimated mission buy-in level for the contract of \$10.4 million for the first five years and \$36.339 million for the ten-year life of the project is expected, based on S&T and LAC Bureau projections of mission responses to inquiries regarding the project.

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5. Source and Origin of Commodities, Nationality of Services.

a. Each developing country where training or other assistance takes place under this project shall be deemed a cooperating country for the purpose of permitting local cost financing.

b. Goods and services financed by A.I.D. under the project, shall except for ocean shipping, have their source and origin in a cooperating country or in the United States except as AID may otherwise agree in writing and except as provided under waiver below.

c. Ocean shipping financed by A.I.D. under the project shall, except as AID may otherwise agree in writing, be financed only on flag vessels of the United States.

d. Based on the analysis in the Action Memorandum, attached, I conclude that the circumstances meet the following criteria of HB 1, supp. B, 5D, 10a(1) (e), namely: such other circumstances as are determined to be critical to the success of the project objectives. By signing below I approve a blanket waiver to permit services to be procured from Free World countries (Geographic Code 935) having a cumulative value of \$1,000,000. However, appropriate provision, such as an order of preference, shall be made in the contract so that such services if available shall come first from United States or local sources. I certify that the interests of the United States are best served by permitting the procurement of services from Free World Countries other than the cooperating country and countries included in Geographic Code 941.



Ruth K. Zagorin  
Agency Director for Human Resources  
Bureau for Science and Technology

Clearance: S&T/PO, GEaton LM/for Date 2/24/66

85.

December 11, 1985

MEMORANDUM

TO: SECTOR COUNCILS FOR RURAL DEVELOPMENT, AGRICULTURE, AND ENERGY

FROM: S&T/HR, Ruth Zagorin *RZ*

SUBJECT: Revision of Project Paper for Development Strategies for Fragile Lands (DESFIL) Project (936-5438)

The subject Project Paper was formally reviewed by the Rural Development Sector Council on 9/23/85. Earlier, the Agriculture and Energy Sector Councils had the opportunity to discuss the PP and to forward comments to the Project Officer for DESFIL. Questions raised concerned the implementation plan for the project, the relationship of DESFIL to other S&T projects (ASSIST Projects) which are intended to cooperate with DESFIL in addressing Fragile Lands issues, and the budget -- overall budget and buy-ins.

Acting in response to the issues raised in Sector Council meetings, the DESFIL Project Committee and the Fragile Lands Working Group have reviewed the PP to clarify the relationships between DESFIL and the ASSIST projects, and to set forth in the implementation plan for DESFIL the lines of communication and control to be established between the DESFIL project officer and the DESFIL contractor, and between DESFIL and other projects. A much more detailed implementation plan, reflecting these clarifications, has been incorporated into the PP.

A second issue concerned the estimated level for mission buy-ins to DESFIL, and whether the figures stated were estimated for DESFIL alone, or reflected potential buy-ins for ASSIST projects as well. The amount listed in the DESFIL Financial Plan is based upon mission responses to inquiries concerning their possible use of DESFIL alone. Buy-ins for ASSIST projects would be separately arranged depending upon the procedures for buy-ins to each project.

In response to another buy-in issue raised by the Sector Council, the LAC Bureau has reviewed the buy-in estimates for DESFIL to insure that they are adequate. LAC concluded that buy-ins are somewhat underestimated for the first five years, because of anticipated growth in mission programs as the project progresses. The LAC Bureau's revised estimates have been incorporated into the PP and their memo will be an attachment to the PP and the PIO/T.

The RD Sector Council suggested earmarking core funds for the appropriate years for external evaluation of project progress and management performance. A total of \$100,000 has been earmarked for evaluation in the Evaluation Section of the PP.

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Rural Development Sector Council

Minutes of September 23, 1985

See p. 2

Attendees: Jim Lowenthal, ANE/TR/ARD  
Ken Prussner, AFR/TR/ARD  
Joan Atherton, PPC/PDPR/IP  
Chris Russell, S&T/RD  
Eric Chetwynd, S&T/RD/RRD  
Hugh Plunkett, S&T/RD/RRD  
Steve Wingert, LAC/DR/RD  
Edward Caplan, S&T/MGT

Tom Moser, S&T/HR  
Ruth Zagorin, S&T/HR, Chairperson

<u>Issue</u>	<u>Comment</u>
New Members	Mrs. Zagorin introduced Edward Caplan, who has started to perform executive functions for all the Sector Councils; Jim Lowenthal of ANE; and Steve Wingert of LAC. She also introduced Elizabeth Roche of S&T/FO, who provided assistance in the Fragile Lands project.
Training Workshops	Tom Moser reported that all responses to the circular cable were very positive and complimentary.
RDSC Workplan	Committee made up of Lowenthal, Wingert and Eric Chetwynd presented an issues memorandum as the basis for discussion (attached). Most comments stressed the need for joint meetings of two or more Sector Councils when the subject crosses sectoral lines so that the number of meetings is held to a minimum, particularly a view of personnel reductions. Some members pointed out that inter-sectoral meetings can be held at the subcommittee level. There were also expressions of the need "identify" and to spend more Sector Council time on rural development issues, rather than on the S&T/RD portfolio. A new paper based on the discussion—perhaps a draft agenda or workplan—was promised for an early meeting by Wingert.

