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PROJECT PAPER

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Project Paper

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PROJECT DATA SHEET

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

A. Initial FY 91 B. Quarter C. Final FY 95

8. COSTS ($000 OR EQUIVALENT $1 =)

A. FUNDING SOURCE	FIRST FY 91 B. FX	C. L/C	D. Total	LIFE OF PROJECT E. FX	F. L/C	G. Total
AID Appropriated Total	1,700		1,700	19,000		19,000
(Grant)	(1,700)	( )	(1,700)	(19,000)	( )	(19,000)
(Loan)	( )	( )	( )	( )	( )	( )
Other U.S. 1.						
Other U.S. 2.						
Host Country						
Other Donor(s)						
TOTALS	1,700	-0-	1,700	19,000	-0-	19,000

9. SCHEDULE OF AID FUNDING ($000)

A. APPROPRIATION	B. PRIMARY PURPOSE CODE	C. PRIMARY TECH. CODE 1. Grant	2. Loan	D. OBLIGATIONS TO DATE 1. Grant	2. Loan	E. AMOUNT APPROVED THIS ACTION 1. Grant	2. Loan	F. LIFE OF PROJECT 1. Grant	2. Loan
(1) AG/SDA	877					1,700	0	19,000	-0-
(2)									
(3)									
(4)									
TOTALS				-0-	-0-	1,700	-0-	19,000	-0-

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

11. SECONDARY PURPOSE CODE

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

A. Code

B. Amount

13. PROJECT PURPOSE (maximum 480 characters)

To assist USAID Missions and host country institutions to: (1) identify and address critical environmental issues that threaten economic growth, public health and ecological sustainability, (2) mobilize the private sector and NGOs to provide cost-effective solutions to these problems, and (3) to promote regional information exchange.

14. SCHEDULED EVALUATIONS

Interim MM 09 YY 93 MM YY Final MM 05 YY 95

15. SOURCE/ORIGIN OF GOODS AND SERVICES

☐ 000 ☐ 941 ☐ Local ☐ Other (Specify)

16. AMENDMENTS/NATURE OF CHANGE PROPOSED (This is page 1 of a ____ page PP Amendment.)

17. APPROVED BY

Signature

Title

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MM DD YY

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PROJECT IN DEVELOPMENT AND THE ENVIRONMENT

PROJECT PAPER

February 1991

PROJECT IN DEVELOPMENT AND THE ENVIRONMENT

Project Number 398-0365

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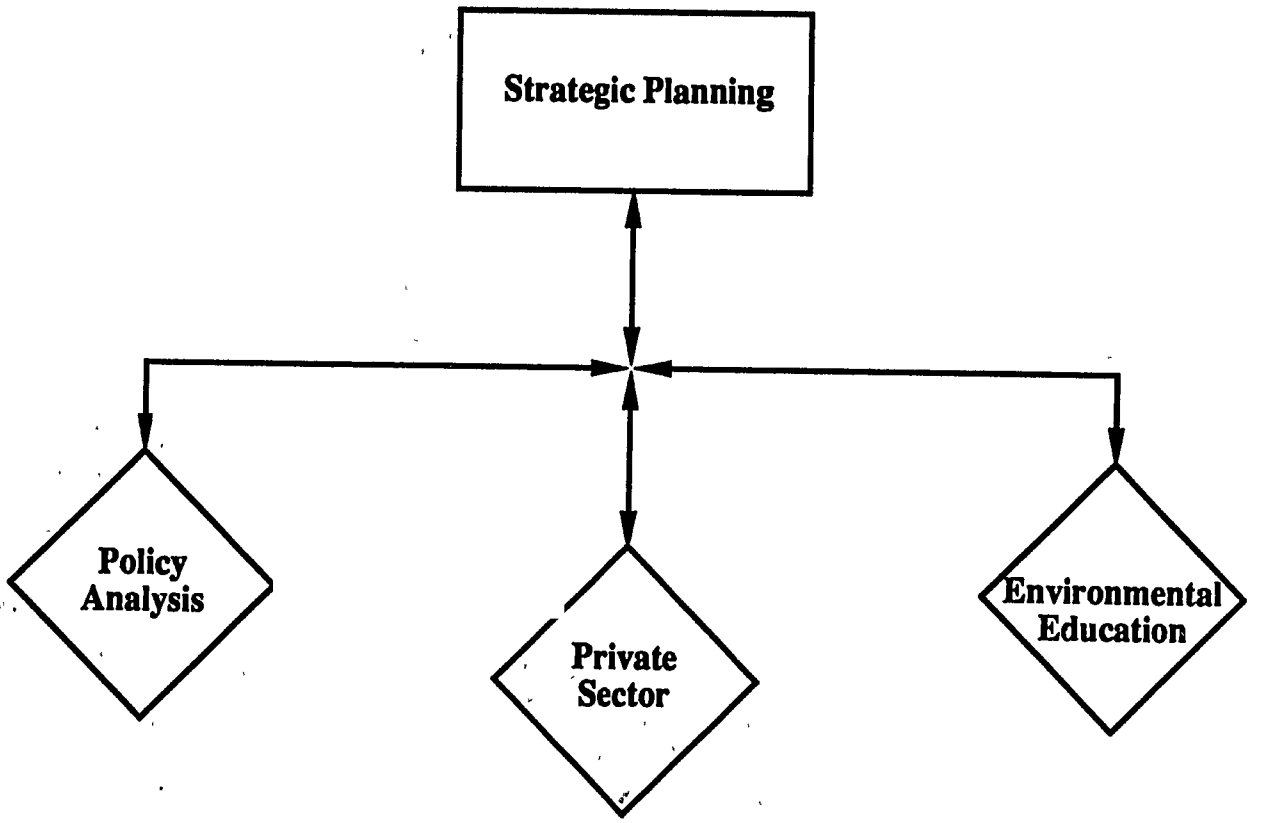
Figure 1

PRoject In Development and the Environment Components



PROJECT IN DEVELOPMENT AND THE ENVIRONMENT

1. EXECUTIVE SUMMARY

1.1 OVERVIEW

The Project in Development and the Environment (PRIDE) is a five year, $19 million dollar project that will provide the ENE Bureau and ENE Missions with technical, analytical, and information support to promote sound environmental and natural resource use for long-term sustainable economic growth in host countries. PRIDE will improve the Bureau's ability to implement its environmental and natural resources strategy and A.I.D.'s Environmental Initiative through better incorporation of environmental considerations into economic development policy and by strengthening environmental institutions which support this process. The project will focus on ENE environmental and natural resources (ENR) strategy objectives of common concern to the countries of this region: improved industrial efficiency coupled with pollution reduction, improved water management, and the introduction of private sector-oriented approaches to improving environmental management.

The project purpose is to assist USAID missions and both public and private host country institutions to:

(1) Identify and address critical environmental and natural resource management problems that threaten economic growth, public health, and ecological sustainability.

(2) Mobilize the private sector and NGOs to provide cost-effective, sustainable solutions to these problems.

(3) Promote information exchange in the ENE region on shared environmental and natural resources problems and workable approaches to address them.

1.2 PROJECT COMPONENTS

There are four closely-linked project components, as follows:

1.2.1 STRATEGIC PLANNING

The strategic planning component will help Missions and host countries identify the highest priority environmental management objectives in each assisted country so that limited AID resources can be targeted to those activities best promoting long-term sustainable economic growth. A core contractor will assist in developing an analytical framework to guide the selection of environmental and natural resources interventions.

The core contractor will assist Missions and host-country public and private institutions directly by providing:

- information on strategic planning methods and approaches applicable to environmental and natural resources management concerns

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- technical assistance to make use of these methods to integrate environmental concerns into Mission assistance portfolios and policy dialogue efforts as part of CDSS, Country Action Plans, and other programming exercises

- technical assistance for in-depth country-level analyses of ENR issues related to public policy, private sector, NGO, urban-industrial pollution, and environmental education and opportunities for addressing these issues

- demonstrations of country-specific strategic planning techniques drawing on expertise from the U.S. public and private sectors

- assistance in accessing centrally-funded ENR AID projects and other USG programs such as those which address global climate change and conservation of biological diversity where appropriate

1.2.2 POLICY ANALYSIS

An important function of PRIDE will be to test, adapt, and demonstrate emerging and innovative methods for ENR policy analysis. PRIDE will support Mission and host country economic analyses of macro, sector or sub-sector level policies that relate to natural resources management or otherwise affect the environment and economic development. PRIDE will strengthen local capability to conduct policy analysis through joint efforts with host country environmental policy specialists. Emphasis will be placed on transferring the analytical framework of environmental and resource economics including measures to quantify the costs associated with inefficient use of natural resources and their degradation. Sources of expertise to support these efforts will include U.S. environmental policy institutions, EPA, U.S. industry, and technical assistance available through centrally-funded AID projects.

1.2.3 PRIVATE SECTOR APPROACHES

PRIDE will assist selected host country industries and other private sector institutions in identifying and implementing environmentally beneficial actions and cost-effective solutions to environmental and natural resource management problems. Based on the assumption that many opportunities exist for simultaneously improving industrial efficiency and environmental management, an ENE strategy for overcoming a range of important barriers to private sector investments in pollution prevention, control, and reduction will be developed to include:

- no cost/low cost actions capable of reducing urban and industrial pollution

- mechanisms for improving indigenous private sector access to information on sources of finance for environmental measures and on available technologies

- market surveys, feasibility studies, and financial analyses in the industrial and urban sectors giving preference to the identification of investments which promote the commercial transfer of U.S.

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environmental technology, services, and equipment

- o training and technical assistance in financial instruments such as municipal bonds, commercial credit sources, and donor-assisted funds which can be used to overcome capital constraints hindering environmental management investments

Through a new cooperative agreement with the World Environment Center (WEC), the project will:

- o provide technical assistance and training on industrial measures to improve health, safety and pollution prevention in inefficiently-operated and polluting firms

- o assist in establishing and supporting ɜt country pollution prevention assistance programs through local indusɩɩy and professional associations, or independent WEC-type organizations

- o train host-country professionals in pollution prevention who can in turn serve as trainers through joint in-country assessment exercises, hands-on short-term training, and internships for ENE nationals in U.S. industries

Additional activities in this component will be undertaken by the core contractor.

1.2.4 PUBLIC AWARENESS/ENVIRONMENTAL EDUCATION

PRIDE will promote public awareness and accountability of both government and private sector decision-makers through environmental and natural resource education activities coupled with selective training programs. The project will focus its efforts on helping Missions identify environmental education initiatives that can be implemented using existing Mission and AID/W human resources development and education projects. The core contractor also will assist in the development of a regional action plan for promoting ENR education. Based on the recommendations of this action plan, PRIDE will sponsor country-level ENR education action plans, and provide small grants to U.S., international or local NGOs for in-country pilot activities in accordance with these action plans.

2. PROJECT INPUTS - TECHNICAL ASSISTANCE/TRAINING

Technical assistance and training will be provided through the following mechanisms:

- o Core contract and a supporting requirements contract for Mission buy-ins. This contract will include three long-term experts -- a Senior Resource Economist, a Private Sector Analyst, and an Institution/Information Specialist -- as well as short-term experts

- o A Cooperative Agreement with the World Environment Center (WEC) that will include sub-grants to local and U.S. trade associations and professional organizations

- RSSA's with the Environmental Protection Agency and the Department of Energy to address water pollution and environmental effects and pollution from energy development and use

3. PROJECT SUSTAINABILITY AND EXPECTED RESULTS

The project will place strong emphasis on identifying key environmental and natural resources management problems at the regional and country levels and will assist host countries to deal with both the direct and indirect causes of these problems. Through this effort, ENE Missions and cooperating host country institutions will have strengthened capacity to integrate environmental concerns into their analysis of national economic growth, opportunities for private sector development and the promotion of democratic processes. As the project objective is to have a lasting impact on the ability of ENE countries to analyze environmental and natural resources problems and to devise appropriate interventions, PRIDE's benefits will be through better projects and programs that support long-term sustainable economic growth in the ENE region.

PRIDE's most important expected results will come from the catalytic role it will play in focusing Bureau resources on the rapidly evolving area of environment and natural resources management. It will:

- Encourage the mobilization of U.S. expertise and stimulate economically and environmentally beneficial investments by Missions, other U.S. agencies and other donors.

- Strengthen host country capacity to overcome information, market entry and capital constraints that influence the broader participation of the private sector in environment management.

- Adapt new generic policy and project interventions and investments that improve the sustainable management of natural resources.

- Identify and demonstrate economically self sustaining private sector investments and approaches to environmental management.

- Improve the level of environmental awareness in the media and among the public, and strengthen NGO's and the private sector in their dialogue with government on ENR trends and policies.

1.2 Project Inputs

PRIDE will fund $19mn ($11mn AID/W core and $8mn Mission buy-ins) over five years in support of ENE regional and country-specific environmental activities. Inputs are:

1. **Long-term technical assistance:** Consists of a 6-person multidisciplinary professional team (contractors and RSSAs) and an administrative assistant. The team will provide 324 person/months of long-term technical assistance, half of which will be delivered in the field to Missions. They will carry out studies, assessments, demonstrations and tests of planning techniques and approaches, and organize and implement information exchange. They will organize seminars and workshops in the field, and, at USAID request, identify and broker specialized services.

2. **Short-term technical assistance:** Supplements technical assistance of the long term team with 108 person/months divided among the 4 project components: strategic planning, policy analysis, private sector, and public awareness/environmental education.

3. **Private sector consulting and training:** Approximately 126 person/months of technical service provided through a cooperative agreement with the World Environmental Center (WEC), including 13 months of technical services from WEC associates such as trade associations.

4. **Equipment:** For computers to be used by the long and short term technical advisors

5. Other
- Mission Buy-ins estimated at $8mn life of project.
- Direct grants to NGOs
- Project audit and evaluation
- Contingency

BUDGET SUMMARY	Months No.	AID/W Core	Mission Buy ins	Total Budget
Long-term TA				
Core contract	228	3,946,308	0	3,946,308
RSSAs	96	1,157,230	0	1,157,230
Strategic planning	50	883,083	1,500,000	2,383,083
Policy analysis	34	692,300	2,000,000	2,692,300
Private sector initiatives	126	2,521,988	2,250,000	4,771,988
Environmental educ./pa	63	755,028	2,100,000	2,855,028
Equipment		150,000	0	150,000
Evaluation/Design		240,000	0	240,000
Audit		250,000	0	250,000
Contingency		404,064	150,000	554,064
Total		11,000,000	8,000,000	19,000,000

1.3 Recommendation

It is recommended that AID approve the Project in Development and the Environment (PRIDE), with life of project funding of $19 million for the five-year period of FY 1991 - FY 1995. The project design committee has determined that the project is technically, financially, economically and environmentally sound.

II. BACKGROUND

2.1 The Problem

Issues of environmental quality and natural resource management have emerged as central economic and political concerns for many of the countries in the ENE region. These concerns have arisen in response to polluted environmental systems, inefficiency and waste in resource use, depleted natural resources and damaged ecological systems. Increasing environmental and natural resource (ENR) degradation in the ENE region represents a significant impediment to sustainable economic development and sociopolitical progress.

The ENE region has an extraordinarily varied set of climates, ecological zones, economies, and political conditions. Nevertheless, these countries all face the common difficulty of sustaining economic growth throughout the 1990s. Common to most of the region is the high level of urbanization, important industrial and processing sectors, and basic economic options and socio-economic conditions which are profoundly affected by the state of each country's ecological and natural systems. The ENE nations depend on these systems to provide public services such as water supply, flood control, air purification and temperature moderation.

Economic policies and practices can result in serious consequences for the environment. Two important factors which can lead to environmental degradation are (1) inappropriate government policies and (2) the failure of markets to accurately price the environmental cost of goods and services. These factors are at work in the stagnated command economies of Eastern Europe and the more market-oriented economies of the Near East and Asia. Eastern Europe will require a major transformation to market-oriented policies and programs and substantial progress towards establishing democratic institutions. Population pressures will challenge Near Eastern and Asian ENE nations to sustain economic growth while maintaining and improving environmental quality and natural resources.

In Eastern Europe, serious socio-economic and health problems are coming to light as the result of industrial policies which discouraged sound environmental management. Air and water resources are severely polluted and natural resources are exploited very inefficiently. In particular, portions of southwestern Poland, northwestern Czechoslovakia and southeastern Germany have some of the worst pollution and environmental health conditions in the industrialized world.

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Many of the Near East countries have very limited arable or forested land, with large areas used for seasonal grazing. These countries are becoming rapidly urbanized, with nearly half of the population in cities and towns. This urban expansion brings associated problems of sanitation, solid waste disposal and environmental health. The industrial base of most of these countries, with the exception of Egypt, is limited and oriented towards import substitution. Scarce water resources are a major factor affecting the economic and political configuration in this sub-region where international and transnational as well as domestic conflicts over water use are intensifying.

The Asian countries of Pakistan and the Philippines have major problems associated with the mismanagement of natural resources and urbanization. Primary and processed agricultural products remain important sources of export earnings and for domestic production. Pakistan faces a major land degradation problem from deforestation, soil erosion and from extensive waterlogging and salinization from poor irrigation practices. The inefficient use and depletion of forest, land and marine resources of the Philippines are undermining the options for economic development and fostering civil unrest.

In order to identify the most critical ENR trends and conditions for AID to address in the 1990's, the Asia and Near East Bureau commissioned in 1989 a series of background analyses and a synthesis report by the World Resources Institute. Four priority problem areas were identified: (1) water and soil resource degradation and mismanagement, (2) energy shortages, inefficiencies and the environmental impact of energy production and consumption, (3) urbanization and industrial pollution, and (4) the loss of biological diversity and the destruction of tropical forests, aquatic systems and other living resources. The focus of PRIDE will be on priorities 1, 2 and 3.

2.2 Agency Policy

The Project in Development and the Environment (PRIDE) focuses on some of the major causes of environmental degradation identified in the AID Policy Paper on the Environment and Natural Resources published in 1988: short-term perspectives of public and private sector planners, inefficiency of resource production and use, and social and institutional constraints to more effective natural resource management. The Policy Paper outlines an Agency commitment to support host countries with the formulation of environmentally sound policies, the identification and alleviation of environmental problems and activities that increase resource productivity. Furthermore, AID has a long-standing policy to integrate environmental review procedures into all AID activities and projects.

PRIDE also responds to the new Agency Initiative on the Environment that calls for an emphasis on: (1) environmental policy and economics, (2) strengthening environmental institutions, and (3) technical interventions that address regional priority problem areas. Beginning in FY91, each Bureau is expected to concentrate 75% of all new environmental resources to support activities in these three categories. The strategic planning

aspects of PRIDE will help the Bureau and Missions meet this objective.

2.3 Relationship to ENE Bureau Policy

The ENE Bureau has designated the environment, natural resources and energy as a core program area and has developed a draft Program Strategy for Environment and Natural Resources Management for the 1990s (hereafter referred to as the regional ENR Program). The ENR Program provides a general framework for the most effective use of Bureau resources to address critical environmental problems. The strategy is based on the premise that "open markets and open societies offer the best hope of fostering the economic competition and efficiency in resource use, political freedom and public accountability necessary for broad-based, sustainable economic growth." This Program calls on Missions to undertake a range of actions and analyses for achieving progress in sound environmental and natural resource management. The PRIDE is a major vehicle for implementing the ENR Program and will work with Missions and ENE countries to refine and further define priorities for action.

The project is also consistent with the U.S. Government Environment and Energy Strategy for Eastern Europe. This strategy outlines a framework for U.S. assistance, some of which may be provided through the PRIDE. U.S. environmental assistance in Eastern Europe will seek to: (1) improve government capacity and efficiency in providing environmental services, (2) support private sector activities that lead to environmental investments and improved environmental conditions, and (3) support environmental NGOs to promote increased government accountability on environmental issues and to increase public participation in environmental decisions.

2.4 Relationship to Ongoing and Planned ENE Initiatives

In 1982, the Near East Bureau launched the Regional Environmental Activities Project (REAP) that was later expanded to include Asia when the regional bureaus merged in 1985. REAP is scheduled to be terminated 9/30/92. Through this project, AID has transferred U.S. private sector technologies and expercise for resolving pollution problems at industrial facilities, provided technical assistance for country environmental planning, and has served as a mechanism for incorporating Congressional earmark funding and set-asides for biodiversity conservation. REAP demonstrated the value of regional bureau support for new and innovative approaches to promoting environmental and natural resource management. Rapid political and economic changes in the ENE region and the growing realization that sound ENR management is necessary for sustainable economic growth make continued regional project assistance especially critical in the 1990s.

During early implementation of PRIDE, two studies sponsored by the ENE Bureau will further define priorities for the project: (1) an evaluation of urban environmental issues to provide a better understanding of priority countries and major urban centers that should serve as the focus for PRIDE activities and (2) a comprehensive study of water policies in

Asia and Near East countries under the Irrigation Support Project for Asia Near East (ISPAN). The latter study will examine the major changes underway in the water sector in order to redefine priorities for assistance.

III. PROJECT DESCRIPTION

3.1 PROJECT GOAL AND PURPOSES

The goal of the project is to promote sound environmental and natural resource policies and programs in support of long-term sustainable economic growth. The purpose is to assist USAID Missions and host country institutions to (1) identify and address critical environmental issues that threaten economic growth, public health and ecological sustainability, (2) mobilize the private sector and NGOs to provide cost-effective solutions to these problems, and (3) to promote regional information exchange.

3.2 PROJECT RATIONALE: needs and opportunities

This regional project will act as a catalyst to stimulate Mission ENR activities, to support Missions with technical assistance in certain areas, to access other resources, and to help Missions define their environmental strategies. It emphasizes a strategic approach to help Missions and host country institutions set priorities for incorporating environmental objectives into existing projects and programs. The project focuses on critical areas where innovative methodologies, analytical tools, information, technical expertise and training are still emerging and are not sufficiently available through existing programs.

3.2.1 Needs

There are three critical areas of need in existing ENE programs which hinder the development of sound environmental and natural resource policies and programs. The assumption linking PRIDE project purposes to goal achievement is that PRIDE inputs (expertise in the form of long and short term technical assistance and information accessed from a broad range of sources) will give the Bureau and the Missions the resources and additional needed skills and capabilities to address these needs, and, as a result, enable ENE to implement its strategy and to assist USAIDs and host country institutions in addressing major environmental and natural resource constraints.

The three purpose-level needs which PRIDE is designed to fill are:

1. improve recognition by both Missions and host country institutions of how environmental conditions and trends in resource use are threatening economic growth, public health and ecological sustainability;

2. improve understanding of how to mobilize the private sector and non-governmental organizations (NGOs) to participate in policy formulation and in programs which effectively address environmental problems; and

3. develop effective information sharing among USAID Missions, host country institutions, and AID/Washington or synthesizing of the experience to date with different environmental initiatives and policy reform programs.

3.2.2 Opportunities

According to previous studies commissioned by the Bureau during the preparation of the ENR Program, there are five major socio-economic constraints to achieving sound environmental policies and programs in the region: (1) market failures, (2) subsidies and policy distortions, (3) institutional weaknesses, (4) inadequate information and analysis, and (5) weak public participation in the decision-making process. PRIDE will strengthen the Bureau's ability to deal with these constraints. It will build on Mission's on-going efforts to address environmental concerns and in particular focus on strategic planning, policy analysis, private sector development and environmental education. Areas in which PRIDE could provide support to Missions in dealing with existing constraints are discussed below.

1. Market failure

The market forces which govern the production, exchange and use of natural resources and environmental services frequently undervalue their worth. An active government role is required to set more realistic prices for resources such as forests and water, to establish a regulatory framework which encourages more efficient use of resources, and to encourage private sector investment in sustainable resource use and pollution reduction. For example, it is estimated that if Pakistan increased the efficiency of irrigation water use by 10%, the water saved could irrigate another 2 million hectares. (World Resources, 1977) Likewise, government action is needed to adjust policies such as local monopolies of resources and insecure property rights for users of water and forest resources which inadvertently encourage inefficient use of resources and environmental degradation. PRIDE strategic planning, policy analysis and private sector components will respond to market failure issues.

2. Policy failure

Environmental quality is influenced by the full range of government interventions and policies including subsidies, foreign exchange valuation, availability of credit, tax breaks, the pricing of goods and services, protection against imports, insecure tenancy of land and resources, free disposal of industrial and toxic wastes, unrestricted urban air and noise pollution from private and public transportation, and infrastructure projects implemented with inadequate attention to environmental impacts.

The interrelationship of these polices and their impact on the environment as well as the economy in general are complex. Their consequences are often unanticipated and unintended. For example, Panatyoutou, in a paper prepared for the Bureau ADO conference wrote, "capital subsidies, tax and tariff exceptions for equipment and minimum wage laws that displace labor and force undue mechanization of agriculture or promote capital intensive industry in the face of surplus labor lead to increased pressure on

marginal lands and common property resources as a last resort activity." (p. 18, Economics, Environment, and Development, 12/87). Pesticide and fertilizer subsidies may result in overuse which has a negative environmental impact and doubtful long-run economic benefit while discouraging farmers from use of alternative practices. Moreover, the subsidies cost governments millions of dollars which might be invested elsewhere. Pesticides and fertilizers should be priced or taxed to raise their price to the true cost to society and the environment. Assistance to Missions in the area of market failure can be provided through the policy analysis project component.

3. Institutional weaknesses

In most ENE countries government has the major impact on the environment directly through exploitation of resources and indirectly through policy decisions. As in this country, government provides the regulatory or non-regulatory framework that determines what impact private sector, NGO and private users of resources have on the environment. In some ENE countries, government does not have effective control over resources, there may or may not be a regulatory framework and, even where that exists, there may be no means or political commitment to enforcement. In the absence of an effective management system, "open access" occurs and the result may be resource degradation or depletion.

Local capability to analyze the environmental impacts of public policy, to develop and enforce regulations, and to educate the public on environmental issues is weak or absent. In most ENE countries there are no private sector services or institutions to address the needs of private, government, or parastatal industry. Environmental services firms or institutions can demonstrate the cost savings of technologies such as waste recycling. Countries which do not now have the needed institutional base will be under increased pressure to address this constraint if only to meet the "environmental conditions" for loans from, for example, the World Bank. Strengthening institutions is an AID Environmental Initiatives priority and will addressed through the policy analysis, private sector and environmental education components of PRIDE.

4. Information and analysis

Analyses which highlight the costs of existing environmental trends and the potential benefits of different policy options are hampered by the lack of reliable data and by the level of expertise of the person working with the methodological tools required for such analyses. Moreover, environmental (or "ecological") economics is a discipline new to AID. It is also a discipline which is rapidly increasing its range of activities from cost/benefit to broader analyses. Therefore, it has proved difficult for Missions to obtain the necessary expertise for these analyses or to go into sufficient depth to develop discrete follow-on policy reform support programs which address ENR issues. Policy implementation which incorporates ENR issues presents a host of new and unfamiliar challenges in terms of anticipating socio-political issues, institutional needs and the identification of appropriate indicators for monitoring policy performance. The policy analysis component of PRIDE will focus on demonstrating and adapting new and innovative policy tools and methods and applying them to implementation issues. The tools include valuation

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techniques, standards, and other measures.

5. Weak public participation
The lack of citizen involvement in the formulation of policies or in the implementation of environmental and natural resource management initiatives has diminished the effectiveness of existing programs in ENE countries. The failure to involve the key "stake holders" in the environmental decision-making process prevents consensus building and has fostered political discontent and violent protest. For this reason, environmental education (in the broadest sense of this term) represents one of the most constructive opportunities for promoting democratic pluralism in the ENE region.

NGOs can play a critical role in expanding public awareness. In many countries they are a source of bottom-up pressure for action and accountability on environmental issues. However, there are few NGOs in the majority of the ENE countries. Where they exist their management may be weak and their resources limited. PRIDE will promote increased public participation and awareness with regional and country level activities such as training for journalists, needs assessments leading to national action plans, and in-country pilot activities in support of NGOs.

3.3 PROJECT COMPONENTS

There are four basic project components, as illustrated in Figure 1. The **Strategic Planning** component serves a comprehensive, integrating function in support of the **Policy Analysis, Private Sector Development** and **Environmental Education** components, which concentrate on specific priority areas.

The four project components have important links to one another. The strategic planning component will assist Missions and the ENE Bureau, and through them host countries, to weigh priorities for specific ENR interventions based on a consistent assessment process and analytical framework. Conversely, the analyses, demonstration activities and information dissemination associated with the three other components will help define and further refine overall country and regional ENR strategies.

Important links also exist between the policy, private sector and environmental education components. The latter two promote new and innovative ways to stimulate action outside the public sector. The policy analysis component will examine the specific barriers to such private initiatives. For example, in-country studies might pinpoint how prevailing policies (or lack of policies), prevent public and NGO access to technical information on the health effects of urban water pollution, therefore limiting public pressure for pollution control regulations and exposing the public unwittingly to health risks. Another example would be the analysis of trade and regulatory policies that inhibit a fertilizer plant from investing in pollution prevention equipment.

During interviews with ENE experts, AID staff and Mission personnel during

the design of PRIDE, it became clear that there are practical limits on the extent to which generic ENR policy solutions can be developed, or borrowed from other countries, without attention to how policies and approaches can be adapted to a country's particular social, political and economic setting. For this reason, a major emphasis of PRIDE i facilitating the transfer of general methods and analytical tools and fostering experimentation and adaptation by local analysts and host country institutions.

3.3.1 Strategic Planning

Strategic planning is a process involving identification of specific problems and opportunities with reference to the country's economic, institutional, socio-cultural, political and legal framework in order to prioritize problem-solving activities. The need for a more concerted, strategic approach is evidenced by the difficulties ENE Missions have faced with promoting ENR management in the past. A review of previous AID and other environmental profiles and natural resource assessments undertaken in Asia and Near East countries reveals that many are out of date and few (except more recent ones in Asia) identify specific opportunities for promoting sustainable economic development. Many of these assessments provide a technical "snap shot" of ENR trends and conditions without adequately addressing economic, institutional, socio-cultural, political or legal dimensions, or the priorities for change. This project will facilitate the adoption of an ENR strategic planning process by Missions so that previous and future assessments can be used more effectively.

Strategic planning requires careful analysis of specific opportunities by specialized experts. At the regional level, it has proved difficult for the Bureau to address new and emerging environmental issues from a strategic perspective without access to specialized experts. The regional ENR Program identifies priorities that are new areas of emphasis for the Bureau: urban and industrial pollution, environmental aspects of energy production. The ENR Program also identified constraints discussed in the preceding section including weak public participation and information and analysis. These areas, together with a continued concern for policy issues associated with water resource allocation and management and the conservation of biological diversity, have proved difficult to support at the country level cost-effectively without greater access to technical expertise and information exchange at the regional level.

The Strategic Planning component will help Missions and the Bureau identify specific environmental goals and objectives so that limited AID resources can be targeted to those activities best promoting long-term sustainable economic growth. An analytical framework will be developed that can guide the selection of interventions and priorities to

1. reflect the objectives set forth in the Agency Environmental Initiatives and in the draft ENR Program;
2. support specific country-level USAID objectives and program emphases;

3. support existing activities within the host country;
4. benefit from existing AID projects (e.g. EPAT, GREENCOM);
5. promote synergy with other PRIDE components -- private sector and public awareness/environmental education; and
6. achieve economies of scale.

This framework for setting priorities is discussed in detail in Annex K, Priorities for Policy Analysis.

The first step in the general strategic planning process entails problem identification, including reviewing existing planning work and basic environmental and geographic profiles. It is at this stage that bilateral and multinational donor interventions and coordination will be considered. This process of review establishes a baseline for impact measurement.

By definition, all environmental problems impose impacts and costs such as dollars, lives or ecosystem damage. Rarely are there sufficient data to quantify these costs, nevertheless problems must be ranked in order to specify which problems are the most critical. A principal method proposed for reaching a consensus on highest priority issues is the EPA's relative risk reduction methodology. This approach has a particular relevance for ENE countries providing a tool for participation of a range of technical experts, policy makers and the private sector in the ranking of problems.

The second stage involves formulating strategic options for solving the most critical problems. This involves developing a list of potential risk reduction strategies for each problem, selection of most promising options for each problem, and identifying cross-cutting strategy options and recommendations. Focused analyses are often needed at this point to clarify policy, institutional, legal and regulatory and other options. One mechanism to spur selection among such options are decision-maker workshops.

In the third stage of strategic planning, procedures and action plans are identified to implement options. The implementation stage of PRIDE strategic planning will emphasize flexibility in scale and foster experimentation and adaptation of proven policy instruments by local analysts and host country institutions through specific discrete interventions. Flexibility in scale will permit activities to begin at the country level or focus on particular problem areas or sectors.

Six long-term advisors will be funded under PRIDE, three of whom will be specialized in the areas of resource economics/policy analysis, private sector approaches, and environmental education components. Each of the six project-funded specialists will contribute to the development of a strategic planning process for ENR. This includes applying general approaches and criteria to help the Bureau, Missions and host country institutions to assess ENR priorities in terms of economic growth, environmental health and ecological sustainability. The experience of other experts, USG agencies and institutions will also be drawn on by holding seminars, contracting special studies and by identifying and

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mobilizing short-term technical assistance.

The strategic planning will help the ENE Bureau to:

- monitor trends and initiatives in ENE countries and assess progress in meeting objectives;
- facilitate information exchange among USAID Missions, host country institutions, other centrally funded AID projects and U.S. organizations and experts in order to build on the experience gained in different ENE and Asian countries;
- apply strategic planning approaches with an initial focus on urban environmental quality and water resources management.

PRIDE is designed to be flexible to adjust to the differing needs of ENE countries. It can introduce ENR strategic planning methods when these are needed by Missions and/or host country institutions. In some cases only a modest exercise will be appropriate to assist Mission staff with the incorporation of environmental considerations into all or part of their existing portfolio (for example, private sector development). In others, PRIDE can demonstrate how strategic planning methods such as relative risk reduction and decision-maker workshops can be used as tools for working with host country institutions to develop ENR plans of action.

The project team will provide direct assistance to Missions and host country public and private institutions by:

- disseminating information on strategic planning methods and approaches,
- country visits to work directly with Missions to integrate environmental concerns into their portfolios and policy dialogue as part of the CDSS, Country Action Plans, and other programming exercises,
- providing short-term personnel to participate in broader ENR country assessments in ENE countries to focus on public policy, private sector, NGO, urban-industrial pollution and environmental education issues,
- identifying opportunities for Missions to use ENR centrally-funded AID projects and other USG programs to pursue high priority environmental interventions,
- implementing in-country demonstrations of strategic planning techniques, where appropriate, drawing on expertise from the U.S. public and private sectors.

3.3.2 Policy Analysis

In ENE countries, the public sector has often resisted Mission and other donor efforts to promote ENR policy change because these involve the divestment and/or decentralization of government control over natural resources, privatization of government services, more open public debate over ENR policies and greater decision-maker accountability. In this setting, the PRIDE approaches policy change as a long-term objective that must be complemented with support to the private sector to undertake environmentally beneficial measures and with assistance to NGOs and the general populace to improve public awareness and to broaden the constituency for policy change.

An important function of PRIDE will be to demonstrate and adapt emerging and innovative methods for ENR policy analysis. Previous attempts to correct policies that encourage inefficient and resource degrading allocation decisions have at times run counter to the political and economic power relations which gave rise to the policies in the first place. The emphasis will be on testing and adapting existing policy tools and instruments and addressing implementation issues. Priority will be on transferring information to ENE public and private sectors from U.S. sources such as EPA, industry, and from centrally funded AID projects such as the Environmental Policy and Training project (EPAT).

The strategic planning exercises and diagnostic visits to Missions by the PRIDE long-term advisors are expected to generate requests for short-term technical assistance for ENR policy analysis. The PRIDE resource economist will help Missions and ENE countries identify the appropriate expertise, with an emphasis on facilitating buy-ins to appropriate IQCs and centrally-funded projects available through S&T/FENR, S&T/RD and PPC.

PRIDE will also support a few selected "demonstration analyses" undertaken by in-country economists, political scientists and/or other social scientists. The intention will be to transfer valuation techniques, standards and other quantifiable measures, fostering experimentation and adaptation by local analysts and host country institutions. The criteria for selecting these demonstration studies will be developed during the first year of the project, based on the principles of broader relevance to other ENE countries, Mission has an interest in the topic, and the topic falls under the categories developed during the first project year. The results will be made available to AID for dissemination as a case example. These studies will be supported using core funds. Missions may buy-in for additional in-country studies that conform to the intent and purpose of the policy component.

