931-0026 (2)
PD-AAD-252-B1

AGENCY FOR INTERNATIONAL DEVELOPMENT

PROJECT PAPER FACESHEET

1. TRANSACTION CODE: A (A - ADD, C - CHANGE, D - DELETE)

PP 66p

2. DOCUMENT CODE: 3

3. COUNTRY/ENTITY: TAB/OST

4. DOCUMENT REVISION NUMBER:

5. PROJECT NUMBER (7 digits): 931-1028

6. BUREAU/OFFICE: A. SYMBOL: TAB; B. CODE: 8

7. PROJECT TITLE (Maximum 40 characters): Environmental Field Support

8. ESTIMATED FY OF PROJECT COMPLETION: FY 80

9. ESTIMATED DATE OF OBLIGATION: A. INITIAL FY 77; B. QUARTER 4 (Enter 1, 2, 3, or 4); C. FINAL FY 79

10. ESTIMATED COSTS ($000 OR EQUIVALENT $1 =)

A. FUNDING SOURCE	FIRST FY. B. FX	C. L/C	D. TOTAL	LIFE OF PROJECT E. FX	F. L/C	G. TOTAL
AID APPROPRIATED TOTAL						
(GRANT)	(330)	( )	(330)	(480)	( )	(480)
(LOAN)	( )	( )	( )	( )	( )	( )
OTHER U.S. 1.						
OTHER U.S. 2.						
HOST COUNTRY						
OTHER DONOR(S)						
TOTALS	330		330	480		480

11. PROPOSED BUDGET APPROPRIATED FUNDS ($000)

A. APPROPRIATION	B. PRIMARY PURPOSE CODE	PRIMARY TECH. CODE C. GRANT	D. LOAN	E. 1ST FY 77 F. GRANT	G. LOAN	H. 2ND FY 78 I. GRANT	J. LOAN	K. 3RD FY ___ L. GRANT	M. LOAN
(1) ST	750	877		330		150			
(2)									
(3)									
(4)									
			TOTALS	330		150			

A. APPROPRIATION	N. 4TH FY ___ O. GRANT	P. LOAN	Q. 5TH FY ___ R. GRANT	S. LOAN	LIFE OF PROJECT T. GRANT	U. LOAN
(1)					480	
(2)						
(3)						
(4)						
TOTALS					480	

12. IN-DEPTH EVALUATION SCHEDULED: MM 6 YY 79

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.

1 = NO
2 = YES

14. ORIGINATING OFFICE CLEARANCE

SIGNATURE: William A. Ellis

TITLE: Henry A. Arnold, Director
Office of Science and Technology

DATE SIGNED: MM 08 DD 29 YY 77

15. DATE DOCUMENT RECEIVED IN AID/W, OR FOR AID/W DOCUMENTS, DATE OF DISTRIBUTION: MM DD YY

AID 1330-4 (3-76)

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Part I. Summary and Recommendations

A. Face Sheet (attached)

B. Recommendations

FY 77	Contract	$330,000
FY 78	Contract	150,000
Total new AID obligations		$480,000

C. Description of the Project

This project provides assistance to TA/OST to exercise its assigned responsibilities for providing policy guidance and professional leadership within AID on matters of environmental importance through a series of related activities designed to facilitate project selection and preparation. It consists of analysis, technical field support and liaison:

1. Analysis:

   - Assessment of National Environmental Institutional Capability: Country Profiles

   - Refinement of AID Environmental Assessment Procedures

     = Review of Experience with procedures
     = Retrospective Review of Environmental Impact of AID Projects
     = Preparation of Prototype Initial Environmental Examinations (IEE's)

   - Preparation of Environmental Issue Papers

2. Field Support:

   - An Environmental Research and Training Reference Service

   - An Environmental Newsletter

   - An Environmental Technical Assistance Roster

3. Liaison with External Agencies:

- Annual Washington Environmental Seminar for International Development Agencies

- Private Voluntary Agencies and the Environment

A two-year level of effort of approximately $480,000 ($330,000 in Year I; $150,000 in Year II) is proposed. Some of the functions initiated in this project are expected to continue; some may grow in order to satisfy AID's responsibilities for environment and development; some are expected to be completed within the project period. Project requirements will be revised at the end of 18 month's operation on the basis of experience and need.

It is proposed that, under the guidance of TA/OST, the permanent Secretariat of the U.S. National Committee of the UNESCO Man and the Biosphere Programme (MAB), Department of State, be contracted with to marshall a wide range of interdisciplinary expertise through inter-agency agreements with the Environmental Protection Agency (EPA), the Department of Agriculture (DOA), and the Department of the Interior (DOI). This activity will provide AID with the opportunity to bring together the U.S. Federal agencies with major environmental expertise and responsibilities to assist the Agency in carrying out its environmental programs. Tasks will be carried out by the most appropriate individual Agency or cooperatively by two or more agencies. Successful accomplishment of the proposed activities will depend upon the commitment and interest of these agencies to become involved in the environmental problems of developing countries and to cooperate in an integrated program. The USMAB Secretariat will need to be strengthened through additional

personnel (1 professional and 1 clerical) in order to provide the necessary services. (See Part IV-A, Administrative Arrangements).

At the end of the project period, there should be improvement in the understanding of environment/development relationships on the part of Mission personnel and in the preparation of Agency environmental assessments, revision of environmental procedures and guidelines, reduction in the workload for preparation of initial environmental examinations, and greater attention given to environmental considerations in overall project design and implementation. In addition, more projects should be proposed by Missions that support the new executive and legislative emphasis on environmental protection and natural resource management.

D. Summary Findings

There is no single Federal agency to which AID can turn to find the broad range of expertise needed to develop a centrally funded TAB environmental program. While it is possible that in the next two-three years a Department of Natural Resources and Environment will be formed as part of the reorganization of the Executive Branch which will incorporate most of Interior, EPA, NOAA, Forestry Service (DOA) and the Corps of Engineers, AID connot wait for that to happen. There is one existing quasi-governmental program in which these agencies participate - the U.S. National Committee for MAB formed in 1972. This committee contains representation of most of the above Federal agencies as well as state agencies, universities and private organizations, and guides U.S. National MAB programs in environmental research, research implementation and training related to the international MAB program. It is a unique resource, already well established, which AID can utilize.

The major agencies which would be involved in this cooperative, interagency program - State (Bureau for International Organization Affairs and Bureau for Oceans, International Environment and Scientific Affairs), EPA (Office of International Activities), Agriculture (Forest Service) and Interior (National Park Service) - have agreed not only to assist AID in the development and implementation of a centrally funded environment and natural resource program, but have indicated their enthusiastic support for utilizing the USMAB Secretariat as the coordinator for this program.

Part II. Project Background and Detailed Description

A. Background

World awareness was focused on the wide-ranging problems associated with environment and development during the 1972 United Nations Conference on the Human Environment in Stockholm. Third World nations especially voiced their concern that future economic development for their countries could be jeopardised by added costs and imposition of environmental safeguards requirements of donor nations. The past five years have seen a significant change in the attitudes of developing countries. More and more countries are establishing national institutions to deal with environmental problems and are expressing their concerns publicly in international meetings.

Of special significance to developing nations are the problems related to adequate and safe water supply, waste disposal, agricultural production, soil erosion, deforestation, housing, and increasing water and air pollution. All too often in the past, such problems have been exacerbated by the same development projects which were intended to help the needy reach an improved state of economic self-sufficiency and health based not merely on the absence of disease, but on a wholesome sense of well-being.