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Issue

Comment

Fragile Lands

The Sector Council took up the Project Paper for the Development Strategies for Fragile Lands Project. Bob Walter of S&T/RD outlined the project's five tasks: donor coordination; assessments to assist missions and host countries; technical assistance; information dissemination; and research assistance.

A number of suggestions met with consensus approval: To structure into the importance of structuring project management, and coordination with participating bureaus and project managers - the value of becoming involved in action programs early in the project; the importance of earmarking money for evaluation and setting up a realistic evaluation plan; the need to involve as many missions as add-ons as possible within LAC and to plan to extend project to other regions as they become interested in the project's benefit.

The project was considered favorably by the Sector Council and the Chairperson indicated that the project paper would be approved in the near future once she was assured that all conditions precedent were or could be met.

Attachment  
a/s

W-1860, pgs. 4 and 5

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PROJECT: Soil Management Support Services, #931-1229. Initial obligation FY 79, estimated completion FY 88. Life of project funding \$5.2 million.

PURPOSE/APPROACH/DESCRIPTION: The purpose is to help developing nations improve their capability for managing and conserving vital soil resources for agricultural production and to improve their capacity to use soil classification and soil surveys as means of improving the applicability and transfer of agricultural information. Coordinated technical input is provided to A.I.D. missions and national institutions/programs. Regional technical workshops and training fora are conducted.

RESEARCH OBJECTIVES:

- Improve soil taxonomy for tropical soils.
- Improve systems for sustained production in less favorable areas.
- Improve systems for high production in less favorable areas.
- Improve minimum purchased input systems.
- Improve institutional capability to generate or adapt technologies and get them applied.
- Improve erosion and resource conservation understanding in the tropical region.

SERVICES AVAILABLE:

- Technical assistance to missions.
- Technical information dissemination.
- Regional training workshops.

KEY PUBLICATIONS AVAILABLE FROM PPC/CDLE/DI:

- Keys to Soil Taxonomy.
- Soil Taxonomy News.
- Soil Moisture Regimes of Africa.
- Progress Report, SMSS.
- Soil Moisture Regimes of South America.
- Bibliography of Soils of the Tropics (Vols. 1-5).
- Soil Taxonomy and Technology Transfer.

EXAMPLES OF ACTIVITY:

Sudan, Chile/Ecuador, Philippines--International Soil Classification workshops.

Costa Rica, Jordan, Burundi--International Forums on  
Technology Transfer.

Djibouti, Jamaica--Soil laboratory assistance.

Ecuador, Peru, Thailand, Senegal--Policies and  
programs in soil conservation.

GEOGRAPHIC SCOPE: Worldwide.

S&T PROJECT OFFICER: Raymond E. Meyer, S&T/AGR/RNR, AID/W,  
(703) 235-8993.

CONTRACTOR/IMPLEMENTING ORGANIZATIONS: Soil Conservation  
Service/USDA.

PROJECT: Water Management Synthesis II (WMS II), #936-4127. Initial obligation FY83, estimated completion FY87. Life of project funding: \$20 million. This project is co-funded by the S&T and Asia Bureaus.

PURPOSE/APPROACH/DESCRIPTION: To increase host country capabilities to plan and implement irrigation water management programs and to change attitudes and behaviors at all levels toward irrigation water management improvement. Major emphasis is on main system management; local users' participation; small-scale irrigation systems; rehabilitation strategies; and new irrigation technologies.

RESEARCH OBJECTIVES: Methodologies include action research, case studies, and literature searches, primarily in collaboration with local LDC institutions. Focus is on substantive issues related to improving management of main canal systems; improving LDC capacities to work effectively with local owners/users of small-scale irrigation systems; and enhancing effective farmer participation in irrigation management.

SERVICES AVAILABLE:

- Inter-disciplinary teams for a wide variety of activities aimed at developing host countries' capacities for sustained irrigation development and water management through: technical assistance; technology transfer/training; special studies.
- Funding formats: central, co-shared, add-ons.