PRIDE will support the gathering of rudimentary data and the quantification of environmental degradation. This may involve either the identification and diagnosis of specific environmental problems in particular country sectors or strategic policy development for selected sub-sectors. With U.S. collaboration and short-term expertise as required, these studies will focus on quantifiable measures as they require less country-specific adaptation.
The next stage involves formulating policy instruments based on the research results. Narrowly defined topics will be crucial to maximize the

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potential for effectiveness within the limits of project funding and duration. Finally, the focus will be on determining the particular needs for policy implementation within the context of a given country's social, political and economic structure.

Early in PRIDE implementation, a list of very specific topics within the general subject areas of urban and industrial pollution issues and water resources management will be developed. Pre-project analyses on urban environmental priorities and on water policy issues are expected to narrow the list of potential topics. An inventory of what other resources and initiatives are available in the region, host country interests and needs and Mission concerns will further define the policy analysis topics. The results of these "demonstration analyses" will be widely disseminated across the region and in-country workshops will be used to highlight policy development results. The PRIDE contractor will also be responsible for disseminating information among and between Missions and ENE countries regarding ENR policy research undertaken in ENE countries.

3.3.3 Private Sector Approaches

The private sector component is designed to stimulate environmentally beneficial actions by the private sector and NGOs to provide cost effective solutions to environmental problems. This component is targeted primarily at non-European countries as there is a separate private sector environmental project for Eastern Europe.

Under the existing regional project (REAP), a cooperative agreement with the World Environment Center (WEC) has drawn on U.S. experts (almost entirely from industry, but also from the public sector and NGO community) to undertake individual industrial plant assessments of low cost-no cost pollution reduction measures. This approach has proved very effective and has raised the awareness and demonstrated the potential of voluntary pollution prevention. More recently WEC has successfully demonstrated the use of multiple plant visits, sectoral studies, workshops and other approaches to reach beyond individual plants to entire sectors or industrial regions on a single technical assistance engagement.

PRIDE will maintain the unique relationship between AID and WEC, building on the experience gained during the last seven years in Near East countries. The new cooperative agreement will place greater emphasis on reaching the large number of medium-sized firms especially in the industrial and tourism sectors, by helping to establish and support in-country pollution prevention assistance programs through local industry associations, professional engineering associations, and/or independent WEC-type organizations. The WEC program will focus more on training in-country trainers (including offering them in-plant experience in the U.S.) rather than providing direct in-country training. WEC will also experiment with the promotion of waste reduction in ways which stimulate development of a local private sector industry for environmental services. For example, besides training and awareness-building by local non-profit centers, WEC can potentially reach more waste generators by training local engineering firms or other service providers and then co-financing

assessments by such service firms.

In addition, the private sector component will provide a long-term advisor (Private Sector Analyst) to promote greater interaction and integration between environmental and private sector projects. This advisor will coordinate with Mission and AID/W environmental and private sector staff as well as other USG and donor programs (OPIC, TDP, IFC) to develop a regional strategy for overcoming non-regulatory barriers to private sector investments in pollution prevention, control or reduction. The strategy will include:

- mechanisms for improving indigenous private sector access to information on environmental costs and technology options such with assistance and services from, e.g. WEC, the Conservation Foundation or other organizations;

- facilitating fund creation for co-financing project development by the World Bank, the International Finance Corporation, OPIC or others, particularly to follow up recommendations for investments generated by WEC; and

- helping host country's financial community to package and market environmental financing instruments.

Technical assistance will be provided to develop and demonstrate the use of municipal or industrial bonds or other environmental financing options where Missions have active financial or capital market development projects. PRIDE will co-finance, from core or buy-in funding, feasibility study or project development costs of selected projects which have high export multipliers and a high probability of being financed by other sources. In most cases AID will attempt to mobilize or leverage non-USG sources of capital investment. Models include the TDP facility with the World Bank and the S&T Energy Office's program for co-financing private power project development costs.

The long-term advisor will also work with Missions to identify opportunities for experimenting with alternative in-country technical assistance to complement WEC activities. These will draw on U.S. or regional business associations (e.g., the U.S.-ASEAN Council for Business and Technology and the National Arab-U.S. Chamber of Commerce), professional engineering associations, and Mission energy efficiency projects where the Mission is willing to add a pollution prevention component. PRIDE will sponsor a feasibility study to promote voluntary pollution reduction measures in the urban private sector and examine the prospects of waste water management by the tourism industry and air pollution reduction by commercial transportation fleets.

On request, the long-term advisor will assist Missions and host countries to identify and analyze regulatory and non-regulatory options for addressing industrial and urban pollution and stimulating a dialogue and cooperative effort between host government agencies and those to be regulated. In addition to identifying how WEC could assist in this area,

this component will involve experimenting with different sources of U.S. expertise, including U.S. state and municipal organizations, such as the National Governors Association, environmental industry associations and possibly federal agencies such as EPA's policy and regional offices. PRIDE will also help Missions to identify other sources of expertise such as Private Enterprise Development Support (PEDS), IQC firms, or other cooperative agreements.

3.3.4 Environmental Education

Environmental education activities can be a powerful means of disseminating knowledge and skills on sustainable resource management and for decision makers to receive feedback on the efficacy of their policies and regulations. Missions may be unaware of the most effective techniques for promoting public participation and awareness through the mass media, educational programs and NGOs. The intermediary role of NGOs and media organizations can be considerably strengthened to promote greater environmental accountability of both government and private institutions and to stimulate more open debate, public awareness and participation in the decision-making process.

The first sub-component promotes public awareness and decision-maker accountability through environmental education and selective training. A long-term advisor will assist the Bureau with the development of a regional action plan for promoting environmental education involving the following steps:

- the development of an information clearinghouse on U.S. and international institutions, expertise and resources, including AID Washington projects that can accommodate buy-ins,

- the identification of specific regional initiatives appropriate for PRIDE support, such as short-term training for foreign journalists, translation and dissemination of audio-visual and printed materials, collection and dissemination of core materials for in-country libraries,

- a monitoring, evaluation and dissemination plan for lessons learned from PRIDE pilot initiatives in environmental education and from ongoing efforts by other projects and organizations operating in the region.

The second sub-component is designed to help Missions identify environmental education initiatives that can be implemented using existing human resources development and education projects by:

- providing short-term technical assistance with specific needs and issues arising from the national assessments and the national workshops;

- identifying other centrally funded programs that can be tapped, particularly for mass media training, curriculum

development and NGO training; and

- o providing access to U.S. organizations and experts who can help implement these initiatives through PRIDE buy-ins.

In order to stimulate more support for environmental education in ENE countries, PRIDE will sponsor up to two or three country needs assessments using core funds, with additional assessments possible through buy-ins. These assessments can serve as the first stage of a process of developing national action plans for environmental education for countries where this is appropriate. A team of one or two outside short-term experts would be paired with local experts to set priorities, identify a key local institution that can develop and implement a national action plan and specify needs for donor assistance. The subsequent workshop and the development of the plan can be implemented by PRIDE through a buy-in.

PRIDE will also support a few selected in-country pilot activities using small grants to U.S., international or local NGOs. The selection of pilots will be based on recommendations arising from country needs assessments, Mission requests and proposals from U.S. NGOs. A criteria for selection will be developed by the long-term advisor and the ENE Bureau. Missions will also be able to support pilot activities through project buy-ins.

Specific activities and the means and timing of interventions under this component are likely to vary widely across the region. While Eastern Europe is considered industrialized, it has had the least experience in public participation and environmental education. By contrast, both Pakistan and the Philippines, for example, have environmental education programs and strong NGOs. Finally, many of the Near Eastern countries have had assessments but have developed few or no action plans. This component will also have to pay considerable attention to cultural differences, the needs for consensus on action, and integration of its activities very closely with those of the other project components.

3.4 END OF PROJECT STATUS

The aim of this project is to provide information, methodologies and technologies that will help Europe and Near East countries pursue sustainable economic growth. This aim is complex and requires action on several fronts simultaneously by targeting the public sector, private sector and the general public and NGO community.

The major accomplishments of PRIDE will be:

(1) The adoption of ENR strategic planning concepts and methodologies by ENE Missions and countries.

(2) Greater recognition and understanding of the costs of critical environmental trends in ENE countries in terms of economic losses, environmental health, distributional effects, ecological sustainability,

and biological diversity.

(3) Improved Mission ability to support the formulation of policies in ENE countries that improve environmental quality and slow resource degradation and depletion.

(4) Demonstration of the financial and environmental benefits of ENE private and public sector adoption of voluntary actions and investment in long-term solutions to industrial pollution.

(5) Improved level of environmental awareness in the media and among the public, and promotion of non-governmental organizations and private sector dialogue with government on ENR trends and policies.

3.5 PROJECT INPUTS AND ACTIVITIES

The project will consist of: 1) long-term technical assistance, 2) short-term technical assistance, 3) continuation and further enhancement of a cooperative program between the ENE Bureau and the World Environment Center, 4) in-country demonstration activities (short-term technical assistance, studies, training and workshops), and 5) information dissemination (including a newsletter, workshops and seminars).

1. Long-Term Technical Assistance

The long-term technical assistance will: a) conduct further strategy development, b) respond to particular Mission needs for program and project development and technology transfer, including the identification of sources of technical services from other centrally-funded AID projects and IQCs, c) monitor and evaluate the pilot demonstration activities, and d) disseminate information on a continuing basis. At least one of the long-term advisors will be a full-time in-house position funded through a RSSA and will assist the Bureau with project management.

The following long-term technical positions will be authorized under the project:

Core contract personnel
(1) The Senior Resource Economist (SRE) will be responsible for overseeing the strategic planning and policy analysis components of the project. This person will work with Bureau and Mission economists, environmental officers and policy analysts to identify further the priorities for AID support in ENR, building on the draft ENR Program and forthcoming reports on urban environmental priorities and on water policy issues. The SRE will facilitate the application of strategic planning and policy analysis methodologies, with assistance from the Institutional Specialist. The SRE will advise the Bureau and Missions of centrally-funded programs and projects supporting policy formulation and strategic planning, as well as other USG agencies programs such as technical assistance contracts managed by EPA's Office for Policy and Program Evaluation. Services provided by the SRE include the identification of personnel and preparation of scopes of work for in-country policy analysis and for special studies.

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(2) The **Institutional and Information Specialist** (IIS) will work with Mission, Bureau and other AID human resource development and environmental officers to promote public awareness and decision-maker accountability in ENE countries. This person will develop and implement a regional environmental education plan for support for both regional and in-country activities. The IIS will also provide guidance to the Administrative Assistant for all PRIDE information dissemination activities. Contributions from the IIS are expected for institutional and social aspects of the strategic planning and policy analysis components. An early task of the IIS is the establishment of a manageable system for handling the contracting of regional environmental education support and small-scale pilot activities.

Among the services provided by the IIS are the identification of personnel and preparation of scopes of work for short-term work in ENE countries. This includes identifying centrally funded AID and other USG programs which can be tapped by the Missions for technical services, materials and host country training. The IIS will also establish project mechanisms for information dissemination, including a semi-annual newsletter, workshops and seminars. During the course of the project, the IIS will develop a plan and schedule for evaluating all pilot demonstrations and special studies supported under the project, as well as mechanisms for disseminating their conclusions.

(3) The **Private Sector Analyst** (PSA) will work closely with Missions, Bureau and other AID private sector and environmental officers, and with the World Environment Center (WEC) to identify and support opportunities for promoting private sector approaches to urban and industrial pollution abatement in ENE countries. This includes developing a plan for addressing regulatory and non-regulatory barriers to private sector investments in urban and industrial pollution prevention. The PSC will identify how the project can tap U.S. industry, professional, and state/local government environmental organizations for technical services. The PSA will also advise the Bureau and Missions of centrally-funded programs and projects that can assist with co-financing feasibility studies and project development to follow up recommendations made by WEC and other advisors from such as the World Bank, IFC, OPIC and TDP. Services provided by the PSA include the identification of personnel and preparation of scopes of work for private sector advisors and for special studies that examine policy barriers to private sector investments.

RSSA personnel

(4) The **Environmental Engineer** (EE) will provide full-time technical assistance to ENE/DR/ENR on all aspects of the project and will assist the Bureau with project management. In addition, the EE will advise Missions and host countries on how to assess adequately the environmental implications of AID-financed projects and to meet environmental regulatory requirements, as required under 22 CFR 216.

(5) The **Pollution Control Officer** (PCO)/Energy Environment Specialist will be a full-time ENE/DR staff member and a resource to the PRIDE project.

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The position is funded for three years. The PCO will work in the Division of Energy and Infrastructure and will be responsible for formulating policy, strategy, and technical assistance concepts for promoting environmentally sound energy and infrastructure development in ENE countries.

(6) **An Urban Pollution Analyst**, who will be specialized on policy and pollution regulation and will identify trends and problems associated urban pollution, will be available to ENE/DR part-time for the life of the project. The services of this advisor will be competitively procured.

The core contractor **Administrative Assistant** will assist the SRE, IIS and PSC with processing the paperwork for obtaining short-term technical services, obtaining services from other U.S. organizations, writing sub-contracts and agreements for pilot activities in environmental education and the private sector, and handling the buy-ins to the requirements contract. The AA will also be responsible for working with the IIS and other team members to produce and distribute a semi-annual project newsletter and packets of informational materials related to the four project components.

2. Short-Term Technical Assistance

The project will support 108 person/months of short-term technical assistance through the core contract to address strategic planning, policy issues, private sector development and environmental education. This will be limited to the demonstration of new and innovative approaches when Missions express a commitment to support follow-on activities. An example would be providing an expert in strategic planning methods to assist a Mission develop an action plan for addressing environmental issues. In addition, the long-term core team will be available to visit ENE Missions on request to assist with program development and to address specific needs in private sector initiatives and environmental education.

The long-term core team will also assist Missions to identify short-term personnel that can be obtained through other centrally-funded projects or mechanisms (e.g., IQCs) under buy-in and co-financing arrangements. This assistance will include developing draft scopes of work and advising Missions regarding the selection criteria for candidates.

Buy-ins to the PRIDE "Q-contract" (a "requirements" or "Q" contract which will be complementary to the core contract and will be with the same contractor) will be encouraged for technical services that are difficult to obtain from other sources. The main contractor will be expected to be associated with or to easily access the services of a variety of organizations, firms and institutions. Among the institutions whose expertise might be taped are professional and trade associations in environmental technologies, state and municipal organizations, education foundations, universities, and mass media communications corporations, and others.

3. World Environment Center

A new cooperative agreement with WEC (at the same level of support as the previous one) will be developed in order to strengthen the existing mechanism for transferring U.S. experience and technical expertise in pollution control to ENE countries. This agreement will be for all countries in the Bureau except Eastern Europe nations, which are covered in a separate cooperative agreement. The new agreement will reflect the experience and lessons learned by both WEC and AID during the previous project. In particular, more emphasis will be placed on expanding the voluntary adoption of low cost-no cost pollution abatement measures using industry training, the development of indigenous "WEC-like" institutions, fostering local environmental service industries and stimulating a continuous dialogue between the private and public sectors on regulatory options for pollution reduction.

4. Pilot Demonstrations and Special Studies

An important function of PRIDE is to stimulate more Mission and host country awareness of the tools and approaches that can be used for addressing ENR concerns, particularly strategic planning techniques, analytical tools for policy formulation, and mobilizing the private sector, NGOs and public to address environmental issues. For this reason, the project will support innovative pilot activities and special studies administered by the main core contract, as well as through buy-ins to the requirements contract.

5. Information Dissemination

PRIDE will promote the exchange of information and ideas by supporting the dissemination of information to Missions regarding: a) ongoing activities in ENE countries, b) the range of U.S. technical resources and programs available for policy analysis, private sector initiatives and environmental education, c) new literature and reports on ENR issues, and d) progress with project-sponsored pilot initiatives.

The core main contractor will be responsible for developing a simple semi-annual newsletter, information packets on selected topics, regional and national seminars and workshops, and presentations (e.g. at AID regional and Washington events such as environmental training courses and activities, sector (e.g. ADO) conferences, and Mission Director meetings).

3.6 SUPPORT FOR BIODIVERSITY AND GLOBAL WARMING

PRIDE conforms with Congressional directives that AID should increase its efforts to address global warming and the conservation of biological diversity. The aim of PRIDE is to help implement the ENR Program, which has identified both energy and biological diversity as important regional priorities. While these concerns are more directly addressed by other AID projects and IQCs, PRIDE could stimulate more Mission support for all types of environmental activities in general in the ENE region. The strategic planning component can potentially identify opportunities for promoting energy efficiency and technologies for decreasing the

environmental impact of energy production and consumption in ENE countries. These opportunities can be pursued using other centrally-funded programs and IQCs. Similarly, a strategy for addressing biological diversity could also be developed through strategic planning. Some of the private sector initiatives undertaken by WEC and others are likely to include improved efficiency of energy use by industrial plants. The environmental education component may also support public awareness campaigns and mass media activities related to both global warming concerns and biological conservation concerns.

Missions will be responsible for taking the lead on the design and implementation of activities in support of biodiversity and in addressing global warming. Missions will also take the lead in requesting short term technical assistance which could be secured through a buy-in to the project. An analysis has been completed recently which outlines the priorities for ENE support for biological diversity.

3.7 RELATIONSHIP TO OTHER PROJECTS

Considerable effort was devoted to avoiding duplication of effort with other AID projects during project design. The design team assessed existing S&T, PPC and PRE projects and programs, based on interviews and project documents. Generally, most centrally-funded projects have a strong state-of-art research orientation and do not have mechanisms for transferring the research results rapidly and effectively to the field. Therefore, one of the central functions of PRIDE is its ability to broker other projects and direct Missions toward the best available resources for their specific ENR needs. Within each component of PRIDE, there are a variety of new or ongoing projects with buy-in potential that Missions can access. Tables 1-3 of Annex F are a preliminary list of the AID projects that have topical linkages with PRIDE. Secondly, the private sector and environmental education activities in PRIDE are considered innovative and pioneering by the other central bureaus, and LAC Bureau has already developed its own a regional environmental support project with a substantial environmental education component.

Several projects that address policy analysis within the context of economic growth and ecological sustainability also include strategic planning as a project goal. The three most relevant projects are the Environmental Planning and Management Project (EPM), Development Strategies for Fragile Lands (DESFIL) and the Agriculture Policy Analysis Project (APAP).

There are a wide variety of ongoing and recently designed projects that address various aspects of policy research, formulation and implementation related to economic growth and ecological sustainability. The S&T Bureau has an array of policy research and support projects, covering agriculture, forestry, energy, and environmental health policies as well as multi-sectoral policy analysis. PPC has four projects that address different aspects of the policy process such as university research, regulatory reform and technology assessment, all of which can be applied

to ENR issues.

The most broad reaching support for methodological research is the new Environmental and Natural Resources Policy and Training Project (EPAT). As a ten-year endeavor to be initiated in FY91, EPAT will provide an excellent on-going resource to the Missions on subjects ranging from the monetary valuation of environmental problems, global climate change, and sustainable agriculture. Annex K, Priorities for Policy Analysis, outlines the synergy between PRIDE and the EPAT project. Two areas of EPAT research -- watershed and water management and urban/industrial environment issues -- and several policy research modules are most relevant to PRIDE. In addition, two training courses to be developed under EPAT in 1992, including a policy-maker workshop, are potential resources and prospects for PRIDE buy-ins. As discussed in detail in the Technical Analyses, policy studies initiated by PRIDE will complement EPAT by focusing on specific countries, narrower topics and by emphasizing implementation issues. While EPAT has a strong conceptual base, because it is global in nature it is less focussed at the implementation level. Indeed previous research experience suggests that the narrower the focus of analysis, the more specific and realistic are the policies that can be formulated.

The private sector projects that can help Missions pursue further private sector pollution abatement are funded mostly by the PRE Bureau. A strategy for Business and the Environment is currently under development. Almost every project listed in Table 2 of Annex F has a component that addresses regulatory and legal issues that could be drawn on with PRIDE assistance. In order to go beyond voluntary measures for pollution abatement, Missions may be able to tap other PRE projects that conduct capital markets feasibility studies and non-regulatory policy studies, such as MTAP and PEDS.

Support for environmental education from the central bureaus is quite limited. The most promising project is Greencom, which will start in FY92. This project potentially could support an array of important activities that promote public awareness and decision-maker accountability through, for example, mass media and NGO support. Existing S&T education projects might be tapped by the Missions with PRIDE support to define curriculum development and training needs related to environmental education.

In addition to the multitude of ENR projects in Washington, there are a variety of IQCs that can be accessed for short-term services. These are listed in Table 4, Annex F. To fill in some of the environmental education gap, there are three contractors working under education IQCs. Also of relevance is a macroeconomic analysis IQC, which can address agriculture, energy, environment, finance and industry. There are also several IQCs for natural resources management and energy related work.

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3.8 SUSTAINABILITY

PRIDE is envisioned as a catalyst that focuses the Bureau's resources to have the greatest impact, mobilizes U.S. expertise in this new and rapidly evolving area of environment and natural resources, and stimulates investments by Missions, other U.S. agencies and other donors. For this reason, the sustainability and success of PRIDE activities depends on the willingness of USAID Missions, host country institutions and other donors to tackle the difficult and challenging policy and institutional issues associated with sound environmental management.

As Bureau resources are fairly limited, the project will concentrate its activities and have the most significant impact in countries where the most interest is expressed, where there are clear opportunities for follow-on programs, and in countries with well-developed analytical approaches to policy development. In order to make policy and institutional reforms and the expanded ENR roles of the private and public sectors better understood and more acceptable in such countries, project activities will clearly demonstrate improved, feasible approaches to sustainable development. In ENE countries which evince a lesser commitment to policy reform, economic liberalization, and democratic pluralism, it is unlikely that this project can overcome policy and institutional resistance in the short-term. Under these conditions, a starting point for project demonstration activities and for policy analyses will be non-governmental institutions and the local private sector.

The project will encourage Missions to integrate environmental concerns into the analysis of national economic growth prospects, opportunities for private sector development and prospects for promoting democratic pluralism. There will be cost-sharing mechanisms through buy-ins and other arrangements to facilitate Mission access to the technical expertise needed for some of the background analyses needed for the implementation of the regional ENR Program. For these reasons, the involvement and support by the Missions will be crucial for the sustainability of the project approach. Experience of the initial regional environmental project was that initiatives were most successful where there was strong Mission involvement and support for the program. Several steps have already been taken to ensure that PRIDE serves Mission needs, including a cable requesting Mission comments during project design. These responses and follow-up interviews clearly show Mission interest in the major project components, particularly environmental education and private sector initiatives that address industrial pollution. Annex G provides an in-depth analysis of Mission responses.

IV. COST ESTIMATION AND FINANCIAL PLAN

4.1 BUDGET SUMMARY

Length of project funding is $19mn of which $11mn are AID/W core funds and $8mn in Mission buy-ins. Year one obligation is $1.7mn. Long-term technical assistance from core contract, RSSA personnel, and the Urban Pollution Analyst is funded totally from the AID/W core budget. Short-term technical assistance is funded both from core funding and Mission buy-ins. The WEC cooperative agreement level of funding is $2.27mn. A length of project budget summary follows. Additional budget tables are found in Annex I, Financial Analysis.

BUDGET SUMMARY	Months No.	AID/W Core	Mission Buy ins	Total Budget	Year 1	Year 2	Year 3	Year 4	Year 5
					ENE	ENE	ENE	ENE	ENE
Long-term TA									
Core contract	228	3,946,308	0	3,946,308	735,685	808,547	839,804	880,921	681,351
RSSAs	96	1,157,230	0	1,157,230	261,160	274,218	287,929	162,889	171,034
Strategic planning	50	883,083	1,500,000	2,383,083	159,760	291,300	221,323	120,400	90,300
Policy analysis	34	692,300	2,000,000	2,692,300	60,200	120,400	180,600	180,600	150,500
Private sector initiatives	126	2,521,988	2,250,000	4,771,988	362,225	524,711	589,877	520,110	525,065
Environmental educ./pa	63	755,028	2,100,000	2,855,028	50,028	110,000	125,000	220,000	250,000
Equipment		150,000	0	150,000	70,000	80,000			
Evaluation/Design		240,000	0	240,000			90,000		150,000
Audit		250,000	0	250,000		0	0	125,000	125,000
Contingency		404,064	150,000	554,064	943	90,824	115,468	90,080	106,749
Total		11,000,000	8,000,000	19,000,000	1,700,000	2,300,000	2,450,000	2,300,000	2,250,000

NOTES:

1. Strategic Planning
   - 26 mo - core contractor
   - 24 mo - Urban Pollution Analyst
2. Policy Analysis
   - 34 mo - core contractor
3. Private Sector
   - 18 mo - core contractor
   - 108 - WEC
4. Env. Education/PA
   - 30 mo - core contractor
   - 6 mo - WEC
   - 27 mo - Direct Grants to NGOs

4.2 MISSION BUY-INS

Buy-ins to this project will be to the Requirements or Q contract.

Although there are few dollar estimates from the Mission, there is reason to believe that the demand for Mission buy-ins will be relatively high. Most Missions responded favorably to our first cabled request (State 360733 dated 10/25/90) for comments on the project. Additional input was obtained through telephone interviews. **Table 1** in the Buy-In Analysis (Annex G) summarizes Mission responses.

Missions appear to be equally interested in all project components. Related to private sector initiatives, Missions are interested in learning how to encourage the private sector to invest in environmental management. They also want project assistance in countries which may not yet have a strong private sector but where problems of urban/industrial pollution need to be addressed.

Buy-in demand is predicated on the high level of interest Missions have expressed in environmental projects and on past experience with organizations like the World Environment Center (WEC). The level of interest in the current cooperative agreement with WEC is high and continuing. For example, WEC is expected to visit Morocco early in 1991 in connection with the Morocco Agribusiness Promotion project and private enterprise projects.

The Bur[illegible]gnizes that Mission buy-ins are to a large extent conditioned b[illegible]esponse time required to process the requests and deliver the s[illegible]es. A rapid turn-around time is essential. A brief description of this process as well as the estimated time requirement is provided the buy-in analysis annex.

Eastern Europe anticipates buy-ins to some PRIDE activities in support of its programs.

4.3 FINANCIAL ANALYSIS

As discussed in Section 6.2, Economic Analysis, the value of this project is its benefit to society as a whole resulting from the contribution the project will make to sustainable economic growth and these benefits are more than sufficient to compensate for project costs.

The largest project budget line items are for long-term (46% of total budget) and short-term personnel including their fully burdened rates, travel and per diem and miscellaneous costs. The quasi-totality of the buy-in budget is the cost of short-term technical assistance for Mission requests under all four project components.

Project designers incorporated cost effective approaches to achieving Bureau ENR purposes. For example, the services of experts provided under the proposed cooperative agreement with the World Environmental Center

FIGURE 4.0

CONTRACTING PLAN

ACTION	IMPLEMENTOR	SERVICES/PERSONNEL Person/months
1. Core and requirements (buy-in) contract	Fully Competed Contract	a. Long-term personnel - Resource Economist - Information/Institution Specialist - Private Sector Analyst - Administrative Assistant b. Short-term personnel
2. Cooperative Agreement	World Environment Center and associates	Private Sector experts
3. RSSA	With EPA	Environmental Engineer
4. RSSA	With Dept. of Energy	Pollution Control Officer/Energy Environment Specialist
5. Competed Contract	Contractor	Urban Pollution Analyst
6. Small Grants	Buy-in to Environmental Program Management Project	Strengthening grants to local NGOs
7. Project Evaluation	Contractor	Mid-term and final evaluation

NOTE: Up to 20% of the total value of this contract will be subcontracted with small, disadvantaged, women-owned or other minority-owned firms. Probable areas for subcontracting are items 1 and 7 above.

(WEC) will be pro bono. Project contractors and cooperators will identify, broker and otherwise facilitate Mission access to a broad range of TA and services outside of the project including other AID projects, USG, state, and U.S. private sector expertise.

4.4 CONTRACTING PLAN

Contracting actions are summarized in Figure 4. The basic needs for implementing PRIDE will be:

(1) a group of six long-term advisors to work closely with the Bureau in Washington, D.C. and to respond to Mission needs on a continuing basis and to facilitate information dissemination. As the four project components are strongly interlinked, these advisors should work together as a multidisciplinary team.

> The six advisors will be funded by the project. Three (Senior Resource Economist, Private Sector Analyst, and Institutional and Information Specialist) will be core contract personnel. The services of an Environmental Engineer will be secured under a RSSA with the EPA. A Pollution Control Officer/Energy Environment Specialist will be project-funded for up to three years under a RSSA with the Department of Energy. Both advisors will be assigned to ENE/DR where they will work on both ENE Bureau and project activities in AID/W and overseas. An Urban Pollution Analyst, secured under a competed contract, will provide intermittent services totalling 24 months in Washington and overseas. The intention is that all of the advisors will begin work in year one of the project, subject to the availability of funds.

(2) the ability to draw on a wide variety of U.S. institutions, including universities, for-profit firms, professional associations, non-advocacy environmental NGOs, educational foundations, U.S. federal, state and municipal organizations and agencies to undertake specific short-term assignments to ENE countries or for special studies, as needs are identified;

> Short-term technical assistance will be provided through the core/requirements contract. The contractor will be responsible for identifying and sub-contracting for the services of qualified short-term TA which it cannot provide. WEC and its associates also will provide short-term expert technical services.

(3) in-house advisor(s) to assist with project management and implementation;

> The Environmental Engineer and Pollution Control Officer/Energy Environment Specialist will fill this function.

(4) a continued collaboration with a unique non-governmental, non-advocacy

environmental organization that has access to a wide range of U.S. private and public sector expertise;

This need will be met through a new cooperative agreement with WEC.

(5) the ability to absorb buy-ins from the Missions and SEED funds for Eastern Europe in order to foster the development of follow-on activities;

Buy-ins will be to the requirements (Q) contract.

(6) the authority to make direct buy-ins into other AID centrally-funded projects.

Direct PRIDE buy-ins using project funds will be managed by ENE/DR.

Contracting Actions

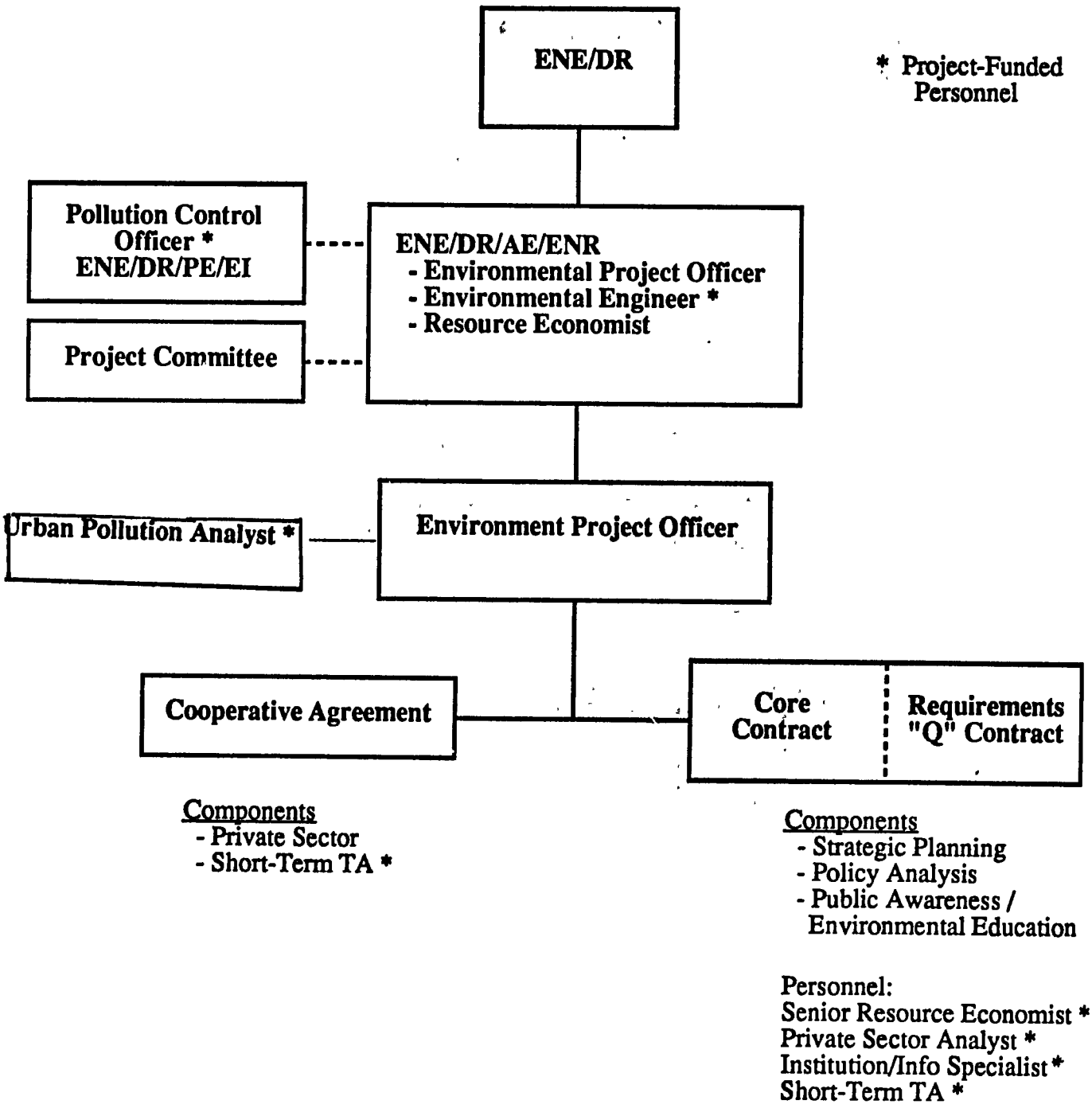
1. A competitively bid main or core contract is necessary for using core regional funds. An option is to encourage consortia to submit proposals that combine general ENR, private sector and environmental education expertise. This main contractor must also bid for the associated requirements ("Q") contract to handle the buy-ins. There will be a single RFP and contract award for a core and requirements contract. At Mission request, associated institutions and organizations involved in the core contract (possibly supplemented by additional expertise) will provide short-term expertise related to various aspects of ENR strategic planning, policy analysis, private sector development and environmental education. Of particular importance will be expertise in urban and industrial pollution abatement, for-profit environmental services, water resource management policy development in the Near East, curriculum development for environmental education, mass media for-profit and non-profit organizations capable of technology transfer and training, and environmental NGO institutional development and strengthening.

An important aspect of the contractor's scope of work will be to facilitate Mission buy-ins to other AID centrally-funded projects. This responsibility will need to be clearly identified with guidelines given regarding when buy-ins contracts are allowable.

2. In order to obtain in-house expertise, a RSSA with EPA will be needed to secure the services of an Environmental Engineer. This person could help the Bureau manage PRIDE and provide continuity during a time of staff change and turnovers in ENE/DR. In addition, the services of the Pollution Control Officer/Energy Environment Specialist will require a RSSA with the Department of Energy.

3. A new, non-competitive cooperative agreement with the World Environment Center is needed to build on the previous experience and interchange between AID and WEC. The services of an Urban Pollution Analyst will be provided under the cooperative agreement. A justification for non-competitive procurement, reviewed by SER/OP is appended.

Figure 5.1 PRIDE Project Management



V. IMPLEMENTATION PLAN

5.1 ADMINISTRATIVE AND MANAGEMENT PLAN

This is a summary of Annex H, Administrative and Management Procedures. A management organization chart is presented in Figure 5.1. Project management for PRIDE will reside in ENE/DR/ENR. The project manager will be a direct-hire Environmental Project Officer who will be identified and in place by June 1991, in time to participate in the technical review process for the core/Q contractor. Three project-funded specialists will assist the project officer, working closely with the ENE/DR office. In addition, they will be available for short-term technical assistance to Missions. The specialists are an Environmental Engineer secured for five years through a RSSA with the EPA, a Pollution Control Officer, hired for three years under a RSSA with the Department of Energy, and an Urban Pollution Analyst whose services will be secured under competed contract. The Urban Pollution Analyst will be funded for intermittent services totalling 24 months over the life of the project. The Environmental Engineer and the Pollution Control Officer will be physically located in ENE/DR/ENR and will have other ENR responsibilities in addition to the services they provide to the PRIDE.

A Project Committee composed of members from ENE/DR and other ENE offices as well as members from S&T/FENR and other AID/W bureaus and offices as appropriate will be a resource to the project manager who will convene the committee at least semi-annually. Regular ad hoc coordination with S&T/FENR's EPAT project and other projects (see section 3.7 and annex F for potential project interactions) is important.