The concept of environmentally sound development should not be viewed merely as an ecological fetish of the developed third of the world. It must be recognized rather as a self-determined holistic process essential to optimization of the health and economic variables, and therefore of dignity and self-reliance.

AID Policy Determination #63 on Environment and Development calls for (1) assistance to LDCs to "strengthen their indigenous capabilities to appreciate and evaluate the potential environmental effects of development

strategies and projects and to take effective environmental protection measures," and (2) ensures "that the environmental consequences of proposed AID-financed activities are identified and considered by AID in collaboration with the host country prior to a final decision to proceed, and that appropriate environmental safeguards are adopted."

More recently AID has been directed by the President in his May 1977 Environmental Message to Congress to:

(1) ensure full consideration of the environmental soundness of development projects under review for possible assistance;

(2) make available to developing countries assistance in environment and natural resources management. Such assistance could help developing countries design environmentally sound projects, regardless of the source of funding for a particular project.

In addition, in July of this year, Congress amended the Foreign Assistance Act authorizing the President to furnish assistance to LDCs to protect and manage their environment and natural resources.

This is a new direction for AID. The Agency does not yet have the skilled manpower and the technical and analytical resources to carry out these directives. Neither AID/Washington nor USAID missions are staffed adequately now to deal effectively with technical support requirements in this complex field. They lack the capacity to develop minimally acceptable guidelines for their own or host counterparts' use in preparing environmental assessments. A prime assumption underlying this project is that AID in the near future will make management decisions and take actions to acquire a sufficient number of professionally trained people to implement the new directives.

The present project attempts to address some of these immediate deficiencies both in AID and in host countries by devising supportive steps which

will bolster their capabilities to define and to design projects which will meet the new directives.

B. Detailed Description

TA/OST provides a central focus for AID's compliance with PD-63: Environmental Aspects of Development Assistance, and 22 CFR Part 216: Environmental Procedures. The Environmental Coordinator is located in TA/OST and is the principal environmental affairs coordinator for the entire Agency providing policy guidance and professional leadership within AID. He serves as chairman of an interbureau environmental working group and as the principal point of contact with other Federal agencies and the public on environmental matters.

The responsibility for carrying out the policy and procedures falls within the normal AID organizational structure. Regional Bureaus and AID Missions have primary responsibility for the development and execution of development assistance programs, including the assessment of their environmental impact. Regional Bureaus have appointed Environmental Coordinators to monitor this responsibility; these Environmental Coordinators are members of the AID environmental working group which provides advice on major issues, policies or procedures having agency-wide environmental implications. Each overseas mission also has appointed an environmental coordinator, but this responsibility is in addition to regular duties and is no guarantee that environmental expertise is being provided.

This project will begin to provide the Agency with the resources which are needed to fulfill its responsibilities for carrying out the new policy directives through the following specific activities:

1. Analysis Fulfillment by the Agency of its responsibilities under the National Environmental Policy Act in an international development context requires that the Agency have an understanding of (1) the way in which development affects environment and vice versa; (2) the issues which generate conflicts between environmental and development considerations and ways of minimizing them; (3) the level of institutional arrangements for dealing with environmental problems in cooperating countries; and (4) the effectiveness of AID's own procedures. These are complex problems of great magnitude which we propose to begin to resolve by a series of studies involving the U.S. AID Missions, the Regional Environmental Coordinators, and external consultants. The results of these studies will be made available to the Agency through the interbureau environmental working group as the basis for modification of agency procedures and preparation of guidance for the Agency.

The following types of studies have a high priority in the continued development of AID's environmental capability:

- Assessment of National Environmental Institutional Capability: Country Profiles

- Refinement of AID Environmental Assessment Procedures

  = Review of Experience with the procedures
  = Retrospective Review of environmental impact of AID Projects
  = Preparation of Generic Initial Environmental Examinations (IEE's)

- Preparation of Environmental Issue Papers

2. Field Support USAID Missions must have a steady flow of information about policies, procedures, issues, concepts and methodologies from AID/W if they are to be able to identify the environmental problems associated with projects being designed and to enable them to react rapidly

and effectively to environmental questions posed by their host country counterparts. They need assistance in recruiting specialized personnel to help conduct environmental assessments and to identify program opportunities. A rapid react system of assistance may be needed from time to time to help Missions establish with the host country the preconditions of environmental program development. This type of assistance in many cases can be developed most economically by a centralized office such as TA/OST, in support of the Regional Bureaus. Four specific services of this type have been identified:

- An Environmental Research and Training Reference Service
- An Environmental Newsletter
- An Environmental Technical Assistance Roster
- An Endangered Species Identification and Warning System

3. Liaison with External Agencies The number of public private, national and international agencies concerned with the environment and development has proliferated in the last two decades. These agencies provide a rich resource of experience and current research and the ability to reach other target groups and use different channels for achieving mutual objectives. It is important that AID maintain close and frequent contact with them. We propose two more formal approaches in addition to the day-to-day liaison activities of the TA/OST and Regional Bureau Environmental Coordinators:

- Annual Washington Environmental Seminar for International Development Agencies
- Private Voluntary Agencies and the Environment (support for a series of conferences)

Subproject Descriptions

1. **Assessment of National Environmental Institutional Capability: Country Profiles** The key to planning AID's role in providing technical support to help a developing country confront environmental problems is an understanding of the nature and extent of factors which now threaten to cause ecological damage. Linked to this is an assessment of the nation's current institutional resources for identifying environmental hazards, the extent to which planning processes incorporate a consideration for technology which is benign to nature and man, and the capacity to define economically feasible alternatives which minimize or avoid damage but still accomplish development objectives.

Such a profile can provide a good starting point for a dialogue with the country on a cooperative approach for dealing with environmental problems Analyzed comparatively these profiles will help the Agency identify common problems, weaknesses and priorities and thus design a more appropriate AID field support system.

A country profile should include data on the nature of environmental problems, institutional capability and popular support. It might include the following considerations, for example:

Environmental problems as perceived by the host country and by Missions

- General types of environmental problems encountered
- Specific problems recognized as being acute
- Endangered species and their population status

Institutional Capability

- Legislation which provides for recognition of environmental degradation and enforcement of corrective action

- Enunciated executive policies
- Existence and characteristics of a national environmental enforcement agency
- Existence and characteristics of national environmental programs
- Environmental R&D capabilities and source material
- Training capabilities and source materials

Popular Support

- Number and characteristics of public environmental protective associations
- Evidence of recent concern and/or action

The possibilities for elaborating on this listing are extensive. One should keep in mind, however, that the country profile is not intended to be an exhaustive analysis of a nation's environmental concerns, but rather an initial summary. The profiles should be prepared following an outline and checklist prepared by the interbureau environmental working group. Initial data would be obtained from sources, such as EPA, UNEP,UNESCO/MAB, which would then be verified by the Bureaus and Missions. A comparative analysis of the completed profiles would be made to classify problems, conditions and priorities as a basis for guiding further development of the Agency's supporting role. Where Bureaus or Missions have already started the development of such information, it would not be duplicated.

Individual Country Profiles are expected to provide a starting point for a dialogue between the Mission environmental coordinator and the appropriate agencies of the host country, looking toward a mutually supportive relationship.