KEY PUBLICATIONS AVAILABLE FROM PPC/CDIE/DI:

- M. Svendsen, D. Merrey, W. Fitzgerald. "Meeting the Challenge for Better Irrigation Management," Horizons, AID, March 1983. Sets WMS II in historical context.
- J. Morris, D. Thom, W.R. Norman. "Prospects for Small-Scale Irrigation Development in the Sahel." WMS Report #26. 1984.
- Diagnostic Analysis of Irrigation Systems. Vol. I: Concepts and Methodology. Vol. II: Evaluation Techniques. 1983. Project approach to training in the diagnosis and development of solutions to problems in irrigation.

--E. Walter Coward. Improving Policies and Programs for the Development of Small-Scale Irrigation Systems. WMS #27. 1984.

EXAMPLES OF ACTIVITY:

Asia: Project design efforts (India, Indonesia, Sri Lanka); workshops to train inter-disciplinary teams to analyze irrigation problems in the field (India, Sri Lanka); development of computer models for improving management of irrigation systems (Thailand); action research/assistance in shift from rotational to continuous flow management of a major irrigation system following rehabilitation (Sri Lanka).

Africa: Irrigation sector study (Tanzania); special study of locally managed irrigation systems (Niger); assist Africa Bureau's formulation of irrigation development strategy.

Latin America: Computer graphic-based training modules (Ecuador); project design (Peru, Dominican Republic); sector study (Haiti).

GEOGRAPHIC SCOPE: Worldwide, with particular emphasis on Asia.

S&T PROJECT OFFICERS: Worth Fitzgerald, S&T/AGR/RNR, (703) 235-1275; Eric Chetwyn, S&T/RD/RRD, (703) 235-8860; Mark Svendsen, ASIA/TR/ARD, (202) 632-9102; Douglas Merrey (technical leader), S&T/RD/RRD, (703) 235-8860.

CONTRACTOR/IMPLEMENTING ORGANIZATION: Consortium for International Development, with three major participating universities: Colorado State, Utah State, Cornell. (602) 745-0455.

PROJECT: Agricultural Policy Analysis Project, #936-4084.  
Initial obligation FY83, estimated completion FY86.  
Life of project funding: \$9.2 million.

PURPOSE/APPROACH/DESCRIPTION: The purpose of the Agricultural Policy Analysis Project is to improve participating AID field missions and developing country decisionmakers' knowledge and understanding of policy issues and constraints affecting agricultural and rural development. This project follows three strategies; namely, collaborative analysis of agricultural policies, develop indigenous capacity to conduct agricultural policy analysis and stimulate demand for policy analysis.

RESEARCH OBJECTIVES: Research is conducted as a component of technical assistance to USAID missions and developing countries improve their economic policies, agricultural product policies, and agricultural input policies.

SERVICES AVAILABLE:

- Technical assistance on policy analysis, project design and publication.
- Training of ADO, RDO and LDC officials on identifying, diagnosing and analyzing agricultural policies.
- Workshops for AID officials and host country decisionmakers.
- Special studies.

KEY PUBLICATIONS AVAILABLE FROM PPC/CDIE/DI:

- Agriculture Sector Studies.
- Country Development Plans.
- Policy Studies.
- Evaluation Reports.

EXAMPLES OF ACTIVITY:

- Senegal--Agricultural sector policy analysis.
- Niger--Agricultural policy and credit reforms.
- Zaire--Toward improved agricultural policies.
- El Salvador--Analysis of selected policy issues.

GEOGRAPHIC SCOPE: Worldwide.

S&T PROJECT OFFICER: Ernesto C. Lucas, S&T/AGR/EPP, AID/w  
(703) 235-8946

CONTRACTOR/IMPLEMENTING ORGANIZATION: ABF Associates, Inc., Robert R. Nathan Associates, Inc., Abel, Daft and Early, Inc., and Oklahoma State University.

PROJECT: Farming Systems Support, #936-4099. Initial obligation FY 82, estimated completion FY 87. Life of project funding: \$7.88 million.

PURPOSE/APPROACH/DESCRIPTION: The purpose is to provide technical assistance, training and networking support to practitioners and administrators of farming research and extension programs in developing countries. The project serves as a catalyst for coordination, communication and effective use of the farming systems approach by institutions whose objectives are the resolution of farm level production problems.

RESEARCH OBJECTIVES: To improve the design, implementation, and evaluation of multi-disciplinary on-farm research.

SERVICES AVAILABLE:

- Technical Assistance: Project design, implementation, and evaluation support.
- Training: Orientation to farming systems approach, methodologies, reconnaissance surveys, on-farm research, data management and analysis, management and institutional setting.
- Networking: Workshops, newsletter, bibliography and literature distribution.

KEY PUBLICATIONS AVAILABLE FROM PPC/CDIE/DI:

- Annual Reports - 1983.
- Task Force Report on Livestock in Mixed Farming Systems.
- Bibliography (English, French and Spanish).