Project implementation will be through a core/Q contract and a cooperative agreement. The core/Q contractor will be led by a Senior Resource Economist assisted by 2 long-term advisors, an Administrative Assistant plus experts whose services are engaged for short-term consultation in AID/W and for Missions. The cooperative agreement will be with the independent, not-for-profit World Environmental Center (WEC), led by their executive staff with services delivered by a large corps of expert volunteers. It will be the task of the project manager to arrange regular formal and informal communication among project contractors and cooperators to promote coordination of annual and long-range workplans and the integration of project activities both in AID/W and in the field. As appropriate, the project manager may invite representatives of contractors/cooperator to participate in project committee meetings.

The implementors, in collaboration with ENE/DR staff, will develop guidelines, frameworks and criteria for project-planned and Mission-proposed (buy-in) activities. These will serve as the basis for setting priorities and allocation of resources among proposed activities.

To access the core/Q contractor, in most cases, Missions staff will be responsible for preparing scopes of work which they will forward to the ENE/DR/ENR project manager who will review them with the core contractor for appropriate response: core contractor personnel provide services requested, core contractor sub-contracts for the services of short-term personnel who will provide services, or the contractor will recommend that the Mission address its request to another source. At Mission request, the core contractor will assist Missions by preparing scopes of work for buy-ins or other means of procuring services. The core contractor will be responsible for identifying and securing the services of sub-contracted experts who meet Mission and AID/W requirements.

In-country, the core/Q contractor and cooperator will be responsible for arranging and managing local contracts for services under PRIDE and will coordinate these activities fully with the Mission and present assignment completion reports to USAID and to the project manager for review.

5.2 PROJECT COMMUNICATIONS

Effective communication among PRIDE project implementors, between PRIDE and other AID projects with related objectives, and with other donors and institutions is a high priority. The PRIDE project manager and the project committee will monitor and review the effectiveness of communications and, if appropriate, recommend additional vehicles for formal or informal communication to assure complete information exchange. For example, ENR project managers AID-wide may wish to consult formally and periodically to supplement the forum which the weekly meetings of the Environmental Working Group provide. Effective communication is critical to achieving one of the project purposes of promoting regional information sharing. The project core contractor will produce and broadly disseminate printed materials and information semi-annually. The following sections of this paper further discuss project communication: Section 2.4, Annex F (Relationship to Other Projects) and Annex K (Priorities for Policy Approach).

5.3 MONITORING AND EVALUATION

ENE/DR/EA/ENR will have primary responsibility for monitoring PRIDE, with USAID Missions having secondary responsibility. The project manager will prepare annual Project Implementation Reports (PIR) as part of the Bureau's monitoring process. Project activities will be monitored and evaluated as part of each Mission's established review activity which consists at a minimum of annual PIRs. Financial monitoring will be carried out on a quarterly basis by the project manager and ENE/DP/FD.

The project monitoring and evaluation plan is designed to provide information for (1) tracking project progress in terms of inputs and impact; (2) reconfirming or negating basic assumptions; and (3) modification of existing activities as appropriate.

5.3.1. Reporting

A variety of reports will insure quality implementation and close monitoring of the project. The Project Manager and Project Committee, assisted by the core long-term contract team, will prepare annual reports on project progress and impact, achievements and shortcomings. The contractor will also submit brief quarterly progress reports. Likewise, the contractor will submit quarterly financial reports to the project manager who will be aided by ENE/DP/F in financial monitoring.

The core contractor and the cooperator will prepare detailed annual workplans, to be approved by the Project Manager and Project Committee. These workplans will include the main activities to be carried out during the year, the length of time and level of effort required to complete main tasks, and liaison planned with other A.I.D.-funded projects and external organizations.

Contractors/Cooperators will submit Technical Assistance Reports to the host Mission and to the PRIDE Project Manager upon the completion of short-term overseas assignments. They will also submit detailed annual reports to the project manager; the annual report will focus on progress towards achieving the project goal and will present information regarding project impacts.

The core contractor will be required to establish a management information system (MIS) and have it operational no later than two months after contract signature. The design and content of the MIS will be undertaken in close consultation with the project manager and will be approved by AID. The MIS will help provide a consistent approach to data collection and reporting, as well as assisting sustained analyses and assessments of activities in ENE countries.

For example, the MIS should support the contractor information clearinghouse by developing information databases on environment and natural resources. It should help AID prepare reports about environmental conditions and trends, and boost the level and worth of information dissemination. ENE/DR should be able to access the MIS as well as the information clearing house, and both should mesh with the Agency's existing ACSI system and the proposed Agency Environment and Natural Resource Information Center (ENRIC). Close coordination should be maintained with other relevant A.I.D.-funded databases, such as those at CDIE, ISTI, CIHI, FSP and the Biodiversity Consortium.

The principal users of the MIS and the information clearinghouse will be AID staff, both Mission- and AID/W-based. Other users may include LDC policymakers, managers and researchers, NGOs, other USG agencies, Congress and U.S. based private sector firms.

5.3.2 Evaluation Plan

PRIDE is a five-year project which will be evaluated twice -- mid-term and prior to project completion in year five. The evaluations will be performed by external contractors, with participation from ENE/DR/ENR and

other AID offices with project contractors/cooperators' collaboration and support. In the case of the core contractor, ENE/DR/ENR will be responsible for identifying an evaluation consultant while WEC will hire an independent evaluation consultant approved by ENE/DR/ENR. The evaluations will be coordinated as appropriate with other AID offices and with other donors.

The main purpose of the evaluations, and in particular the mid-term evaluation, is to: determine progress made toward attaining the project goal and purposes, assess project impact, identify major issues, ascertain the project developmental effects, suggest future options, and make recommendations to improve the project. The evaluations will focus on the four interrelated project components. The final evaluation will be summative in nature, concentrating on lessons learned and how best to proceed with similar efforts in the future.

The evaluations will include a review of documentation, interviews and meetings with government, NGO and for-profit private sector organizations and individuals. Given special attention will be the nature and quality of contractor services, both U.S. and host national. Wherever possible, there should be quantification of project impacts and benefits.

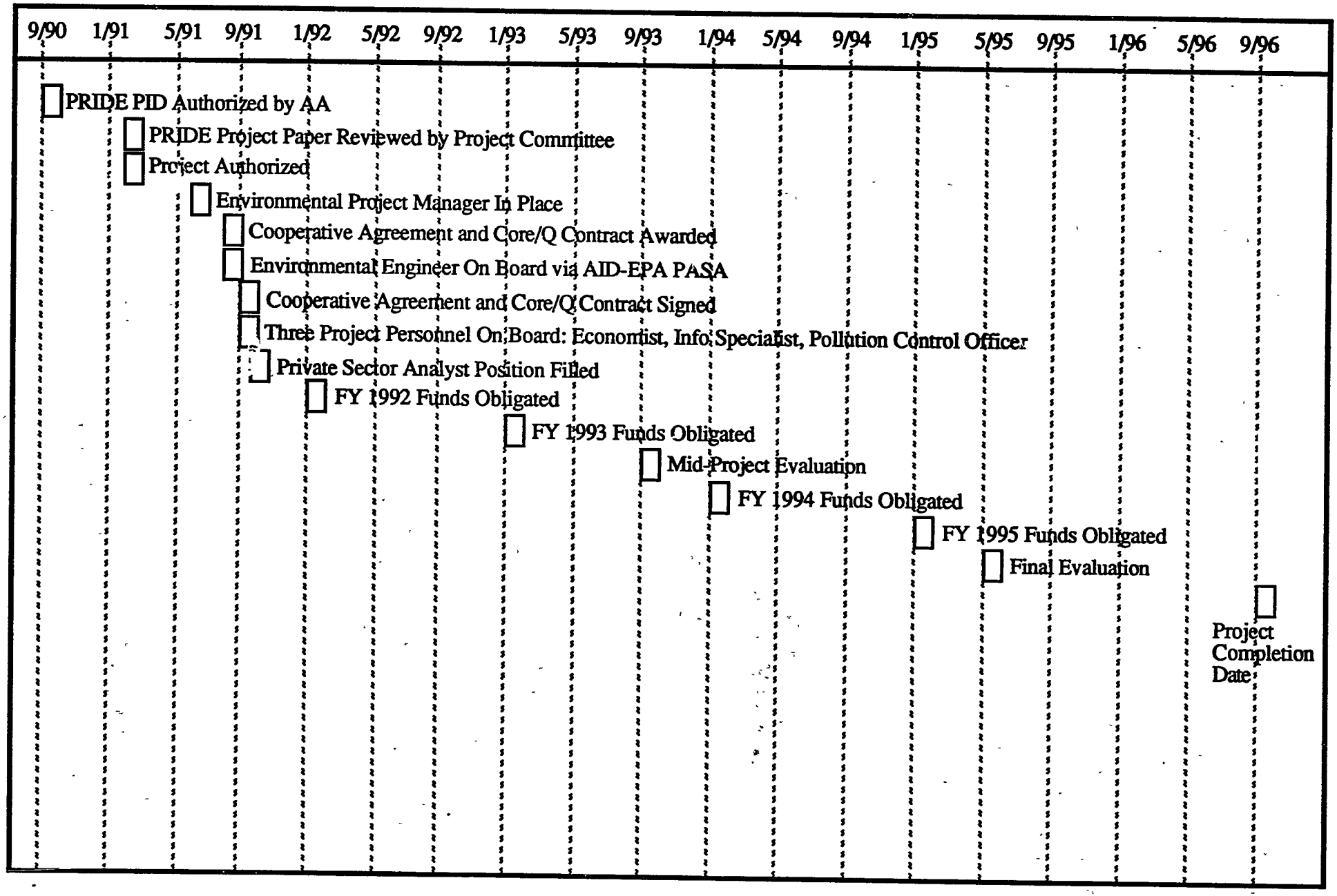
Annex H (Management and Administrative Procedures) includes a suggested list of questions which could be incorporated into the evaluation scopes of work.

5.4 IMPLEMENTATION SCHEDULE

The following is a summary of key management/contracting actions in FY91 and key LOP dates. A more detailed Schedule of Activities is presented in the Annex H, Management and Administrative Procedures.

September 1990	PID Authorized by AA
February 1991	PRIDE Project Paper reviewed by Project Committee
March 1991	Project Authorized
March 1991	Contract, Cooperative Agreement and RSSA scopes of work completed
April 1991	RFP for core contractor completed
April 1991	WEC Cooperative Agreement completed
April 1991	CBD announcement published
May 1991	RSSA with EPA signed (Env Engineer)

PRIDE (PRoject In Development and the Environment) Implementation Schedule



May 1991	Technical Review Committee (TRC) formed and briefed
June 1991	Cooperative Agreement signed with WEC
June 1991	Environmental Project Officer in place
July 1991	TRC meets
August 1991	Best and final offers for core/Q contract received
August 1991	Core/Q contract awarded
August 1991	RSSA Environmental Engineer & Urban Pollution Analyst begin work
September 1991	Core/Q contract signed
October 1991	Project personnel on board: Economist, Info Specialist, Pollution Control Officer Private Sector Analyst
January 1992	FY 1992 funds obligated
January 1993	FY 1993 funds obligated
September 1993	Mid-project evaluation
January 1994	FY 1994 funds obligated
January 1995	FY 1995 funds obligated
May 1995	Final evaluation
September 1996	Project Completion Date

VI. SUMMARIES OF PROJECT ANALYSES

6.1 TECHNICAL ANALYSIS

During preparation of the PRIDE Project Paper, technical analyses were conducted of the four project components: strategic planning, public policy, private sector, and public awareness/environmental education. These analyses are provided as Annexes J through M. In addition, the following sections are brief summaries of each technical analysis.

6.1.1 Strategic Planning Approach (Annex J)

The strategic planning process was evaluated during project design as an approach to integrating the other three PRIDE components (public policy change, private sector initiatives, and environmental education) and

permitting the prioritization of problems and proposed solutions. Strategic planning involves a logical process of resource assessment, problem identification, opportunity evaluation, definition of implementation strategies and the tracking of results over time.

The initial step in the evaluation of AID strategic planning related to ENR was a review of previous AID environmental reports and interventions, including an analysis of the lessons learned and the contribution these provide to future strategic planning activities. Gaps and weaknesses in previous work were identified and methodological issues raised by these gaps and weaknesses were addressed. Recommendations for application of strategic planning during the course of PRIDE were then provided. These recommendations form the basis for the strategic planning component of PRIDE summarized in Section 3.3.1.

Over the past decade, AID has produced numerous reports dealing with environment and natural resources (ENR) in Near Eastern and Asian countries. A total of 65 reports were reviewed during preparation of the PRIDE Project Paper -- 41 produced by AID and 24 by other agencies. Annex J provides brief summaries of these reports. Generally speaking, the newer reports provided a better focus on strategic issues such as potential solutions and implementation strategies. Most of the reports, especially the older examples, provided primarily diagnostic information, rather than prescriptive analysis.

A total of 100 AID interventions were also reviewed during preparation of the project paper to study their linkages to strategic planning. On the whole, the review concluded that numerous questions, could be raised about the adequacy of the interventions in addressing major obstacles to sustained development. More recently, however, a number of strongly strategic natural resource management projects are either under design or beginning implementation in Thailand, Indonesia, Sri Lanka, and the Philippines.

Important gaps and weaknesses were identified both in ENR reports and in AID interventions during review of documents. Analytical weaknesses can be summarized as a lack of problem solving perspective, including little prioritization of problems and virtually no options for solutions. Part of this lack of problem solving is due to the absence of economic analyses highlighting the interdependencies between economic growth and environmental conditions. Issues requiring better analysis include <u>market failures</u>, where markets do not reflect the value of natural resources or their products, and <u>policy distortions</u>, where government policies result in these effects. Also requiring attention is the relationship between resources and their users.

Weaknesses in earlier and planned interventions involved their long-term sustainability as well as economic credibility with their beneficiaries. Another weakness in AID's portfolio of interventions is the social acceptance of projects. In addition, interventions directly addressing one type of environmental variable (drinking water quality) were often found to include insufficient consideration of linkages to other

environmental variables (ambient water quality, pesticide subsidies). Even though most interventions need to focus on a limited number of sectors (often one) to be effective, they should be part of a broader program involving all sectors connected with ENR.
Rather than focus on developing methods for evaluating ENR issues, PRIDE instead will focus on applying methods already available and needing transfer to the field. Seven methods are suggested. Knowledge of resources involves developing an understanding of resource stocks, their characteristics, conditions, and potential. These analyses should provide data on general trends and the policies affecting these changes, with attention to defining a level of detail appropriate for policy decisions. Policy analysis should focus on identifying current policies affecting ENR management and assessment of the impact of current and planned policies on resource quality and quantity. Institutional analysis should address existing institutions related to major problem areas. Legal and regulatory framework analysis should join with earlier analyses to assess potentials for reforming the framework so that it can enable sustained development under enforceable requirements. Analysis of private sector opportunities should cover both the opportunities for private sector roles in controlling urban and industrial waste as well as opportunities for developing natural resource-based enterprises. Intervention design should directly address policy reform, concentrating on formulating and implementing feasible policy options to reverse ENR degradation and enhance ENR quality. Lastly, relative risk reduction methods should be used to rank environmental risk to health, ecosystems and economic welfare in order to allow better decisions across environmental media and pollutants.

Eight recommendations for the strategic planning component of PRIDE were offered by the strategic planning analysis:

1. PRIDE should assist AID Missions and host countries in implementing a strategic planning process in the ENR field, either strengthening existing efforts, or developing new capabilities.

2. As a starting point, a review of existing strategic planning should be conducted, allowing a clear perspective on strengths, weaknesses, gaps, and variability in earlier planning approaches.

3. As a next step, a comprehensive procedure should be developed to assist Missions in their strategic planning work, emphasizing the uniform, flexible set of methods discussed above.

4. PRIDE should provide for one or two pilot efforts in specific Missions to test the application of the complete set of methods in the comprehensive procedure.

5. Two strategic planning workshops should be conducted for Missions. The first would present the comprehensive method, the second would review the experience gained near the end of the project period.

6. Strategic planning assistance should be provided to Missions on

request.

7. A plan for follow-on activities should be prepared in Missions using the planning process to assure continuity after project activities have been completed.

8. The core contractor's technical PRIDE manager should be a resource economist with a solid understanding of the interactions between ENR and economic forces in the sustainable development process.

6.1.2 Priorities for Policy Analysis (Annex K)

Public policy analysis was evaluated during project design as a way of promoting sustainable resource use. This was based on the basic economic premise of PRIDE: sustainable development requires the following: (1) environmental quality must represent the perceived self-interest of those in control of resources, (2) technically and financially attractive options can be made available to decision-makers, and (3) incentive systems created by public policy must send clear, consistent and stable signals in support of long-term decisions favoring the environment.

The initial stage of the analysis addressed experience in policy analysis in the ENE countries. In general, research experience has been varied, depending on the region concerned as well as the country's level of economic development. The review found that policies meeting the greatest success have been prepared at the country-specific level. The conclusion of the review was that environmental policy research in the non-European ENE countries progressed considerably. Insufficient policy analysis had been conducted in the nations of Central and Eastern Europe to address these areas during PRIDE preparation.

The policy analysis evaluation then addressed prioritization issues and PRIDE in relation to other environmental policies, programs, and issues. Relative to programs with worldwide coverage and a research focus (such as EPAT), PRIDE stands closer to the country implementation level. The PRIDE agenda must be narrower than the range of concerns expressed in Agency and Bureau environmental priorities. Due to the extremely diverse set of Mission priorities, ecological zones involved, and differences in social, political and economic structure involved in the ENE region, as well as the need for policy initiatives to be tailored to the specifics of the nations involved, the analysis concluded that the PRIDE strategy must be <u>opportunity-driven</u> and <u>capable of responding</u> to country-specific needs and critical gaps.

The technical analysis of policy also concluded that while EPAT can strengthen the conceptual base for environmental policy research, it has relatively weak links at the country-specific implementation level. Relative to EPAT and similar global and research projects, the analysis found that PRIDE can be country-specific, sector-specific, and strong at the implementation level. Since PRIDE has limited resources relative to other projects, the analysis suggested that an element of PRIDE strategy should be to find ways to leverage the resources of existing activities

and help fill critical gaps at the country level. This highlighed the need to maintain close working relationships with Missions and host country institutions, and maintain strong knowledge of available information. The final conclusion was that PRIDE adopt a twin strategy of narrowly focussing its own services, and facilitate access to a broad range of services from other projects through its role as broker.
The public policy technical analysis recommends three central policy activities: (1) economic and institutional analyses with a focus on costs of critical environmental trends to host countries, and policies or lack of policies fostering inefficient resource use and market failures; (2) assisting Missions to establish policy development initiatives affecting urban industrial environmental quality, water resources quantity, quality and allocation, private sector investment, and public access to information and participation in ENR policy formulation; and (3) information dissemination through materials and workshops on policy research and reform, and emerging methods and approaches to ENR strategic planning.

The technical analysis also recommends four policy instruments for consideration during PRIDE policy activities: (1) valuation to permit the overt consideration of economic values of environmental resources and the effects of contamination; (2) pricing to better reflect unpriced or undervalued natural resources; (3) addressing market failures which distort resource values and inefficiently allocate resources; and (4) addressing policy failures in cases where existing policies have created problems.

The technical analysis concludes with seven final recommendations for policy component of the PRIDE:

1. Focus on intermediation between policy research and country and sector-specific needs,

2. Give priority to transferring available information on such quantifiable factors as valuation techniques, standards and regulations,

3. Focus attention on understanding the policy opportunities within each country's context,

4. Leverage existing resources and initiatives,

5. Inventory other resources and initiatives available in each region,

6. Consider narrowing services to the "brown" end urban-industrial pollution issues and the critical area of water resources management, and

7. Core staff should include skills in water resources and pollution issues as well as economics and social sciences. Core staff should include one person serving as a point of contact and coordination. Intermittent consultants should include senior members of the national policy community.

6.1.3 Opportunities for Promoting Private Sector Approaches to Environmental Enhancement (Annex L)

Opportunities for promoting the private sector approach to environmental enhancement were evaluated as the third PRIDE project component. One of the three objectives of PRIDE is to mobilize the private sector and NGOs to provide cost-effective solutions to environmental problems. The technical analysis suggests that one of the main project instruments for achieving this objective will be the existing World Environment Center (WEC) program, especially its International Environment and Development Service (IEDS). The analysis recommends PRIDE seek to promote private sector environmental improvement strategies, provide technical assistance for these purposes, and evaluate and disseminate the lessons learned. The analysis concludes that PRIDE can provide assistance to Missions to: 1) promote voluntary private sector pollution abatement, especially in the industrial, tourism and, possibly, the commercial transportation sectors; 2) help countries to influence the pace and direction and implementation of environmental regulation, through setting of priorities, analysis and dialogue, and 3) seek to overcome policy, information, financing, institutional and other barriers to implementation of environmental projects.

The technical analysis of private sector opportunities concludes that perhaps the greatest potential for voluntary environmental improvement measures within the private sector lies with industry. The analysis observes that, from small plants to large former parastatals, enormous energy and material savings can be gained from better "housekeeping" and plant management. This suggestion is made, not only because most of these practices cost very little, but they also increase capital and labor productivity and improve the environment as well. The analysis points out that other measures such as better use of by-products and recycling of wastes can also yield profits as well as improve resource savings and the environment.

In this respect, the analysis suggest that the IEDS, in addition to its longstanding plant assessments and audits, should work towards long-term pollution prevention initiatives and institutions and the training of trainers to do this work within the private sector. The analysis concludes this will require the IEDS to consider country managers and programs and development of relationships with specialized agencies in the U.S. and the developing world. Trade associations and local and U.S. engineers associations are suggested as possible sources. Tourism promises to continue to grow in many parts of the ENE region; the technical analysis points out that many opportunities exist for combining environmental improvements with its expansion, arguing that these are all but inseparable. This includes improvement of standards at tourist resorts as well as protection of the health and safety of tourists (e.g. waste water management).

The analysis recommends that motor vehicle pollution be tackled through the promotion of low cost voluntary actions by the private and public

50

sectors. The analysis recommends that fleet vehicle pollution standards, especially those of large operators like government, taxi and bus firms should be addressed immediately since this could provide (through better engine efficiency, for example) significant savings to firms in fuel and maintenance costs. In addition to voluntary low cost measures, the analysis concludes that some problems will have to be addressed through regulation and policy changes. Recommendations suggest that the regulatory approach needs to be accompanied by discussions with the private sector to agree what is enforceable, equitable and fair. The study recommends that PRIDE help this process through its setting of strategic priorities, improving access to information and providing sources of advice and expertise, e.g. from the U.S. states and other regulatory agencies themselves.

The analysis highlights the important structural barriers now standing in the way of the enormous resource savings and environmental improvement potential. First, countries find it difficult to access sources of unbiased and state-of-art information on technology, costs and suppliers and the PRIDE can help in this regard. Second, institutions to manage environmental projects are often absent or very inadequate. This is especially the case for wastewater treatment and hazardous wastes disposal. The analysis identifies opportunities for the creation of new, private environmental service companies or contracting out services that cannot be handled adequately by the public sector.

The technical analysis concluded that important policy barriers to private sector environmental development also exist which can be addressed by the project. These include skewed tariffs on the importation of pollution control technology and equipment and inadequate protection of intellectual property rights which impede countries from obtaining such technologies. Finally the study points out, in an era of austerity generally, that the need for environmental infrastructure (treatment plants, laboratories, staff) requires significant levels of capital investment. This investment is difficult to obtain, even where good returns can be obtained. Possible alternatives for PRIDE and the missions to explore suggested by the technical analysis include arrangements with private firms; OPIC and regional bank revolving funds; long-term bond flotations, the building of secondary bond markets and leveraging AID's resources with other donors. The PRIDE can also assist in the financing of selected feasibility or sectoral studies.

The study suggests that the activities suggested above will require close coordination with Bureau ENR and Private Sector staff. The study recommends that a contractor/cooperator should work closely with missions to develop their country plans and have access to various U.S. municipal, state, federal and NGO sources and the services of the IEDS.

6.1.4 Environmental education, public awareness and accountability approaches and opportunities (Annex M)

The fourth project component, public awareness and environmental education, was evaluated to determine potential approaches and opportunities.

One of the major components of PRIDE is environmental education as a tool for enlisting public participation in the solution of existing environmental problems and the prevention of future ones. The technical analysis points out that environmental education aims to make people aware of all aspects of environmental issues and their resolution. This acts to provide the essential knowledge, skills and behavioral changes to deal with ENR issues, and to strengthen decision-maker accountability. The study suggests that environmental education works best when it becomes a part of existing institutions and programs and when it is linked with positive actions. Environmental education is described by the study as multi-faceted: scientific aspects, communication and social science, economic and legal aspects are all essential and inter-related components of any environmental education strategy.

The technical evaluation suggests that environmental education is more than just awareness; it should be aimed at building skills and motivation as well. Without the latter elements, participation becomes passive or frustrated and democratic dialogue and public accountability is weakened. Presently, types of USAID environmental education activities at the country level include country assessments, mass media support and formal and nonformal environmental education programs. USAID has also been assisted by programs of the EPA and the Fish and Wildlife Service, the USIA, Peace Corps and others.

Choice of strategies and media to be used in environmental education depend both upon the issue and the country concerned. For poor people in many countries, the radio is the most effective medium. For many urban populations, both TV and print media can be effective. Nonformal environmental education activities are usually essential if policy and regulatory changes are to be effective. These activities are targeted towards decision-makers, extension workers, journalists and community leaders. Formal environmental education seeks to integrate environmental awareness and skills at all levels of schooling, through curriculum changes, use of various media and specialized courses.

The recommended course of action in developing each country's environmental education component consists of the following sequence: an overall country assessment of needs and capabilities; development of a mission action plan; convening of a national workshop to discuss the previous two activities or assist in developing them; a further in-depth study and plan; development of information clearinghouse(s) and networks; development of new teaching materials and publications; elaboration of training and education programs, and identification and development of new and existing institutional arrangements.

6.2 ECONOMIC ANALYSIS

The goal of PRIDE is to promote sound environmental and natural resource policies and programs which contribute to long-term sustainable economic growth. It will accomplish this by helping USAID missions and host countries: 1) identify key environmental issues and examine alternative policy responses, 2) promote a greater role for the private sector/NGOs in solving environmental problems, and 3) improve information exchange.

A country's environment is its most important resource. There are many examples of the high economic costs resulting from poorly formulated and implemented environmental policies. For example, severe air and water pollution not only impose significant health costs, but can also adversely impact agricultural and natural resource production, recreational activities, and the general quality of life. Of course, overly strict or improperly targeted environmental regulations impose excessive costs on an economy and hinder its long term growth. Thus a sound environmental policy is one which strikes a balance, at the margin, between the economic benefits and costs of that policy.

It is not possible to carry out ex ante a detailed economic analysis of PRIDE. The economic justification for PRIDE will ultimately depend on the economic merit of the specific activities carried out it. The long term TA team funded by the project will play a key role in identifying those activities. This emphasizes the importance to the project of obtaining TA team leadership and members who are well versed in the area of environmental economics. If project activities are justified on the basis of sound economic analysis, especially given the clearly sub-optimal state of environmental policy in most regional countries at present, PRIDE should yield significant economic benefits in a variety of countries.

Environmental economists have developed methodologies for identifying the most efficient policy responses to key environmental problems. This is usually done within a framework which equates at the margin the economic benefits and costs of changes in environmental policy. Where possible, market solutions are preferred. If markets exists but are distorted, then efforts usually focus on removing distortions (excessive subsidies or taxes). If markets do not exist, then efforts are made to establish quasi-market mechanisms for determining appropriate levels of environmental quality, e.g. via effluent charges or tradeable emission permits.

Specific environmental policies should be examined within a benefit-cost or cost-effectiveness framework. The former compares the economic benefits of an environmental policy with its resulting costs. The latter is used in cases when certain environmental objectives are considered to be essential and yet the resulting benefits are inherently unquantifiable. This approach takes as given the necessity of achieving a certain environmental improvement, and then seeks to determine the least-cost method of achieving that improvement.

6.3 Social Soundness Analysis

The countries comprising the ENE Bureau are physically, culturally and economically diverse, with a great variety of religions, population densities, extent of rural versus urban and industrial orientations, economic conditions and level of development.

As the specific activities under the policy analysis, private sector and environmental education components are as yet undefined, it is not possible to present a detailed analysis of the direct project beneficiaries. Nevertheless, sound ENR management should promote the employment and social welfare of many ENE citizens. For example, it is anticipated that PRIDE will benefit communities and individuals who are now suffering the ill effects of urban and industrial pollution, in terms of threats to their health, livelihoods and/or standards of living. Furthermore, the training of private sector personnel and the local service industries in plant assessment skills enhances the overall capabilities of private sector to address environmental pollution and worker safety. An increased awareness of environmental issues will lead to concrete civic actions, as well as to a broader constituency for ENR policy development, as well as foster a more vigorous debate over ENR concerns.

The emphasis of PRIDE on strategic planning provides an opportunity to integrate both gender and democratic pluralism concerns into all analyses and assessment processes. All short-term training activities supported under PRIDE should target women and other segments of society which do not have sufficient access to information, technologies and skill development to undertake environmentally beneficial actions. The development of the environmental education regional action plan might usefully involve the WID office to ensure that all opportunities to incorporate gender concerns are taken.

6.4 ENVIRONMENTAL ANALYSIS

A categorical exclusion under Section 216.2(c)(2) of 22 CFR 216 of the Agency Environmental procedures was approved by the ENE Senior Environmental Officer and is included as Annex O.

VI. ANNEXES

A. PID Authorization
B. Logical Framework
C. Statutory Checklist
D. Economic Analysis
E. Social Soundness Analysis and Democratic Pluralism
F. Relationship to Other Projects
G. Mission Comments and Buy-In Analysis
H. Management and Administrative Analysis
I. Financial Analysis

Technical Background Analyses

J. Strategic Planning Process for Environment and Natural Resources Management

K. Priorities for Policy Analysis

L. Private Sector Initiatives for Pollution Abatement

M. Environmental Education and Public Awareness: Approaches and Opportunities

N. Bibliography of Core Materials on Environment and Natural Resources Management

O. Environmental Analysis: categorical exclusion

P. Scopes of Work for Long-Term Technical Assistance

MEMORAMDUM

TO: SER/OP/OS/ENE, Judy Johnson

FROM: ENE/TR/ENR, Ron Greenberg

SUBJECT: Justification for Non-Competitive AID - World Environmental Center Cooperative Agreement under Project 398-0365

Basis for non-competitive award

The basis for this justification of a non-competitive award is A.I.D. Handbook 13, Chapter 2, paragraph 2B3b which permits exceptions to competition when the recipient is "considered to have exclusive or predominant capability, based on experience, specialized facilities or technical competence, or based on an existing relationship with a cooperating country or beneficiaries."

WEC is a unique organization

Attached is the ENE Bureau's Regional Environmental Project Paper for project number 398-0365. Section 4.4 (Contracting Plan) of the Project Paper describes the services required to achieve project objectives including "a non-governmental, non-advocacy environmental organization that has access to a wide range of U.S. private and public sector expertise." The organization which has this expertise -- the World Environmental Center -- is unique in this country. There is no comparable organization. There is no other organization which is capable of delivering the services requested.

AID experience with WEC

The ENE Bureau and the predecessor ANE Bureau have considerable successful experience working with WEC under a Cooperative Agreement executed in February 1983, and which terminates in September 1991. WEC was identified and selected for its formal and professional network within government and the corporate community and its ability to access a broad range of U.S. volunteer experts on the environment. A copy of the most recent justification is attached for your information. One of the objectives of the new project is to continue to provide access to the specialized services which WEC can provide. In particular, the WEC can provide expertise to the ENE Bureau and Missions which includes local capacity development in industrial pollution regulation, control and abatement.

WEC Organization

WEC was established over 15 years ago. It is an independent, not-for-profit, non-advocacy organization which describes its missions as follows: "to contribute to sustainable development by strengthening urban and industrial health. safety, and environmental management practices worldwide." To carry out its mission, WEC created a service within WEC itself called the International Environmental and Development Service (IEDS). It is through this service within its organization that WEC provides expert volunteer and contributed services and materials from industry, academia, federal. state and local government and private citizens on a pro bono basis. Examples of the U.S. corporations from which IEDS volunteers are drawn are AT&T, Dow Chemical, Eastman Kodak, General Motors, Westinghouse Electric, TRW, Mobil Oil, and IBM.

IEDS has completed more than 70 missions in 24 countries. The cost saving of WEC expert volunteers and services under the existing Cooperative Agreement has been considerable -- a 2 to 1 match to AID funding, according to the July 1989 evaluation.

WEC activities proposed under the project

The types of activities which WEC will perform under the proposed project are described in section 3.3.3 of the Project Paper. Industrial pollution is a common and growing problem in eac. of the ENE countries and is the area in which WEC would focus its effort. One of the purposes of the project is to "moblize the private sector and NGOs to provide cost-effective solutions to environmental problems." WEC, which is specialized in addressing this very need, is critical to project success. The service WEC provides is essential to achieving the objectives under the private sector component of the project. Focussing on ENE country medium-sized firms in the industrial, water management and commercial transportation sectors, WEC could help to promote environmentally beneficial private sector actions such as the following:

- through training of trainers and consulting services, help to establish in-country pollution prevention assistance programs through local industry associations, professional engineering associations and through independent WEC-type organizations;

- experiment with the promotion of waste reduction in ways that will stimulate the development of local private sector industry for environmental services;

- provide TA related to pollution prevention, working with local organizations;

- develop and demonstrate the use of municipal or industrial bonds to address environmental needs;

- carry out a feasibility study to promote voluntary urban pollution reduction;

- identify and analyze regulatory and non-regulatory options for addressing industrial and urban pollution;

- assist Missions in stimulating a dialogue between government and industry;

- experiment with different US sources of expertise (e.g. National Governors Association, environmental industry associations).

For the reasons of exclusive and predominant capability discussed above, a non-competitive award to WEC is justified in order to achieve project purposes.

ANNEX A

AGENCY FOR INTERNATIONAL DEVELOPMENT
PROJECT IDENTIFICATION DOCUMENT FACESHEET (PID)

1. TRANSACTION CODE: A = Add, C = Change, D = Delete; Revision No.

DOCUMENT CODE: 1

2. COUNTRY/ENTITY: Regional

3. PROJECT NUMBER: 398-0365

4. BUREAU/OFFICE: A. Symbol: Asia, Near East & Europe; B. Code:

5. PROJECT TITLE (maximum 40 characters): Regional Environmental Project

6. ESTIMATED FY OF AUTHORIZATION/OBLIGATION/COMPLETION

A. Initial FY 91

B. Final FY 95

C. PACD 96

7. ESTIMATED COSTS ($000 OR EQUIVALENT, $1 =)

FUNDING SOURCE		LIFE OF PROJECT
A. AID	ANE/PD/ENV	5 year
B. Other U.S.	1. ANE	10,000
	2. Mission	10,000
C. Host Country		
D. Other Donor(s)		
TOTAL		20,000

8. PROPOSED BUDGET AID FUNDS ($000)

A. APPROPRIATION	B. PRIMARY PURPOSE CODE	C. PRIMARY TECH. CODE 1. Grant	C. PRIMARY TECH. CODE 2. Loan	D. 1ST FY 1. Grant	D. 1ST FY 2. Loan	E. LIFE OF PROJECT 1. Grant	E. LIFE OF PROJECT 2. Loan
(1) AG/SDA	877			2,000		20,000	
(2)							
(3)							
(4)							
TOTALS				2,000		20,00	

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

10. SECONDARY PURPOSE CODE

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

A. Code

B. Amount

12. PROJECT PURPOSE (maximum 480 characters)

To assist USAID Missions and host country institutions to: (1) identify and address critical environmental issues that threaten economic growth, public health and ecological sustainability, (2) mobilize the private sector and NGOs to provide cost-effective solutions to these problems, and (3) to promote regional information exchange.