2. Refinement of Environmental Impact Assessment Procedures. AID Environmental Procedures have been in effect for approximately one year. Prudence requires that the application of these procedures be reviewed in light of subsequent experience and the need for refinements or adjustments. This review should include three elements: (a) A review of initial environmental examinations and environmental assessments prepared subsequent to issuance of the procedures; (b) a retrospective analysis of the environmental impact of selected AID activities; and (c) preparation of programmatic Initial Environmental Examination documents.

a. Environmental Assessment Review. This task consists of a review of current guidelines and of the initial environmental examinations and environmental assessments prepared since their issuance. An initial review would be made based on information provided by all AID Bureaus and Offices. A classification of environmental decisions would be developed by type of activity and resulting action (preparation of EA or EIS, negative determination, negative declaration). Using this classification to stratify the sample, a group of projects would be selected for detailed analysis. The analysis would consist of a post hoc documentary examination of the appropriateness of the Threshold Decision and the adequacy of justification for a negative determination or negative declaration. Environmental Assessments and Environmental Impact Statements will be reviewed and evaluated to determine both their adequacy and their influence on final project design. An attempt will be made to attribute any observed inadequacy to weaknesses in either the instructions or their execution, with suggestions for improvement of either or both.

b. Retrospective Review of Environmental Impact of AID Projects The objective of this sub-activity is to assess the environmental impact of a limited number of AID activities which have been in operation for some time. Information gained from these studies will define the types of environmental degradation associated with selected activities, and thus guide the refinement of criteria for the environmental assessment of similar activities and provide information useful in the design of future projects. Activities selected for retrospective review should be characteristic of current AID directions, but environmentally sensitive, such as rural development projects which include agriculture, irrigation, pastoral livestock systems, access road development, food processing, community water supply, and resettlement. They will be selected from projects proposed for review by the environmental working group. Retrospective studies will include an analysis of project documentation, preparation of criteria for impact evaluation, and on-site inspection and evaluation. The studies also will seek to identify possible long term effects which currently may not be evaluable and suggest means of obtaining data to assess these effects. Attempts will be made wherever possible to differentiate between variables which are related to the general type of project so that such reports may guide development of programmatic guidelines.

c. Generic Initial Environmental Examinations Section 216.2 of AID's Environmental Procedures identifies a number of activities whose environmental impact is considered to be so minimal or indirect as to preclude the requirement for filing an Environmental Impact Statement. Other AID activities may have a similar minimal impact. Their ultimate impact may be beyond direct control of the Agency, or not be forseeable except in execution (e.g., program development support, intermediate credit institutions).

The objective of this task is to review a number of characteristic programs of this nature, and, where appropriate, prepare programmatic Initial Environmental Examinations. It is expected that some of these IEE's will establish the basis for a pro forma negative determination. In some instances certain types of impacts to be expected from projects with like characteristics may be identified, enabling the project designer to concentrate his environmental review on these expected impacts. In still other cases, such as the intermediate credit institution, the environmental impact is a function of relending and may be unforseeable and essentially beyond AID's direct control. Such programmatic IEE's may result in the inclusion of language in the loan agreement wherein the borrower accepts responsibility for Environmental Assessments for certain types of subloans.

Programmatic Initial Environmental Examinations should be conducted for each type of project included in Section 216.2. Other possible programs suitable for programmatic IEE's are:

- Integrated health delivery systems
- Family planning and demographic research including census
- Program planning and support, including sector analyses
- Nutrition programs
- Loans to intermediate credit institutions

Each of the foregoing represents a spectrum of activities and program conditions rather than standard situations. We anticipate the following outcomes: (1) a clearer understanding of possible environmental impacts associated with program type and situation; (2) uniform 216.2 negative determinations for some program types and conditions; (3) accepted procedures for transfer of environmental responsibility in cases where the Agency lacks

control over unforseeable situations; and (4) identification of environmental problem areas characteristic of certain types of programs upon which to focus environmental assessments.

3. Environmental Issues Papers Environmental concerns and development goals frequently appear to be at odds. In addition, perceptions of developed and developing societies may differ significantly, and these differences may extend to suspicions of the motives behind the action. These problems are exacerbated by the environmental naivete of many development practitioners and the lack of knowledge of development theory by environmentalists.

It is proposed that a series of issue papers be commissioned which state the issues involved, assemble the information required to define the issues, and suggest desirable approaches for their resolution. It is expected that this exercise will result in (1) clarification of AID staff understanding of the problems and opportunities of environmentally sound development and (2) establishment of policies and program guidance which reflect and spread this understanding.

Topics which might be considered for study would be selected by the Environmental Working Group from the following types of broad areas:

- Issues in labor intensive and energy intensive agriculture
- Issues in optimizing resource use vs. conservation under conditions of heavy population concentration and impoverishment
- Issues in institutional infrastructure, including law, policy, planning, regulation, enforcement, and programs

4. Environmental Research and Training Reference Service AID Missions and host country environmental agencies need a quick method of "getting up to speed" on environmental issues and providing advice and information on

environmental matters to policy makers, planners and managers. AID, through existing arrangements with 211(d) institutions, contracts and PASAs is in a position to fill at least part of this need by providing carefully selected references to monographs, research reports and training materials.

The reference service to be provided is not an exhaustive listing of information but a brief annotated bibliography - a survey - of the most relevant publications in a particular environmental field. Brevity, and perspicacity are essential to the preparation of selective bibliographies. Therefore, these would be prepared only by recognized authorities. Topical areas might include Energy Use in Agriculture; Air Quality Monitoring; Water Quality Monitoring; Waste Treatment; Solid Waste Disposal; Pesticide Regulation; Waste Usage for Energy; Recycling; Food Chain/Web Ecology; Disease and Development.

In reference to training materials, many already exist which could be assembled or adapted with relatively little effort and expense for circulation to Missions and host governments. Cooperating agencies would be asked to identify existing materials which would be reviewed for their usefulness in LDCs. Initial emphasis would be given to subject areas such as manuals for pesticide applicators, including techniques for sale handling of chemicals and how to identify and treat pesticide poisoning. Other topics to be investigated, which would be selected in consultation with the environmental working group, would include methods of agro-forestation, watershed management and endangered species protection.

5. Environmental Newsletter Regional Bureau environmental coordinators have recommended circulation of a periodic newsletter to Regional and Mission Environmental Coordinators to improve communication and provide useful

environmental information. The Environmental Newsletter would be issued eight to twelve times a year. It would summarize:

- issues and policy papers
- evolving techniques of environmental assessment
- environmental assessments illustrative of technique or comprehensiveness
- bibliographic information on environmental R&D, training, policies, technology techniques, etc.
- current environmental activities of Missions, Bureaus, TA/OST
- programmatic IEEs

The newsletter is expected to be attractive, brief - no more than four pages - with a possible insert. It would not substitute for the distribution of more comprehensive papers and reports, but summarize their salient points and call attention to other information which may be obtained by the AID Missions directly. Information for inclusion would be obtained from Bureaus and Missions about their and host country activities as well as from other sources. Properly handled, it should be a significant tool for incorporating environmental sensitivity into Agency operations while improving the capability of Mission staff to deal with environmental concerns associated with development.