EXAMPLES OF ACTIVITY:

- Gambia--Regional orientation workshop on farming systems approach to agricultural research and extension.
- Liberia--Rural survey in support of project design.
- Malawi--MSTAT training for research design and data analysis.
- Haiti--Training in farming systems methodologies.
- LAC Regional--Workshops on farming systems methodologies.
- Worldwide--Quarterly newsletter and annually issued annotated bibliography.

GEOGRAPHIC SCOPE: Worldwide.

S&T PROJECT OFFICER: Wendell E. Morse, Jr., S&T/AGR/EPP, AID/W, (703) 235-8946.

CONTRACTOR/IMPLEMENTING ORGANIZATION: University of Florida.

PROJECT: Environmental Planning and Management, #930-5517.  
Initial obligation FY 82, estimated completion FY 87.  
Life-of-project funding: \$4.25 million.

PURPOSE/APPROACH/DESCRIPTION: The purpose is to strengthen the institutional capacity available to and within LDCs to plan and manage natural resources. The project will include work with Missions on short- to medium-term activities in environmental profiling and natural resources assessments; implement a pilot project to develop a national conservation strategy in selected LDCs; disseminate analyses of LDC environmental issues based upon field experience, and assist LDCs to plan natural resources assessments.

RESEARCH OBJECTIVES: The process of planning country natural resources assessments will identify research needs. Insights from the pilot activity (and studies based on the field experience) will identify topics for future research with emphasis on describing how to institutionalize environmental planning and natural resource management capacity.

SERVICES AVAILABLE:

--Short- to medium-term cooperative activities with Missions to assist in project design and planning environmental profiles. Regional Bureaus share in design of each year's activities and, within the LOP, can use Regional Bureau or Mission funds. Requests can be routed through Regional Bureau Environmental Officers or the Environmental Planning Management Project Manager.

KEY PUBLICATIONS AVAILABLE FROM PPC/CDIE/DI:

- Gerald A. Lieberman, "Draft Plan for the Development of a Private Sector Initiative in Natural Resource and Environment Programs in the Republic of Panama," April 1983.
- James J. Tarrant and Dr. Kenneth L. Reed, "Design of a Population and Environment Information Management System for Indonesia."
- Richard S. Brightman and H. Jeffrey Leonard, "Environmental Laws and Institutions in Belize."
- Kenneth L. Reed, et. al. "A Bibliography of Models Applicable to USAID Missions."
- Joshua C. Dickinson III, "The Country Environmental Profile: Process and Product, An Evaluation of the Profiles conducted prior to 1983 and Recommendations for Improvement."

EXAMPLES OF ACTIVITY:

Honduras--Assisted preparation of a project proposal to increase private sector effectiveness in natural

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resource management and environmental conservation programs.

Panama--Assisted preparation of a project proposal for strengthening the capacity of local PVOs carrying out natural resource and environmental programs.

Belize--Prepared coastal and marine resources section and legal/institutional section of Belize Environmental Profile.

Lebanon--Prepared information package on zoo development and management.

Indonesia--Provided technical assistance in water quality management related to Indonesian Environmental Sector Review. Prepared framework for development of Phase II Indonesian Environmental Profile; Assisted Government of Indonesia in assessing natural resource data system requirements related to phase II Environmental Profile.

AID/W--Review of the Environmental profiling process, its methodology and utilization. Investigated effective strategies of AID, Canadian International Development Agency (CIDA), and World Bank in forestry sector.

AID/NE--Developed curriculum in environmental law at the new International Development Law Institute (Rome) for the training of Near Eastern and African lawyers and development planners.

Asia--Assisted preparation of large scale program approach to Bioresource Systems in Asia, including Asian institutions, analytical and modeling capabilities, training and assistance to Asia Bureau's Forest and Bioresources Systems Management project.

Africa--Assisted planning of video-tape to explain dynamics of river basin planning.

Cameroon--Explored with Mission environmental problems associated with rapid urbanization.

GEOGRAPHIC SCOPE: Worldwide.

S&T PROJECT OFFICER: Ming Ivory, S&T/FNR, AID/W, (703) 235-2248.

CONTRACTOR/IMPLEMENTING ORGANIZATION: International Institute for Environment & Development (IIED), 1319 F Street, Washington, D.C. 20004; ATTN: Steven Berwick.

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PROJECT: Forest Resources Management, #936-5519. Initial Obligation FY 80, estimated completion FY 90. Life-of-project funding: \$19.821 million.