13. RESOURCES REQUIRED FOR PROJECT DEVELOPMENT

Staff: ANE 3 person month

Funds n/a

14. ORIGINATING OFFICE CLEARANCE

Signature

Title: Robert W. Nachtrieb, Director, ANE/PD

Date Signed: MM 09 DD 04 YY 90

15. DATE DOCUMENT RECEIVED IN AID/W, OR FOR AID/W DOCUMENTS, DATE OF DISTRIBUTION: MM 08 DD 31 YY 90

16. PROJECT DOCUMENT ACTION TAKEN

S = Suspended; CA = Conditionally Approved; A = Approved; DD = Decision Deferred; D = Disapproved

17. COMMENTS

18. ACTION APPROVED BY

Signature: Carol Adelman

Title: Carol C. Adelman, AA/ANE

19. ACTION REFERENCE

20. ACTION DATE: MM 09 DD 14 YY 90

AID 1330-2 (8-79)

LOGICAL FRAMEWORK
PROJECT IN DEVELOPMENT AND THE ENVIRONMENT

PROGRAM OR SECTOR GOAL:	OBJECTIVELY VERIFIABLE INDICATORS Measure of Goal Achievements	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
To promote sound environmental and natural resource policies and programs in support of long-term sustainable economic growth in ENE countries.	Improved efficiency of natural resource use Improved environmental quality	Host country and Mission reports on key environmental indicators. Bureau reports Project evaluation reports	ENE Missions and host countries integrate sound environmental management into their strategic planning. -Rational changes in environmental policy can be made that are cost effective. -Governments will enact policies and implement programs encouraging private sector & NGO participation.
Project Purpose	**End of Project Status**		
To assist the ENE field Missions and host country institutions to: 1. identify and address critical environmental issues that threaten economic growth, public health and ecological sustainability; 2. mobilize the private sector and NGOs to provide cost effective solutions to these problems, and 3. promote regional information exchange.	1. Specific policies are identified that can significantly reduce critical environmental problems. 2. At least 4 ENE Missions and countries adopt ENR strategic planning concepts and methodologies. 3. At least 4 ENE Missions and countries demonstrate greater recognition and understanding of the costs of critical environment trends. 4. At least 4 ENE countries formulate policies that improve environmental quality and slow resource degradation. 5. At least 8 industrial factories adopt voluntary actions and invest in industrial pollution abatement 6. Improved participation and public awareness and NGO voice on ENR trends, policies, issues in several countries	-Several ENE missions incorporate Bureau-identified critical environmental and natural resource strategies into CDSS, policy reform agenda and/or design projects with environmental components. -Host country governments act on recommended policy reforms and private sector initiatives. -The general public and NGOs have greater access to information and opportunities to express views and concerns to decision makers. Media (radio, tv, journal) discuss ENR issues; information networks developed	1. USAID Missions and ENE governments perceive the project TA as an important service 2. Technically + financially attractive options exist and are available to those who make resource allocation decisions. 2.1 It is in the perceived self interest of ENE governments and those with effective control over natural resources and allocation decisions to protect and enhance the environment. 2.2 Governments allow NGOs to organize, develop and have an effective voice on environmental issues.

OUTPUTS	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
Strategic Planning	**Magnitude of Outputs**		
1. Identification and dissemination of new and emerging ENR strategic planning concepts and methodologies useful to ENE Missions and host country institutions	1. Documents or reports produced and disseminated or TA provided which is useful in: -assessing the significance of ENR trends and conditions in terms of economic growth, environmental health and ecological sustainability. ·selecting priorities for action based on Mission portfolios and resources ·identified specific opportunities for policy reform or change private sector initiatives and environmental education	1. Documents, reports	1. Quality contractor performance, effective interaction with Missions to insure project outputs are relevant and incorporated.
2. Demonstration of strategic planning techniques that can help both Missions and host country institutions to develop action plans for using existing projects and programs to address critical ENR problems	2.1 At least two risk reduction/decision maker workshops organized and implemented involving 50 participants. 2.2 Mission buy-ins to support workshops & follow-up activities 2.3 Identify 10 environmentally beneficial actions, four of which have significant economic benefits.	2.1 Workshop schedules, attendance lists 2.2 Mission PIOT for buy-ins 2.3 Project, reports and demonstrations	2. USAID/host country interested in incorporating ENR into strategic planning
3. Seminars which address emerging regional priorities enhance the participation of the private sector and the role of environmental NGOs for promoting democratic pluralism	3.1 Seminars organized and implemented in 4 ENE countries in areas such as environmental education, urban environmental quality, and water resource management. 3.2 Mission buy-ins	3. Seminar schedules, attendance lists	3. Private sector and NGOs are receptive and political atmosphere does not overly inhibit their activity.

Policy Analysis

1. Environmental economic and institutional analyses that contribute to broad ENR country assessments and profiles	1. TA delivered in at least 4 countries which analyzes: 1.1 Costs of critical environmental trends to host country health, distributional effects, ecological sustainability, and biological diversity 1.2 AID-hostcountry identify policies/lack of policies fostering inefficient resource use and market failure	1. Documents containing analyses	1. Missions and host countries interested in addressing ENR policy issues.
2. Assistance to Missions to carry out policy development initiatives that address ENR issues	2.1 Seven or more requests for assistance received annually to identify technical assistance, prepare scopes of work. 2.2 supporting studies completed on policies affecting: -urban-industrial environmental quality -water resources quality and availability including tenure issues associated with water allocation and living aquatic resource exploitation -public access to information on critical environmental trends and public participation in ENR policy formulation	2. Correspondence, SOWs, copies of studies.	2. USAIDs will have funds to permit them to take advantage of assistance offered and project can deliver expertise to meet mission/host country needs.
3. Information disseminated on policy research and reform in ENE countries and on methods and approaches to ENR strategic planning, policy formulation and implementaion	3. Semi-annual (9) newsletters distributed for use by USAIDs and made available to other interested audiences	3. 9 newsletters distributed to USAIDs by core contractor	3. Information generated is useful, relevant

Private Sector

1. World Environment Center transfers U.S. experience and technical expertise in industrial pollution control and acts as an environmental information service for the industrial sectors in the Near East.	1. At mission, host country, or private sector request, WEC experts or associates conduct 50 TA/training workshops/seminars, assist to establish 4 counterpart organizations, demonstrate at least 10 industrial audits, and provide internships to at least 25 participants.	1. 1991 baseline vs mid-project evaluation assessing WEC.	1. WEC has organization and management ability to handle expanded operations or ability to access service of associate institutions.
2. Testing of alternatives for expanding the adoption of voluntary private sector actions for addressing industrial pollution. 2.2 Creating or strengthening indigenous institutions which can promote private sector actions through training, environmental consulting services and information dissemination.	2.1 Two or more alternatives tested in collaboration with ENE private, industrial firms 2.2 At least two private (industrial) firms in ENE countries develop capability to provide environmental consulting services.	2. Project and mission reports	2.1 TA provided is effective. 2.2 Private sector industry exists, incentives exist and local firms are motivated to develop capacity to address pollution problems
3. Complete country/subregion feasibility studies promoting voluntary pollution reduction measures in the urban private sector.	3. Studies completed on (e.g.) tourism waste water management and commercial transportation (buses) air pollution, and host country firms use them to address pollution abatement.	3. Project and Mission reports	3. Studies are relevant to ENE countries and form basis for action
4. The identification and analysis of regulatory options for addressing urban/industrial pollution by drawing on U.S. expertise to work with host country institutions and promotion of dialogue between private and public sectors through workshops and/or the establishment of in-country working groups or advisory committees.	4.1 TA on ways of addressing urban/industrial pollution provided to host country institutions and firms which results in action in at least 4 countries. 4.2 Services of experts from several U.S. institutions delivered to 4 countries.	4. Workshop agendas, participant lists. Mission requests for TA and SOWs.	4. Services of U.S. expertise from, municipal organizations, are available through the project.
5. Development of a regional strategy for overcoming non-regulatory barriers to private sector investments in pollution prevention, control or reduction.	5.1 Mechanisms for improving indigenous private sector access to information on environmental costs and technology options developed and shared. 5.2 Project Leverages non-USG sources of capital investment through co-financing.	5. Requests from USAIDs and documented responses from project contractors.	5. Organizations such as WEC can provide expertise and/or information and information is relevant and acted upon.

Public Awareness
Environmental Education
and Accountability

1. Develop and implement an ENE regional strategy to promote environmental education	1. Project contractor and associates produce: 1.1 inventory of U.S. and international institutions, expertise and resources, including A.I.D. Washington projects that can be accessed. 1.2 A plan for supporting regional initiatives, such as short-term training for journalists, translation and dissemination of audio-visual and printed materials, etc. 1.3 A plan for monitoring, evaluating and disseminating the results of the lessons learned from project pilot initiatives and ongoing efforts by others in the region.		
2. Environmental training needs assessments that identify priorities, key local institutions that can develop and implement a national action plan, and opportunities for donor assistance	2. At least 2 country needs assessments completed	2. Printed documents	2. USAID and host institutions support
3. Assistance to Missions to identify environmental education (EE) initiatives and technical expertise and programs to implement these initiatives	3.1 Missions request and project identifies and provides or brokers TA 3.2 Several missions incorporate EE into existing human resource development and education programs.	3.1 Mission requests, procurement documents 3.2 Missions project documents, PP amendments, PIO/Ps	3. USAID interested in incorporating PA/EE in existing programs/projects.
4. Collect and disseminate information on existing programs, expertise, activities and experience in ENE countries, and core materials for establishing in-country libraries.	4. Semiannual dissemination of information to missions and local networks developed in several countries	4. Printed documents	4. Contractor or other service can access information and disseminate it in useful form.
5. Support selected in-country activities to demonstrate approaches to promote public awareness and government accountability by use of small grants	5. PIO/Ts prepared by USAID offices. Ten grants of $40,000 or less provided to 5 NGOs in 3 countries for PA/EE activities	5. Grant documents	5. There are local NGOs and they are interested in PA/EE activities. USAIDs and are interested in and support democratic pluralism in environment

INPUTS	IMPLEMENTATION TARGET (TYPE/QUANTITY)		MEANS OF VERIFICATION	ASSUMPTIONS
		P/Mo.		
1. Long-term technical assistance	$ 5,103,538	324	Documents: - Contract, Cooperative Agreement, RSSA, individual contracts - Contractor/Cooperator financial reports	- Funds available - Contractors/cooperators & AID/W capable of recruiting suitably-qualified personnel - Substantial buy-ins from USAID missions
Core contract	$ 3,946,308	228		
Senior Research Economist		60		
Institutional Specialist		60		
Private Sector Analyst		48		
Administrative assistant		60		
RSSAs	$ 1,157,230	96		
Environment Engineer		60		
Pollution Control/Officer		36		
2. Short term technical assistance	1,798,436	108		
3. WEC Cooperative Agreement	2,270,771	127		
4. Urban Pollution Analysis	341,283	24		
5. Equipment	150,000			
6. Audit/Evaluation/Design	500,000			
7. Contingency	404,064			
8. Mission buy-ins	8,000,000			

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5C(2) - PROJECT CHECKLIST

Listed below are statutory criteria applicable to projects. This section is divided into two parts. Part A includes criteria applicable to all projects. Part B applies to projects funded from specific sources only: B(1) applies to all projects funded with Development Assistance; B(2) applies to projects funded with Development Assistance loans; and B(3) applies to projects funded from ESF.

CROSS REFERENCES: IS COUNTRY CHECKLIST UP TO DATE? HAS STANDARD ITEM CHECKLIST BEEN REVIEWED FOR THIS PROJECT?

A. GENERAL CRITERIA FOR PROJECT

1. FY 1990 Appropriations Act Sec. 523; FAA Sec. 634A. If money is to be obligated for an activity not previously justified to Congress, or for an amount in excess of amount previously justified to Congress, has Congress been properly notified?

   CN will be done to obligate funds

2. FAA Sec. 611(a). Prior to an obligation in excess of $500,000, will there be: (a) engineering, financial or other plans necessary to carry out the assistance; and (b) a reasonably firm estimate of the cost to the U.S. of the assistance?

   Yes

3. FAA Sec. 611(a)(2). If legislative action is required within recipient country with respect to an obligation in excess of $500,000, what is the basis for a reasonable expectation that such action will be completed in time to permit orderly accomplishment of the purpose of the assistance?

   N/A

4.	FAA Sec. 611(b); FY 1990 Appropriations Act Sec. 501. If project is for water or water-related land resource construction, have benefits and costs been computed to the extent practicable in accordance with the principles, standards, and procedures established pursuant to the Water Resources Planning Act (42 U.S.C. 1962, et seq.)? (See A.I.D. Handbook 3 for guidelines.)	N/A
5.	FAA Sec. 611(e). If project is capital assistance (e.g., construction), and total U.S. assistance for it will exceed $1 million, has Mission Director certified and Regional Assistant Administrator taken into consideration the country's capability to maintain and utilize the project effectively?	N/A
6.	FAA Sec. 209. Is project susceptible to execution as part of regional or multilateral project? If so, why is project not so executed? Information and conclusion whether assistance will encourage regional development programs.	Yes (It is a regional project.
7.	FAA Sec. 601(a). Information and conclusions on whether projects will encourage efforts of the country to: (a) increase the flow of international trade; (b) foster private initiative and competition; (c) encourage development and use of cooperatives, credit unions, and savings and loan associations; (d) discourage monopolistic practices; (e) improve technical efficiency of industry, agriculture and commerce; and (f) strengthen free labor unions.	Project will provide technical, analytical, and information support to promote sound environmental and natural resource use for long-term sustainable economic growth. (e) Yes
8.	FAA Sec. 601(b). Information and conclusions on how project will encourage U.S. private trade and investment abroad and encourage private U.S. participation in foreign assistance programs (including use of private trade channels and the services of U.S. private enterprise).	a. Work and info. exchange with U.S. and host country private and public sector industries may result in trad of U.S. pollution abatement technology. b. A Cooperative Agreement with a not-for-profit U.S. private sector organization (WEC) is a key project resource in addressing the private sector initiatives component.

9. FAA Secs. 612(b), 636(h). Describe steps taken to assure that, to the maximum extent possible, the country is contributing local currencies to meet the cost of contractual and other services, and foreign currencies owned by the U.S. are utilized in lieu of dollars.	N/A Cordially-funded project
10. FAA Sec. 612(d). Does the U.S. own excess foreign currency of the country and, if so, what arrangements have been made for its release?	N/A
11. FY 1990 Appropriations Act Sec. 521. If assistance is for the production of any commodity for export, is the commodity likely to be in surplus on world markets at the time the resulting productive capacity becomes operative, and is such assistance likely to cause substantial injury to U.S. producers of the same, similar or competing commodity?	N/A
12. FY 1990 Appropriations Act Sec. 547. Will the assistance (except for programs in Caribbean Basin Initiative countries under U.S. Tariff Schedule "Section 807," which allows reduced tariffs on articles assembled abroad from U.S.-made components) be used directly to procure feasibility studies, prefeasibility studies, or project profiles of potential investment in, or to assist the establishment of facilities specifically designed for, the manufacture for export to the United States or to third country markets in direct competition with U.S. exports, of textiles, apparel, footwear, handbags, flat goods (such as wallets or coin purses worn on the person), work gloves or leather wearing apparel?	No
13. FAA Sec. 119(g)(4)-(6) & (10). Will the assistance: (a) support training and education efforts which improve the capacity of recipient countries to prevent loss of biological diversity; (b) be provided under a long-term agreement in which the recipient country agrees to protect ecosystems or other	a. Yes b. No c. Yes, possibly. d. No

14. **Sahel Accounting** (FAA Sec. 121(d)): If a Sahel project, has a determination been made that the host government has an adequate system for accounting for and controlling receipt and expenditure of project funds (either dollars or local currency generated therefrom)? NA

15. **PVO Assistance**

a. **Auditing and registration** (FY 1991 Appropriations Act Sec. 537): If assistance is being made available to a PVO, has that organization provided upon timely request any document, file, or record necessary to the auditing requirements of A.I.D., and is the PVO registered with A.I.D.? YES, World Environment Center (Cooperative Agreement)

b. **Funding sources** (FY 1991 Appropriations Act, Title II, under heading "Private and Voluntary Organizations"): If assistance is to be made to a United States PVO (other than a cooperative development organization), does it obtain at least 20 percent of its total annual funding for international activities from sources other than the United States Government? yes

16. **Project Agreement Documentation** (State Authorization Sec. 139 (as interpreted by conference report)): Has confirmation of the date of signing of the project agreement, including the amount involved, been cabled to State L/T and A.I.D. LEG within 60 days of the agreement's entry into force with respect to the United States, and has the full text of the agreement been pouched to those same offices? (See Handbook 3, Appendix 6G for agreements covered by this provision). yes

17. **Metric System** (Omnibus Trade and Competitiveness Act of 1988 Sec. 5164, as interpreted by conference report, amending Metric Conversion Act of 1975 Sec. 2, and as implemented through A.I.D. policy): Does the assistance activity use the metric system of measurement in its procurements, grants, and other business-related activities, except to the NA

extent that such use is impractical or is likely to cause significant inefficiencies or loss of markets to United States firms? Are bulk purchases usually to be made in metric, and are components, subassemblies, and semi-fabricated materials to be specified in metric units when economically available and technically adequate? Will A.I.D. specifications use metric units of measure from the earliest programmatic stages, and from the earliest documentation of the assistance processes (for example, project papers) involving quantifiable measurements (length, area, volume, capacity, mass and weight), through the implementation stage?

18. State Authorization Sec. 139 (as interpreted by conference report). Has confirmation of the date of signing of the project agreement, including the amount involved, been cabled to State L/T and A.I.D. LEG within 60 days of the agreement's entry into force with respect to the United States, and has the full text of the agreement been pouched to those same offices? (See Handbook 3, Appendix 6G for agreements covered by this provision). **N/A**

19. Trade Act Sec. 5164 (as interpreted by conference report), amending Metric Conversion Act of 1975 Sec. 2 (and as implemented through A.I.D. policy). Does the assistance activity use the metric system of measurement in its procurements, grants, and other business-related activities, except to the extent that such use is impractical or is likely to cause significant inefficiencies or loss of markets to United States firms? Are bulk purchases usually to be made in metric, and are components, subassemblies, and semi-fabricated materials to be specified in metric units when economically available and technically adequate? Will A.I.D. specifications use metric units of measure from the earliest programmatic stages, and from the earliest documentation of the assistance processes (for example, project papers) involving quantifiable measurements (length, area, volume, capacity, mass and weight), through the implementation stage? **N/A**

20. FY 1990 Appropriations Act, Title II, under heading "Women in Development." Will assistance be designed so that the percentage of women participants will be demonstrably increased? **Yes**

21. <u>FY 1990 Appropriations Act Sec. 592(a).</u> If assistance is furnished to a foreign government under arrangements which result in the generation of local currencies, has A.I.D. (a) required that local currencies be deposited in a separate account established by the recipient government, (b) entered into an agreement with that government providing the amount of local currencies to be generated and the terms and conditions under which the currencies so deposited may be utilized, and (c) established by agreement the responsibilities of A.I.D. and that governmen. to monitor and account for deposits into and disbursements from the separate account? N/A

Will such local currencies, or an equivalent amount of local currencies, be used only to carry out the purposes of the DA or ESF chapters of the FAA (depending on which chapter is the source of the assistance) or for the administrative requirements of the United States Government?

Has A.I.D. taken all appropriate steps to ensure that the equivalent of local currencies disbursed from the separate account are used for the agreed purposes?

If assistance is terminated to a country, will any unencumbered balances of funds remaining in a separate account be disposed of for purposes agreed to by the recipient government and the United States Government?

d. FAA Sec. 101(a). Does the activity give reasonable promise of contributing to the development of economic resources, or to the increase of productive capacities and self-sustaining economic growth?	Yes
e. FAA Secs. 102(b), 111, 113, 281(a). Describe extent to which activity will: (1) effectively involve the poor in development by extending access to economy at local level, increasing labor-intensive production and the use of appropriate technology, dispersing investment from cities to small towns and rural areas, and insuring wide participation of the poor in the benefits of development on a sustained basis, using appropriate U.S. institutions; (2) help develop cooperatives, especially by technical assistance, to assist rural and urban poor to help themselves toward a better life, and otherwise encourage democratic private and local governmental institutions; (3) support the self-help efforts of developing countries; (4) promote the participation of women in the national economies of developing countries and the improvement of women's status; and (5) utilize and encourage regional cooperation by developing countries.	Environmental Education/Public Awareness is one of 4 project components. The objective is to increase public accountability and responsiveness to citizen concerns relating to the environment. These concerns include tenure issues, resource control and use, pricing, and a wide range of policy actions which deeply affect the poor and all segments of society, transnational cooperation may result from regional information sharing.
f. FAA Secs. 103, 103A, 104, 105, 106, 120-21; FY 1990 Appropriations Act, Title II, under heading "Sub-Saharan Africa, DA." Does the project fit the criteria for the source of funds (functional account) being used?	N/A
g. FY 1990 Appropriations Act, Title II, under heading "Sub-Saharan Africa, DA." Have local currencies generated by the sale of imports or foreign exchange by the government of a country in Sub-Saharan Africa from funds appropriated under Sub-Saharan Africa, DA been deposited in a special account established by that government, and are these local currencies available only for	N/A

use, in accordance with an agreement with the United States, for development activities which are consistent with the policy directions of Section 102 of the FAA and for necessary administrative requirements of the U. S. Government?

h. FAA Sec. 107. Is emphasis placed on use of appropriate technology (relatively smaller, cost-saving, labor-using technologies that are generally most appropriate for the small farms, small businesses, and small incomes of the poor)?

Yes. As concerns private sector pollution abatement the emphasis is on no cost - low cost proven technologies.

i. FAA Secs. 110, 124(d). Will the recipient country provide at least 25 percent of the costs of the program, project, or activity with respect to which the assistance is to be furnished (or is the latter cost-sharing requirement being waived for a "relatively least developed" country)?

N/A. Centrally-funded.

j. FAA Sec. 128(b). If the activity attempts to increase the institutional capabilities of private organizations or the government of the country, or if it attempts to stimulate scientific and technological research, has it been designed and will it be monitored to ensure that the ultimate beneficiaries are the poor majority?

Yes

k. FAA Sec. 281(b). Describe extent to which program recognizes the particular needs, desires, and capacities of the people of the country; utilizes the country's intellectual resources to encourage institutional development; and supports civil education and training in skills required for effective participation in governmental processes essential to self-government.

Emphasis will be on local capacity building in private sector, in environmental education. There will be small grants to local PVO's to promote public awareness.

l. FY 1990 Appropriations Act, under heading "Population, DA," and Sec. 535. Are any of the funds to be used for the performance of abortions as a method of family planning or to motivate or coerce any person to practice abortions?

No

Are any of the funds to be used to pay for the performance of involuntary sterilization as a method of family planning or to coerce or provide any financial incentive to any person to undergo sterilizations?	No
Are any of the funds to be made available to any organization or program which, as determined by the President, supports or participates in the management of a program of coercive abortion or involuntary sterilization?	No
Will funds be made available only to voluntary family planning projects which offer, either directly or through referral to, or information about access to, a broad range of family planning methods and services?	No
In awarding grants for natural family planning, will any applicant be discriminated against because of such applicant's religious or conscientious commitment to offer only natural family planning?	N/A
Are any of the funds to be used to pay for any biomedical research which relates, in whole or in part, to methods of, or the performance of, abortions or involuntary sterilization as a means of family planning?	No
m. FAA Sec. 601(e). Will the project utilize competitive selection procedures for the awarding of contracts, except where applicable procurement rules allow otherwise?	
n. FY 1990 Appropriations Act Sec. 579. What portion of the funds will be available only for activities of economically and socially disadvantaged enterprises, historically black colleges and universities, colleges and universities having a student body in which more than 40 percent of the students are Hispanic Americans, and	There is no specific set-aside. However, disadvantaged and minority firms may compete for the core contract or may be sub-contractors under the core contract.

private and voluntary organizations which are controlled by individuals who are black Americans, Hispanic Americans, or Native Americans, or who are economically or socially disadvantaged (including women)?

o. FAA Sec. 118(c). Does the assistance comply with the environmental procedures set forth in A.I.D. Regulation 16? Does the assistance place a high priority on conservation and sustainable management of tropical forests? Specifically, does the assistance, to the fullest extent feasible: (1) stress the importance of conserving and sustainably managing forest resources; (2) support activities which offer employment and income alternatives to those who otherwise would cause destruction and loss of forests, and help countries identify and implement alternatives to colonizing forested areas; (3) support training programs, educational efforts, and the establishment or strengthening of institutions to improve forest management; (4) help end destructive slash-and-burn agriculture by supporting stable and productive farming practices; (5) help conserve forests which have not yet been degraded by helping to increase production on lands already cleared or degraded; (6) conserve forested watersheds and rehabilitate those which have been deforested; (7) support training, research, and other actions which lead to sustainable and more environmentally sound practices for timber harvesting, removal, and processing; (8) support research to expand knowledge of tropical forests and identify alternatives which will prevent forest destruction, loss, or degradation; (9) conserve biological diversity in forest areas by supporting efforts to identify, establish, and maintain a representative network of protected tropical forest ecosystems on a worldwide basis, by making the establishment of protected areas a

Yes to all suggestions.

condition of support for activities involving forest clearance or degradation, and by helping to identify tropical forest ecosystems and species in need of protection and establish and maintain appropriate protected areas; (10) seek to increase the awareness of U.S. Government agencies and other donors of the immediate and long-term value of tropical forests; and (11)/utilize the resources and abilities of all relevant U.S. government agencies?

p. FAA Sec. 118(c)(13). If the assistance will support a program or project significantly affecting tropical forests (including projects involving the planting of exotic plant species), will the program or project: (1) be based upon careful analysis of the alternatives available to achieve the best sustainable use of the land, and (2)/take full account of the environmental impacts of the proposed activities on biological diversity?

Unlikely tropical forests will be involved in the ENE region.

q. FAA Sec. 118(c)(14). Will assistance be used for: (1) the procurement or use of logging equipment, unless an environmental assessment indicates that all timber harvesting operations involved will be conducted in an environmentally sound manner and that the proposed activity will produce positive economic benefits and sustainable forest management systems; or (2) actions which will significantly degrade national parks or similar protected areas which contain tropical forests, or introduce exotic plants or animals into such areas?

No to both questions.

r. FAA Sec. 118(c)(15). Will assistance be used for: (1) activities which would result in the conversion of forest lands to the rearing of livestock; (2) the construction, upgrading, or maintenance of roads (including temporary haul roads for logging or other extractive industries) which pass through relatively undergraded forest lands; (3) the

No to all questions.

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colonization of forest lands; or (4) the construction of dams or other water control structures which flood relatively undergraded forest lands, unless with respect to each such activity an environmental assessment indicates that the activity will contribute significantly and directly to improving the livelihood of the rural poor and will be conducted in an environmentally sound manner which supports sustainable development?

s. FY 1990 Appropriations Act Sec. 534(a). If assistance relates to tropical forests, will project assist countries in developing a systematic analysis of the appropriate use of their total tropical forest resources, with the goal of developing a national program for sustainable forestry?

Unlikely that assistance will relate to tropical forests except possibility of the Philippines. If tropical forestry activity is undertaken, all existing guidelines will be respected.

t. FY 1990 Appropriations Act Sec. 534(b). If assistance relates to energy, will such assistance focus on improved energy efficiency, increased use of renewable energy resources, and national energy plans (such as least-cost energy plans) which include investment in end-use efficiency and renewable energy resources?

Yes

Describe and give conclusions as to how such assistance will: (1) increase the energy expertise of A.I.D. staff, (2) help to develop analyses of energy-sector actions to minimize emissions of greenhouse gases at least cost, (3) develop energy-sector plans that employ end-use analysis and other techniques to identify cost-effective actions to minimize reliance on fossil fuels, (4) help to analyze fully environmental impacts (including impact on global warming), (5) improve efficiency in production, transmission, distribution, and use of energy, (6) assist in exploiting nonconventional renewable energy resources, including wind, solar, small-hydro, geo-thermal, and advanced

1. Technical Assistance (TA) from U.S. private-public sector leaders.

2-8. Through strategic planning, policy analysis and private sector initiatives project components, working with Mission, host institutions and industries: e.g., technical assistance, decision-maker workshops and seminars, training, study tours, studies and regional information exchange.

biomass systems, (7) expand efforts to meet the energy needs of the rural poor, (8) encourage host countries to sponsor meetings with United States energy efficiency experts to discuss the use of least-cost planning techniques, (9) help to develop a cadre of United States experts capable of providing technical assistance to developing countries on energy issues, and (10) strengthen cooperation on energy issues with the Department of Energy, EPA, World Bank, and Development Assistance Committee of the OECD.

9. Through WEC -AID cooperative agreement.

10. Project calls for accessing U.S. and State EPA technologies, methodologies and technical experitse on short-term basis. The services of 2 EPA experts will be secured with project funds; they will work in ENE/DR.

u. FY 1990 Appropriations Act, Title II, under heading "Sub-Saharan Africa, DA" (as interpreted by conference report upon original enactment). If assistance will come from the Sub-Saharan Africa DA account, is it: (1) to be used to help the poor majority in Sub-Saharan Africa through a process of long-term development and economic growth that is equitable, participatory, environmentally sustainable, and self-reliant; (2) being provided in accordance with the policies contained in section 102 of the FAA; (3) being provided, when consistent with the objectives of such assistance, through African, United States and other PVOs that have demonstrated effectiveness in the promotion of local grassroots activities on behalf of long-term development in Sub-Saharan Africa; (4) being used to help overcome shorter-term constraints to long-term development, to promote reform of sectoral economic policies, to support the critical sector priorities of agricultural production and natural resources, health, voluntary family planning services, education, and income generating opportunities, to bring about appropriate sectoral restructuring of the Sub-Saharan African economies, to support reform in public administration and finances and to establish a favorable environment for individual enterprise and self-sustaining development, and to take

N/A

into account, in assisted policy reforms, the need to protect vulnerable groups; (5) being used to increase agricultural production in ways that protect and restore the natural resource base, especially food production, to maintain and improve basic transportation and communication networks, to maintain and restore the renewable natural resource base in ways that increase agricultural production, to improve health conditions with special emphasis on meeting the health needs of mothers and children, including the establishment of self-sustaining primary health care systems that give priority to preventive care, to provide increased access to voluntary family planning services, to improve basic literacy and mathematics especially to those outside the formal educational system and to improve primary education, and to develop income-generating opportunities for the unemployed and underemployed in urban and rural areas?

v. International Development Act Sec. 711, FAA Sec. 463. If project will finance a debt-for-nature exchange, describe how the exchange will support protection of: (1) the world's oceans and atmosphere, (2) animal and plant species, and (3) parks and reserves; or describe how the exchange will promote: (4) natural resource management, (5) local conservation programs, (6) conservation training programs, (7) public commitment to conservation, (8) land and ecosystem management, and (9) regenerative approaches in farming, forestry, fishing, and watershed management. N/A

w. FY 1990 Appropriations Act Sec. 515. If deob/reob authority is sought to be exercised in the provision of DA assistance, are the funds being obligated for the same general purpose, and for countries within the same region as originally obligated, and have the House and Senate Appropriations Committees been properly notified? N/A

2. Development Assistance Project Criteria (Loans Only)

a. FAA Sec. 122(b). Information and conclusion on capacity of the country to repay the loan at a reasonable rate of interest. N/A

b. FAA Sec. 620(d). If assistance is for any productive enterprise which will compete with U.S. enterprises, is there an agreement by the recipient country to prevent export to the U.S. of more than 20 percent of the enterprise's annual production during the life of the loan, or has the requirement to enter into such an agreement been waived by the President because of a national security interest? N/A

c. FAA Sec. 122(b). Does the activity give reasonable promise of assisting long-range plans and programs designed to develop economic resources and increase productive capacities? N/A

3. Economic Support Fund Project Criteria

a. FAA Sec. 531(a). Will this assistance promote economic and political stability? To the maximum extent feasible, is this assistance consistent with the policy directions, purposes, and programs of Part I of the FAA? N/A

b. FAA Sec. 531(e). Will this assistance be used for military or paramilitary purposes? No

c. FAA Sec. 609. If commodities are to be granted so that sale proceeds will accrue to the recipient country, have Special Account (counterpart) arrangements been made? N/A

ANNEX D: ECONOMIC ANALYSIS

1. Overview

The goal of PRIDE is to promote sound environmental and natural resource programs which contribute to long-term sustainable economic growth. It will accomplish this by helping USAID missions and host countries: 1) identify critical environmental issues and analyze alternative means of addressing these issues, 2) mobilize the private sector and NGOs, when appropriate, to choose and provide cost-effective solutions to environmental/natural resource problems, and 3) promote regional information exchange and in-country education on environmental issues.

It is essentially impossible to carry out ex ante a detailed economic analysis of a project like PRIDE, which produces outputs such as strategic planning, policy analysis, adoption of pollution control practices and technologies, and improved environmental awareness. Economic benefits and costs of particular activities carried out under the project cannot be estimated, under the best of circumstances, until those activities are identified during project implementation. In addition, the benefits associated with planning, policy analysis, and increased environmental awareness are always difficult to determine.

Despite the difficulties of providing a quantitative analysis, it is clear that the economic benefits resulting from sound environmental policies are significant and almost certainly justify reasonable expenditures incurred to formulate these policies. The environment, broadly defined, is any country's most important resource. There are many examples of the high economic costs of poorly formulated and implemented environmental policies, e.g. the impact of severe air pollution in Eastern Europe on the health of humans, forests, and lakes, the losses of agricultural production in Pakistan resulting from irrigation-induced water logging/excess salinity on agricultural lands, and the severe erosion in certain areas of Thailand caused by unrestricted logging practices.

This is not to say, however, that every effort to impose more rigorous regulations on environmental use is justified economically. Excessive regulation, or regulations which achieve desireable objectives but in an excessively costly manner, impose unnecessary costs on an economy and hinder its long-term growth. Nevertheless, there is an abundant and growing economic literature and a body of accepted methodologies for attaining environmental objectives at minimum sacrifice of other resources and objectives.

Thus, a sound environmental policy is one which identifies key environmental objectives--the accomplishment of which contribute positively to a country's long term growth prospects and to its citizens' quality of life--and puts in place policies which permit these objectives to be achieved in the most economic way possible.

In this context, the economic justification for PRIDE will ultimately depend upon the economic merit of the specific interventions carried out it. This fact serves to emphasize the importance to the project of obtaining long-term TA team members who are highly skilled in the area of environmental economics. These skills will be required to identify appropriate environmental interventions to be promoted by PRIDE. If such interventions are justified on the basis of sound economic analysis, and given the clearly sub-optimal state of environmental policy in most regional countries at present, the project will likely yield significant economic benefits.

In the remainder of this Annex, the ways in which the components of the PRIDE can be used to address the underlying causes of sub-optimal environmental policies are discussed and basic economic techniques used to determine appropriate environmental policies are described in simple terms.

2. Details

In most countries, serious environmental problems exist due to various types of market failure. That is, either economic markets do not exist, e.g. for various "environmental goods" such as air and water quality, usually because of inadequate property rights; or, existing markets are distorted due to inappropriate pricing policies, regulations, or other government interventions, e.g. overuse of subsidized fertilizers. While such problems typically impose a net cost on the economy as a whole, various groups in the population are certain to benefit from the existing sub-optimal situation; and, they are likely to oppose any corrective policy reforms.

PRIDE has four components: 1) strategic planning, 2) policy analysis, 3) private sector development, and 4) environmental education. All four components contribute to the goal of developing more effective country-specific environmental policies by jointly identifying the causes of market failure and then prescribing appropriate policy responses. The strategic component will assist USAID missions identify key environmental objectives. The other three components comprise an effort to: a) obtain a more detailed understanding of environmental problems and possible corresponding policy options (policy analysis), b) encourage the private sector to carry out more environmentally-beneficial activities (private sector development), and c) improve the public understanding of, and interest in, environmental issues (environmental education).

An important point to note is that PRIDE is designed to assist USAID missions in identifying key environmental problems and determining appropriate policy responses. Virtually by definition, key problems are those which are particularly costly to the economy or the public, while appropriate responses are those which achieve the desired result at the least possible cost. The net effect is that PRIDE should promote environmental policy reforms which provide net economic benefits to ENE countries.

In most cases, environmental economists have reasonably well developed methodologies for identifying the most efficient policy responses to key environmental problems. Economists typically prefer to analyze environmental issues within a framework which equates at the margin the economic benefits and costs of changes in environmental policy. Where possible, market solutions are

preferred. If relevant markets exist but are distorted, then efforts usually focus on removing distortions (such as excessive subsidies or taxes) so that market efficiency is improved. If markets do not exist, then efforts are made to establish at least a quasi-market mechanism for determining appropriate levels of environmental quality, for example via effluent charges or tradeable emission permits.