6. Technical Assistance Roster and Interim Support The increased focus on environment and development will inevitably lead to requests for specialized advisory services:

- to help conduct environmental assessments
- to advise on alternative strategies to minimize environmental degradation
- to advise host country governments on environmental policies and the design of action program strategies
- to train host country personnel in environmental technologies

- to design and/or conduct research or surveys needed as the basis for environmentally sound project design

TA/OST proposes to establish a roster of qualified firms, centers and individual consultants who combine the necessary environmental, developmental, and cultural skills needed for effective performance. Centralized screening with periodic updating will provide a primary source of expertise for Bureaus and Missions.

The roster should be developed in cooperation with other agencies who have received and responded to requests for environmental assistance, such as EPA, USDA, USDI and international (IBRD, PAHO, UNDP, WHO, FAO, UNESCO) agencies. Subject matter expertise will be identified and qualification criteria and will be established and used to screen individuals who apply or are proposed for the roster. Files will be updated with reports from user Missions.

Technical advisory services normally are funded by the concerned Regional Bureau and/or Mission. However, TA/OST needs occassionally to respond directly to unanticipated requests for assistance which transcend traditional channels or to meet needs preparatory to program approvals. This sub-activity includes funding equivalent to a total of fifteen man-months which may be used to develop the technical roster and to cover these interim support needs.

7. Endangered Species Identification and Warning System The U.S. and a number of AID recipient countries are signatories of the Convention on International Trade in Endangered Species. In addition, the Endangered Species Act passed by Congress in 1973 requires that all Federal Agencies . . ensure that their activities do not jeopardize the continued existence of

an endangered species or result in the destruction or modification of a critical habitat. This applies to plants and animals outside the U.S. The Department of Interior (Fish and Wildlife Service) has the responsibility for preparing and issuing the lists of species and where they occur. It is extremely important that U.S. AID Missions consider any possible adverse effects of their programs on animal and plant species designated as endangered or threatened.

The published lists which identify endangered species will be made available to Environmental Coordinators in each U.S. AID Mission. These lists are inadequate descriptions for AID purposes since they do not include information about intracountry distribution, habitats which may harbor the species, or critical habitat conditions which must be protected to preserve the species.

This sub-activity provides 2.5 man-months of consulting services to (1) review sources of information on endangered species in AID supported countries; (2) select data for transmittal to USAID Missions; and (3) to recommend to TA/OST a program for refinement of endangered species information for Mission use and to develop guidance for the Agency relating to the requirements of the Endangered Species Act.

8. Annual Washington Area Development Agencies Seminar There are a number of donor agencies and organizations engaged in some type of environmental program with a variety of activities - R&D, assessments, information collection and dissemination, training and program funding. This has led the AID Environmental Coordinator to recommend that periodic joint review of both state-of-art and state-of-program is needed. Frequent contacts among AID staff members and representatives of these agencies are invaluable in

dealing with specific problems but do not substitute for desirability of more structured communication.

TA/OST proposes to sponsor an annual seminar of the environmental representatives of international development agencies which maintain headquarters or liaison offices in the Washington area. This seminar, to be organized by one of the cooperating Federal agencies or by an experienced organization such as Brookings or the Overseas Development Council, would serve as a focal point for (1) reporting on programs and approaches and (2) discussion of issues of mutual concerns. Participants might also include some of the major non-governmental agencies with both developmental and environmental concerns. An initial list of participants might be comprised of IBRD, IDB, OAS, UNEP UNESCO/MAB, FAO, WHO, UNITAR, Ford Foundation, Rockefeller Foundation, Sierra Club. The list might be expanded to include other agencies depending on the conference theme and the selection of issues for discussion.

9. Private Voluntary Organizations (PVOs) and the Environment The voluntary agencies, with AID support, are expanding their activities in LDCs, particularly at the community level. Because of their access to some of the poorest families of AID's target group, the PVO's are increasingly used as delivery systems for AID resources directed at community water supply, agricultural production programs, small irrigation systems, health delivery, family planning, cooperative and cottage industry, etc.

The environmental impact of these PVO activities is important to AID; while projects are individually small, their overall coverage is extensive. The PVOs themselves are also concerned. A preliminary meeting of 20 environmental groups and 40 PVOs sponsored by the Mohonk Trust will lay the groundwork for follow-on environmental activities. This project provides very modest funds for the dissemination of the Mohonk conference results, and to support future workshops or other activities.

Part III. Project Analyses

A. General

The purpose of this project is to mobilize a wide variety of U.S. technical expertise to strengthen the AID program in a systematic and practical manner and to assist the Bureaus and Missions in carrying out the new environmental procedures and directives in the best possible way. AID will be under close surveillance by the public, the Executive Branch and the Congress as it implements its new environmental policies and develops programs. The cooperation and assistance of the major Federal Agencies in this field provide the best opportunity for responding effectively and responsibly. The "technology" to be utilized is an interdisciplinary systems approach which has been developed in the U.S. which analyzes the effects of change on the human environment and takes the consequences of that change into account in the design of development programs. This is the approach which is utilized by all U.S. Federal agencies in analyzing their domestic programs through preparation of environmental assessments and impact statements. Studies of the effectiveness of the approach conducted by the Council on Environmental Quality (CEQ) show that the Agencies themselves have found that the technique is extremely useful in improving project design and in making more informed final decisions on actual implementation of proposed activities.

No environmental assessment is required for this project. A Negative Determination was made at the time of PID approval.

B. Financial Analysis and Plan

This technical support activity has a two year cost estimate of $480,000. The program elements on the cost allocations among them were based on:

(1) Relative importance of the element to the objective of the project; (2) minimum resources required for the element to achieve a measurable impact; (3) budgetary constraints during the two year start-up period. It is expected that this project will require the same or an increasing level of support over the next decade for similar functions as this will be an expanding field of activity. The policy, program, information, and technical resource requirements will tend to expand with greater environmental awareness and activism in the LDCs and with the expanding knowledge of the field itself. This has been anticipated in a related project proposed to start in FY'78 - Environment/Natural Resources, Expanded Information Base.

The following cost estimates and their scheduling reflect the need to obligate funds in Year I in order to have results in Year II.

DISTRIBUTION AND SCHEDULING OF ESTIMATED PROGRAM COSTS

	Quantity	Unit Cost	Value (000) Year I	Year II	Total
Staff Support for USMAI					
1 Professional	24 man months	(GS-13)	25	25	50
1 Clerical	24 man months	(GS-5)	10	10	20
POLICY ANALYSIS					
Country Profiles (40 plus countries)	3 man months	at 4000	12	--	12
Refinement of EA Procedures					
Review of EA Experience	5 man months	at 6000	24	6	30
Retrospective Case Studies (6 program types)	10 man months	at 7000	70	--	70
Programmatic IEEs (6 program types)	12 man months	at 6000	42	30	72
Issue Papers (6 papers)	6 man months	at 6000	18	18	36
DIRECT FIELD SUPPORT					
Reference Services	12 bibliographies	at 2250	12	15	27
Newsletter	14 issues	at 2000	12	16	28
TA Roster	15 man months	at 7000	85	20	105
Endangered Species	2.5 man months	at 4000	10	--	10
LIAISON					
Washington Seminar (2 seminars)	(Experts, Facilities, Reporting, Follow-up)		5	5	10
PVOs and Environment (2 seminars)	(" ")		5	5	10
T O T A L S			330	150	480

C. Economic and Social Analysis

Because of the technical support nature of this project, it will not have an direct predictable effect on the society and economy of any AID-assisted country. Indirectly, however, this activity should contribute to the achievement of sustainable long-range economic growth and social soundness.