PURPOSE/APPROACH/DESCRIPTION: The purpose is to enable LDCs to manage their forests, woodlands, range and other wildland resources to meet the needs of people for sustained increases in the production of forest products. The project mobilizes the public and private professional forestry community and the Peace Corps (PC) in support of the AID forestry assistance program through AID's USFS-managed Forestry Support Program (FSP). RSSA Activities provide support for: (1) LDC forestry institution building; (2) forestry research; (3) mobilization of LDC and U.S. private industry and university capabilities for advancing LDC forest-based economic development objectives; (4) support for forestry training; (5) building and strengthening mutually supportive relationships between forestry and agriculture; (6) LDC efforts to meet their energy and fuelwood needs through forestry; and (7) specific and focused investigations into the role of the private sector in forestry development and management.

In addition, this project provides global technical assistance and collaboration with the Peace Corps through a PASA to respond to LDC forestry needs.

RESEARCH OBJECTIVES: The Forestry Support Program provides support for designing and implementing forest research components within Mission projects.

SERVICES AVAILABLE:

- Provide AID's Regional Bureaus, Regional Offices and field Missions with technical advice on tropical forestry and natural resources, including advice on project design and feasibility.
- Manage a roster of forestry and natural resources expertise which is used to identify qualified individuals for long-term or short-term AID or cooperative AID/Peace Corps assignments overseas.
- Identify and evaluate qualified forestry institutions for participation in AID forestry projects.
- Provide general forestry information to AID and Peace Corps staff and facilitate the exchange of technical information between natural resources project personnel.

- Organize forestry training courses, develop training materials and aids, advise overseas forestry schools on curriculum design, and assist AID in designing adequate training components into forestry projects.
- FSP can provide a limited number of short-term technical consultants to AID field projects at no cost to country Missions.

KEY PUBLICATIONS AVAILABLE FROM PPC/CDIE/DI:

- Thorud, Dav'd. Consultant Report - USAID Jamaica, 1981.
- Harcharik, David A. FSP Consultant Report - USAID Haiti, 1981.
- Schram, Gunter, FSP Consultant Report - USAID Jamaica, 1981.
- Gall, Pirie. FSP Consultant Report - Peace Corps Forestry Workshop, Costa Rica, 1981.
- Kunkle, Samuel H. Improving Linkages of Forestry Professionals with USAID's Forestry Programs--the U.S. connection (presented at Society of American Foresters Convention), 1981.
- Zerbe, J.I., J.L. Whitmore, K.A. Christophersen, H.E. Wahlgren, and J.F. Landrie, 1981. Problems Associated with Fuelwood Use in Developing Countries. Session No. 30: Tropical Woods. Forest Products Research Society Annual Meeting, St. Paul, Minn., June 25, 1981.
- Profile of U.S.A. Forestry Schools & Consortia. Based on work of Richard T. Kelly. This directory summarizes the forestry education available from U.S. forestry schools & colleges. USAID/USDA RSSA BST-5519-R-AG-2188, January 1984.
- Public Sector Forestry Projects Funded by USAID. Based on work of Paul A. Lundberg. This report provides an overview of USAID Forestry project activity & lists, with a brief description, the projects by region & country. September 1983.

EXAMPLES OF ACTIVITY:

Africa, Asia, LA & Caribbean: --Support for Mission public sector forestry projects and projects with forestry components in 35 countries. Collaborative AID/PC projects underway in nine countries and four in-country forestry training programs.

GEOGRAPHIC SCOPE: Worldwide.

S&T PROJECT OFFICER: Dan Deely, S&T/FNR, AID/W, (703) 235-2245.

CONTRACTOR/IMPLEMENTING ORGANIZATION:

Program Manager, Forestry Support Program, USDA Forest Service, Room 606-A RPE, PO Box 2417, Washington DC, (703) 235-2432.

George Mahaffey, Forestry and Natural Resources Program Coordinator, Peace Corps, 806 Connecticut Ave. NW, Washington DC 20525, (202) 254-8400.

PROJECT: Forestry/Fuelwood Research and Development, #936-5547.  
Initial obligation FY 85, estimated completion FY 95.  
Life-of-project funding: \$40 million. (S&T/RD  
completion date FY 89, LOPF for RD: \$3 million.)

PURPOSE/APPROACH/DESCRIPTION: This project is designed to build LDC capacity to develop and use scientific information (basic and applied) in ways which will enable them to address their own forestry/fuelwood needs.

RESEARCH OBJECTIVES: Foster specific priority forestry/fuelwood research; strengthen national, regional and inter-regional forestry/fuelwood research capability through applied research and networking; and establish regional and interregional research networks to enhance and improve effectiveness of the research program.

SERVICES AVAILABLE:

- Network Development: improve research methods and information management; develop and monitor agreed-upon collaborative research programs; conduct workshops and conferences and support publication of results.
- Research Planning and Management: assist Missions and regional bureaus in promoting development of country-specific national fuelwood/forestry plans and programs; provide training and other assistance to strengthen key LDC institutions to carry out strategic forestry/fuelwood research and development plans.
- Global Research: publish research results; develop state-of-the-art papers; integrate biophysical and socio-economic knowledge.
- Research Support: supply expertise, mostly short-term, to host countries to assist them in project design and management; do fuelwood research assessments, appraisals and evaluations, and institutional and human resource evaluation.