More specific environmental interventions should be studied within a benefit-cost or cost-effectiveness framework. The former involves a comparison of the economic costs of a particular activity aimed at mitigating an environmental problem versus the resulting economic benefits of reduced environmental damage. Estimation of the economic costs of environmental protection is usually straightforward. It might involve estimating the costs of installing pollution control devices, the higher costs of burning a less polluting fuel, or the cost of improving irrigation drainage. The economic benefits of environmental protection are more difficult to estimate. In some cases, there are obvious pecuniary impacts, such as increased agricultural production or more tourism. In other cases, however, environmental improvements have an impact on individuals' health or quality-of-life, which makes quantification difficult. Nevertheless, ingenious efforts have been made to quantify such benefits, or at least to identify quantifiable proxies.

In other cases, certain environmental improvements are considered to be essential, including the preservation of human life or of unique ecosystems, and yet the resulting benefits are inherently unquantifiable. In such cases, cost-effectiveness analysis should be used. This approach takes as given the necessity of achieving a certain environmental improvement, and then seeks to determine the least-cost method of achieving that improvement.

3. Conclusion

Overall, using the considerable analytic tools described above, PRIDE is expected to identify critical environmental issues confronting countries in the ENE region and to promote policy reforms and actions (particularly by the private sector where feasible) that result in significant economic benefits. Moreover, the regional nature of the project should result in considerable cost savings when compared with the option of each mission contracting separately for similar services.

Annex E: Social Soundness Analysis

Final

Socio-Cultural Context and Democratic Pluralism Analysis

The countries comprising the ENE Bureau are physically, culturally and economically diverse, with a great variety of religions, population densities, extent of rural versus urban and industrial orientations, economic conditions and level of development. In this setting, a regional project must flexible enough to adapt to the particular context of each country.

Project Beneficiaries

Of necessity, the specific activities under the policy analysis, private sector and environmental education components will not be identified until project implementation. Therefore, a detailed analysis of the direct project beneficiaries is not possible at this stage.

The policy analysis component is targeted at government decision-makers and will assist with the formulation of more effective environmental policies associated with urban and industrial pollution and water resources management. Among the important implementation analyses to be supported will be assessing the distributional effects of different policy instruments.
The indirect beneficiaries are therefore those communities and individuals who are now suffering the ill effects of pollution, in terms of threats to their health, livelihoods and/or standards of living. Because sound ENR management is inextricably mixed with sustainable economic growth, the employment and social welfare of many ENE citizens can be affected by ENR policy development.

The private sector component promotes the adoption of low cost and no cost improvements to industrial plant operations, often with very significant increases in occupational health and safety. These plant improvements also increase overall production, and, therefore potentially stimulating more employment. The training of private sector personnel and the local service industries in plant assessment skills enhances the overall capabilities of the private sector to address environmental pollution and worker safety.

The environmental education component is targeted at a wide range of audiences, from decision-makers to the rural poor. It is anticipated that the increased awareness of environmental issues will lead to concrete civic actions, as well as to a broader constituency for ENR policy development. This component is strongly oriented towards promoting democratic pluralism so that pilot initiatives will include experiments with fostering a more vigorous debate over ENR concerns. This may entail the involvement of "stake-holders" in policy debates and analysis.

Socio-cultural feasibility

While recognizing the relevancy and applicability of generic tools and methods for promoting ENR policy analysis, private sector initiatives and environmental education, it is imperative that they be adapted to area-specific socio-cultural contexts to be fully effective. For this reason, REP has a strong emphasis on using local analysts for policy studies, training the indigenous private sector and strengthening local capabilities for promoting environmental education. The

project is designed to permit Missions, together with collaborating public and private institutions, to select those aspects of REP most suitable to their needs.

Gender Issues

The emphasis of REP on strategic planning provides an opportunity to integrate both gender and democratic pluralism concerns into all analyses and assessment processes. A background analysis prepared for the ENR Program indicates that changing labor patterns and urban migrations in ENE countries are expanding the number of women who at the local-level manage natural resources such as water, forest products, and aquatic resources. At the same time, those who make policy decisions and implement programs rarely consider their impact on different segments of society, including women.

In order to highlight the importance of gender issues, the project will support analyses that reveal the disproportionate costs born by women and other segments of society from existing policies, institutional arrangements and programs. When appropriate, the in-country policy analyses should address the need for basic sex-disaggregated data on how natural resources and ecological systems are used and the differential impact of policy reforms, technologies and institutional arrangements on men and women has prevented the development of sound natural resource management and environmental policies and programs.

All short-term training activities supported under REP should target women and other segments of society which do not have sufficient access to information, technologies and skill development to undertake environmentally beneficial actions. The development of the environmental education regional action plan might usefully involve the WID office to ensure that all opportunities to incorporate gender concerns are taken.

ANNEX F: PRIDE RELATIONSHIP TO OTHER PROJECTS

One of the central functions of PRIDE is its ability to broker other projects and direct Missions toward the best available resources for their specific needs. Within each component of PRIDE - Strategic Planning, Policy Analysis, Private Sector Initiatives, and Environmental Education - there are a number of new and existing projects with buy-in potential which Missions can access. Tables 1-3 outline a large sample of A.I.D. projects at the Global/Regional level which have topical linkages with PRIDE.

Strategic Planning

Several of the projects which address policy analysis in the context of economic growth and ecological sustainability also include strategic planning as a project goal. The three most relevant projects are EPM, DESFIL, and APAP. The Environmental Planning and Management Project (EPM) has undertaken several national conservation strategies at the country level. Missions may want to access this S&T project to assist them with this type of inventory/strategic planning process for natural resources management. The project may offer certain methodologies with which the Missions would like to experiment. EPM also assists Missions with requests for NGO support in training and institutional strengthening. The Development Strategies for Fragile Lands (DESFIL) project functions primarily "to provide support for USAID's Fragile Lands Initiative, the purpose of which is the improvement of national, regional, and international strategies for fragile lands management, and the implementation of those strategies through specific programs and projects." DESFIL accomplishes this goal by promoting public awareness and involvement in fragile lands management. The Agriculture Policy Analysis Project (APAP) addresses policy initiatives more directly than strategic planning, but the project emphasizes the process of planning with the Missions. Of the three projects listed above, APAP is the only one which states that assisting Missions with their planning processes and policy analyses is part of the project design. The others focus more directly on assisting host country institutions.

Policy Analysis

There are a wide variety of ongoing and recently designed projects which address policy analysis in economic growth and ecological sustainability. USAID/S&T offers seven or eight projects which cover agricultural policy, forestry policy, environmental health policy, energy policy, and state of the art and applied research in multi-sectoral policy analysis. USAID/PPC offers three or four projects which cover policy process research, regulatory reform, technology assessment related policy analysis, and gender issues. ISPAN, an ANE regional project now moving to Asia, focusses on water policy. Although all projects have or intend to develop methodologies for conducting effective analyses of host country policies, the project most broad reaching in methodological research is the Environmental and Natural Resources Policy and Training Project (EPAT). As a ten year project, EPAT will provide an excellent ongoing resource to the Missions in several areas of policy research, including monetary valuation of environmental problems, global climate change, and tropical deforestation. PRIDE can then work with Missions to implement specific methodologies

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which address sectoral and country specific needs.

Private Sector

Private sector projects which Missions may want to access to assist with development in industrial and urban pollution prevention are funded by the USAID/PRE Bureau. Almost every project listed in Table 2 has a component to address regulatory and legal issues, which is an area on which PRIDE intends to focus. The World Environment Center (WEC) program has fulfilled many of the technical assistance needs previously for the ANE Bureau. However, in order to create a strategy for the Missions which addresses the full range of activities needed to promote private sector development in voluntary pollution abatement, Missions should be directed to other PRE projects which conduct capital markets feasibility studies and non-regulatory policy studies. MTAP and PEDS can provide these types of analyses.

Environmental Education

The Global/Regional projects for Environmental Education are limited. The most promising project is Greencom, currently being developed by S&T to begin in 1991. This project would address the spectrum of activities to promote public awareness and environmental education, including mass media, environmental NGO advocacy, training, and formal education curriculum development. The Institute of Liberty and Democracy, initiated in Peru, also focusses on training, outreach, and dissemination. Because of the relative scarcity of projects in environmental education, USAID should look to the Fish and Wildlife Service Projects, particularly in Sri Lanka to assist Missions with developing strategies for assessing their needs in this activity. The PPC/S&T cooperative agreement Ecology, Community Organization, and Gender (ECOGEN) offers collaborative research, training and policy analysis relevant to PRIDE.

Indefinite Quantity Contracts

The current IQC's with potential services for PRIDE are listed in Table 4. To fill the gap in environmental education projects, there are three contractors working in education which could begin to address environmental issues. Of particular relevance in the policy area, the macroeconomic analysis IQC is able to provide short-term assistance in several sectors, including agriculture, energy, environment, finance, and industry. The IQC's do not provide long-term TA to the Missions, but they can be very useful in accessing the serviuces of short-term experts who can address specific country needs in economic/environmental areas.

TABLE 1

CURRENT PROJECT ACTIVITIES WITH BUY-IN POTENTIAL - POLICY ANALYSIS

Global/ Regional Projects	Dates of Project	Nat Res Policy and Planning	Water Resources	Forestry	Energy Efficiency	Urban/ Industrial	Resource Tenure	Institut. Strength.	Comments
APAP (S&T/AGR)	Ext. 1988-1993	x		x				x	Addresses how to arrive at strategy
EPAT (S&T/FENR)	1991-2000	x	x	x	x	x	x	x	Based largely on inst. str. and applied research
EPM (S&T/FENR)	ext. 1990-1992	x		x		x	x	x	Similar strategic planning process to REP, links to EPA
IPC (S&T/RD)	1990-95	x					x	x	Accountability, strategic management, aimed at Host Country
DESFIL (S&T/RD)	1986-1996	x	x	x			x	x	Planning and collab. w/ other S&T and LAC centrally funded programs
Consultative Assistance for Policy Reform (PPC)	Ends in 1992	x						x	Policy, Legal, and Regulatory Reform
Institute for Policy Reform (PPC)	Ends in 1991 - possible extension	x						x	Policy process research, training, info. dissemination

POLICY ANALYSIS PROJECT ACTIVITIES (cont.)

Global/ Regional Projects	Dates of Project	Nat Res Policy and Planning	Water Resources	Forestry	Energy Efficiency	Urban/ Industrial	Resource Tenure	Institut. Strength.	Comments
Technology Assessment Policy Analysis Project (PPC)	Ends in 1992	x				x			Policy, legal, and regulatory reform in relation to tech transfer
Energy Planning and Policy Development (S&T)	Ends in 1992				x	x			Policy reform, training
Private Sector Energy Development Program (S&T)	Ends in 1994				x	x		x	Privatization, policy, legal, and institutional reform
Energy Policy and Planning (S&T/EY)	Begins in 1991				x	x			Least cost planning, price reform
Energy Efficiency (S&T/EY)	Begins in 1991				x				
ISPAN (ANE)	Ends in 1994	x	x						Irrigation and water mngt.
International Center for Economic Growth (ICEG) (PPC)	Ends in 1991	x	x		x	x		x	
WASH (S&T/ Health)	Ends in 1992		x		x				Potentially moving into urban/industrial health issues by FY92, minimal policy work

POLICY ANALYSIS PROJECT ACTIVITIES (cont.)

Global/ Regional Projects	Dates of Project	Nat Res Policy and Planning	Water Resources	Forestry	Energy Efficiency	Urban/ Industrial	Resource Tenure	Institut. Strength.	Comments
Environ. Health Project (S&T/H)	Beginning in 1991		x		x	x			Project designed to identify, assess env. health probs. Uses Tech trans., info. dissem.
Coastal Resources Management (S&T/FENR)		x	x						
Forest Resources Manaagement II (S&T/FENR)		x		x					
Bio-Diversity Project (S&T/FENR)	1980-1993	x		x					
Ecogen PPC/WID - S&T Coop.Ag)	1991 (start)	x		x				x	gender issues in research, trg, policy analysis

TABLE 2

CURRENT PROJECT ACTIVITIES - PRIVATE SECTOR

Global/ Regional Projects	Dates of project	Low-cost/ No cost Measures	Regulatory and Legal Issues	Non-reg Policy	Capital Markets Feasibility Studies	Comments
Market and Tech Access (MTAP) (PRE)	Ends Sept 1993	x	x	x		Trade and tech promotion - forestry, tourism
Entre-preneurs Internat. (Int.Tr./PP)		x				Trade and invst. prom./trng /tech serv.
PRE Financial Markets	Ends Sept 1993		x	x	x	TA, Training, Research
PEDS (PRE)	Ends Sept 1992		x	x	x	
Trade and Investment Service (PRE)					x	Promotes joint ventures w/ US ind.
WEC (ANE Coop. Agrmnt.)	New Ext to begin in 1991	x	x			TA, consult. serv.
Emp. and Ent. Pol Anal. (PRE)	Ends Sept 1991		x	x		

TABLE 3

CURRENT PROJECT ACTIVITIES - ENVIRONMENTAL EDUCATION AND GOVT. ACCOUNTABILITY

Global/Regional Projects	Date of project	Mass Media	Env. NGO Advocacy	Training	Formal Ed. Curriculum Dev.	Comments
Greencom (S&T)	1991-1990	x	x	x	x	Extension of EPAT
Institute for Liberty and Democracy	Ends in 1994	x	x	x		Training/HRD, Policy Reform

TABLE 4

CURRENT IQC'S WITH POTENTIAL SERVICES FOR REP

Functional Area	Contractor	Contract #	Tech Office	Contract Period
Education	Academy for Educational Development	PDC-5832-I-00-0081-00	S&T/ED	9/90-12/93
Education	Education Development Center, Inc.	PDC-5832-I-00-0081-00	S&T/ED	9/90-12/93
Education	Creative Assoc. Int.	PDC-5832-I-00-0081-00	S&T/ED	9/90-12/93
Energy	International Resources Group	PDC-0249-I-00-0089-00	ANE/TR/ENR	9/90-2/94
Energy	RCG/Hagler, Bailly	PDC-0249-I-00-0090-00	ANE/TR/ENR	9/90-2/94
Energy	Resources Management Assoc.	PDC-0249-I-00-0091-00	ANE/TR/ENR	9/90-2/94
Environment/ Natural Resources	Chemonics International	PDC-5517-I-00-0103-00	S&T/FNR	9/90-12/93
Environment/ Natural Resources	International Resources Group	PDC-5517-I-00-0104-00	S&T/FNR	9/90-12/93
Environment/ Natural Resources	Tropical Research and Development	PDC-5517-I-00-0105-00	S&T/FNR	9/90-12/93
Housing & Urban Development	Robert R. Nathan Associates	PDC-0000-I-00-9065-00	PRE/H	9/89-9/92
Housing & Urban Development	AET Associates, Inc.	PDC-0000-I-00-9066-00	PRE/H	9/89-9/92
Housing & Urban Development	Urban Institute	PDC-0000-I-00-9067-00	PRE/H	9/89-9/92
Housing & Urban Development	Research Triangle Institute	PDC-0000-I-00-9068-00	PRE/H	9/89-9/92
Housing & Urban Development	Planning and Development Assoc.	PDC-0000-I-00-9069-00	PRE/H	9/82-9/92
Macroeconomic Analysis	Robert R. Nathan Associates	PDC-0095-I-00-9096-00	PPC	9/89-8/92
Macroeconomic Analysis	Development Alternatives	PDC-0095-I-00-9096-00	PPC	9/89-8/92

ANNEX G

MISSION NEEDS + INTERESTS

COUNTRY	STRATEGIC PLANNING	POLICY ANALYSIS	PRIVATE SECTOR	PA/EE	BUY-IN
AFGHANISTAN	-Resource Profile assistance -Mineral Resource Development Survey -resource valuation -Water policy analysis allocation, quality, pricing -land tenure/resource access	-monitoring system policy performance indicators	security situation not right	-Develop EE materials -organize seminars form env. action group	Cannot estimate; funding level uncertain
Egypt	-GOE/AID hang up on Profile		continue WEC work	Lack of contact with NGOs	interested, no numbers
Indonesia	Address:pollution water mgmt(urban/ind) forest mgmt privatization + env support local capacity building		-Help USAIDS provide sound unbiased advice to encourage private sector to invest in env. mgmt. -Expertise/TA Choice of technologies	Important, country specific. Balance PA + targetted policy makers	-Little potential;USAID self-supporting in strategic planning policy via NRM. Maybe in private sector + PAA/EE. Support information sharing
Jordan	Mitigate impacts of ind. pollution on water resources, env legislation, PA/EE, biodiversity, water conservation	-water allocation and pricing focus	WEC help in commercializing env. technology	PA via env. clubs in schools. TA TO 2 NGO's	Need 5 p/m of T.A. Budget constraints prevent from committing to buy-in level now
Morocco	Little action. Working on Urban Env.Analysis for Spring '91. Generally positive view		WEC visit scheduled 1/91 re agbiz and private enterprise projects	Need info gathering system as basis for EE	-maybe in connection with Agbiz-priv. enterprise projects: $100,000 -maybe in connection with new soil/water conservation project

Pakistan	Strengthen Pakistani capabilities. Improve access/and use of resource information for regional/national planning. Support national + provincial sustainability task forces		-More efficient use of industrial by-products and raw materials to reduce pollution + costr Agro-Forestry	Develop PA/EE media institute/foundation 70% on informal sector	2-3 people for 3-4 months, end FY 91. (est. $1 million)
Philippines	-Local capacity building in EA, brown issues	policy + institution development under Urban/ IndustrialProject Pollution Mgmt	WEC:hazardous waste disposal (industrial)	Under CTIE	Level/need unclear now. To supplement NRMP. Assesments related to Mindinao Development
Tunisia	-Housing + water -USAID lacks resources to initiate and follow up. Will try to serve as catalyst in policy dialogue		Lack follow up to 1982-5 WEC reports by state-owned industry. Relationship env. degradation and technology choice in industry	Weak NGO's. Social marketing might be effective if project can finance cost.	none likely
Yemen			Waste disposal and TA on land fill		$50 - 100,000/yr from TSSP.
Nepal	Interested in networking + information on methods for analyzing linkages between env degradation, resource depletion + econ dev.	Interested	No comments	See Buy-in. (Support NGOs through IUCN	None foreseen now. Prefer direct support to IUCN which is assisting Natl Env. Planning Commission + Annapurna Conserva. Training + Research Center or Woodlands Mountain Institute.
India	Training for GOI on how to internalize env. costs of dev.	Policy studies, TA training, study tours to set stage	Env journalism workshops + short-term trg for journalists pollutants,	WEC training on commercializing env technologies e.g. substitutes for CFCs, other recycling, waste disposal (solid/toxic)	Possibly under new DARE project up to $1 mn

ANNEX H: Management and Administrative Procedures

A summary of project management organization is presented in the organization chart, figure 5.1. An Implementation Schedule for 1991-1993 key actions is included at the end of this Annex.

ENE Project Management

Principal project implementation and management will reside in ENE/DR/ENR and a core group of other personnel. Key A.I.D. project management responsibilities for PRIDE will be assigned to an Environmental Project Officer, who will serve as Project Manager. Specific responsibilities of the AID Project Manager include the following:

1. help establish and monitor the Project's basic support and information gathering and dissemination programs;

2. oversee technical aspects of contract and cooperative agreement soliticitation and selection;

3. obtain Mission or appropriate AID/W office evaluations of all activities funded under the Project;

4. call and chair regular and extraordinary meetings of Project personnel and contractors/cooperators to assure close coordination and colloboration and to resolve problems;

5. review and approve the selection of consultants proposed by the contractor(s) and consult with the cooperator(s) on personnel selection;

6. receive and review all requests and scopes of work from Missions and AID/W for PRIDE services and obtain Mission clearance for travel of all Project personnel;

7. review contractor or cooperator-generated scopes of work and oversee timely responses including the processing of Mission buy-ins and add-ons by SER/OP;

8 oversee contractor/cooperator collaborative work planning, and review and approve PRIDE annual work plans and any revisions in project component activities; and

9. review and approve any proposed changes in core project personnel.

Project-funded personnel

The Project Manager will be assisted in the performance of these functions and the close monitoring of the Project by other project-funded staff located in ENE/DR. While each will have other ENE/DR responsibilities, they will devote a substantial amount of

their time to PRIDE in AID/W. Moreover, they will be available for short-term TDYs to Missions either individually or as members of joint AID-contractor teams as appropriate. AID/W-based project-funded staff are the following:

- Environmental Engineer (EE). The EE will be full-time and located in ENE/DR/EA/ENR.

- Pollution Control Officer. This full-time specialist will be located in ENE/DR/PE/EI and will be a resource to the project with an emphasis on actions relating to private and public sector pollution abatement and regulation.

- Urban Pollution Analyst. Located in ENE/DR/EA/ENR, the services of this specialist will be available on a part-time basis over the life of the project for a total of 24 months.

The core contractor's chief of party and AID's principal contact is expected to be the Senior Resource Economist. On operations and management matters, the core contractor's full-time Administrative Assistant will be an important link between that office and ENE/TR/ENR and other AID/W offices.

Project Committee

The Project Manager will also be assisted by a Project Committee composed of the Director of ENE/DR/AE/ENR as Chairperson, representatives of appropriate ENE Bureau offices, S&T/FENR, other AID/W bureaus and offices. When appropriate, the Chiefs of Party of the cooperating entities may also be invited to participate in Project Committee meetings. The Project Manager will convene the Committee at least semi-annually to review and take action on:

1. progress, impact and appropriate integration of the four project components: strategic planning, policy formulation, private sector initiatives, and environmental education/public awareness;

2. PRIDE contractor and cooperative agreement annual workplans and progress reports;

3. effectiveness of PRIDE efforts to collaborate with and draw upon the expertise and results of other projects based in A.I.D. or in other U.S. public or private institutions;

4. quality and efficacy of information dissemination and other activities to assist Missions and influence host country policies and actions to address ENR issues.

A contractor and a cooperator will implement the project. Three long-term, core contractor personnel (Senior Resource Economist, Private Sector Analyst and the Institutional/Information Specialist) along with the three ENE-based environmental specialists, are the key project resources.

Setting Priorities

An early step in project implementation will be ENE/DR advice to Missions, outlining precisely the services available through REP. After the core contract and cooperative agreement are signed, both institutions will develop specific guidance and analytical frameworks for planned activities under each of the project components. This work will be shared with Missions which will be invited to submit requests for project activities. The guidance and frameworks will serve as the basis for developing criteria for evaluating and priority setting among Mission requests. (Suggested criteria and procedures are presented in the technical reports for each of the four project components -- Annexes J, K, L and M. The contractor/cooperator will present its recommendations for concurrence by AID.

Contract Procedures

In implementing activities in the U.S. or in-country in response to AID/W or Mission requests, the core contractor could use the services of its three long-term advisors and/or identify other appropriately qualified experts. This approach applies equally to planned project activities outlined in section 3.3 such as adapting planning methodologies like relative risk assessment, demonstration analysis, and environmental needs assessments and to Mission requests for activities above and beyond what is planned -- i.e. Mission buy-ins. In most cases, Missions will be responsible for preparing scopes of work for services to be delivered by the project. They will forward the SOWs to the ENE/DR/ENR Project Manager who will review them with the core contractor. The activity selection criteria discussed above will be applied and the contractor and AID project manager will determine the appropriate response: core contractor personnel provide services requested, short-term personel will provide services, or the contractor will recommend that the Mission address its request to another source. In that regard and as previously discussed, core contractor personnel will facilitate Mission access to other appropriately specialized sources of information and expertise. They will identify and broker expertise including that available through other AID project sources. Moreover, and at Mission request they will further assist by preparing scopes of work for buy-ins or other means of procuring services.

In-country, the core/Q contractor will be responsible for arranging and managing local contracts for services under PRIDE and will coordinate these activites fully with the Mission. For example, it is anticipated that demonstration policy studies beyond those planned and implemented with core project funds will be purchased by the core or Q contractor as a deliverable product based on a memorandum of understanding with a host country institution or individual.

Procedures will be developed in year one of implementation for the administration and management of in-country grants to local institutions including NGOs to, for example, promote environmental education and public awareness.

Cooperative Agreement Procedures

Project activity under the new cooperative agreement with the World Environment Center (WEC) will be managed in a slightly different manner. WEC will deliver short-term technical services, particularly those related to urban and industrial problems, to host country governments, private entities and USAID Missions. WEC will be undertaking the activities presented in the project description (see section 3.3.3) such as expert consulting, local capacity building, training and identifying opportunities for experimenting with other US sources of in-country TA related to pollution abatement.

Collaboration with Other Projects

It is important that REP Project management collaborate with and relate closely to other A.I.D.-funded ENR projects. Project managers will be invited to PRIDE Project Committee meetings. Opportunities for synergy along the lines developed in Annex K (Priorities for Policy Analysis) and the projects identified in Annex F should be explored regularly during implementation.

Evaluation

As discussed in section 5.4, there will be an mid-term and an end of project evaluation. The following is a listing of the types of questions which might be incorporated into the scopes of work for the evaluation:

1. is the Project sufficiently flexible to adjust to the varying needs of ENE countries?

2. Generally, how do the host governments, host country NGO and for-profit private sectors, and the ENE Misions and Bureau assess the current and potential worth of project activities: (a) long-term technical assistance; (b) short-term technical assistance; (c) the Cooperative Agreement between the ENE Bureau and the World Environment Center (WEC); (d) training, workshops and studies; and (e) information dissemination?

3. to what extent have USAID Missions and LDC institutions utilized the project to identify and address critical environmental issues?

4. what has been the impact of PRIDE? what policies and programs have been initiated in whole or in part due to the PRIDE? what has been adopted?

5. to what degree has true cost accounting of natural resources usage been implemented?

6. what is the extent to which the Project has enabled local analysts and host country institutions to experiment and adapt analytical tools for policy formulation/enactment?

7. what have been the quality and usefulness of the short-term technical assistance for helping develop policy options within particular industrial sectors?

8. to what extent has the PRIDE been a vehicle to mobilize the private sector and NGOs to help provide cost-effective, sound solutions to environmental problems?

9. what are the results and utility of the ENE Bureau's Cooperative Agreement with the WEC, especially regarding pollution control and abatement assistance, training in-country trainers, and creating local private sector environmental services industries?

10. the role of NGOs in the project to date?

11. to what extent has the Project aided in the collection and utilization of statistics and environmental data by governments, universities, research institutes, NGOs and the private sector?

12. have project activities measurably increased public awareness and civic participation regarding environmental quality, natural resources degradation and depletion, and actions to correct these problems?

13. to what degree has the project promoted regional information exchange, and what is the value of that information and its transmittal?

14. worth of the training carried out?

15. assess the performance, quality and breadth of work carried out by the long-term core team: Resource Economist, Institutional/Information Specialist, Private Sector Analyst and the Administrative Assistant.

16. assess the extent, appropriateness and ease of the contracting; are the contracting mechanisms appropriate and sufficiently responsive (capability, quantity, timeliness)

2. Schedule of Activities

DATE ACTION BEGINS	ACTION AGENCY	RESPONSIBLE
March	Contract Cooperative Agreement and RSSA scopes of work completed	ENE
April 1991	Pre-solicitation conference with potential bidders	ENE/SER
April 1991	RFP completed	SER/OP
April 1991	CBD announcement published	SER
May 1991	Technical Review Committee (TRC) formed	ENE
June	Bids due	Contractor
July 1991	TRC meets	TRC
July 1991	Cable to USAIDs inviting proposals for strategic planning, demonstration analysis	ENE
August 1991	Best and final offers received	Contractors/SER
September 1991	Contracts and Cooperative Agreement signed	
October 1991	Inventory developed/contracts initiated with possible sources of in-country TA	Contractor
October 1991	Begin work on: - MIS system - Analytical framework for strategic planning - Identification of specific topics for intervention - Valuation techniques, standards, measures - Review of EPA Risk Assessment methodology - Information sharing/exchange options	
November 1991	MIS in place	Core Contractor
December 1991	Identification/selection of strategic planning interventions and priorities for year	ENE
December 1991	Mechanism developed for sharing information/ technology options on air pollution prevention, control, etc.	WEC/PSA+IIS
December 1991	Criteria developed for selecting demonstration analyses	Contractor SRE
December 1991	TOR for information clearinghouse developed	Contractor
December 1991	Regional env. education strategy designed	Contractor
January 1991	PA/EE needs assessment designed/shared with USAIDs	Contractor
January 1992	Pollution abatement training content and approach developed for local capacity building	WEC
January 1992	Information clearinghouse in place	Contractor
January 1992	Opportunities for experimenting with other sources of TA for pollution abatement identified	WEC

February 1992	Regional EE options, plan developed	Contractor IIS
March 1992	In-country expertise identified for demonstration analyses	Contractor + Missions
March 1992	In-country institutions identified for collaboration with WEC	WEC/Missions
April 1992	First semi-annual newsletter distributed	Contractor
May 1992	Short term TA on policy analysis provided	Contractor/buy-in
May 1992	MOU signed with for demonstration analyses	Host Country/Contractor
June 1992	Demonstration Policy Analysis #1 carried out	
June 1992	Begin training for local capacity building	WEC
June 1992	Regional private sector strategy work	WEC
August 1992	Demonstration analyses case example prepared for dissemination	Contractor
August 1992	Additional strategic planning materials developed	Contractor
September 1992	Strategic Planning in-country demonstration #1	
September 1992	Short-term TA on policy analysis	Contractor-Buy-in
September 1992	Regional private sector activity	WEC
September 1992	Private Sector demonstration analysis	WEC
September 1992	Regional env. education support activity #1	Contractor
October 1992	Env. Education country assessment #1	Contractor
October 1992	Private Sector Feasibility Study #1	Contractor
January 1993	Private Sector Feasibility Study #2	
January 1993	In-country pilot env. education activity #1	Contractor/host inst.
February 1993	Regional private sector strategy work product	Contractor
March 1993	Regional env. education support activity #2	Contractor
April 1993	Short-term TA on policv analysis	Contractor
April 1993	#1 Testing private sector voluntary alternatives	Contractor/host firm
May 1993	Regional env. education support activity #3	Contractor
June 1993	Special strategic planning study begins	Contractor
June 1993	Policy analysis demonstration #2	Contractor
July 1993	Regional env. education support activity	Contractor
July 1993	#2 Strategic Planning in-country demonstration	Contractor
July 1993	Private Sector demonstration analysis	WEC
July 1993	#2 Test of private sector voluntary alternatives	Contractor/firm
July 1993	In-country pilot env. education activity #2	Contractor
September 1993	Mid-project evaluation	Contractor.w50

Annex I - FINANCIAL ANALYSIS

Methodology

In preparing the project budget, the design team first determined the personnel requirements to achieve project purposes and produce project outputs. The largest project budget line items are for long-term (46% of core budget) and short-term personnel and Mission buy-ins including their fully burdened rates, travel and perdiem and miscellaneous costs.

Six long-term positions are: Senior Resource Economist, Institutional/Information Analyst, Environmental Engineer, Pollution Control Officer/Energy Environment Specialist, Urban Pollution Analyst and Private Sector Analyst. The services of the six advisors are needed from project start-up. The estimated total person/months for long-term advisors is 324. The budget includes the services of an Administrative Assistant under the core contract for the full five years.

In addition to the TDYs of long-term advisors under the core contract, the project will fund approximately 147 person/months of short-term technical asssistance under the strategic planning, policy analysis and environmental awareness components and 126 person/months under the private sector line item. Total short-term and grant TA is therefore 273 person/months. At Mission request, short-term technical assistance for buy-ins will be provided under all four project components. The buy-in level of effort estimate is based on Mission response to the project cable, interviews with USAIDs, and experience gained over the history of the current Regional Environmental Activities Project.

The line item for equipment provides for the purchase of computers for the core contractor only. Evaluation costs include funds that may be used for the initial design of a follow-on project.

Cost analysis

As discussed in the Economic Analysis, the worth of this project cannot be measured in terms of user charges or revenues collected. Rather, its value is the benefit to society as a whole resulting from the contribution the project will make in promoting sustainable economic growth. As we do not know in advance what activities will be undertaken in which countries and what actions host institutions will take as a result of project activities, it is not possible to measure project benefits. In the Economic Analysis it is suggested that the social and economic benefits are more than sufficient to compensate for the project costs.

However, the design team quantified the cost effectiveness of providing regional services and expertise. In sum, there are substantial cost savings to AID in providing technical services to the ENE entire region as opposed to each Mission in the region bearing the cost of a full-time multidisciplinary ENR team as well as contracting for the broad range of services that the project will provide. Further, project cost effectiveness is also achieved by having three project-funded personnel work within ENE/DR full-time and be available to Missions for short-term technical assistance either alone or as members of teams assembled by project contractors or cooperators.

Project personnel and their salary costs are well within current salary levels for comparable services and in no case do they exceed the AID daily maximum. The long-term project advisors must be very experienced and well qualified experts which places them at the upper end of the AID salary scale. The design committee used a salary level which is the average of the fully burdened rate used currently by four consulting firms which are potential contractors. It is noteworthy that the services of short-term experts provided under the proposed cooperative agreement with the World Environmental Center (WEC) will be pro bono. These experts are leading specialists in fields such as industrial pollution abatement. The July 1989 evaluation of the WEC Coooperative Agreement states, "The value of the private sector's contribution, both in goods and services ... was determined to be a 2 to 1 match to AID funding." (p. 12). A conservative estimated savings of short-term technical assistance under the future agreement is $1.3mn based on 127 person/months of service.

PRIDE is a relatively focused project which, in addition to offering technical assistance and services directly to Missions, will identify, broker and otherwise facilitate Mission access to a broader menu of TA and services. This brokering feature of the project contributes to project cost effectiveness by avoiding duplication and achieving economies of scale with existing AID projects. PRIDE will access technical assistance and services through direct project buy-ins to other projects (e.g. S&T Bureau's Environmental Policy and Training Project EPAT) and will facilitate Mission buy-ins. Moreover, it will be the responsibilty of the contractor and cooperator to develop and implement an information sharing service for and among Missions. They will assist in identifying sources of short-term technical assistance best suited to meet Mission needs and they will assist in preparing scopes of work for services.

Co-financing

Parallel co-financing activities are envisaged entailing the financing of a small number of carefully selected activities which would be discrete portions of a larger project or program. For example, at the request of a Mission and through a buy-in, the PRIDE could finance a feasibility study or the project development costs for projects that are likely to be financed by others such as the IFC, OPIC, EXEM, the World Bank and private investors.

Budget analysis

The budget analysis follows in tables 1 through 5. The design team anticipates that each of the six long-term advisors -- and in particular the three who will be provided under the core contrtact-- will spend substantial (up to 50%) amounts of time working in the field, at USAIDs. The budget for travel and per diem projects that each long term advisor will have 4 TDYs to Missions per year at an average estimated cost of $8,000/month. Shorter-term technical assistance will be primarily in-country in response to Mission requests. The travel/per diem figures are shown on table 2 and are reflected in the totals for both long and short-term personnel in table 1.

The annual i[illegible]ation rate used for all inputs is 5%.