Economic and ecological considerations tend to parallel one another as the time frame for consideration is lengthened. In the short run, heedless exploitation of resources may increase a country's current GNP, and the dischar of wastes without treatment may keep industrial costs lower than they would be with environmental requirements. However a deeper look would show that these are simply deferred expenses, transferred from the sector of society which is using the resources to the remainder of the people who will have to pay the damage caused to the environment.

Developing as well as developed countries are acquiring an appreciation of the "economics of environment". All are more concerned with the trade-off between immediate savings and long-range environmental problems. Nonetheless, developing nations will have to make hard choices. They will have to weigh carefully each decision involving trade-offs between immediate and longer-range benefits and costs and they will need new knowledge as to the manner in which this can be accomplished. Their "life equation" in the immediate future as well as in the longer term -- ten to fifty years from now -- will be largely dependent on how well they can understand the issues they face and make the best-informed decisions concerning them.

All of this underscores the value to AID and to developing countries of an effective and selective source of information on environmental matters.

Part IV. Implementation Plan

A. Administrative Arrangements

Because of its expertise and special role in national and international environmental affairs, it is proposed that the permanent Secretariat of the U.S. National Committee of Man in the Biosphere (USMAB) in the Department of State be contracted with to assist AID in carrying out the new policy directives and the related centrally-funded programs in environment and natural resources. Three other options were examined and rejected in favor of this one:

Direct Implementation by TA/OST. This provides the most control of the process. However, TA/OST does not now have the range and depth of professional skills required to select, develop and direct the many resources required for this program.

Non-governmental Contracts. TA/OST could supplement its staff by using a management contract. This might be very effective if selection of the contractor were fortuitous and if the prime contract were carefully monitored, but it would not provide access to the appropriate Federal agencies. It also presents questions of delegation of authority as well as the potential for becoming dependent upon an indispensable contractor or questionable subcontractual relationships.

Consideration was also given to utilization of organizations such as the National Academy of Sciences and the American Association for the Advancement of Science, but their special types of charter and organizational structure were deemed inappropriate for providing the type of assistance called for in this activity.

PASAs with EPA, Department of Interior and/or Agriculture. Three separate PASAs could have been entered into with each of the above agencies. Each has an environmental perspective, effective linkages with domestic professional resources and, as a national agency, has experience of value to other national governments. There is less possibility of problems of delegation or subcontracting with other Federal agencies; however, each tends

to be oriented towards its own special area of interest and would have difficulty managing a program with a much broader orientation. In addition, the contract management time would be tripled and the program splintered.

The U.S. National Committee of Man in the Biosphere was created to provide U.S. participation in the international Man in the Biosphere program sponsored by UNESCO. The Committee is well organized, with membership drawn from all parts of the extensive U.S. environmental community. It is a respected organization which draws on intellectual resources from Federal and State government, universities, foundations, research centers and consulting firms to staff a wide number of panels (called "directorates") and subcommittees covering different aspects of the environment.

The U.S. MAB Secretariat is located in the State Department, Bureau of International Organization Affairs, with staff representation from EPA, USDA, USDI and the National Science Foundation. By virtue of its membership it has access to resources in all major U.S. environmental agencies. By virtue of its relationship to the USMAB National Committee it has access to intellectual resources throughout the U.S. environmental community. By virtue of its organizational location, it has federal management capability and authoritative U.S. environmental policy direction. By virtue of its relationship to the International MAB program it has access to United Nations Environment Programme (UNEP), Food and Agriculture Organization (FAO), World Health Organization (WHO), World Meteorological Organization (WMO), International Council of Scientific Unions (ICSU), International Union for the Conservation of Nature and Natural Resources (IUCN), United Nations Development Programme (UNDP) and to the national MAB committees in 80 other

countries, approximately 32 of which have AID programs. (See Annex 3 for list of countries with national committees).

MAB is concerned with the entirety of the relationships which humans have with their surroundings. Fourteen project areas have been selected for their research, application and training activities, most of which are directly related to AID's major areas of concern. There are U.S. directorates for all of the project areas. (See Annex 4 for membership of directorate and Annex 5 for MAB publications, information services and report series). The 14 project areas are:

1. Ecological effects of increasing human activities on tropical and subtropical forest ecosystems.

2. Ecological effects of different land uses and management practices on temperate and mediterranean forest landscapes.

3. Impact of human activities and land use practices on grazing lands: savanna and grassland (from temperate to arid areas).

4. Impact of human activities on the dynamics of arid and semi-arid zones' ecosystems, with particular attention to the effects of irrigation.

5. Ecological effects of human activities on the value and resources of lakes, marshes, rivers, deltas, estuaries, and coastal zones.

6. Impact of human activities on mountain and tundra ecosystems.

7. Ecology and rational use of island ecosystems.

8. Conservation of natural areas and of the genetic material they contain.

9. Ecological assessment of pest management and fertilizer use on terrestrial and aquatic ecosystems.

10. Effects on Man and his environment of major engineering works.

11. Ecological aspects of urban systems with particular emphasis on energy utilization.

12. Interactions between environmental transformations and the adaptive, demographic, and genetic structure of human populations.

13. Perception of environmental quality.

14. Research on environmental pollution and its effects on the biosphere.

It is proposed that AID/TA/OST will enter into a PASA with the Department of State. AID/TA/OST, with advice and assistance of the environmental working group will define broad program requirements which will be responded to by the USMAB Secretariat by identification of specific tasks to be carried out under interagency agreements with the other three participating Federal agencies: the Environmental Protection Agency, Department of Interior (National Park Service), and the Department of Agriculture (Forest Service).

Specifically the Secretariat will add appropriate staff (one professional and one clerical) to act as project coordinator, manager and liaison between AID and the participating agencies either through reimbursable detail or other arrangements. In carrying out these responsibilities the project coordinator will:

1) Review the planned environmental field support and training needs identified and approved by AID for FY'77 together with the designated representatives of EPA, Agriculture and Interior.

2) Submit in writing for TA/OST approval a specific list of tasks drawn from the planned subject areas with assignment of agency responsibility and funding requirements for each task based on Agency estimate of costs and a time schedule for their initiation and completion. Suggestions for revision, deletion or addition of planned activities would be made at this time.

3) Arrange for transfer of funds from the State Department to the three participating agencies in accordance with the approved list of tasks, funding estimates and implementation schedules.

4) Report to TA/OST informally on a monthly basis and formally on a quarterly basis on progress, problems and completion of individual tasks.

5) Ensure that any individual tasks which require overseas travel or collaboration with overseas institutions are approved by TA/OST, the Regional Bureaus and Missions.

6) Prepare an annual report to TA/OST which will evaluate overall progress propose a schedule of activities for FY'78 and make recommendations regarding continued AID-State-EPA-DOA-DOI cooperation.

As indicated earlier, the success of this initial program depends in large part on the willingness and commitment of the Department of State and the major environmental agencies to assist AID in its environmental programs with developing countries. If successful, it has considerable potential, not just for centrally funded programs which are necessarily small, but also for utilization by the regional bureaus where the bulk of the action and need for expertise will be.

B. Implementation Plan

This is a new project for which no direct operating experience exists. It is in part supportive of other Bureaus and the AID Environmental Coordinator, so it is dependent on their requests. However, experience with support activities has been used as the basis for preparing the attached initial implementation schedules. It is expected that these schedules will be revised based on operating experience. (See Annex 3 attached).