KEY PUBLICATIONS AVAILABLE FROM PPC/CDIE/DI: None to date.

EXAMPLES OF ACTIVITY:

- Human Factors in Forestry/Fuelwood Production Workshop, Washington, DC, February 1984.
- Asia Forestry Planning Conference, Bangkok, Thailand, April 1984.

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GEOGRAPHIC SCOPE: Worldwide.

S&T PROJECT OFFICER: Max McFadden, Manager, S&T/FNR/F, AID/W  
(703) 235-2245.  
J. Kathy Parker, Senior Technical Advisor, S&T/RD/RRD,  
AID/W, (703) 235-8860.

CONTRACTOR/IMPLEMENTING ORGANIZATION: To be determined.

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PROJECT: Performance Management, #936-5317. Initial obligation FY 82, estimated completion FY 89. Life of project funding: \$5,700,000.

PURPOSE/APPROACH/DESCRIPTION: Improved methods developed by R&D are transferred by management training and consulting to build LDC capacity to manage development programs. Improved technologies are developed and tested in USAID mission programs, recorded and disseminated. Focus is on improving organizational performance and on strengthening local resource institutions.

RESEARCH OBJECTIVES: Action and applied research in both the theoretical and practice aspects of development program management improvement; provides organizational guidance for change.

SERVICES AVAILABLE: PASA with Development Project Management Center/USDA; Cooperative Agreement with National Association of Schools of Public Affairs and Administration; Mission funded services and analysis.

Consultative work with missions and host country institutions on issues which relate to improved management of LDC development programs, including organization change strategy and in-country training; State-of-the-art management technology reports/working papers/ training materials and institutional networks for exchange and support.

KEY PUBLICATIONS AVAILABLE FROM PPC/CDIE/DI:

Schaeffer, Wendell; The Foundation of Managers for Developing Countries, NASPAA Working Papers, 1984.

Korten, David C., Uphoff, Norman T.; Bureaucratic Reorientation for Participatory Rural Development, NASPAA Working Papers, 1981.

Randinelli, Dennis; Development Management in AID: A Baseline Review of Project and Program Management Assistance in the U.S. Agency for International Development.

Kettering, Merlyn; Making Technical Assistance Teams More Effective, The TPM (Team Planning Meeting) Advantage, DPMC, 1983.

Ingle, Marcus, (et al); Acquiring and Using Microcomputers in Agricultural Development: A Managers Guide. DPMC, 1983.

EXAMPLES OF ACTIVITY:

Caribbean: Planning private/public sector graduate management training; training for small enterprise management; Management of regional farming systems.

Africa: Sahel-wide financial management training; in-country management training for senior government officials in French; assessment of management training needs in Southern Africa related closely to program performance requirements.

Asia: Assistance to national and donor agencies on organization and policy for improved goal achievement through strategies for empowering local communities; training of trainers for local officials.

GEOGRAPHIC SCOPE: Worldwide.

S&T PROJECT OFFICER: J. North, S&T/RD/DA, AID/W, (703)  
235-8870.

CONTRACTOR/IMPLEMENTING ORGANIZATION:

Wendell Schaeffer, NASPAA, 1120 G Street NW, #520,  
Washington DC 20005, (202) 628-8965.

Morris Solomon, DPMC/OICD-Auditors Building, U.S.  
Dept. of Agriculture, (202) 447-5308.

PROJECT: Institutional Development Program. Initial obligation FY 1984, estimated completion FY 95. Life of project funding: 20 million.

PURPOSE/APPROACH/DESCRIPTION: To improve the productivity and long-term viability of selected types of LDC development institutions.

RESEARCH OBJECTIVES: The program will develop analytical frameworks and methods to facilitate more effective institutional analysis, design and change. These methods will be field tested and adapted in collaboration with selected mission projects. Major emphasis will be placed on training and expanding cadres of institutional development specialists to assist missions and host countries in design, implementation and evaluation. Network arrangements will be established with U.S. and LDC institutions to undertake applied research and training activities.

SERVICES AVAILABLE:

- 1) Short and longer term consultancies for project design, implementation, and evaluation activities which involve major emphasis on institutional analysis, design, and change.
- 2) Training of host country nationals in institutional analysis and design skills.

KEY PUBLICATIONS AVAILABLE FROM PPC/CDIE/DI: S&T/RD Concept Paper for an Institutional Development Initiative.