TABLE 1

BUDGET SUMMARY	Months No.	AID/W Core	Mission Buy ins	Total Budget	Year 1	Year 2	Year 3	Year 4	Year 5
					ENE	ENE	ENE	ENE	ENE
Long-term TA									
Core contract	228	3,946,308	0	3,946,308	735,685	808,547	839,804	880,921	681,351
RSSAs	96	1,157,230	0	1,157,230	261,160	274,218	287,929	162,889	171,034
Strategic planning	50	883,083	1,500,000	2,383,083	159,760	291,300	221,323	120,400	90,300
Policy analysis	34	692,300	2,000,000	2,692,300	60,200	120,400	180,600	180,600	150,500
Private sector initiatives	126	2,521,988	2,250,000	4,771,988	362,225	524,711	589,877	520,110	525,065
Environmental educ./pa	63	755,028	2,100,000	2,855,028	50,028	110,000	125,000	220,000	250,000
Equipment		150,000	0	150,000	70,000	80,000			
Evaluation/Design		240,000	0	240,000			90,000		150,000
Audit		250,000	0	250,000		0	0	125,000	125,000
Contingency		404,064	150,000	554,064	943	90,824	115,468	90,080	106,749
Total		11,000,000	8,000,000	19,000,000	1,700,000	2,300,000	2,450,000	2,300,000	2,250,000

TABLE 2

CONTRACT	Mos.	Base	Total	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5
SALARIES AND WAGES								
Long-term technical assistance								
Senior Research Economist ($76,700)	60	6,392	423,816	76,700	80,535	84,562	88,790	93,229
Institutional Analyst ($62,500)	60	5,208	345,352	62,500	65,625	68,906	72,352	75,969
Private Sector Analyst ($66,500)	48	5,542	286,623	66,500	69,825	73,316	76,982	0
Administrative assistant ($36,000)	60	3,000	198,923	36,000	37,800	39,690	41,675	43,758
Sub-total long-term salaries			1,254,714	241,700	253,785	266,474	279,798	212,957
FRINGE BENEFITS (30 % of salaries)			376,414	72,510	76,136	79,942	83,939	63,887
OVERHEAD (60% of salaries and fringes)			978,677	188,526	197,952	207,850	218,242	166,106
SHORT-TERM TECHNICAL ASSISTANCE								
(Fully burdened+travel+5% ann. inflation)								
Strategic planning	26	17,000	450,000	65,000	100,000	110,000	100,000	75,000
Policy analysis	34	17,000	575,000	50,000	100,000	150,000	150,000	125,000
Private sector initiatives	18	20,000	354,000	0	54,000	100,000	100,000	100,000
Environmental educ./pa								
PA/EE	20	13,972	279,436	14,070	62,292	58,057	70,432	74,585
Env. NGOs sub-contracts	10	14,000	140,000	15,000	0	25,000	50,000	50,000
			419,436	29,070	62,292	83,057	120,432	124,585
TOTAL short-term technical assistance			1,798,436	144,070	316,292	443,057	470,432	424,585
TRAVEL AND PER DIEM								
International travel-4 trips/year/pp	56	5,000	280,000	40,000	60,000	63,000	66,150	50,850
Domestic-4 trips/yr/pp	56	500	28,000	5,500	6,000	6,300	6,615	3,585
Per diem-30 days per trip x $100/day	56	3,000	168,000	24,000	36,000	37,800	39,690	30,510
Sub-total			476,000	69,500	102,000	107,100	112,455	84,944
OTHER DIRECT COSTS								
Communications			85,000	15,500	16,275	17,089	17,943	18,193
Report and phamplet production			30,000	5,500	5,775	6,064	6,142	6,519
Translators			15,000	2,715	2,851	2,992	3,142	3,300
Computers			70,000	30,000	40,000			
Miscellaneous			50,000	10,000	10,000	10,000	10,000	10,000
Sub-total			250,000	63,715	74,901	36,145	37,227	38,012
Total estimated costs			5,134,240	780,021	1,021,066	1,140,568	1,202,094	990,492
G&A (12% of total costs)			616,109	93,603	122,528	136,868	144,251	118,859
Fixed fee (7.5% of total costs and G&A)			431,276	65,522	85,770	95,808	100,976	83,201
Total			6,181,624	939,145	1,229,363	1,373,244	1,447,321	1,192,552

TABLE 3

MISSION BUY-IN Budget estimates	Month Equiv.	Ave Costs	Year 1	Year 2	Year 3	Year 4	Year 5	TOTAL
Demonstration analysis	75	20,000	50,000	250,000	350,000	450,000	400,000	1,500,000
Policy analysis Demonstration analysis	100	20,000	75,000	250,000	500,000	500,000	675,000	2,000,000
Private sector initiatives	113	20,000	100,000	400,000	500,000	600,000	650,000	2,250,000
Environmental educ./pa								
PA/EE	58	20,000	0	150,000	250,000	350,000	400,000	1,150,000
Env. NGOs	48	20,000	0	150,000	200,000	250,000	350,000	950,000
			0	300,000	450,000	600,000	750,000	2,100,000
Total	394		225,000	1,200,000	1,800,000	2,150,000	2,475,000	7,850,000

TABLE 4

Environmental NGOs	No./Mos.	Ave. Costs	Year 1	Year 2	Year 3	Year 4	Year 5	TOTAL
Direct grants	27	10,000	0	50,000	75,000	75,000	75,000	275,000

Cooperative Agreement–World Environment Center			Year 1	Year 2	Year 3	Year 4	Year 5	TOTAL
Salaries	59		125,000	125,000	125,000	110,000	100,000	585,000
Travel	49		105,000	120,000	105,000	90,000	70,000	490,000
Direct costs and computers			61,915	60,000	30,000	30,000	25,000	206,915
Sub–grants								
Indigenous organ/trade assoc	13		0	50,000	50,000	75,000	75,000	250,000
Public awareness	6		15,000	25,000	25,000	25,000	25,000	115,000
Strategic Planning–Urban	24		81,500	170,900	88,883			341,283
Pollution Analysis								
Overhead			100,310	134,695	109,477	94,710	84,665	523,857
Evaluation					50,000		50,000	100,000
Total WEC			488,725	685,595	583,360	424,710	429,665	2,612,054

TABLE 5

MISSION BUY-IN Budget estimates	Month Equiv.	Ave Costs	Year 1	Year 2	Year 3	Year 4	Year 5	TOTAL
Demonstration analysis	75	20,000	50,000	250,000	350,000	450,000	400,000	1,500,000
Policy analysis Demonstration analysis	100	20,000	75,000	250,000	500,000	500,000	675,000	2,000,000
Private sector initiatives	113	20,000	100,000	400,000	500,000	600,000	650,000	2,250,000
Environmental educ./pa								
PA/EE	58	20,000	0	150,000	250,000	350,000	400,000	1,150,000
Env. NGOs	48	20,000	0	150,000	200,000	250,000	350,000	950,000
			0	300,000	450,000	600,000	750,000	2,100,000
Total	394		225,000	1,200,000	1,800,000	2,150,000	2,475,000	7,850,000

ANNEX J: STRATEGIC PLANNING APPROACH

INTRODUCTION

The goal of the Project in Development and the Environment (PRIDE) is to promote sound environmental policies and programs in support of long-term economic growth. This goal is supported by the ANE Environment and Natural Resources Management (ENR) Strategy. The present background paper, however, will address strategic planning issues covering Eastern Europe, the Near East and Asia.

The proposed design of the PRIDE includes four major components:

1. Strategic Planning;
2. Policy Analysis;
3. Private Sector Development; and
4. Environmental Education.

While the last three components concentrate on specific priority problem areas, the **Strategic Planning** Component is of a more comprehensive nature, serving an encompassing function and supporting the **Policy Analysis, Private Sector Development** and **Environmental Education** components.

The present document consists of six sections. An initial section briefly describes the strategic planning process and its context within PRIDE. A second section discusses AID's experience in Asia and the Near East in the strategic planning field as applied to environment and natural resources. Following, is a third section reviewing the USAID portfolio of projects and other interventions especially the extent to which these are linked to strategic planning. A fourth section identifies and discusses the gaps and weaknesses of both the analytical work dealt with in the second section and the field implementation work reviewed in the third section, from a strategic planning standpoint. Section five focuses on methodological issues related to assessment and planning in environment and natural resources. Finally, section six completes the document by providing recommendations on how the PRIDE can best assist Missions and host country institutions by improving procedures used in ENR studies and strategic planning efforts.

1. THE PRIDE STRATEGIC PLANNING PROCESS

From a strategic planning standpoint, the PRIDE will support Mission analytical and program efforts to orient Mission actions in the field of ENR. This orientation will build and improve upon Missions' experience acquired in previous planning work and in their respective intervention portfolios. The proposed strategic planning process will be comprehensive, but flexible in nature and will emphasize use of existing analytical methods. The following elements will be included:

1. assessment of resources, their economic potential and environmental resiliency;
2. identification of specific problem areas where Missions may have an advantage (definition of broad goals);
3. identification of specific opportunities for action in problem areas of policy analysis, private sector development and environmental education (definition of specific objectives and short listing);
4. conducting strategic planning exercises including proposed short- term, mid-term and long-term programs for concrete interventions; these programs will involve technical, financial, economic, social, risk and administrative analyses (defining strategies and establishing means and procedures for their implementation);
5. tracking Mission activities over time for ensuring compatibility of interventions and strategic direction, and adjustment of strategies and means of implementation.

Whereas some Missions or countries may need the whole process, others will need only parts of it. This will depend upon strengths and weaknesses of prior strategic planning work at the Mission level as evidenced by profiles, assessments, action plans and field interventions.

2. A.I.D.'S EXPERIENCE IN ENR STRATEGIC PLANNING

Over the past decade, A.I.D. has produced a substantial number of reports dealing with environment and natural resources in Near Eastern and Asian countries. The oldest of these date back to the late seventies. Other international development agencies (UNEP, IUCN, World Bank, World Conservation Monitoring Center, CIDA, DANIDA, UN/ESCAP, Netherlands Cooperation, IIED, ADB and FINNIDA), as well as country organizations have also published reports on ENR over this period. A total of 65 reports were reviewed, of which 41 were produced by A.I.D., and 24 by various other agencies. All the reports reviewed are summarized in APPENDIX 1.

Among the A.I.D. reports reviewed, a total of 11 belong to the Country Profile series. These range from as early as 1977 (Afghanistan) to as late as 1988 (Philippines), although most were published in the early eighties. On the whole, these documents focus on disaster resistance and preparedness and are of little use in environmental/natural resources strategic planning.

The rest of the A.I.D. reports show considerable variation in emphasis, quality and content. Most of them are labeled Environmental Profile (8 documents) or Environmental Report (8 documents). Most of these were published between 1979 and 1982 except for the Environmental Profiles on Jordan (1989) and Pakistan

(1988). Another uniform set of reports is the Basic Data series (6 reports), which are limited to the Pacific Island nations. The remaining A.I.D. documents are either specialized sector reports (5 documents) or strategy ENR documents of a fairly comprehensive nature (3 documents).

The Profiles and Reports are identical in both content and structure. The majority include general descriptions of the natural resource situation (water, soils, wildlife, fisheries, coastal resources, minerals, atmosphere); good identification of problems related to natural resources and the environment (soil deterioration, water quantity and quality, deforestation, health problems). Additionally, most of these reports describe the legal/regulatory and institutional frameworks in the ENR area.

These Profiles and Reports are essentially diagnostic exercises. Although the description of the resources is fairly complete, and most contain a reasonably thorough identification of problems, they are, on the whole, weak on setting priorities among problems and on proposing a strategic framework for solving them. Additionally, none of these reports seem to address explicitly the linkages between the state of the environment/ natural resources and the potential for economic growth. It is interesting to note that although most of these analyses were conducted more than a decade ago, they have had little if any impact on solving the environmental problems of most countries in the regions involved. However, more recent Environmental Profiles/Reports, like those for Jordan (1989) and Pakistan (1988) have a much stronger strategic content and could serve as a significant first step in the ENR strategic planning process.

The six Basic Data reports for the Pacific Islands (all dated 1988) are all virtually identical in structure and content, concentrating on threats to biodiversity derived from population pressure, land use practices, natural calamities and pollution. These reports lack specificity in problem definition and prioritization, and are of little use in ENR strategic planning.

The five sector-oriented reports show considerable variation in content, structure and strategic planning significance. It is important to point out that all these reports are recent (1986 or later). Sectors covered are biodiversity (Egypt, Tunisia, Sri Lanka), marine pollution (Pakistan), coastal resources (Kiribati). The studies for Egypt, Pakistan and Sri Lanka, although sectoral, have meaningful strategic content in that they offer priority recommendations and solution options in addition to problem identification. In contrast, the other studies are essentially diagnostic exercises without strategic content.

Finally, the two ENR strategy documents (Indonesia and Thailand) are comprehensive studies which include overviews of policies and their impact on long term goals for ENR management.

These reports also analyze the impact of current economic development strategies and policies from a resource use sustainability standpoint. Finally, they make concrete recommendations for development of master plans in critical resource areas. To these two reports it is fair to add the work done in Sri Lanka under a different format. A.I.D. produced two Sri Lanka documents in 1988: one on "Biological Diversity and Tropical Forests" (already mentioned) and a second one on "Environmental Laws and Institutions of Sri Lanka". These two documents combined would also constitute a strong starting point for sustainable ENR strategic planning.

These comprehensive ENR profiles, particularly the one for Thailand, should serve as a model for the rest of the countries in developing and implementing the ENR strategic planning process.

Regarding documents prepared by other organizations, a total of eight (out of 24) have strong strategic content. Countries benefitting from these studies are Cyprus (local effort), Pakistan (IUCN), Philippines (2 documents: one World Bank and one local effort), Bangladesh (IUCN), Indonesia (IIED), and Nepal (2 documents: one IUCN and one local effort/ADB). Some of these are general ENR documents, while others are sectoral, but all constitute point material in a strategic planning process in the field of ENR. Concerning the 15 remaining documents, they vary considerably in both content and quality. Some are very sectoral and very localized while others are of a more general nature. On the whole, these reports can be used as reference material, but do not offer any perspective regarding solutions to sustainable development problems.

3. A.I.D INTERVENTIONS IN THE ANE REGIONS FROM A STRATEGIC PLANNING STANDPOINT

A total of 100 A.I.D interventions in the ANE regions were reviewed from the standpoint of their linkages to strategic planning. These include both ongoing and planned activities, and both projects and non-project activities. They all cover one or more "sectors", namely: Soil and Water Resources, Urban and Industrial Pollution, Energy, Biodiversity, Coastal Resources Management, and Forestry. In addition, these projects are designed to address one or more of the following priority problem areas: Economic Growth, Institutional Development, Private Sector Development, and Technology Development and Transfer. Summaries of these interventions are contained in Appendix 2.

On the whole, the ongoing portfolio of interventions appears strongly sectoral, and, for the most part, driven by technical considerations. With few exceptions, they do not appear to be the result of a systematic strategic planning process. A number of questions of a strategic nature appeared frequently in reviewing

the long term perspective of the interventions:

1. What would it take for project activities to become self-sustaining?

2. To what extent are projects part of either a comprehensive or sectoral strategy?

3. In what way are projects contributing to policy reform processes?

4. What are projects doing for increased private sector participation?

5. What is the extent of popular participation in both planning and implementation of interventions?

6. To what extent are activities replicable or technologies transferable?

7. Can responsibilities be transferred from expatriate NGOs to local NGOs?

8. For projects involving direct productive activities, what is the financial and economic performance (both ex ante and ex post)?

9. To what extent do training components of interventions include economic and social analysis as related to ENR?

10. How much credibility do projects in rural areas have with the local population in terms of both income generation and technology transfer?

11. To what extent do rural projects consider resource tenure issues and their resolution?

12. How much effort is being put into documenting project results?

13. How thorough has the project design work been, especially for major integrated projects, such as those that are coming up in Thailand, Indonesia, Sri Lanka and Philippines? Any coordination problems anticipated?

14. In the land-use related sectors, how do research results get disseminated to small-scale farmers?

15. What type of economic research is being conducted on externalities, other market failures and valuation of non market resource use?

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16. What progress is being made in pricing of water, wood and other uses of natural resources often considered "free"?

17. To what extent are interventions overlapping each other? Within a USAID Mission? Between USAID and other donors?

18. How relevant to policy change is the information being generated by resource inventory projects?

19. Why has biological diversity received such little [explicit] consideration? How much economic analysis work has been done on tradeoffs between biodiversity conservation and sacrifices?

The questions raised above are based on A.I.D.'s previous intervention management experience. Bearing these in mind and addressing them will be essential to the successful implementation of future ENR projects.

The mere fact that all these questions can be raised from simple inspection of the A.I.D. interventions in the region, reveals that very few of them are addressing the major obstacles to sustainable development (market failures, policy distortions, institutional inadequacies, information deficiencies, and lack of popular participation)as identified in the A.I.D./ANE program strategy work.

More recently, however, a number of strongly strategic natural resource management projects are either under design or beginning implementation in Thailand, Indonesia, Sri Lanka, and the Philippines. In general terms, these projects aim at sustaining economic growth under a given resource endowment whose economic potential and ecological resiliency are reasonably well understood. Also, they respond to essential strategic issues as defined in comprehensive natural resources profiles and/or assessments.

In the particular case of Thailand, the Natural Resources Management Project is already in progress. It has been designed to respond to current and emerging natural resource and environment problems thereby building consensus and capacity for advancing policy options that will lead to sustainable development. Several "subprojects" have been designed to: strengthen analytical capabilities (Policy Analysis and Development), develop local resource planning and management capabilities (Rural Resources Management), manage protected areas (Biological Resources Management), implement environmental education (Environmental Awareness and Education) professional training (Human Resources Development) and pollution control and health/safety improvement (Industrial/Environmental Management). This project clearly reflects the new strategic will of A.I.D. to promote environmentally sustainable economic development.

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However, it must be pointed out that it is the largest project undertaken by A.I.D. in the ENR field, and that both its magnitude and diversity may bring about management and coordination problems which will have to be handled if this new intervention approach is to be successful.

4. GAPS AND WEAKNESSES IN ENR PLANNING AND IMPLEMENTATION

Sections 2 and 3 above have reflected important weaknesses in both analytical and implementation work in past A.I.D. actions. In the analytical area, these can be summarized as lack of "problem solving perspective", especially in the environmental Profiles and Reports conducted a decade ago. While many of these documents identified ENR problems in most of the countries of the ANE regions, there was little if any prioritization of such problems and virtually no outlining of options for solving them. The fact that these studies did not include long-term perspectives may be one of the reasons why the ENR problems (although identified) are still with us ten years later.

Part of this lack of "problem solving perspective" is due to the absence of economic analysis, particularly the interdependencies between economic growth and the condition of the environment and natural resource endowments. At present, it is a widely accepted principle that sustainable economic development is based on the efficient use of natural resources as well as the conservation of environmental systems. Likewise, preservation of environmental quality is only feasible when accompanied by economic growth. Therefore, reconciliation of economic growth and resource conservation requires the merging of environmental management and economics in decision making.

Linkages between the economy and the use of natural resources are complex in nature. Some of these complexities arise from **market failures**. Markets often do not reflect either the value of either the resources or the products and services derived from them. Additionally, markets seldom represent fairly the economic costs of environmental degradation. If markets are to realize their full potential as mechanisms for promoting sustainable use, these externalities need to be understood and accounted for.

Policy distortions constitute another source of problems in linkages between economic forces and the environment. Many governments apply policy instruments (tax credits, price controls, concessionary royalties, etc.) favoring environmentally unsound practices, and even inefficient use of natural resources. These distortions are caused by faulty assumptions, lack of accountability and insufficient knowledge of how individuals and organizations respond to incentives.

Most of the analytical work reviewed also reflects deficiencies in understanding the relationships between natural

resources and their users. In general, resources are described, and the institutional and legal frameworks are reviewed. However, when it comes to identification of problems, these have most often been defined in terms of resource/government relationships. Questions as to why user groups have a given type of behavior with respect to a given resource are seldom raised. Additionally, opinions of users as to how resource management problems can be solved are seldom requested. In many instances, this lack of social understanding has led to conflicts such as, for example, clashes between villagers and government authorities in the establishment and use of protected areas. Even in a comprehensive natural resources profile such as that of Thailand, social issues are dealt with only superficially.

In general, the Profiles and Reports have taken into consideration most of the major environmental variables, at least those of a physical nature like resource degradation, urban and industrial pollution and to some extent energy conservation and health issues. However, planning work has been weak in the areas of environmental education and resource tenure. These two aspects are tightly linked (ownership rights can bring about substantial changes in environmental awareness) and essential for implementing the policy changes necessary for sustainable growth.

Perhaps the major weakness detected in most planning-related work to date is in the area of policy and institutional analyses. A large proportion of the reports reviewed discuss the legal and regulatory texts as well as the institutions related to the environment. However, these reviews are descriptive rather than analytical. Major issues, such as relationships between institutions and the public (especially rural population and business sector), institutions with ill-defined and conflicting mandates, and conflicts between various legal and regulatory texts are, for the most part, ignored. In many countries experience reveals that over the past two decades it has been attempted to resolve environmental problems by creating a large number of specialized institutions and by enacting new laws and regulations. Very often, however, the new institutions have remained understaffed and under-budgeted, and many of the legal texts have ended up as dead letter. These situations generate confusion and discourage private initiatives both in resource management and in environmental improvements.

All these analytical weaknesses may be a major reason why most countries in the area have not come up with effective ENR strategies. In other words, it is virtually impossible to design a long term commitment of means and efforts to priority problems, unless the physical, economic, social and institutional aspects of such problems have been clarified.

Weaknesses have also been detected in reviewing the portfolio

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of interventions as reflected by the questions raised in section 3, above. Key questions were raised regarding the long-term sustainability of project activities as well as their economic credibility with the beneficiaries, especially for interventions dealing with productive activities. Interventions of this kind must be designed to be sustainable both economically and financially, at least in the long run. Normalized cost-benefit analysis procedures must be applied in project design to test long term financial and economic viability, with particular attention to recurrent costs.

Questions were also raised regarding the social acceptance of projects. It is important to bear in mind that rural people in poverty conditions have a high rate of time preference and are highly risk averse. As a result, new production techniques and systems, while technically appropriate, may not gain acceptance by beneficiaries who do not understand them thoroughly. Therefore, it is essential to conduct social analyses and consult with user groups in both project preparation and implementation if interventions are to produce lasting results.

Regarding consideration of environmental variables, weaknesses are harder to detect in the intervention context than in the planning context. A major reason is that most interventions have been designed with one or more environmental problems in mind. One weakness, perhaps, may be the insufficient consideration of linkages between an intervention concentrating on one environmental aspect, with other environmental variables. For example, to what extent is an irrigation project taking into account the condition of the watersheds supplying it? What impact is a reforestation project having on biodiversity? To what extent do energy-related projects account for impacts of their results on biomass supply and demand? To what extent are interventions being used to increase environmental awareness? While most interventions, in order to be effective need to focus on a limited number of sectors (often one), they should be part of a broader program involving all sectors connected with ENR. Therefore, programs will lack effectiveness unless these linkages are made explicit.

Regarding policy and institutional analyses, the portfolio of interventions reflects a strong interest on the part of A.I.D. to focus on policy reform as well as institutional and private sector development. However, at the project level, it seems that these aspects are secondary to technical project components. Few projects seem to focus explicitly on relationships between the Government, the private sector, NGOs and the beneficiaries, and their respective roles in implementing policy changes and institutional development.

Finally, with few exceptions, interventions within a country appear to be designed independently of one another. In general, there is no evidence of a strategic framework linking either A.I.D.

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interventions in a country. Additionally, there is no evidence of coordination between donor agencies in the ENR field, although this may be changing in countries like Indonesia, Philippines, Nepal, Thailand and Sri Lanka which have benefited from important strategic planning efforts.

5. METHODOLOGICAL ISSUES

From the above discussion, it is clear that there is considerable room for improvement in the application of various analytical methods in order to improve the strategic planning process in ENR at the Mission level. It is important to note that PRIDE will focus on the application of methods; not on their development. Methods to be applied in the strategic planning process include the following:

a) knowledge of the resources;
b) policy analysis;
c) institutional analysis;
d) analysis of the legal and regulatory framework;
e) analysis of private sector opportunities;
f) design of interventions;
g) risk analysis;

Several of these methods have been tested, while others are at fairly early stages of development. In any event, they are all relevant to ENR, and they all need strengthening in the A.I.D. strategic planning process.

Knowledge of resources involves the resource stocks, their characteristics, condition and potential. This knowledge is essential for problem identification and can be acquired through resource inventories, environmental quality assessments and environmental accounting. As discussed in section 2, above, a large number of reports, focusing mainly on resource and environment characteristics have been published in the ANE regions over the past 15 years. However, many of these are dated and provide incomplete knowledge. In most countries new analyses of existing data and new surveys need to be conducted to permit more informed identification, quantification and valuation of major environmental trends.

The following are examples of major trends that need better understanding:

- soil and water degradation/mismanagement and their productivity impacts;
- environmental and economic impacts of inefficiencies in energy production and use (both biomass and conventional);
- health impacts of air and water quality degradation due

to urban and industrial pollution;
- benefits of sustainable, multi-product use of forests, fisheries and other renewable resources;
- benefits of non-marketed services and outputs of forests and other renewable resources (scenic beauty, watershed protection, biodiversity, certain types of recreation, etc.).

An important point to be made about these analyses is that they should provide information connected with general trends and policies affecting them. Surveys can get extremely expensive depending on the level of detail required. It is, therefore, important to define a level of detail reasonable enough for policy decisions.

Policy analysis should have two main focuses. First, there should be an identification of current polices affecting ENR management, particularly policy deficiencies contributing to ENR degradation. Policies to be analyzed include macro-economic (monetary, fiscal, trade), population, resource tenure, specific sector policies (agriculture, energy, forestry, etc.), general development and environmental. Second, assessments of policy impacts need to be conducted, including both current and proposed policies. Impacts to be analyzed include those on resource quality and quantity, on quality of the environment, on economic growth, both in general and by sector, on fiscal structures and on social stability.

The **analysis of the institutional framework** should focus on existing institutions related to major problem areas, their mandates, interactions, conflicts, relationships between institutions and rural populations as well as the private sector. This analysis should respond to questions such as: a) To what extent doe the present institutional framework stimulate (or obstruct) sustainable economic development? and b) What are the opportunities for improvement?

Regarding the **analysis of the legal and regulatory framework**, laws and regulations are often enacted as a reaction to a specific problem without consideration of a more comprehensive strategic approach. As a result, a particular type of economic activity or resource may be affected by a large number of conflicting legal and regulatory texts. Legality, then, if enforced, becomes an obstacle to development. However, enforcement is often a problem due to lack of funds and staffing. Therefore a key question for legal/regulatory analysis would be to assess the potential for reforming the framework so that it can enable sustained development under enforceable dispositions.

Urban/industrial aspects of environmental management offer opportunities for design of new regulatory programs and institutional arrangements. This is particularly applicable to

newly industrialized nations and Eastern European countries, where environmental regulation, control and technology lag behind industrial development. Legal/ regulatory analysis must be conducted jointly with policy and institutional analyses and should address impacts of market failures and examine regulatory, market-based, and other options to internalize costs of environmental degradation including air and water pollution, and generation of toxic wastes.

Private sector opportunities are closely linked to both the institutional and legal/regulatory framework. This analysis would consist of identifying the present status of development of the private sector in ENR, and the new possibilities that could be created under various improved scenarios. This analysis should cover at least the following two aspects: a) private sector opportunities as they relate to controlling urban and industrial wastes; and b) opportunities for developing natural resource-based enterprises and commerce.

As previously discussed, the **design of interventions** has been concentrated on projects, which are sector-focused and with emphasis on technical aspects. In addition to traditional project-based and non-project assistance, new types of interventions will need to be designed, focusing on policy reform. Based on the analyses outlined above, these should concentrate on the formulation and implementation of feasible policy options to reverse ENR degradation and/or enhance ENR quality. To the extent possible, these policy options should take advantage of market forces (e.g. resource pricing rent capturing, etc.) rather than create additional regulations. In addition to formulating these options, the political procedures for implementing them must be identified, as well as the impact of such options on specific resource user groups (e.g. changes in resource prices, taxes, subsidies, tenure arrangements, etc.).

Regarding project-based assistance, it will be necessary to develop flexible, but uniform design and appraisal procedures. These should include several kinds of analyses to ensure project contribution to environmentally sustainable development. Projects and other interventions should be the main instruments of strategy implementation. Therefore, intervention opportunities should be identified based on the strategy. Subsequently, alternative ways of implementing a project should be analyzed from several standpoints, namely: technical, financial, economic, social, and administrative. Additionally, since ENR strategies will include policy reform, all these analyses will have to consider the effect of anticipated policy changes.

Finally, **risk analysis** must be included in any strategic planning process dealing with environment and natural resources. Virtually all environmental problems pose some risk of harm to human health, resource quality, the economy or the standard of

living. Risk analysis provides for measuring and comparing environmental problems from a variety of pollutants in a range of different media (air, water, etc.). Comparitive analysis of risk allows for evaluation of risk reduction options. EPA has designed an analytical method known as relative risk reduction that addresses risks to human health, risks to ecosystems, and risks to social welfare. This risk reduction method can be adapted to specific country situations in support of ENR strategic planning. This method includes the following steps:a) selection of environmental problems for study; b) extensive list of potential risk reduction strategies for each problem; c) selection of most promising options for each problem; d) development of cross-cutting strategy options and recommendations. Application of risk reduction should be used in early stages of strategic planning to structure the analysis of the resource base, at later stages to allow a prioritization of potential project activities, and as a final step in reviewing the results of the ENR strategic planning process. This will help ensure that project activities are producing the greatest risk reduction as well as assuring that development strategies are environmentally sustainable.

Any attempt to compare and rank environmental risks implies inevitable value judgments (e.g. health risks posed to the elderly vs. health risks posed to infants). Therefore, subjective values should complement analytical results. Methods exist for gathering and reviewing judgmental information to establish consensus. From the standpoint of policy analysis at a "macro" level, viewpoints of professionals of relevant specialists can be considered, perhaps via the application of "Delphi" techniques. In a project design context ("micro" level), techniques like Rapid Rural Appraisal can be adapted to handle risk comparisons from the standpoint of eventual project beneficiaries.

6. RECOMMENDATIONS

Based on the discussions contained in the previous five sections, the following actions are recommended for PRIDE to assist the Missions:

A. PRIDE should assist USAID Missions (directly) and host countries (through Missions)in implementing a strategic planning process in the ENR field. PRIDE should either develop or strengthen strategic planning capabilities at the Mission level, depending upon the status of such capabilities in each particular case.

B. As a starting point in the PRIDE strategic planning component, a review of existing strategic planning work should be conducted. This will involve an in-depth examination of work done to date (assessments, profiles, CDSS documents, environmental plans, TFAPs, etc.) in the countries of the region, with particular emphasis on the

priority problem areas. As a result of this activity, PRIDE will get a clear perspective on strengths, weaknesses gaps and variability in planning approaches applied. This will help identify the Missions in which PRIDE work can be most effective, as well as those whose work to date can contribute most in the planning process.

C. A second step will be to develop a comprehensive procedure to assist the Missions in their strategic planning work. This procedure will emphasize a uniform, but flexible set of analytical methods ranging from assessments of resources and their potential to preparation complete strategic plans and tracking of their implementation. The procedure will be flexible in the sense that it will be adaptable to specific country situations, and that it will be applicable either totally or partially, depending upon Mission requirements. As indicated in the introduction, following methodological elements will be included:

- assessment of resources, their economic potential and environmental resiliency;
- identification of specific problem areas where Missions may have an advantage (definition of broad goals);
- identification of specific opportunities for action in problem areas of <u>policy analysis, private sector development</u> and <u>environmental education</u> (definition of specific objectives and short listing);
- conducting strategic planning exercises including proposed short- term, mid-term and long-term programs for concrete interventions. These programs will involve technical, financial, economic, social, risk and administrative analyses (defining strategies and establishing means and procedures for their implementation);
- tracking Mission activities over time for ensuring compatibility of interventions and strategic direction, and adjustment of strategies and means of implementation.

D. PRIDE should provide for one or two "pilot efforts" in specific Missions to test the application of the complete assessment and prioritization method. Anticipating, that more than one Mission will express interest in the complete process after being exposed to it, PRIDE will select the one (or two) in which the testing of the procedure will be of highest region-wide benefit. The pilot effort should be conducted essentially by the Mission, with its own funding and should be linked to the CDSS process. PRIDE's responsibility, initially, will be to design the effort in collaboration with the Mission. Eventually PRIDE's role should be limited preparing work

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statements, assembling and fielding the teams of specialists and designing and supervising their assignments.

E. Two strategic planning workshops should be conducted for the benefit of the Missions. The purpose of the first workshop (which should be conducted at the beginning of the project period) will be to present the method described in point C, above to Mission environmental officers and other relevant personnel, to train them on the application of the methods and to get Mission feedback on their usefulness and applicability. The second workshop should be conducted towards the end of the project period. Its purpose will be to review the experience gained in the application of the strategic planning process over the project period.

F. Strategic planning assistance should be provided to Missions on request. This activity should be an on-going form of collaboration between PRIDE and the Missions on specific aspects of the strategic planning process, in response to Mission requests. PRIDE will assemble and field teams of experts for TDY assignments to assist the Missions in long-term action programming in the three PRIDE priority problem areas. This type of action should also be linked to the CDSS process and to tracking Mission activities over time to ensure strategic coherence.

G. A plan for follow-on activities should be prepared. Planning for sustainable economic development is a long-term process and should continue beyond the project. PRIDE should work with each Mission in the region to identify Mission/country specific actions to ensure the continuity of the process.

H. From a personnel standpoint, the technical PRIDE manager should probably be a resource economist with a solid understanding of the interactions between ENR and economic forces in the sustainable development process. In addition, he must have strong managerial skills and substantial planning experience. Strategic planning TDY teams should be essentially multidisciplinary. Basic skills required include <u>economics</u>, <u>ecology</u>, <u>environmental engineering</u>, <u>social sciences</u>, and <u>land use-related disciplines</u> as necessary. Ideally, all individuals must understand the development process, be culturally sensitive, be interested in multi-disciplinary interaction and know AID procedures.

STRATEGIC PLANNING APPROACH
APPENDIX I:
AID'S STRATEGIC PLANNING EXPERIENCE IN THE FIELD OF ENVIRONMENT AND NATURAL RESOURCES

Near East

Afghanistan

A. Afghanistan: a Country Profile, July, 1977, 36 pp.

Focus is on general information (population, health, nutrition, economics, agriculture, infrastructure and physical geography) in a disaster relief context. Apparently little content on identification of environmental problems or strategies for addressing them.

Cyprus

A. One other report on subject from other agencies.

1. Environmental Action Plan for Cyprus, Environmental Profile of Cyprus, November, 1987, 22 pp.

   Action plan examining economic, social and educational responses needed to guarantee environmental well-being. Urbanization identified as a major source of environmental problems. From a solution standpoint, focus is on protection of remaining water resources. air and noise pollution are considered significant but less urgent concerns. Tourism and wildlife management needs are briefly addressed. Comprehensive nine point strategy outlined. Strong strategic report including diagnosis, problem definition, priority setting and strategic approach to solutions.

Egypt

A. Draft Environmental Profile on Egypt, May, 1980, 109 pp.

Apparently a good identification of environmental problems (soil damage, water pollution, waterborne diseases), and their causes (intensive irrigation, extreme aridity and very high population density). Apparently no analysis of policies as causes of problems, and no outlining of solution strategies.

B. First Draft: The Biological Resources of the Arab Republic of Egypt--Status and Recommended Conservation Needs, November, 1988, 85 pp.

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Identification of problems threatening biological diversity, and their causes (oil pollution, improperly managed tourism). Proposes strategy elements, such as germplasm collection/storage, wildlife management and cooperation between environmental agencies and government. Environmental legislation and organizations are reviewed.

Jordan

A. Draft Environmental Report on Jordan, 1979, 103 pp.

Describes natural resources (water, forests, soils, wildlife, fisheries, beaches, minerals and atmosphere), lists environmental organizations and describes legislation relevant to each resource. Also identifies and discusses major environmental problems (insufficiency of water, deforestation and soil deterioration). Apparently no content on strategic elements for addressing these problems.

B. Jordan Environmental Profile: Status and Abatement, 1989, 273 pp.

Focuses mainly on water supply: problem identification and discussion of legal and institutional framework for water management. Apparently strong strategic content in water resources area. Also discusses problems and measures associated with land, minerals, marine/coastal ecosystems, fisheries, forests, air, protected areas and cultural resources. Apparently a good first step in a strategic planning process.

Morocco

A. Draft Environmental Report on Morocco, 1980, 96 pp.

General information on geography, population and economy. Review of flora, minerals, soil, water. Examination of legislation and relevant organizations. Identification of problems (urban pollution, soil erosion, deforestation, poor water management). Little if any content on strategic approaches to solving problems.

Oman

A. Draft Environmental Profile of the Sultanate of Oman, June 1981, 203 pp.

Review of geography, climate, demography, economy, environment. Review of

problems (water shortages, high soil salinity, poor rural health, oil pollution). Apparently little discussion on policies, legislation or institutions. Also, no strategic approach for addressing problems.

B. One other report on subject from other agencies.

1. Ecological Study of the Rocky Shores of the Southern Coast of Oman, UNEP, 1985, 14 pp.

   Very sectoral and very localized. Essentially a study on biodiversity for a specific area. Some strategic outlining of zoning prescriptions for protection.

Pakistan

A. Draft Environmental Profile of the Islamic Republic of Pakistan, 1981, 235 pp.

Overview of geography, climate, population and land use. Description of mineral, energy, soil, water and vegetation resources. Description of institutions, legislation and policies with respect to resources. Detailed identification of environmental problems grouped in four areas (water, rural/land use, urban, and environmental management: interagency rivalry, personnel shortages and inadequate communications). Apparently a strong and complete diagnosis from which strategic approaches could be derived, although they do not appear to be explicitly included.