C. Evaluation Plan

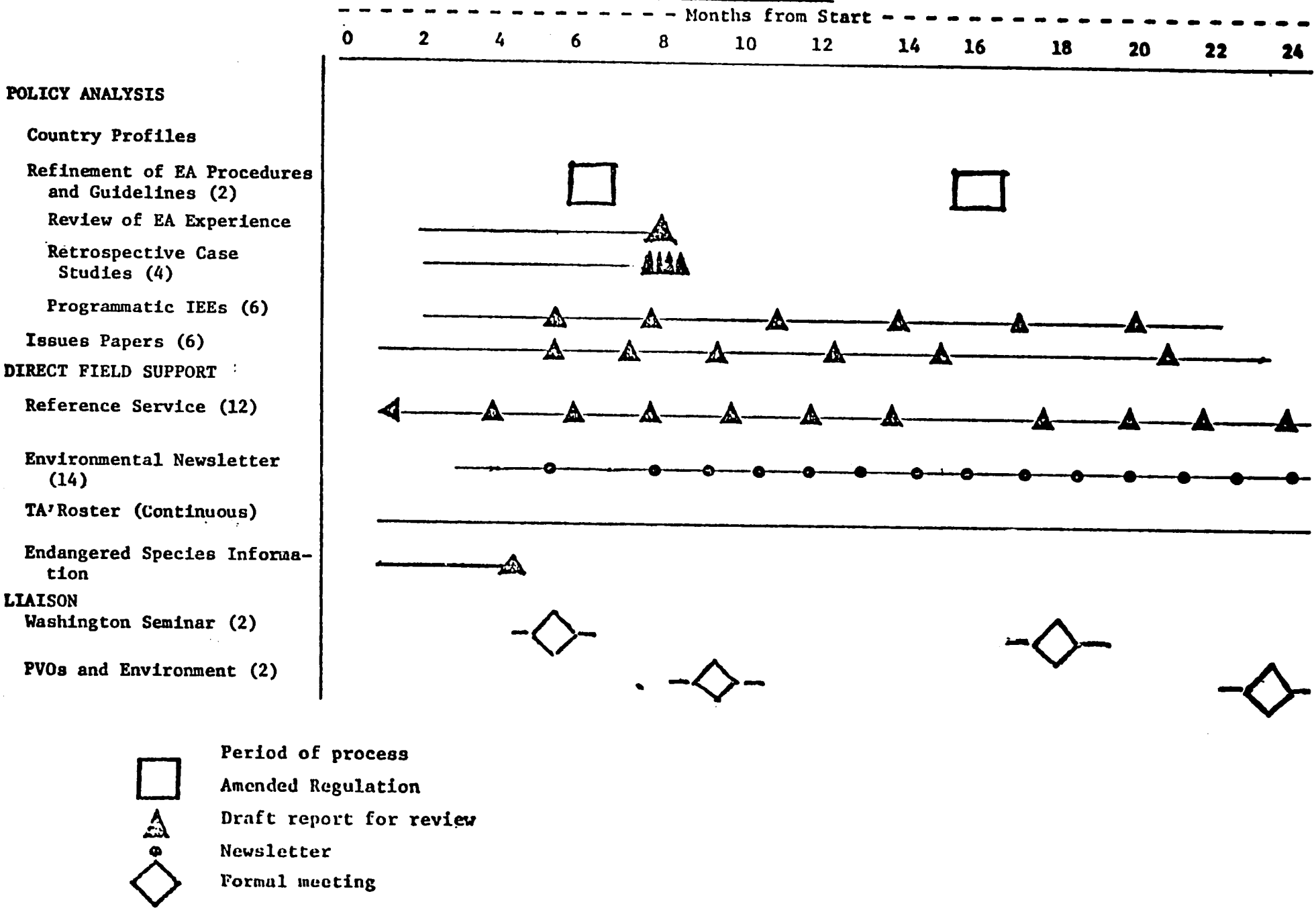
The Project Design Summary (Logical Framework) is attached (Annex 2). The Regional Bureau members of the environmental working group will be utilized by TA/OST for monitoring this program on a continuing basis and for evaluating the performance of the participating agencies in relation to individual tasks.

In addition, it is proposed that the regional members of the environmental working group perform a formal evaluation of progress after 18 months of operation. For this evaluation TA/OST will assemble the required records and will identify management issues needing resolution. The evaluation of the project will produce a memorandum report of progress, status, and problems, with recommendations for program improvement with special attention given to the utilization of USMAB through a PASA arrangement with the Department of State and interagency agreements with EPA, Interior and Agriculture and the potential for future use of the mechanism both by TAB and the regional Bureaus.

Attachments:

Annexes 1-5

Figure 1. IMPLEMENTATION SCHEDULE



GOAL STATEMENT

NARRATIVE SUMMARY	INDICATORS OF GOAL ACHIEVEMENT	MEANS OF VERIFICATION	ASSUMPTIONS FOR GOAL ACHIEVEMENT
oal tatement: The goal of this project is to improve LDC capabilities for assessing and protecting their natural resources, both renewable and non-renewable. (This follows from Policy Determination #63 which states that "it is AID policy to assist in strengthening the indigenous capabilities of developing countries to ... evaluate the potential environmental effects of proposed development strategies ..., and to (take)... effective environmental protection measures...")	(a) Host country governments enunciating executive policy for maintenance of environmental quality; (b) Enactment of legislation for environmental protection; (c) Establishment/strengthening of national/local institutions to implement effectively environmental policy and legislation; (d) Non-degradation/improvement of man's environment over the long-term as a concomitant of the development process.	(a) Pronouncements, speech content, executive orders; (b) Legislation promulgated; (c) National/local budgets, agency reports; (d) Comparison of environmental indicators over time (comparative surveys and photographs, interviews with older citizens).	(a) Host governments have the motivation to define environmenta objectives and can identify viabl options; (b) Endogenously determined eco-development strategies can be effectively communicated to both the government and the public; (c) An appropriate level of resources can be applied to the effort over time by both AID and host governments; (d) Resources are applied in such a manner as to produce measurable results.

PROJECT PURPOSE

NARRATIVE SUMMARY	CONDITIONS EXPECTED AT EOP	MEANS OF VERIFICATION	BASIC ASSUMPTIONS
urpose: The purpose of this roject is: a) To provide mechanisms for mproving the promulgation and mplementation within AID of the nvironmental procedures and olicy; b) To support Bureau and Mission nitiatives related to environ-ental assessment of AID projects; nd c) To assist Missions develop ost government pre-conditions or endogenous environmental roection.	(a) USAID Environmental Coordinators performing their roles and administering improved Environmental Procedures under effective policy guidance and leadership; (b) Improved, cost-effective procedures being used for analyzing the environmental impacts of AID projects; (c) Timely and appropriate response by TA/OST to requests from Missions for assistance in environmental assessment and other environmental matters; (d) Endogenous host country capacity to determine and implement environmental assessment and protection mechanisms in the development planning process.	(a) Environmental Assessments performed effectively and correctly as determined by review of AID program documents; (b) Programmatic IEEs accepted, reducing scope of required investigation; (c) TA/OST records and Bureau/Mission evaluation reports; (d) Progress reports on USAID-host country cooperative environmental programs.	(a) Mission management strongly supports the need for environmental assessments in project formulation. (b) Additional AID resources sufficient for conducting EAs will be made available; (c) The U.S. possesses experienc and resources appropriate to the expressed needs of host countrie Centralized environmental field support activities reflect an understanding of these needs.