EXAMPLES OF ACTIVITY: The project will focus on a number of problem areas which are currently under review. Examples of some generic problem areas include:

- 1) Public/Private Transitions Poor institutional performance often relates to excessive and costly reliance on public sector organizations for the organization and execution of development tasks. Institutional development strategies need to be devised to identify how governments can begin to either transfer to the private sector those functions which are now ineffectively performed in the public sector, or to introduce more competitive market-like pressures in the public sector to improve service delivery.

2) Technology Generation and Transfer Institutional capacities for effective technology generation and transfer are weak in most LDCs. Organizational incentives for the improved management of technology development and diffusion processes are key areas for advanced applications of institutional analysis and design.

3) Natural Resource Management Natural resource degradation is growing at an alarming rate. Solutions to this problem will rest on building cooperative institutional relationships between government and local constituencies with the latter assuming primary responsibility for devising and enforcing effective controls over resource use.

GEOGRAPHIC SCOPE: Worldwide, Special emphasis: Africa

S&T PROJECT OFFICER: Bob Shoemaker, S&T/RD/DA, AID/W (703)  
235-8870; R&D Specialist: Ed Connerley; Local  
Institutions Specialist: Gary Hansen.

CONTRACTOR/IMPLEMENTING ORGANIZATION: Drs. Vincent and Elinor  
Ostrom, Workshop in Political Theory and Policy  
Analysis, Indiana University, 513 N. Park,  
Bloomington, IN 47405: (812) 335-0441

Monteze Snyder, Banako (ID) Department of State,  
Washington, D.C. 20520

Dr. James C. Taylor, Socio-Technical Design  
Consultants, Inc. 240-30A 70th Ave., New York, NY  
11363-1948 (718) 423-6252

PROJECT: Human Settlements and Natural Resource Systems Analysis (SARSA), #931-1135. Initial obligation FY78, estimated completion FY88. Life of project funding: \$5,344,000.

PURPOSE/APPROACH/DESCRIPTION: Provides assistance in regionally based resource analysis, assessment, and management; new lands settlement and resettlement programs; regional analysis of the dynamics of rural-urban linkages and regional/rural impact of urban centers.

RESEARCH OBJECTIVES: Using a variety of methodologies--e.g., regional planning, rapid assessment, land use analysis, social monitoring--conduct studies to improve management of human and natural resources by LDC institutions.

SERVICES AVAILABLE:

- Cooperative Agreement/incremental mission funding.
- Reports/studies integrating field experience and research.
- Assistance with regional development strategies and projects.
- Conduct applied and core research.
- Provide professional services for project implementation.
- African River Basin Development Workshop, November 1984.

KEY PUBLICATIONS AVAILABLE FROM PPC/CDIE/DI:

- E. Berry, and B. Thomas (eds.). Natural Resource Management Workshop; Collected Papers. AID/S&T/RD/RRD. 1983.
- T. Carroll, B. Lentnek, R. Wilkie. Exploration of Rural-Urban Linkages and Market Centers in Highland Ecuador. AID/S&T/RD/RRD. 1984.
- R. Rhoda. Urban and Regional Analysis for Development Planning. Boulder, CO: Westview Press, 1982.

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D. Rondinelli. Secondary Cities in Developing Countries. Beverly Hills: Sage, 1983.

D. Rondinelli and K. Ruddle. Urbanization and Rural Development: A Spatial Policy for Equitable Growth. New York, Praeger, 1978.

EXAMPLES OF ACTIVITY:

Ecuador: Rural-urban linkages study of market towns with the periphery region of the country; collaborative studies with FONAPRE.

Sudan: Rapid resource assessment of Kordofan Region to identify key problem areas, research needs, and areas of priority for investment.

Sri Lanka: Development of rapid settlement assessment methodology and studies of rural-urban linkages within Accelerated Mahaweli Development Project.

Jordan: Micro-regional and enterprise development studies at village and community level in rural Jordan as part of the regional planning effort for the National Planning Council.

GEOGRAPHIC SCOPE: Worldwide.

S&T PROJECT OFFICER: Bob J. Walter, S&T/RD/RRD, (703) 235-8860.

CONTRACTOR/IMPLEMENTING ORGANIZATION: Gerald K. Karaska, Dept. of Geography, Clark University, 950 Main St., Worcester, MA 01610, (617) 793-7310.

PROJECT: Access to Land, Water, and Natural Resources, #936-5301. Initial obligation FY79, estimated completion FY88. Life of project funding: \$5,290,000.

PURPOSE/APPROACH/DESCRIPTION: To assist LDC governments in addressing land tenure constraints to equitable and efficient use of land. Help develop approaches for improving the rural poor's access to land, water, and natural resources and enhance the land-holding security of small operators.