B. Environmental Profile of Pakistan, December, 1988, 233 pp.

Apparently concentrated on deforestation. Other environmental issues covered: aquatic and atmospheric ecosystems, wildlife, human settlements/health, food, energy and tourism. Identification of problems: 1)deforestation/soil erosion/desertification/flooding; 2)irrigation/waterlogging/salinization; 3)water pollution. Description of efforts to combat problems through several means (institutions, legislation, public education campaigns). Weaknesses in government's ability to respond are raised (lack of conservation/development linkages; lack of institutional coordination; narrow legislation; absence of enforcement agencies). Apparently a strong coverage of all major issues, including strong discussion of strategic weaknesses. Could next step be attempts to policy reforms?

C. Country Profile of Marine Environment: Pakistan, 1986, 78 pp.

Concentrates on marine pollution in Karachi harbor, most of which is oil pollution. Efforts to combat pollution through legislation and research are described, and outlines a "program". Highly sectoral, but apparently follows the full strategic planning cycle from diagnosis through action program.

D. Pakistan: a Country Profile, September, 1983, 42 pp.

Description of customs, economy and politics. Assesses vulnerability to disaster threats (floods, earthquakes, landslides, drought malaria). Focuses on disaster resistance and preparedness. Apparently no strategic content.

E. One other report on subject from other agencies.

1. Pakistan: National Conservation Strategy, Phase I Report, IUCN, October, 1986, 84 pp.

Includes a review on the state of the natural environment, but the main focus is the definition of a number of policy options for sustainable development. Specific strategic recommendations which emanated from the National Conservation Strategy Workshop (Islamabad, August 1986) are also included. Apparently, the main focus of this effort is natural resources/environmental strategic planning building upon previous environmental work.

Tunisia

A. Draft Environmental Profile on Tunisia, 1980, 77 pp.

Focuses on major environmental problems (water, land use) existing legislation for environmental protection, and provides recommendations (apparently lame) to reverse environmental degradation. No evidence of any strategic content.

B. Biological Diversity and Tropical Forests in Tunisia, January, 1988, 206 pp.

Assesses status of plant and animal resources and of primary ecosystems (coastal, island, wetland, mountain, steppe, desert, oasis) with emphasis on forests. Reviews environmental problems: deforestation, water pollution, disruption of wetlands, dessication of oases, inappropriate cultivation, loss of wildlife habitat/poaching. Recommendations addressing these issues. Apparently a detailed diagnosis with no strategic content of any consequence.

Turkey

A. Turkey: a Country Profile, 1980, 68 pp.

Highlights country's climate, geography and geology and other general information topics.. Discusses earthquakes as a major problem. Mentions other problems such as floods, epidemics and snowstorms. Apparently a superficial report with some focus on disaster relief. Has hardly anything to do with environmental policy/strategy.

B. One other report on subject from other agencies.

1. Environmental Profile of Turkey, '81, Environmental Problems Foundation of Turkey, December 1981, 255 pp.

Contains fairly detailed description of Turkey's environmental problems (air pollution, water pollution, soil, flora, fauna, energy, solid wastes, pesticides, traffic and noise). Problems are apparently well defined (both national and regional perspective), with institution and research efforts put into context. Major problem areas: conversion of forests to farmlands, intensive agriculture leading to water pollution, industrial pollution, air pollution from fuels and waste disposal. Essentially a diagnostic exercise with no apparent strategic content.

Yemen

A. Draft Environmental Profile on Yemen (Yemen Arab Republic), 1980, 98 pp.

Attempts to identify major environmental problems. Provides general geographic information and describes natural resources (water, minerals, soils, vegetation/rangelands, fauna [including parks and protected areas]). Five major problems are identified: 1) water pollution; 2) lower water tables due to irrigation; 3) soil erosion; 4) soil salinization; 5) various other (dunes, overgrazing, soil depletion, industrialization. Apparently no policy/institutional analysis and no strategic perspective on how to address the problems.

B. Draft Environmental Profile on Yemen (Yemen Arab Republic), February, 1982, 208 pp.

Concentrates on water pollution, water scarcity, soil erosion and soil salinization, which are treated in depth. Other subjects include urbanization, land use, climate, topography, geology and minerals, public health labor migration and environmental institutions and legislation. Specific problems on water and soils appear to be well identified. The rest appears superficial and strategic perspective is apparently absent.

Philippines

A. Draft Environmental Report on the Philippines, 1980, 77 pp.

Profiles climate, water/energy sources, forests, seismic activity, soils, wildlife, minerals, and coastal resources. Three major problem areas are well identified: 1) deforestation and soil erosion; 2) Water and air pollution; 3) Loss of natural habitats. Apparently strong on problem identification, but hardly any institutional/policy analysis, and nothing on strategic perspective to address the problems.

B. Philippines: a Country Profile, December, 1988, 184 pp.

Focuses on vulnerability to potential disasters (typhoons, flooding, landslides, earthquakes, eruptions, tsunamis, drought, epidemics and fires. establishes link between incidence of natural disasters and deterioration of natural resources. Reviews problems identified in report of 1980 (above). Final sections cover disaster preparedness (institutions, warning systems and means). Probably a good disaster relief document, but of little use in resource strategic planning

C. Three other reports on subject from other agencies.

1. Philippine Environment Report, 1984-85, Philippines Ministry of Human Settlements, 29 December, 1986, 216 pp.

   Treats natural calamities as a major environmental issue. Assesses extent of recent damage and discusses current disaster mitigation efforts. Toxic waste is also given a high priority including a summary of related legislation and research efforts. Basically, the report analyzes impact of natural disasters and toxic waste on the natural resource base (water, air, land pollution; agriculture; forests; fisheries; minerals; coastal zones; surface water & ground water; energy resources. Outlines a national conservation strategy: 1) improved planning through EIA and ecological profiles; 2) Environmental education; 3) Environmental legislation/institution building. Disaster context appears strange and strategic perspective, although claimed, appears weak.

2. Philippines [:Conservation of Biological Diversity and Forest Ecosystems], World Conservation Monitoring Centre, 1988, 21 pp.

   Main focus is biological diversity. Described the six major forest types and discusses the [poor] condition of the 60 protected areas. Includes list of recommended actions, but strategic perspective is not evident. Looks like one of those alarmist reports with narrow and negative perspective.

3. Philippines Forestry, Fisheries and Agricultural Resource Management Study (ffARM study), World Bank, January 1989, 170 pp.

   Emphasizes weak government management and de-facto open access. Extent, rate and economic impact of environmental degradation are emphasized, indicating that deforestation is perhaps the most severe problem. Other major problems are also identified (erosion, hydrological changes, mangrove conversion, degradation of coral reefs, overfishing). Estimates of economic costs of deterioration are provided. Discussion on determination of government to solve these problems and of social constraints to solutions (population growth, poverty unequal access to resources). Institutions are evaluated. comprehensive strategy is outlined (institutional reform, policy reform, extension, public investment). Seems to

be another comprehensive strategic planning effort, from diagnosis through technical, economic social and institutional analysis, to priority definition to strategy design. Should move to action program and implementation. Or is further analysis needed?

3. Philippines Strategy for Sustainable Development. A Conceptual Framewoerk, Department of Environment and Natural Resources, January, 1990, 34 pp.

Asia
Bangladesh

A. Draft Environmental Report on Bangladesh, 1980, 104 pp.

In context of overpopulation plight profiles water, soils, forests, wildlife, coastlands, fisheries, minerals, climate and geography. Examines environmental organizations and legislation, and demographic and economic characteristics. Discusses major problem areas: water availability and quality; public health and malnutrition; intensive farming problems; erosion, deforestation and loss of biodiversity. Apparently, no strategic perspective, and no prioritization of problem areas.

B. Five other reports on subject from other agencies.

1. Environment and Development in Bangladesh: an Overview and Strategy for the Future, CIDA, October, 1989, 54 pp.

Describes impact of natural disasters and general status of natural resources (geography, population, water, land use and agriculture, forests and wildlife, fisheries and energy). Discusses lack of adequate institutional, legal, enforcement, research and training framework. Points out growing awareness of importance of environmental conservation. Specific recommendations for long and short term environmental strategies for CIDA. Apparently a superficial report covering the waterfront, long on criticism and short on problem identification. May have some strategic value in the critique of institutions.

2. Country strategy for Strengthening Environmental Considerations in Danish Development Assistance to Bangladesh, DANIDA, 1989, 96 pp.

Profiles environment and identifies major sectoral (industry, infrastructure) and cross-sectoral (population, land water) problems. Population growth is considered the most serious long term problem for the environment. Population increases and poverty precipitate many forms of environmental degradation including deforestation and overexploitation of fisheries.

Points out that no formal institutional mechanism exists within the government to implement a broad environmental mandate. Provides outline of operational guidelines for DANI A's involvement. Seems to reduce all problems to population and institutions. Seems to be short on specifics. Little if any strategic perspective.

3. Bangladesh, National Conservation Strategy: Draft Prospectus, IUCN, November, 1987, 97 pp.

   Examines relationship between human problems (population growth, unemployment, low productivity, malnutrition, illiteracy) and the environment. Reviews current trends in natural resource system (land, water, forests, wildlife fisheries, housing/infrastructure and industry) and discusses development priorities. Major problems identified are: 1) annual flooding, 2) soil erosion, 3) soil salinity, 4) industrial (mainly oil) pollution and its effect on marine resources, 5) loss of wildlife habitats, and 6) deforestation. constraints to sustainable resource use are defined in terms of policy and planning, institutions, legislation, resource management, information, public awareness, research/ training and poverty. guidelines for national conservation strategy are provided. Apparently a complete re with strong strategic focus, containing relevant analysis of resource and institutional factors. May be short on economics. Should go a further with the deign of a conservation strategy.

4. Coastal Environmental Management Plan for Bangladesh--Volume One: Summary, UN/ESCAP, 1987, 32 pp.

   Focuses on environment/development issues in terms of a vicious circle, and provides evidence in the coastal environment. Presents very general recommendations. May add specific information on coastal resources, but of little strategic consequence otherwise.

5. Environmental Profile of Bangladesh, Bangladesh Centre for Advanced Studies, March 1987, 88 pp.

   Major problem is overabundant water supply. Also focuses on underlying socioeconomic issues. Apparently has similar coverage as IUCN report, above, but with less focus and organization.

Cook Islands

A. Basic Data for: Cook Islands, December, 1988, 68 pp.

   Essentially an analysis of threats to biodiversity through population pressure, natural calamities and pollution. Some information on political system biodiversity protection laws, land tenure, managed areas and conservation agencies. No specific problem definition or prioritization, and apparently, no

strategic perspective.

Fiji

A. Fiji: a Country Profile, October, 1986, 64 pp.

Focuses on planning for disaster relief. Some discussion on the physical environment's susceptibility to natural disasters. Of little use in environmental/natural resources strategic planning.

India

A. Draft Environmental Report on India, 1980, 175 pp.

Basic information on the country and description of natural resources (water, soils, forests, wildlife, coastlands, fisheries, minerals and air). Discussions on economy and institutions related to environment. Definition of major environmental problem areas: 1) Water supply and quality; 2) Soil damage; 3) Deforestation; 4) Loss of wildlife; 5) Fisheries overuse; 6) Coastal zone deterioration; 7) Air pollution. Essentially a diagnostic exercise, apparently without prioritization of problem areas and with no strategic content.

B. India: a Country Profile, Jun, 1983, 54 pp.

Focus is on natural disaster relief, particularly flooding. Of little use in environmental/natural resources strategic planning.

C. Four other reports on subject from other agencies.

1. Country Strategy for Strengthening Environmental Considerations in Danish Development Assistance to India, DANIDA, 1989, 72 pp.

   Focuses on several problem areas: (land degradation, loss of biological diversity, toxic waste, water pollution, thermal/air pollution. Discusses legislation and institutions responding to environmental problems. Recommendations are made on: 1) a new approach to water management, and 2) Use of multipurpose trees. Details DANIDA environmental strategies. Too general and weak on strategic content.

2. State of India's Environment 1984-85: The Second Citizen's Report, Centre for Science and Environment, 1985, 393 pp.

   Joint effort of several NGOs. Contains 10 chapters on specific ENR problems, one on laws and the role of NGOs, and one on the political economy of natural resource use. Provides no priority setting or strategy

design, but may be useful in that it provides an NGO viewpoint.

3. India: Conservation of Biological Diversity, World Conservation Monitoring Centre, July, 1989, 58 pp.

   Comprehensive description of India's biodiversity and human factors affecting it. Evaluates capacity to control environmental degradation with reference to government institutions, NGOs and protected areas. Recommendations focus on strengthened legislation and protected areas. Essentially diagnostic, and apparently too much emphasis on enforcement.

4. Environmental Problems of the Marine and Coastal Area of India: National Report, UNEP, 1985, 31 pp.

   Focuses on impact of oil pollution, sewage and industrial waste on coastal resources. Also discusses overexploitation of coral reefs (cement industry) and mangroves (fuelwood), and siltation due to mining, farming, logging, urbanization, industrialization and dredging. Current abatement actions are assessed (education, research, legislation. Essentially diagnostic work concentrated on technical issues. May add specific information on coastal resources, but of little strategic consequence otherwise.

Indonesia

A. Natural Resources and Environmental Management in Indonesia: an Overview, October, 1987, 58 pp.

   Comprehensive overview of policies and their effect on long term goals for natural resource management. Six major problem areas are defined 1) Deforestation; 2) Watershed degradation; 3) biological diversity loss; 4) Pesticides and their effects; 5) Water supply and quality; 6) Waste disposal. Problems are linked to centralized policy formulation, insufficient research/information, and weakness of local participation. Suggests development of resource inventories and methodologies to upgrade the policy formulation process. Good strategic planning effort. Next step could be a setting of priorities for implementation of policy change and the design of an action program.

B. Indonesia: a Country Profile, May, 1983, 53 pp.

   Focus is on natural disaster relief, mainly seismic and volcanic activity. Flooding and landslides are also discussed. Of little use in environmental/natural resources strategic planning.

C. Three other reports on subject from other agencies.

   1. Marine and Coastal Sector Development in Indonesia, v. 1: A Strategy for

Assistance, CIDA, May, 1987, 198 pp.

Examines potential for increased utilization of marine and coastal resources (oil, gas, minerals, fisheries, forestry, agriculture, tourism) which have expansion potential. points out that development activities often fail to balance needs for environmental protection, conservation and sustainable use. Recommendations on training, public education, research and TA. proposes 8 projects for undertaking by CIDA. May have interesting detail on potential of various coastal resources. Of little strategic consequence otherwise.

2. Environmental Profile, West Java, HASKONING, Netherlands, 1988, 83 pp.

   Provides detailed definition of environmental problems for a specific area. Special consideration is given to village-ecosystem interactions. Proposes a pilot environmental management system for a determined watershed. Could be of use as background technical material for a regional action plan.

3. Review of Policies Affecting the Sustainable Development of Forest Lands in Indonesia IIED, Washington, D.C., November, 1985, 2 V.

   Although it is strictly sectoral (forestry), this report provides extensive policy analysis by raising 29 different issues. Alternative strategies are proposed for the forestry department as well as interventions for various other public agencies related to the sector. Four areas of primary threats to forest lands are identified. Strong strategic content and, apparently, adequate review of linkages. However, no evidence of analysis of economic tradeoffs and implications.

Kiribati

A. Applied Atoll Research for Development: Proceedings of the Kiribati Applied Atoll Research for Development Consultation, Tarawa, 27 February to 2 March, 1989, 253 pp.

   Main result was an agenda of topics for research in most areas of natural resources including conservation strategies and environmental impact assessment legislation. Apparently, the information contained is very preliminary. No specific definition of problems; no institutional/policy analysis, and no strategic content.

Nepal

A. Draft Environmental Report on Nepal, 1979, 61 pp.

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Reviews natural resources and related legislation and institutions, and identifies major environmental problems (deforestation, reduced agricultural productivity, impure drinking water, soil erosion). Ineffectiveness of a considerable legislation regulating forest usage is discussed. Apparently a good definition of problems, perhaps focusing too much on the forestry sector. Little on priority setting or strategic focus. Although this report was written over 10 years ago, why is it that no solutions seem to be implemented?

B. Nepal: a Country Profile, July, 1983, 33 pp.

Assesses impact of deforestation and other disasters as well as Nepal's capacity to defend itself against them. Of little use in environmental/natural resources strategic planning.

C. Three other reports on subject from other agencies.

1. Building on Success, IUCN, September, 1987, 309 pp.

   Provides background on history (includes centuries of conservation awareness), institutions, geography. Reviews comprehensively resource use as it relates to conservation. Outlines a proposed conservation agenda (institutions, education, policies, research, planning and specific village level activities. Apparently considerable strategic content, but strikes as lacking specificity.

2. Master Plan for the Forestry Sector, Nepal: Main Report, Nepal Ministry of Forestry and Soil Conservation, December, 1988, 168 pp.

   Essentially a sectoral effort, but deep, rigorous and covering every aspect of the sector including linkages with other sectors. Linkage with energy sector may be weak. Focuses on long term investment programs (not projects) by priority areas (subsectors) and is based on thorough analytical work (technical, economic, institutional). Includes financing program and economic and environmental impacts of the plan.

3. Natural resource Management for Sustainable Development: a Study of Feasible Policies, Institutions and Investment Activities in Nepal with Special Emphasis on the Hills, Environmental Resources, Ltd., London, November, 1988, 228 pp.

   Defines three major problem areas (forests, arable lands, grasslands) and their causes. Responses of government and villagers to environmental problems are also reviewed. A quantitative analysis of supply and demand of food, fuelwood and fodder over the next 25 years is provided and policy

areas requiring further investigation are identified. Essentially a diagnostic work with some strategic interest in that it identifies responses by both villagers and government to environmental problems.

Niue

A. Basic Data for: Niue, December, 1988, 51 pp.

Essentially an analysis of the effects of land use practices and other human activities on biological diversity. Major threats identified: 1) Soil destruction; 2) Introduction of non-indigenous species (72% of vascular plants); 3) Standardization of crops; 4) Pesticides and pollutants. Some information on political system biodiversity protection laws, land tenure, managed areas and conservation agencies. No specific problem definition or prioritization, and apparently, no strategic perspective. About the same as for Cook Islands, above.

Papua New Guinea

A. Papua New Guinea: a Country Profile, November, 1985, 59 pp.

Profiles the disaster preparedness highlighting dangers of earthquakes and volcanic eruptions. Points out that increasing erosion has deposited large amounts of alluvial soils in lowland areas creating swamps and floodplains. Of little use in environmental/natural resources strategic planning.

Sri Lanka

A. Environmental Laws and Institutions of Sri Lanka, December 9, 1988, 59 pp.

Discusses comprehensive legal and institutional infrastructures to protect the environment. This includes laws, land use planning prescriptions, a central environmental authority in charge of EIAs and natural resource and environmental policy making. Additionally, numerous NGOs are involved in environmental education and lobbying. However, there is a widening gap between environmental goals and achievements. Major environmental problems are identified (water pollution, soil erosion, deforestation, wildlife poaching). institutional problems are also defined (inadequate management skills, ill-defined project planning, poor law enforcement, confusing procedures, inadequate training, poor facilities, poor interagency cooperation, inefficient use of existing data, lack of policy leadership). Recommendations are made for strengthening laws and institutions through improved funding, leadership, environmental education, and NGO cooperation. Although this document focuses on laws and institutions, it has major strategic value. Not only it focuses on the major environmental problems, but it also defines the major institutional obstacles to action, with specific recommendations to overcome them. A logical next step would be to complement these recommendations with an analysis of

options from technical and economic standpoints pointing towards an action program.

B. Draft Environmental Report on Sri Lanka, 1979, 83 pp.

Surveys natural resources (water, forests, wildlife, fisheries, atmosphere, minerals, soil, coastal land), and defines problems by climatic zone. Overviews of economy, demography, institutions and legislation are also provided. Major environmental problems are: deforestation, lack and misuse of water, and soil erosion. Although adequate legislation exists, problems of administration and enforcement remain. Apparently no prioritization of issues strategic perspective on how to address problems.

C. Sri Lanka, Biological Diversity and Tropical Forests: Status and Recommended Conservation Needs, May, 1988, 92 pp.

Focus is on forests and other biological resources (forests, crops, livestock, wildlife, coastal, marine, wetland), their management and conservation. Key conservation issues are identified as well as major actions needed to promote future conservation and sustainable management. Five very general priority recommendations are offered. Although this document is sector focused, it has strategic value in that it offers problem identification and priority recommendations. This work would complement the work on laws and institutions, above. Similar studies could be conducted for other environmental problems and develop some strategic scenarios and programs.

D. Sri Lanka: a Country Profile, July, 1983, 32 pp.

Assesses impact of flooding and other disasters, as well as the ability to withstand them. Widespread deforestation is mentioned as a major contributor to the flooding problem. Of little use in environmental/natural resources strategic planning.

E. One other report on subject from other agencies.

1. Forestry Master Plan for Sri Lanka: Main Report, WB/ADB/FINNIDA, September, 1986, 156 pp.

   Essentially a sectoral effort, similar to Nepal's above, focusing on action programs, but perhaps not quite as rigorous in institutional analysis and environmental and economic impact.

Thailand

A. Thailand Natural Resources Profile: Is the Resource Base for Thailand's Development Sustainable? January, 1987, 310 pp.

Exhaustive review of natural resources and their management covering in detail land , water, forests, protected areas, minerals, fisheries, mangroves, air and noise quality, waste management and health/safety. Conclusion is that development strategies need overhauling in a number of areas because they are leading to an unsustainable pace of resource consumption and destruction. Resource management and economic policies are examined and recommendations are made for natural resource master plans in critical areas (land use, water, forests, fisheries, minerals and wildlife). Looks like one of the best, including strong diagnosis, problem identification, solid economic development context and recommendations on sectoral master plans.

B. Draft Environmental Report on Thailand, 1979, 94 pp.

Essentially a diagnostic exercise describing resources, their use and identifying problems involved. Mainly a technical report with some institutional/policy elements, but with little if any economic perspective. Appears to be totally superseded by above report.

Tonga

A. Basic Data for: Tonga, December, 1988, 60 pp.

Addresses deforestation resulting from land tenure system and examines effects of land use practices and other human activity on biological diversity. No specific problem definition or prioritization, and apparently, no strategic perspective. About the same as for Cook Islands and Niue, above.

Tuvalu

A. Basic Data for: Tuvalu, December, 1988, 45 pp.

About the same as for Cook Islands, Niue, and Tonga, above.

Vanuatu

A. Basic Data for: Vanuatu, December, 1988, 68 pp.

About the same as for Cook Islands, Niue, Tonga, and Tuvalu, above.

Western Samoa

A. Basic Data for: Western Samoa, December, 1988, 75 pp.

About the same as for Cook Islands, Niue, Tonga, Tuvalu, and Vanuatu, above.

B. Western Samoa: a Country Profile, June, 1987, 43 pp.

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Overview of disaster preparedness focusing on cyclones, earthquakes, tsunamis, volcanoes, floods and drought. Of little use in environmental/natural resources strategic planning.

STRATEGIC PLANNING APPROACH
APPENDIX 2:
USAID portfolio of interventions in ENR
and linkages to strategic planning

Most information obtained from draft entitled ENVIRONMENT AND NATURAL RESOURCE PROGRAMS IN THE ANE BUREAU June 18, 1990.
Some (indicated by *) was obtained from Johnson, N. & Alcorn, J., ECOLOGICAL, ECONOMIC, AND DEVELOPMENT VALUES OF BIOLOGICAL DIVERSITY IN ASIA AND THE NEAR EAST, May 19, 1989.
Other information (indicated by **) was obtained from Olsen, S. et al., INTEGRATED RESOURCES MANAGEMENT FOR COASTAL ENVIRONMENTS IN THE ASIA NEAR EAST REGION, June, 1989.
Information obtained from Resch, T. Non-project Assistance to the Natural Resources Sector of the Asia/Near East Region, April, 1989 is marked with ***.

Europe

A. Various environmental programs

Under design and totaling $13.1 MM

Near East

Egypt

A. Irrigation Management Systems (P)

SECTORS: Soil and Water Resources

BRIEF DESCRIPTION: **Institutional Development.**
Assists the Ministry of Public Works and Water Resources to improve the operating efficiency of Egypt's total irrigation system, and strengthen its own operational, maintenance and planning capabilities.
Direct technology transfers supporting the development and adoption of technological capacities and practices in soil and water conservation are incorporated. They seek to improve the physical infrastructure of irrigation systems and modernize operations through computer modeling and other technological innovations.

STRATEGIC PLANNING RELEVANCE: What would it take for project activities to become self-sustaining?

B. Cairo Water II (P)

SECTORS: Urban and Industrial Pollution

BRIEF DESCRIPTION: **Institutional Development; Technology Development & Transfer.**

Incorporates strengthened institutional development as a key element to enhancing the ability of the public water supply system regarding its operation and maintenance. The infrastructural elements of the project are designed to improve sanitation and health conditions fort Cairo's large population (12-14 MM) through rehabilitating and expanding the city's central water transmission and distribution facilities. AID supports training, accounting and financial management, and upgrading maintenance facilities and equipment.

STRATEGIC PLANNING RELEVANCE: To what extent is this project part of a comprehensive long-term water supply strategy for the city? To what extent does it include attempts at water pricing?

C. Urban Development Support (P)

SECTORS: Urban and Industrial Pollution

BRIEF DESCRIPTION: **Institutional Development; Private Sector Development.**

Addresses most broadly the development necessities of growing urban areas. Targets the Egyptian private sector with financial and administrative incentives. These are expected to facilitate private sector activities thereby leading to better planned and more cost-effective investments. Designed to stimulate private sector urban employment, to develop a broad institutional base in the private sector that can meet effectively the challenge of rapid urbanization, especially informal development and the needs of the urban poor; and accommodate Egypt's urban growth effectively.

STRATEGIC PLANNING RELEVANCE: What specific contributions can the private sector make? Roles of business subsector? Informal subsector? What policy changes are necessary for increased private sector participation? What types of activity could/would the public sector transfer to the private sector?

D. Cairo Water Supply (P)

SECTORS: Urban and Industrial Pollution

BRIEF DESCRIPTION: **Technology Development & Transfer.**

Working to increase quantity and quality of potable water at Rod El Farag,

Cairo's major potable water source. Attempts to solve two major problems: 1) water wasted trough leaking fixtures; and 2) poor water supply hampers disease control efforts.

STRATEGIC PLANNING RELEVANCE: What would be the conditions necessary for sustaining an increased water quality in the long run?

E. Cairo Sewerage II (P)

SECTORS: Urban and Industrial Pollution

BRIEF DESCRIPTION: **Institutional Development; Technology Development & Transfer.**

This is a 10-year project to provide institutional support and training to improve the capacity of the General Organization for Greater Cairo Water Supply to manage, operate and maintain the city's wastewater collection treatment system.

STRATEGIC PLANNING RELEVANCE: To what extent is this project part of a comprehensive wastewater treatment strategy?

F. Mineral, Petroleum and Groundwater Assessment (P)

SECTORS: Energy

BRIEF DESCRIPTION: **Economic Growth; Institutional Development.**

No further information.

STRATEGIC PLANNING RELEVANCE:

G. Energy Policy Planning (P)

SECTORS: Energy

BRIEF DESCRIPTION: **Economic Growth.**

No further information.

STRATEGIC PLANNING RELEVANCE:

H. Energy Conservation and Efficiency (P)

SECTORS: Energy

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BRIEF DESCRIPTION: **Economic Growth; Policy Reform; Institutional Development; Private Sector Development; Technology Development & Transfer.**

No further information.

STRATEGIC PLANNING RELEVANCE:

I. Assessments of Biodiversity and Tropical Forests in Conjunction with CDSS (?) *

SECTORS: Biodiversity

BRIEF DESCRIPTION: No further information.

STRATEGIC PLANNING RELEVANCE:

J. Local Currency Generations (PL 480, ESF & CIP) (NPA) ***

SECTORS:

BRIEF DESCRIPTION: No further information.

STRATEGIC PLANNING RELEVANCE:

Jordan

A. **See Regional "H"**

Morocco

A. Dryland Agriculture/Applied Research (P)

SECTORS: Soil and Water Resources

BRIEF DESCRIPTION: **Technology Development & Transfer.**

Designed to establish a sustainable applied research capacity that is relevant to the dryland farming systems and natural resource constraints of the 250-450 mm rainfall region of southern Morocco and capable of providing technologies to improve farmer productivity.

STRATEGIC PLANNING RELEVANCE: What is the extent of popular participation (on-farm research and other) and extension elements?

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B. Renewable Energy Development (P)

SECTORS: Energy

BRIEF DESCRIPTION: **Economic Growth; Institutional Development; Private Sector Development; Technology Development & Transfer.**
No further information.

STRATEGIC PLANNING RELEVANCE:

C. Energy Demand Management (P)

SECTORS: Energy

BRIEF DESCRIPTION: **Economic Growth; Policy Reform; Institutional Development; Private Sector Development; Technology Development & Transfer.**
No further information.

STRATEGIC PLANNING RELEVANCE:

D. Assessments of Biodiversity and Tropical Forests in Conjunction with CDSS (?) *

SECTORS: Biodiversity

BRIEF DESCRIPTION: No further information.

STRATEGIC PLANNING RELEVANCE:

E. Local Currency Generations (PL 480, ESF &CIP) (NPA) ***

SECTORS: Forestry, Soil and Water Resources

BRIEF DESCRIPTION: Catholic Relief Services uses PL 480 commodities to encourage tree planting and the installation of soil and water conservation measures.

STRATEGIC PLANNING RELEVANCE: What is the replicability of these activities? To what extent do they have sustainable economic significance for the farmers? Can local NGOs replace CRS? How soon?

F. See **Regional "M"**

Oman

A. Fisheries Development (P)

SECTORS: Coastal Resources Management

BRIEF DESCRIPTION: **Economic Growth; Institutional Development; Private Sector Development; Technology Development & Transfer.**

STRATEGIC PLANNING RELEVANCE: No further information.

Pakistan

A. Forestry Planning and Development (P)

SECTORS: Forestry

BRIEF DESCRIPTION: **Economic Growth; Institutional Development; Private Sector Development.**

Working to supply privately produced wood to its private wood consuming industry while reversing the deforestation process. This is critical for Pakistan, where the price of fuelwood in the last decade has more than doubled in real terms. People have planted over 13 MM trees on nearly 20,000 farms, earning more than 250 private farmers over $1.5 MM in local currency by raising and selling seedlings. Also, reforestation is restoring saline lands to farming in some areas.

Helping the Country meet its needs for trained resource managers.

Conducts on-farm treecrop management experiments, trains Pakistani foresters, and is developing a new forestry curriculum for BS and MS degrees at the Pakistan Forestry Institute with the long-term goal of providing the human resource capacity to increase the productivity of fuelwood and timber in Pakistan. Counterpart institutions receiving technical assistance, training and commodities are the Inspector General of Forests, the Office of the Provincial Chief Conservator of Forests, and the Pakistan Forest Institute.

Demonstrates the feasibility of tree crops on private land and supplies private wood consuming Pakistani industries.

Demonstrates the feasibility of tree crops on private Pakistani land.

STRATEGIC PLANNING RELEVANCE: Comprehensive project with strategic thrust. To what extent is this project influencing changes in forest policies? What is the technical, financial and economic performance (ex ante and ex post) of the proposed wood production interventions? To what extent does the training component include economic and social analysis elements? How receptive are smallholders to the idea of planting trees? Any reforestation

or forest management aiming at forest products other than wood?

B. Energy Planning and Development Project (P)

SECTORS: **Energy**

BRIEF DESCRIPTION: **Economic Growth; Policy Reform; Institutional Development; Private Sector Development; Technology Development & Transfer.**
No further information.

STRATEGIC PLANNING RELEVANCE:

C. Energy Commodities and Equipment (P)

SECTORS: **Energy**

BRIEF DESCRIPTION: **Economic Growth; Technology Development & Transfer.**
No further information.

STRATEGIC PLANNING RELEVANCE:

D. Private Sector Power (P)

SECTORS: **Energy**

BRIEF DESCRIPTION: **Economic Growth; Policy Reform; Institutional Development; Private Sector Development.**
No further information.

STRATEGIC PLANNING RELEVANCE:

E. Rural Electrification (P)

SECTORS: **Energy**

BRIEF DESCRIPTION: **Economic Growth; Institutional Development; Technology Development & Transfer.**
No further information.

STRATEGIC PLANNING RELEVANCE:

F. **See Regional 'H'**

G. Local Currency Generations (PL 480, ESF &CIP) (NPA) ***

SECTORS:

BRIEF DESCRIPTION: No further information.

STRATEGIC PLANNING RELEVANCE:

Tunisia

A. Endangered Species Habitat Study (?) *

SECTORS: Biodiversity

BRIEF DESCRIPTION: No further information.

STRATEGIC PLANNING RELEVANCE:

B. Assessments of Biodiversity and Tropical Forests in Conjunction with CDSS (?) *

SECTORS: Biodiversity

BRIEF DESCRIPTION: No further information.

STRATEGIC PLANNING RELEVANCE:

C. Local Currency Generations (PL 480, ESF &CIP) (NPA) ***

SECTORS:

BRIEF DESCRIPTION: No further information.

STRATEGIC PLANNING RELEVANCE:

D. See Regional "M"

Turkey

A. See Regional "I"

Yemen

A. Rhino Horn Dagger Handle Alternatives (?) *

SECTORS: Biodiversity

BRIEF DESCRIPTION: No further information.

STRATEGIC PLANNING RELEVANCE:

B. See Regional "M"

Philippines

A. Rainfed Resources Development (P)

SECTORS: Forestry, Soil and Water Resources

BRIEF DESCRIPTION: **Economic Growth; Institutional Development.**
Envelope of $24 MM over 10 years. Encouraging upland farmers to adopt soil conservation techniques introducing diversified farming systems, and establishing production and protection forests by applying sound agroforestry, reforestation and nursery management techniques. These practices are designed to realize environmental integrity and help Filipino farmers raise incomes for themselves and distant coastal zone residents.

Approaches institution building straightforwardly by strengthening the capacities of the DNR, NGOs and rural communities to develop and manage natural resources. Utilizes local communities in developing and implementing programs for land and water resource management practices in settled rainfed areas. It is designed to raise the incomes of coastal zone residents and upland farmers.

STRATEGIC PLANNING RELEVANCE: Comprehensive land use project with strategic thrust. How much credibility do project activities have with upland farmers? Have the activities raised income? Any tenure issues involved? If so, how are they being resolved? What changes are being implemented in the relationship between the Government and the upland farmers? How are the soil conservation, agroforestry and other techniques being received and adopted by the farmers. Do they have economic credibility? To what extent are results being documented, especially for a 10-year project?

B. Environment and Natural Resources Management (P)

SECTORS: Forestry, Coastal Resources Management

BRIEF DESCRIPTION: **To be defined.**
Currently being designed. envelope of 125 MM over 5 years.
A coastal zone management element is being incorporated into the design.

STRATEGIC PLANNING RELEVANCE: Project of considerable magnitude apparently designed in a hurry. See Laarman's paper and talk to Cynthia for further inputs. To what extent should this project contribute to overhaul natural resource policies in the Philippines?

C. Rural Electrification (P)

SECTORS: Energy

BRIEF DESCRIPTION: **Economic Growth; Institutional Development.**
No further information.

STRATEGIC PLANNING RELEVANCE:

D. Technology Transfer for Energy Management (P)

SECTORS: Energy

BRIEF DESCRIPTION: **Economic Growth; Private Sector Development; Technology Development & Transfer.**
No further information.

STRATEGIC PLANNING RELEVANCE:

E. Biodiversity Survey and Action Plan (?) *

SECTORS: Biodiversity

BRIEF DESCRIPTION: No further information.

STRATEGIC PLANNING RELEVANCE:

F. See Regional "H"

G. Assessments of Biodiversity and Tropical Forests in Conjunction with CDSS (?) *

SECTORS: Biodiversity

BRIEF DESCRIPTION: No further information.

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STRATEGIC PLANNING RELEVANCE:

H. Local Currency Generations (PL 480, ESF &CIP) (NPA) ***

SECTORS:

BRIEF DESCRIPTION: No further information.

STRATEGIC PLANNING RELEVANCE:

I. See Regional "M"

Asia

REGIONAL

A. Forestry/Fuelwood Research and Development (P)

SECTORS: Forestry, Soil and Water Resources

BRIEF DESCRIPTION: **Technology Development & Transfer.**
Represents a major effort to improve research on satisfying the needs of small-scale farmers for wood products with multi-purpose trees by incorporating research, data collection and extension activities throughout Asian AID countries.
Works to improve land and water resource management in nine south and Southeast Asian countries.