PROJECT INPUTS

INPUTS	TYPE AND QUANTITY			
	Quantity / Unit Cost	Value (000) Year I	Value (000) Year II	Value (000) Total
Staff Support for USMAB				
1 Professional	24 man months (GS-13)	25	25	50
1 Clerical	24 man months (GS-5)	10	10	20
POLICY ANALYSIS				
Country Profiles (40 plus countries)	3 man months at 4000	12	—	12
Refinement of EA Procedures				
Review of EA Experience	5 man months at 6000	24	6	30
Retrospective Case Studies (6 program types)	10 man months at 7000	70	—	70
Programmatic IEEs (6 program types)	12 man months at 6000	42	30	72
Issue Papers (6 papers)	6 man months at 6000	18	18	36
DIRECT FIELD SUPPORT				
Reference Services	12 bibliographies at 2250	12	15	27
Newsletter	1[illegible] issues at 2000	12	16	28
TA Roster	15 man months at 7000	85	20	105
Endangered Species	2.5 man months at 4000	10	—	10
LIAISON				
Washington Seminar (2 seminars)	(Experts, Facilities, Reporting, Follow-up)	5	5	10
PVOs and Environment (2 seminars)	(" ")	5	5	10
TOTALS		330	150	480

AID 1020-28 (11-72)

PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

Life of Project: From FY 77 to FY 78
Total U. S. Funding 480
Date Prepared: ~~7-27-77~~

Project Title & Number: Environmental Field Support 931-1028

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
Program or Sector Goal: The broader objective to which this project contributes: To improve the overall, long-term development of LDCs through institutional incorporation of principals and practices of environmental protection and sound natural resource management.	Measures of Goal Achievement: 1) Formulation of LDC government policy for environmental and natural resource protection. 2) Enactment of similar legislation. 3) Establishment/strengthing of natural institutions	1) LDC Executive pronouncements, orders and speeches. 2) Legislation enacted. 3) National environmental protection agencies established or strengthened.	Assumptions for achieving goal targets: 1)LDC government motivation and awareness of environment/development relationships. 2) U.S. experience in environmental protection can be adapted and
Project Purpose: To develop resources and provide assistance to AID Bureau and Missions to: 1) carry out AID environmental procedures, and; 2) to help developing countries develop their own capabilities to evaluate the	Conditions that will indicate purpose has been achieved: End of project status. 1) Improved AID performance in environmental assessment and in project design. 2) Participation by LDCs in AID environmental assessment process. 3) Increasing LDC requests	1) Evaluation of AID environmental assessments. 2) Reports prepared by AID Environmental Coordinator to CEQ. 3) Reports by Bureau and Mission Environmental offices on cooperative programs and	Assumptions for achieving purpose: 1) Mission and Bureau management will support and enforce AID environmental procedures. 2) Bureau resources will be made available to supplement OST's limited efforts.
Outputs:	Magnitude of Outputs:		Assumptions for achieving outputs:
Inputs:	Implementation Target (Type and Quantity)		Assumptions for providing inputs:

AID 1020-25 (1-72)

PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

Life of Project: From FY 77 to FY 78
Total U. S. Funding 480
Date Prepared: 7-27-77

Project Title & Number: Environmental Field Support 931-1028

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
Program or Sector Goal: The broader objective to which this project contributes:	Measures of Goal Achievement: to implement policy and legislation.		Assumptions for achieving goal targets: applied to LDC situations. 3) An appropriate level of resources can be applied by AID and LDC governments.
Project Purpose: environmental effects of development activities and take effective environmental protection measures.	Conditions that will indicate purpose has been achieved: End of project status. for training and technical assistance.	requests for assistance.	Assumptions for achieving purpose: 3) The State Dept., US USMAB, EPA, DOA and DOI will be willing to assist AID in developing and carrying out environmental programs.
Outputs:	Magnitude of Outputs:		Assumptions for achieving outputs:
Inputs:	Implementation Target (Type and Quantity)		Assumptions for providing inputs:

PROJECT OUTPUTS

OUTPUTS	INDICATORS	MEANS OF VERIFICATION	BASIC ASSUMPTIONS
Ouputs: a) Better knowledge of individual country; environmental capabilities and problems; b) Increased understanding of environmental impacts of AID development projects; c) Improved quality of environmental action; d) Improved AID communications on environmental considerations; e) Increased understanding of broad environment and development issues; f) Timely provision of appropriate environmental research and training information in response to requests; g) Better communication with other development institutions h) PVO-Environmental awareness i) Technical assistance for environmental quality analysis available to and used by USAIDs.	a) Questionnaire developed and executed for most AID-assisted countries; b) Six to ten retrospective case studies; c) Redrafted environmental procedures and programmatic IEEs; d) Eight Newsletters per year; e) Nine Issue Papers; f) At least ten annotated bibliographies of research and training materials issued; g) Two Washington-based international environment seminars; h) Results of PVO conference circulated; i) Roster established and 15 man-months of TA scheduled.	a) Existence of reports of studies and other documents which are the output; b) Reactions from Bureaus, Missions, LDC and other development organizations as to usefulness of services and studies provided.	a) That AID Bureaus and Missions will cooperate with TA/OST in development and implementation of specific tasks; b) That sources of expertise communication and services developed will be used by AID Bureaus, Missions and by LDC governments; c) That other donor agencies and development organizations see a need for improved communication on environmental issues.

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Bulgaria
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Canada
Chile
Colombia
Costa Rica
Cuba
Czechoslovakia
Dominican Republic
Denmark
Ecuador
Arab Republic of Egypt
Finland
France
German Democratic Republic
Federal Republic of Germany
Greece
Hungary
Iceland
India
Indonesia
Iran
Iraq
Ireland
Italy
Ivory Coast
Japan
Jordan
Kenya
Republic of Korea
Kuwait
Democratic Republic of Madagascar
Malaysia
Mali
Malta
Mauritius
Mexico
Morocco
Nepal
Netherlands
New Zealand
Nigeria
Norway
Pakistan
Papua New Guinea
Peru
Philippines
Poland
Portugal
Rumania
Senegal
Republic of Singapore
Spain
Sri Lanka
Sudan
Sweden
Switzerland
Syrian Arab Republic
Tanzania
Thailand
Tunisia
Turkey
Uganda
Ukrainian Soviet Socialist Republic
Union of Soviet Socialist Republics
United Arab Emirates
United Kingdom
United States of America
Uruguay
Venezuela
Yugoslavia
Zaire

Annex 4

THE UNITED STATES NATIONAL COMMITTEE FOR MAN AND THE BIOSPHERE

WASHINGTON, D. C. 20520

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MAB PUBLICATIONS AND INFORMATION SERVICES

1. MAB Report Series

Publication of MAB "green" reports has continued. This series covers meetings of the MAB International Coordinating Council and the findings of panels of experts, international working groups, regional meetings and task forces, on various aspects of MAB projects. At present 38 reports have been published (see attached list of titles).

2. MAB Technical Notes

The Sahel: ecological approaches to land use - which is now available in French and English.

Titles of forthcoming MAB Technical Notes include:

Human population problems in the biosphere: some research strategies and designs. (final editing in progress)

Méditerranean forest and maquis: conservation and research needs. (final editing in progress)

Traditional land use strategies, modern decision-making and management of natural resources in Africa. (provisional publication dates: French edition April 1976, English edition July 1976).