RESEARCH OBJECTIVES: To increase the knowledge base regarding land tenure issues in river basin/irrigation development, changing traditional systems, African urban tenure, titling/registration, agrarian structure, adjustments in Latin American reform sectors, fragile land use, and land markets.

SERVICES AVAILABLE:

- Cooperative Agreement for core research activities.
- Consulting on development of applied research programs.
- Consulting on project design and management.
- Dissemination of information through workshops and seminars.
- Participant training.

KEY PUBLICATIONS AVAILABLE FROM PPC/CDIE/DI: All are published by the University of Wisconsin-Madison Land Tenure Center.

P. Dorner and B. Saliba. Interventions in Land Markets to Benefit the Rural Poor.

J. Riddell, et al. Land Tenure and African Pastoralism. State of the art.

M. Brown, et al. Annotated Bibliography of Land Reform.

EXAMPLES OF ACTIVITY:

Ecuador: Training on applied research techniques in support of an effort to strengthen the capacity of Ecuador's Agrarian Reform Institute.

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Botswana: Major applied research completed in conjunction with the Ministry of Local Government and Lands examining land tenure issues in urban access, local organizations and natural resource management, and access to land in communal areas.

El Salvador: Assisted USAID in designing a project to strengthen titling and agrarian reform farm production efforts and in analyzing the rural informal credit market in the reform sector.

GEOGRAPHIC SCOPE: Africa and Latin America.

S&T PROJECT OFFICER: David Atwood, S&T/RD/RRD, (703) 235-8860.

CONTRACTOR/IMPLEMENTING ORGANIZATION: The University of Wisconsin-Madison, Land Tenure Center, Madison, WI.  
(608) 262-3657

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PROJECT: Water Management Synthesis II (WMS II), #936-4127. Initial obligation FY83, estimated completion FY87. Life of project funding: \$20 million. This project is co-funded by the S&T and Asia Bureaus.

PURPOSE/APPROACH/DESCRIPTION: To increase host country capabilities to plan and implement irrigation water management programs and to change attitudes and behaviors at all levels toward irrigation water management improvement. Major emphasis is on main system management; local users' participation; small-scale irrigation systems; rehabilitation strategies; and new irrigation technologies.

RESEARCH OBJECTIVES: Methodologies include action research, case studies, and literature searches, primarily in collaboration with local LDC institutions. Focus is on substantive issues related to improving management of main canal systems; improving LDC capacities to work effectively with local owners/users of small-scale irrigation systems; and enhancing effective farmer participation in irrigation management.

SERVICES AVAILABLE:

- Inter-disciplinary teams for a wide variety of activities aimed at developing host countries' capacities for sustained irrigation development and water management through: technical assistance; technology transfer/training; special studies.
- Funding formats: central, co-shared, add-ons.

KEY PUBLICATIONS AVAILABLE FROM PPC/CDIE/DI:

- M. Svendsen, D. Merrey, W. Fitzgerald. "Meeting the Challenge for Better Irrigation Management," Horizons, AID, March 1983. Sets WMS II in historical context.
- J. Morris, D. Thom, W.R. Norman. "Prospects for Small-Scale Irrigation Development in the Sahel." WMS Report #20. 1984.
- Diagnostic Analysis of Irrigation Systems. Vol. I: Concepts and Methodology. Vol. II: Evaluation Techniques. 1983. Project approach to training in the diagnosis and development of solutions to problems in irrigation.

E. Walter Coward. Improving Policies and Programs  
for the Development of Small-Scale Irrigation  
Systems. WMS #27. 1984.

EXAMPLES OF ACTIVITY:

Asia: Project design efforts (India, Indonesia, Sri Lanka); workshops to train inter-disciplinary teams to analyze irrigation problems in the field (India, Sri Lanka); development of computer models for improving management of irrigation systems (Thailand); action research/assistance in shift from rotational to continuous flow management of a major irrigation system following rehabilitation (Sri Lanka).

Africa: Irrigation sector study (Tanzania); special study of locally managed irrigation systems (Niger); assist Africa Bureau's formulation of irrigation development strategy.

Latin America: Computer graphic-based training modules (Ecuador); project design (Peru, Dominican Republic); sector study (Haiti).

GEOGRAPHIC SCOPE: Worldwide, with particular emphasis on Asia.

S&T PROJECT OFFICERS: Worth Fitzgerald, S&T/AGR/RNK, (703) 235-1275; Eric Chetwyn, S&T/RD/RRD, (703) 235-8800; Mark Svendsen, ASIA/TR/ARD, (202) 632-9102; Douglas Merrey (technical leader), S&T/RD/RRD, (703) 235-8800.

CONTRACTOR/IMPLEMENTING ORGANIZATION: Consortium for International Development, with three major participating universities: Colorado State, Jan State, Cornell. (602) 745-0455.

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