Obstacles to the development of arid and semi-arid zones (provisional publication date July 1976).

3. State of Knowledge Reports

State of knowledge report on tropical and subtropical forest ecosystems, (English edition in press)

State of knowledge report on tropical grazing land ecosystems, (English edition in press)

Work on these two reports, details of which are given in MAB Report Series No. 27, Annex I, has continued as planned. Four seminars were held in June and July 1975 to examine the human biology and socio-cultural factors and the general ecology, exploitation and management aspects of these two types of ecosystems.

Regional state of knowledge reports on these ecosystems are planned for 1977.

State of knowledge report on Andean mountain systems

This report is being prepared in response to the request formulated at the MAB regional meeting at La Paz, Bolivia, in June 1974.

4. MAB Brochure

This folder, which gives a brief outline of the objectives, projects and organization of MAB, is now available in English, French, Spanish, Russian and Arabic.

5. MAB Bulletin

The MAB Bulletin, which includes brief reports on meetings, short articles and notes on the activities of MAB National Committees and details of forthcoming meetings, is incorporated into Nature and Resources, Unesco's quarterly magazine on research on environment resources and the conservation of nature. This magazine is circulate to National Committees, National Commissions and has a total circulation of 6,256 English and 3,566 French copies. Nature and Resources is now included in the following abstracting and information services: the Biology Digest, Environmental Periodicals Bibliography, Applied Ecology Abstracts.

6. Others

Intecol Newsletter. Support has been given for the production of the bi-monthly Newsletter of the International Association of Ecology (INTECOL), a publication which is widely distributed among ecologists throughout the world. Beginning with the October issue, articles on MAB will appear regularly. One copy of the MAB Brochure will be included with each copy of the October Newsletter.

Wallaceana. Support has also been given to Wallaceana, the ecological newsletter of South East Asia. This publication contains news of special interest to the region.

"Parks" Magazine. Support has been given to the new international journal on national park and reserve practices.

MAB Report Series

1. International Coordinating Council of the Program on Man and the Biosphere. First session. Paris, 9-19 November 1971.

2. Expert panel on the role of systems analysis and modelling approaches in the Program on Man and the Biosphere (MAB) Paris, 18-20 April 1972.

3. Expert panel on Project 1: Ecological effects of increasing human activities on tropical and subtropical forest ecosystems in the Program on Man and the Biosphere (MAB). Paris, 16-18 May 1972.

4. Expert panel on Project 12: Interactions between environmental transformations and genetic and demographic changes in the Program on Man and the Biosphere (MAB). Paris, 23-25 May 1972.

5. Expert panel on Project 5: Ecological effects of human activities on the value and resources of lakes, marshes, rivers, deltas, estuaries and coastal zones. London, 19-22 September 1972.

6. Expert panel on Project 3: Impact of human activities and land use practices on grazing lands: savanna, grassland (from temperate to arid areas), tundra. Montpellier, 2-7 October 1972.

7. Expert panel on educational activities under the Man and the Biosphere Program (MAB). Paris, 5-8 December 1972.

8. Expert panel on Project 6: Impact of human activities on mountain ecosystems. Salzburg, 29 January - 4 February 1973.

9. Expert panel on Project 13: Perception of environmental quality. Paris, 26-29 March 1973.

10. International Coordinating Council of the Program on Man and the Biosphere. Second session. Paris, 10-19 April 1973.

11. Expert panel on Project 7: Ecology and rational use of island ecosystems. Paris, 26-29 June 1973.

12. Expert panel on Project 8: Conservation of natural areas and of the genetic material they contain. Morges, 25-27 September 1973.

13. Expert panel on Project 11: Ecological aspects of energy utilization in urban and industrial systems. Bad Nauheim, 16-19 October 1973.

14. Working group on Project 6: Impact of human activities on mountain and tundra ecosystems. Lillehammer, 20-23 November 1973.

15. Consultative group on Project 9: Ecological assessment of pest management and fertilizer use on terrestrial and aquatic ecosystems (Part on fertilizers). Rome, 7-9 January 1974.

16. International working group on Project 1: Ecological effects of increasing human activities on tropical and subtropical forest ecosystems. Rio de Janeiro, 11-15 February 1974.

17. Task force on the contribution of the social sciences to the MAB Program. Paris, 28 February - 2 March 1974.

18. Regional meeting on integrated ecological research and training needs in the Sahelian region. Niamey, 9-15 March 1974.

19. Expert panel on Project 2: Ecological effects of different land use and management practices on temperate and mediterranean forest landscapes. Paris, 16-19 April 1974.

20. Task force on pollution monitoring and research in the framework of the MAB Program. Moscow, 23-26 April 1974.

21. International working group on Project 5: Ecological effects of human activities on the value and resources of lakes, marshes, rivers, deltas, estuaries and coastal zones. Paris, 13-17 May 1974.

22. Task force on criteria and guidelines for the choice and establishment of biosphere reserves. Paris, 20-24 May 1974.

23. Regional meeting on integrated ecological research and training needs in the Andean region. La Paz, 10-15 June 1974.

24. Expert consultations on Project 9: Ecological assessment of pest management and fertilizer use on terrestrial and aquatic ecosystems (Part on pesticides).

25. International working group on Project 3: Impact of human activities and land use practices on grazing lands: savanna and grassland (from temperate to arid areas). Hurley, 2-5 July 1974.

26. Regional meeting on integrated ecological research and training needs in the South East Asian region. Kuala Lumpur, 19-22 August 197

27. International Coordinating Council of the Program on Man and the Biosphere. Third session. Washington, D.C., 17-29 September 1974.

28. Regional meeting on integrated ecological research and training needs in Latin America, with emphasis on tropical and subtropical forest ecosystems. Mexico City, 30 September - 5 October 1974.

29. Expert panel on Project 4: Impact of human activities on the dynamics of arid and semi-arid zones ecosystems, with emphasis on the effects of irrigation. Paris, 18-20 March 1975.

30. Regional meeting on the establishment of cooperative programs of interdisciplinary ecological research, training and rangeland management for arid and semi-arid zones of Northern Africa. Sfax, 3-12 April 1975.

31. Task force on integrated ecological studies on human settlements in the framework of Project 11. Paris, 2-6 June 1975. **

32. Task force on Project 14: Research on environmental pollution and its effects on the biosphere Ottawa, 5-8 August 1975. *

33. Regional meeting on integrated ecological research and training needs in the humid tropics of West and Central Africa. Kinshasa, 29 August - 5 September 1975. *

34. Regional meeting on integrated ecological research and training needs in the southern Asian mountain systems, particularly the Hindukush-Himalayas. Kathmandu, 26 September - 2 October 1975. *

35. Regional meeting on integrated ecological research and training needs in tropical deciduous and semi-deciduous forest ecosystems of South Asia. Varanasi, 5-11 October 1975. *

36. Regional meeting on integrated ecological research and conservation activities in the northern Mediterranean countries, within the framework of Projects 2 and 8. Potenza, 27-31 October 1975. *

37. Expert consultations on Project 10: Effects on man and his environment of major engineering works. *

38. International Coordinating Council of the Program on Man and the Biosphere (MAB). Fourth session. Paris, 18-26 November 1975.

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* Draft report in preparation. Summary report available.
** Draft report available.

Alphabetical List of MAB Subjects with Corresponding Project & Report Number

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