STRATEGIC PLANNING RELEVANCE: Covers a broad area. What are the major research topics? To what extent are they relevant to small-scale farmer needs? What kind of network does the Project have with research institutions in the nine countries in which it operates?...With the USAID Missions and projects? with other research efforts funded by other donors in the region? How do the research results get disseminated to the small-scale farmers? Any economic research? Any research on social factors?

B. ASEAN Coastal Resources Management (P)

SECTORS: Coastal Resources Management

BRIEF DESCRIPTION: **Institutional Development.**
Special area management planning being conducted in one site in Indonesia (**). No further information.

STRATEGIC PLANNING RELEVANCE:

C. ASEAN Watershed Project (P)

SECTORS: Soil and Water Resources

BRIEF DESCRIPTION: **Technology Development & Transfer.**
Initiated in 1983 to establish a watershed information and research network among ASEAN countries on the common theme of "watershed management research for productive and protective uplands with emphasis on soil erosion reduction and improved water quality, quantity and distribution".

STRATEGIC PLANNING RELEVANCE: Comprehensive in terms of both subject matter and geographic coverage. Any ASEAN-wide institutions capable of picking up where this project will leave off? What policy impacts on the ASEAN governments are expected? Looks like a favorable context to conduct economic research on externalities. Is there any?

D. ASEAN Energy Conservation Management (P)

SECTORS: Energy

BRIEF DESCRIPTION: **Not defined.**
No further information.

STRATEGIC PLANNING RELEVANCE:

E. Pacific Environmental Protection (P)

SECTORS: Forestry, Coastal Resources Management

BRIEF DESCRIPTION: **Economic Growth; Institutional Development; Private Sector Development; Technology Development & Transfer.**
Is currently in the design stage and is intended to promote the broad based and sustainable economic growth in the South Pacific through policy development and public and private investment in sustainable use of natural resources and protecting vulnerable ecosystems. Specifically, it will address problems of tropical forest depletion, coastal zone mismanagement, pollution (especially of water supply and lagoons), and nonprotection of valuable plant and animal species.

STRATEGIC PLANNING RELEVANCE: Information [from assessment material] on the Pacific Islands is apparently weak. Is this project focusing first and foremost on overcoming information weaknesses. There seems to be considerable out-migration from several of the Pacific Islands. To what extent is this social problem related to resource degradation?

F. Pacific Islands Marine Resources (P involving Cook Islands, Kiribati, Papua New Guinea, Tonga and Tuvalu)

SECTORS: Coastal Resources Management

BRIEF DESCRIPTION: **Economic Growth; Private Sector Development; Technology Development & Transfer.**
Newly underway to develop, demonstrate and make available for replication innovative technologies and strategies that increase the benefits to

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Pacific Island communities from sustainable small-scale private sector uses of marine resources. authorizes $12.5 MM over 5 years to:

* work on pearl oyster cultivation in the **Cook Islands**;
* provide short-term technical assistance in **Kiribati** to use wisely and protect the marine resources of the Tarawa atoll;
* help **Papua New Guinea** to increase the catches in coastal fishing villages by providing technical assistance in fish capture, preservation and marketing technologies;
* conduct technical assistance in **Tonga** on long-line tuna fishing and fish marketing; and
* assess deep bottomfish resources and establish small-scale offshore bottomfishing operations in **Tuvalu.**

STRATEGIC PLANNING RELEVANCE: Has objectives keyed to specific islands. Most of these are related to fisheries. Very often, fishing activities involve "open access" externalities which may lead to stock depletion. Have these been analyzed in the design phase? Will they be designed and monitored as the project progresses?

G. ISPAN Irrigation Support (P)

SECTORS: Soil and Water Resources

BRIEF DESCRIPTION: **Institutional Development; Technology Development & Transfer.**

Regional project that AID missions use in assisting ANE countries to improve the efficiency, reliability and equity of water delivery and use, to support their ongoing irrigation and water management programs, and to develop new approaches to redress water resource issues that constrain economic growth. Under ISPAN, AID is conducting four activities of the Eastern Water Initiative that supports the action Plan for Flood Control in **Bangladesh**: 1) conducting a socioeconomic study on flood response; 2) conducting an environment study; 3) strengthening a geographic information system; and 4) designing a flood-proofing pilot project.

STRATEGIC PLANNING RELEVANCE: Important project with strategic thrust. To what extent does this project address water pricing issues? What policy impacts is the project having on the various countries involved? Rural water use and distribution often involves externalities. To what extent are these being addressed by the Project?

H. United States Fish and Wildlife Service Biodiversity Small Grants (?) *

SECTORS: Biodiversity

BRIEF DESCRIPTION: Included support to wildlife institute of India, for curriculum development; Asia Wetlands Bureau sea turtle in the Philippines; Pakistan nature conservation clubs; training for Royal Society for Conservation in Jordan; survey for migrating and wintering waterfowl in Middle East.

STRATEGIC PLANNING RELEVANCE: Apparently a "scattershot" project. Could these efforts be handled under projects with stronger strategic focus?

I. Regional Environmental Activities (P) *

SECTORS: Biodiversity

BRIEF DESCRIPTION: Support went to publish book on biological diversity in Turkey. No further information.

STRATEGIC PLANNING RELEVANCE:

J. Project Development and Support (P) *

SECTORS: Biodiversity

BRIEF DESCRIPTION: Support for U.S. National Park Service in Thailand. No further information.

STRATEGIC PLANNING RELEVANCE:

K. South Pacific Assessments of Biodiversity and Tropical Forests in Conjunction with CDSS (?) *

SECTORS: Biodiversity

BRIEF DESCRIPTION: No further information.

STRATEGIC PLANNING RELEVANCE:

L. Private and Voluntary Programs (P) ***

SECTORS:

BRIEF DESCRIPTION: No further information.

STRATEGIC PLANNING RELEVANCE:

M. Peace Corps Small Project Assistance (P) ***

SECTORS: Forestry; other natural resources

BRIEF DESCRIPTION: Volunteers in Morocco, Nepal, Philippines, Thailand, Tunisia, South Pacific Islands & Yemen.

STRATEGIC PLANNING RELEVANCE: Peace Corps Volunteer assistance can be a precious resource in a well focused project.

Bangladesh

A. Coastal Area Resources Management (P)

SECTORS: Coastal Resources Management

BRIEF DESCRIPTION: Being defined. No further information.

STRATEGIC PLANNING RELEVANCE:

B. Agro-Climatic/environmental Monitoring (P)

SECTORS: Soil and Water Resources

BRIEF DESCRIPTION: Institutional Development.
Has significantly strengthened SPARRSO (Space Research and Remote Sensing Organization) to obtain, analyze, and disseminate agroclimatic data obtained from aircraft and satellites such as samples of cropping patterns and forest surveys. It has a competent staff that operates stations and processes data regularly.

STRATEGIC PLANNING RELEVANCE: Information gathering and processing projects are strategically important. However, they should concentrate their efforts on obtaining the type and accuracy of information necessary to policy decisions. These efforts can produce quantities of expensive irrelevant information. To what extent has SPARRSO's mission been defined? How will a strengthened SPARRSO continue to function after the Project? Should it settle for a lower level of activity? If so, what would be the priority type of information elements on which it should concentrate?

C. Rural Electrification III (P)

SECTORS: Energy

BRIEF DESCRIPTION: **Economic Growth; Institutional Development.**
No further information.

STRATEGIC PLANNING RELEVANCE:

Cook Islands

A. Pacific Islands Marine Resources (P involving Cook Islands, Kiribati, Papua New Guinea, Tonga and Tuvalu)

SECTORS: Coastal Resources Management

BRIEF DESCRIPTION: Work on pearl oyster cultivation.

STRATEGIC PLANNING RELEVANCE: Discussed under "Regional F".

India

A. National Social Forestry (P)

SECTORS: Forestry

BRIEF DESCRIPTION: **Economic Growth; Institutional Development; Private Sector Development.**

AID contribution of approximately $67 MM, which works in Uttar Pradesh, Rajasthan, Gujarat and Himachal Pradesh, with a combined population of more than 80 MM. Increases in the production of wood products has been spectacular among farmers planting in their own land.

Has realized important incremental gains in strengthening the technical and managerial capacity of the four state forestry departments concerned, the Ministry of Environment and Forests, and private farmers through providing financial and technical assistance to implement programs and building private capabilities and incentives for continuing planting.

Has resulted in benefits obtained entirely by the poor.

STRATEGIC PLANNING RELEVANCE: Apparently a strong project with strategic thrust. To what extent can the results be replicated in the rest of the country? Can the increase in planting be self-continued after project completion? Is the project addressing natural forest management issues? Any

focus on non-wood forest products? Any focus on ecological functions of forest cover? Apparently project activities have economic credibility among farmers. If so, why? Any major changes in relationship between farmers and state forestry departments? To what extent is this project coordinated with Maharashtra Social Forestry and Madhya Pradesh Social Forestry?

B. Maharashtra Social Forestry (P)

SECTORS: Forestry

BRIEF DESCRIPTION: **Economic Growth; Institutional Development; Private Sector Development.**

All community and private tree planting targets have been achieved or exceeded, and the benefits are being obtained entirely by the poor.

Is developing the capability of the Horticulture and Social Forestry Department of the Government of Maharashtra, local governing institutions and villages to manage community and private lands for increased and sustained yields of forestry projects.

Its beneficiaries are the "most disadvantaged", including women.

STRATEGIC PLANNING RELEVANCE: To what extent is this project coordinated with National Social Forestry and Madhya Pradesh Social Forestry? Otherwise same questions as for National Social Forestry.

C. Madhya Pradesh Social Forestry (P)

SECTORS: Forestry

BRIEF DESCRIPTION: **Institutional Development; Private Sector Development.**

Active in four Indian states (?) to implement alternative social forestry programs in villages, evaluate their effectiveness, and develop policies to meet India's long term forestry needs. To accomplish this, it is developing a forestry extension wing within the Madhya Pradesh Forestry Department to be a single entity for managing existing social forestry programs as well as developing private sector institutional capacities.

STRATEGIC PLANNING RELEVANCE: To what extent is this project coordinated with National Social Forestry and Maharashtra Social Forestry? Otherwise same questions as for National Social Forestry.

D. Irrigation Management and Training (P)

SECTORS: Soil and Water Resources

BRIEF DESCRIPTION: **Institutional Development.**
Designed to strengthen India's techno-institutional and human resources to plan, design, operate, manage and maintain efficient and productive irrigation systems through professional assistance and training, water resources planning, and technology transfer. Extends considerable influence on policies and procedures in several key institutions (Planning Commission; Ministries of Agriculture, Social Welfare, Health and Family Welfare, Energy, Financed, Industry and Irrigation; the Department of the Environment; the Department of Science and Technology; and the state counterparts of all these entities), and has the flexibility to assist state counterpart institutions to identify and respond to emerging issues in the sector.

STRATEGIC PLANNING RELEVANCE: Apparently a project with strong strategic value. To what extent are farmers involved in this comprehensive improvement of irrigation systems? Any policy changes being implemented through the comprehensive institutional network? Does the project deal with water pricing?

E. Hill Areas Land and Water Development (P)

SECTORS: Soil and Water Resources

BRIEF DESCRIPTION: **Institutional Development.**
Making progress to create small-scale irrigation on 23,000 ha in hilly areas in Himachal Pradesh; improve water management with afforestation, erosion control and horticulture; introduce community-based management methods; and promote inter-agency collaboration, human resource development, research, and technology adaptation. Incorporates features to create the need and opportunity for local groups to assume more control and responsibility for irrigation activities while the national government provides selective assistance through a state level implementation committee. It is hoped that this structure will reduce public sector responsibilities and recurrent costs.

STRATEGIC PLANNING RELEVANCE: Apparently an integrated project focusing on institutionalizing local group control of water resources. To what extent is the government giving up control? Is the recurrent cost burden an incentive for this type of change? Do the various types of technical interventions have credibility among farmers?

F. Madhya Pradesh Minor Irrigation (P)

SECTORS: Soil and Water Resources

BRIEF DESCRIPTION: **Technology Development & Transfer.**

Consists of 40 pilot irrigation systems with improved planning and operations demonstration areas and two technical pilots. Emphasizes improved institutional capabilities of the State Departments of irrigation and agriculture through training, professional exchanges and special studies.

Research in irrigation is also an important component. This includes improved irrigation design,and pilot activities that introduce the new technologies to conserve water and reduce operation and maintenance costs.

Direct technology transfers supporting the development and adoption of technological capacities and practices in soil and water conservation are incorporated. They seek to improve the physical infrastructure of irrigation systems and modernize operations through computer modeling and other technological innovations.

STRATEGIC PLANNING RELEVANCE: Apparently a project concentrated on technical aspects. How are the ideas from the pilot irrigation systems being received by farmers? To what extent do the systems have economic credibility? Is there room for farmers to offer ideas in research efforts?

G. Maharastra Minor Irrigation (P)

SECTORS: Soil and Water Resources

BRIEF DESCRIPTION: **Institutional Development.**

Supporting and improving the management and physical infrastructure of small-scale irrigation systems and the distribution of water in remote areas of Maharashtra through measures that include research, training, organizational and strengthening of hydrological and meteorological data sharing and extrapolating to improve the database for system design.

Research in irrigation is also an important component. This includes improved irrigation design,and pilot activities that introduce the new technologies to conserve water and reduce operation and maintenance costs.

Direct technology transfers supporting the development and adoption of technological capacities and practices in soil and water conservation are incorporated. They seek to improve the physical infrastructure of irrigation systems and modernize operations through computer modeling and other technological innovations.

STRATEGIC PLANNING RELEVANCE: Same as for Madhya Pradesh Minor Irrigation.

H. Center for Technology Development (P)

SECTORS: Urban and Industrial Pollution

BRIEF DESCRIPTION: **Economic Growth; Institutional Development; Private Sector Development; Technology Development & Transfer.**

Beginning to link basic research with industry by coordinating and supporting the integration of Indian developmental technology into the indian market via developing indigenous technologies with commercial applications. Incorporates institution building and private sector development by building institutions that are expected to propel India's private sector toward greater economic growth. Also expected to produce a positive demand for U.S. goods such as capital equipment and components, and services like technical assistance and training.

STRATEGIC PLANNING RELEVANCE: Strong strategic potential from private sector standpoint. Strikes as lacking marketing thrust.

I. Program for Advanced Commercial Technology (P)

SECTORS: Urban and Industrial Pollution

BRIEF DESCRIPTION: **Economic Growth; Institutional Development; Private Sector Development; Technology Development & Transfer.**

Experimental project designed to accelerate the pace of technological innovation with applications to industry, agriculture, health, energy and other sectors. Promotes joint India-U.S. ventures to build a market-oriented research and development capacity for commercial products and processes in the Indian private sector. Incorporates elements of institution building, economic growth and private sector development to transfer strategies, analytical methodologies, and management styles conducive to successful technological development and commercialization.

STRATEGIC PLANNING RELEVANCE: How is this project related to Center for Technology Development? Looks like two projects that could be merged. Same issues.

J. Program for Acceleration of Commercial Energy Research (P)

SECTORS: Energy

BRIEF DESCRIPTION: **Economic Growth; Policy Reform; Institutional Development; Technology Development & Transfer.** No further information.

STRATEGIC PLANNING RELEVANCE:

K. Alternative Energy Resource Development (P)

SECTORS: Energy

BRIEF DESCRIPTION: **Economic Growth; Institutional Development; Private Sector Development.**
No further information.

STRATEGIC PLANNING RELEVANCE:

L. Plant Genetic Resources (Component ?) *

SECTORS: Biodiversity

BRIEF DESCRIPTION: No further information.

STRATEGIC PLANNING RELEVANCE:

M. See Regional "H"

N. Assessments of Biodiversity and Tropical Forests in Conjunction with CDSS (?) *

SECTORS: Biodiversity

BRIEF DESCRIPTION: No further information.

STRATEGIC PLANNING RELEVANCE:

O. Local Currency Generations (PL 480, ESF &CIP) (NPA) ***

SECTORS: Forestry, Soil and Water Resources

BRIEF DESCRIPTION: Catholic Relief Services uses PL 480 commodities to encourage tree planting and the installation of soil and water conservation measures.

STRATEGIC PLANNING RELEVANCE: What is the replicability of these activities? To what extent do they have sustainable economic significance for the farmers? Can local NGOs replace CRS? How soon?

Indonesia

A. Natural Resource Management (P)

SECTORS: Forestry, Coastal Resources Management

BRIEF DESCRIPTION: **Policy Reform; Institutional Development.**
Is currently being designed and is intended to strengthen the country's institutional capabilities to generate and analyze information in the design and implementation of policies for sustained economic development and natural resource management. It will help identify opportunities to raise the productivity of key natural resources through ecologically sustainable means.
A fisheries component is being included.

STRATEGIC PLANNING RELEVANCE: Apparently a comprehensive natural resources project similar to the one currently starting in Thailand. It will be important to focus on the major constraints affecting sustainable economic growth which are so evident in Indonesia (market failures, policy distortions, institutional inadequacies, information deficiencies and lack of popular participation). Also, if the project is to have significant policy and institutional impact, strong coordination both among its components and with the Indonesian institutions will be essential.

B. Upland Agriculture and Conservation (P)

SECTORS: Soil and Water Resources

BRIEF DESCRIPTION: **Institutional Development.**
Addressing the technical and institutional issues in developing sustainable agricultural systems in upland watersheds.
Seeks to increase incomes in the densely populated uplands of Java while minimizing soil erosion through conservation practices on 23,000 ha of land. Working through the Ministry of Home Affairs with the assistance of the Ministries of Forestry and Agriculture to expand and improve institutional capacities in the provinces of Central and East Java and at farm levels.

STRATEGIC PLANNING RELEVANCE: Not clear as to specific activities undertaken or the type of institutional change this project is supposed to bring about. A project lacking definition loses credibility and can hardly succeed.

C. Puspiptek Energy Laboratory (P)

SECTORS: Energy

BRIEF DESCRIPTION: **Economic Growth; Institutional Development; Technology Development & Transfer.**
No further information.

STRATEGIC PLANNING RELEVANCE:

D. Support to Indigenous Conservation NGOs (?) *

SECTORS: Biodiversity

BRIEF DESCRIPTION: No further information.

STRATEGIC PLANNING RELEVANCE:

E. Assessments of Biodiversity and Tropical Forests in Conjunction with CDSS (?) *

SECTORS: Biodiversity

BRIEF DESCRIPTION: No further information.

STRATEGIC PLANNING RELEVANCE:

F. Local Currency Generations (PL 480, ESF &CIP) (NPA) ***

SECTORS:

BRIEF DESCRIPTION: No further information.

STRATEGIC PLANNING RELEVANCE:

Kiribati

A. Pacific Islands Marine Resources (P involving Cook Islands, Kiribati, Papua New Guinea, Tonga and Tuvalu)

SECTORS: Coastal Resources Management

BRIEF DESCRIPTION: Provide short-term technical assistance to use wisely and protect the marine resources of the Tarawa atoll.

STRATEGIC PLANNING RELEVANCE: Discussed under "Regional F".

Nepal

A. Coppice Reforestation (P)

SECTORS: Forestry

BRIEF DESCRIPTION: **Economic Growth; Technology Development & Transfer.**

Working to increase wood supplies by conducting applied agroforestry research on fast-growing, multipurpose trees.

Four-year research and demonstration project designed to introduce more efficient methods of producing fuelwood, fodder and other tree products into Nepal through accelerated use of fast-growing multipurpose trees.

STRATEGIC PLANNING RELEVANCE: Apparently a technical forestry project without much social content. To what extent have the results been adopted by villagers? Does the project have an extension component? To what extent does it interact with villagers to exchange ideas for effective research? To what extent will this project coordinate with FDP?

B. Institute of Forestry (P)

SECTORS: Forestry

BRIEF DESCRIPTION: **Economic Growth; Institutional Development.**

Helping the Country meet its needs for trained resource managers. Provides $8.7 MM to improve the capacity of the Institute to meet its need for trained natural resource managers via improved training capabilities, curricula and program content.

STRATEGIC PLANNING RELEVANCE: Will this increased capability be maintained after the project? How does the IOF compare with other professional level schools in the region in terms of program and faculty quality?

C. Forestry Development Project (P)

SECTORS: Forestry, Soil and Water Resources

BRIEF DESCRIPTION: **Policy Reform; Private Sector Development; Technology Development & Transfer.**

Concentrated on devolving control of forests and natural resources to small groups of villages, user groups, and private entities or individuals to reverse the

trend toward deforestation and accelerate forest management.

Provides $8 MM.

Expands self sustaining private sector initiatives in farm forestry and private nurseries that meet energy and multipurpose forestry requirements over a 5-year period.

Addresses soil and water issues indirectly.

STRATEGIC PLANNING RELEVANCE: Also contains a strong strategic planning and policy component and improved stoves component. Essential project for the implementation of Nepal's well laid out 25-year Master Plan for the Forestry Sector. This project should guide the first five years of Plan implementation. Strong strategic content.

D. Rapti Zone (P)

SECTORS: Forestry

BRIEF DESCRIPTION: **Institutional Development; Private Sector Development; Technology Development & Transfer.**

Conducts training in district planning and budgeting and is having an impact on attitudes and skills, particularly among women.

Emphasizes the private marketing of farm and household innovations such as biogas units and water turbine mills as fuel alternatives to wood.

Supports increased agriculture and forestry projects by improving production technology transfer through government line agencies, strengthened local farmer organizations, and private sector service delivery.

STRATEGIC PLANNING RELEVANCE: Apparently an integrated project in a localized area. To what extent is project experience being utilized in other areas of the country?

E. Rhino/Buffalo Interactions with Humans (?) *

SECTORS: Biodiversity

BRIEF DESCRIPTION: No further information.

STRATEGIC PLANNING RELEVANCE:

F. See Regional "M"

Papua New Guinea

A. Pacific Islands Marine Resources (P involving Cook Islands, Kiribati, Papua New Guinea, Tonga and Tuvalu)

SECTORS: Coastal Resources Management

BRIEF DESCRIPTION: Help to increase the catches in coastal fishing villages by providing technical assistance in fish capture, preservation and marketing technologies.

STRATEGIC PLANNING RELEVANCE: Discussed under "Regional F".

Sri Lanka

A. Mahaweli Environmental Project (P)

SECTORS: Forestry

BRIEF DESCRIPTION: **Economic Growth.**
Working to ensure long-term viability of forestry resources by integrating planning, management,and reforestation into land use development -- thereby providing alternative, ecologically sound and socially acceptable habitats for wildlife displaced by human settlement and by stabilized irrigated agricultural development.

STRATEGIC PLANNING RELEVANCE: Is the focus mainly wildlife?

B. Natural Resource and Environmental Policy (P)

SECTORS: Forestry

BRIEF DESCRIPTION: **Policy Reform.**
Currently being designed. will provide $14.5 MM over three years.

STRATEGIC PLANNING RELEVANCE:

C. Coastal Resources Management (P jointly with Thailand)

SECTORS: Coastal Resources Management

BRIEF DESCRIPTION: **Policy Reform; Institutional Development.**
Jointly with Thailand and Ecuador. The experience of formulating and implementing the coastal resource management program in Sri Lanka has generated valuable information for pursuing similar programs elsewhere. The Sri Lanka component was funded at $448,000 for 5 years. on 04-04-90, the GOSL approved the regulatory plan prepared under project auspices. Implementation for the plan will be conducted through the Coast Conservation Department, which has authority in coastal zone front development, erosion management strategies, protecting historical, recreation and cultural sites in the coastal zone, and protecting coastal habitat.

STRATEGIC PLANNING RELEVANCE: How much strategic value has a project that focuses on areas as diverse as Ecuador, Thailand and Sri Lanka? Can't activities of this type be incorporated into broader natural resources projects?

D. Irrigation Systems Management (P)

SECTORS: Soil and Water Resources

BRIEF DESCRIPTION: **Institutional Development.**
Is developing the institutional capacity of the Ministry of Lands and Land Development at the national, district and systems levels to develop farmer organizations; improve operations, maintenance and financial management; develop a system of monitoring, evaluation and feedback; and increase training programs and water management research in 7 major irrigation efforts. It expects to rehabilitate irrigation systems that service 97,550 acres, develop and implement an annual maintenance plan of 168,000 irrigated acres, organize 55,000 farmers and train irrigation officers and farmers on water management practices. In the process, this $18.6 MM project is providing important lessons for privatizing Sri Lanka's irrigation.

STRATEGIC PLANNING RELEVANCE: Is privatization of all irrigation activities a strategic objective? Or should only certain aspects be privatized? Appears to have considerably more social content than similar projects in India. In what way does the project intend to organize farmers? Is this related to cost recovery?

E. Assessments of Biodiversity and Tropical Forests in Conjunction with CDSS (?)

SECTORS: Biodiversity

BRIEF DESCRIPTION: **No further information.**

STRATEGIC PLANNING RELEVANCE:

Thailand

A. Management of Natural Resources (P)

SECTORS: Forestry, Coastal Resources Management

BRIEF DESCRIPTION: **Institutional Development.**

AID is engaged in policy issues indirectly by strengthening the analytical and administrative capabilities of two Royal Thai Government agencies with lead responsibilities for natural resource policy development thorough the Policy Analysis and Development subproject.

Largest and most comprehensive environmental project AID has ever undertaken, Seven-year, $44 MM grant to develop the capacities of the Royal Thai Government and non-governmental institutions to define , analyze, and respond effectively to current and emerging natural resource and environment problems, thereby building consensus and capacity for advancing policy options that will lead to sustainable development. It is becoming a potential model for environmental programs in other countries. Four of its six subprojects address institutional development: the Rural Resources Management subproject will develop national government capacity to conduct natural resource planning and management at the provincial level, and supports a 1989 cabinet resolution that requires all provincial plans to address natural resource management issues and activities. The Biological Resources Management subproject will strengthen the capacity of the Royal Forest Department to manage national parks and protected areas through professional exchanges, in-service training, policy level seminars and workshops, and work with NGOs and universities to promote public and institutional awareness of the role of biological resources in Thailand's economic development. The Environmental Awareness and Education subproject supports the Ministry of Education in developing environmental education curricula, materials and trained teachers, and the Office of the National Environment Board efforts tom increase public awareness of Thailand's environmental problems and possible solutions. The Human Resources Development subproject supports as detailed assessment of government agency training needs, universities and private organizations involved in managing Thailand's natural resources and environment. It will manage a participant training program for 30 PhDs, 50 MS and 350 on-the-job and short-course participants.

Also, AID is addressing pollution through the Industrial Environmental Management subproject, which is promoting grater awareness of the environmental problems faced by industries through activities that build private

and public sector capacities to address environmental pollution and worker health and safety issues. AID is working closely with the federation of Thai industries, which will develop awareness and technical assistance capabilities among its member industries for cost-effective pollution control and improved occupational health and safety.

STRATEGIC PLANNING RELEVANCE: Very evident. The description says it all. This project attempts to respond to sustaining a strong current pace of economic growth under a given resource endowment. It responds to essential strategic issues as defined in the comprehensive Natural resources profile of 1987. One question that may be pertinent: Will coordination of so many components and so many government institutions pose a management problem?

B. Coastal Resources Management (P jointly with Sri Lanka)

SECTORS: Coastal Resources Management

BRIEF DESCRIPTION: **Institutional Development.**
Joint effort of Mission and S&T. Management and use plans for 2 out of 20 Thai marine parks are being prepared. Emphasizes use of interdisciplinary planning, implementation of existing policies/laws and regulations, and multi-agency joint action (**).

STRATEGIC PLANNING RELEVANCE: See Sri Lanka, above.

C. Biodiversity Small Grants (?) *

SECTORS: Biodiversity

BRIEF DESCRIPTION: No further information.

STRATEGIC PLANNING RELEVANCE:

D. Assessments of Biodiversity and Tropical Forests in Conjunction with CDSS (?) *

SECTORS: Biodiversity

BRIEF DESCRIPTION: No further information.

STRATEGIC PLANNING RELEVANCE:

E. See Regional "M"

Tonga

A. Pacific Islands Marine Resources (P involving Cook Islands, Kiribati, Papua New Guinea, Tonga and Tuvalu)

SECTORS: Coastal Resources Management

BRIEF DESCRIPTION: Conduct technical assistance on long-line tuna fishing and fish marketing.

STRATEGIC PLANNING RELEVANCE: Discussed under "Regional F".

Tuvalu

A. Pacific Islands Marine Resources (P involving Cook Islands, Kiribati, Papua New Guinea, Tonga and Tuvalu)

SECTORS: Coastal Resources Management

BRIEF DESCRIPTION: Assess deep bottomfish resources and establish small-scale offshore bottomfishing operations.

STRATEGIC PLANNING RELEVANCE: Discussed under "Regional F".

Other AID Interventions

A. Biodiversity Task Force

B. Biodiversity Conservation Project (P) *

SECTORS: Biodiversity

BRIEF DESCRIPTION: Started in 1988 through S&T/FENR as a 10-year program to assist developing countries and Missions with the conservation of biodiversity. Established to provide a sound scientific and technical basis for biological diversity investments by USAID, other donors, and host country institutions. Among the services offered are: 1) technical assistance to Missions and host country institutions; 2) administration of applied biodiversity research grants; 3) design and conduct of in-country professional conservation training; 4) development of an information and evaluation network; and 5) initiation of pilot demonstration projects. The project is designed to accommodate "buy-ins" from Missions to carry out services in support of biological diversity conservation in-country.

STRATEGIC PLANNING RELEVANCE: Essential. Biodiversity issues are only starting to be considered in economic development efforts. However, a stronger emphasis on economic analysis of tradeoffs between biodiversity protection and sacrifices is necessary.

1. Introduction

1.1 The Underlying Premise

The basic economic premise of the PRIDE project is that, in the long run, improved environmental management in the region can only be sustained if:

- o it is in the perceived self-interest of those with effective control over resources and allocation decisions to protect and enhance the environment;
- o technically and financially attractive options exist and are available to those who make resource allocation decisions;
- o the generalized system of incentives -- policies, prices, regulatory and administrative procedures, enforcement, information and sensitization and decision authority -- provides clear, consistent and stable signals in support of long term decisions which favor the environment.

1.2 Linkages to Other Components

The three components of the PRIDE are linked through this premise: In a market economy, resource allocation decisions are made primarily by independent or autonomous firms[1] and household units. The policy framework conditions private sector choices by specifying the "rules of the game". Public awareness, environmental education and accountability strengthens policy signals, increases private choices and improves socio-economic mechanisms for feedback and monitoring.

1.3 Linkages to Broader Issues

It is potentially misleading to abstract "environmental policy signals" from the broader economic, political and social context. Environmental quality is influenced by a range of policies, some of which have no intended environmental impact. In operational terms, preservation of environmental quality is one of several factors to be weighed in the choices made by individual decision-makers. Therefore, it is equally important to consider the environmental implications of overall socio-economic factors as to focus on narrowly defined "environmental policies" per se.

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[1] In principle, the importance of market signals in influencing the decisions of production units can remain unchanged irrespective of whether those production units are privately or publicly owned, as long as they are operated on the basis of market principles.

In purely economic terms, the smooth functioning of the market system can do much to improve the efficiency (including environmental efficiency) of overall production. Hence the growing recognition of the need to correct "market failures". Yet markets do not (and in some cases, cannot easily) exist for many items which affect welfare and profits. These include air pollution, disposal of waste into open access environmental resources, or the right to exploit natural resources such as forests, fisheries and wildlife.

The attempt to correct policy failures which encourage inefficient and resource degrading allocation decisions may run counter to the political and economic power relations which gave rise to existing policies in the first place. Policies such as low irrigation charges that result in excessive water use and water logging are the result of a political system which allocates water rights according to patronage and with social equity considerations in mind, a social system which often regards water as a free good and a bureaucratic system that has a very limited capacity to collect fees. In the face of these constraints, the "policy failure" would have to be addressed very differently than it would be without them.

There are, therefore, practical limits on the extent to which generic policy solutions can be developed, or borrowed from other countries, without further attention to the national "adaptation" (social, political, economic) process which PRIDE is well-suited to support.

2. Policy and Research Experience Relevant to the Region

2.1 Stages in Environmental Policy Research

Research in Environmental Policy and Planning in the Asia/Near East region started nearly a decade ago. Essentially, it has been done in three stages. These stages represent steps similar to those undertaken in strategic planning, as suggested for use as one of the four components in the PRIDE. In the first stage, the focus is on problem identification which includes elementary profiles of the country's geographic conditions and major environmental problems like soil damage, water and industrial pollution. In certain projects, this stage also diagnoses the causes and sources of major environmental problems. The second stage many entail formulating strategic policy options for solving these problems. Finally, in the third stage, the procedure for actively implementing policy is researched. This chapter analyses the research experience in environmental policy in the Asia/Near East region in light of these three stages.

It bears generalizing that research experience has been varied depending on the region concerned as well as the country's level of economic development. For example, in East Europe, environmental concerns are a relatively new phenomenon. Historically, this region has deliberately traded off environmental degradation for economic growth. In some Near Eastern countries, there has been fairly sophisticated work done on diagnosing environmental problems, but comparatively little work completed on strategic policy. In Asia, most research has progressed through all three stages.

However, experience in the OECD countries suggests that policies that have met with the greatest success have been at a country specific level. In light of this finding, the following section focusses on country specific research done by A.I.D. and other bilateral and international organizations in the Near East and Asia. Environmental policy research in East Europe has not yet reached a stage where data can be utilized or analyzed.

2.2 Country-Specific Experience

In the Near East, AID research has concentrated on Egypt, Cyprus and Turkey, Afghanistan, Jordan, Morocco and Oman.

- Egypt. Work has been done on identifying major environmental problems like soil damage, water pollution and waterborne diseases and their causes like intensive irrigation, extreme aridity and very high population density. There has also been research identifying problems threatening biological diversity and their causes (oil pollution, improperly managed tourism). All the work has had strong diagnostic elements, but very little strategic content.

- o Afghanistan, Cyprus, Jordan, Morocco and Oman. Research in these countries has been descriptive. In Afghanistan, Morocco, and Oman, very preliminary information is available, reviewing geography, climate, demography, economy and environment. There has been little diagnostic work identifying major environmental problems and virtually nothing on policy formulation. In Jordan, current AID work has focused on problems and measures associated with land, minerals, marine/coastal ecosystems, fisheries, forests, air, protected areas and cultural resources. This comes as a good first step in the strategic planning policy process. Finally, some non-AID[2] work in Cyprus has been done on identifying major environmental problems such as urbanization and air and noise pollution. This is a strong strategic report including diagnosis, problem definition, priority setting and strategic approach to solutions.

Environmental research work in Asia is perhaps the most advanced next to the OECD countries. Rapid industrialization accompanying decades of economic growth have forced Asian countries to address environmental problems at an earlier stage.

In Asia, comprehensive environmental work has been done in Pakistan, Indonesia, Philippines, Nepal, Sri Lanka and Thailand.

- o Pakistan. The initial AID projects in Pakistan overviewed geography, climate, population and land use. These projects, mainly descriptive, have also identified environmental problems such as water, rural/land use, urban and environmental management, deforestation, soil erosion and desertification. Some additional AID projects have target certain sectors. The Country Profile of Marine Environment[3], has concentrated on marine pollution in Karachi harbour resulting from oil. Although this document is sector-specific, it follows the full strategic planning cycle form diagnosis through action program.

- o Indonesia. AID projects have focused on identification of major environmental problems like deforestation, watershed degradation, biological diversity, effects of pesticides, water supply and quality and waste disposal. Current AID efforts have been geared towards sustainable natural resource management which include both an analysis of constraints to

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[2]. Environmental Action Plan for Cyprus, Environmental Cyprus, November, 1987, 22 pp.

[3]. Country Profile of the Marine Environment:Pakistan, 1986 78 pp.

effective natural resource management and the development of improved policies and practices. Non-Aid sources have researched specific areas such as marine and coastal sector development[4], watershed management systems in villages and forest management. Although these papers are sectoral, they have strong strategic content.

- Philippines. In this country, traditional AID projects have focused on profiles of the climate, water/energy sources, forests, soil, seismic activity, wildlife, minerals and coastal resources. These have identified major environmental problems like deforestation and soil erosion, water and air pollution and loss of natural habitats. In addition, as in the case of Indonesia, current efforts are aimed at targeting environmental problems through natural resource management.

  Non-AID work has mostly duplicated the efforts described above. However a recent World Bank study[5] has made considerable progress on a comprehensive strategic planning effort, from diagnosis through technical, economic, social and institutional analysis to priority definition and strategy design.

- Thailand. Most of the AID work in Thailand have been diagnostic exercises in describing resources. The most recent study, done four years ago was an exhaustive review of natural resources and their management covering in detail land, water, forests, protected areas, minerals, fisheries, mangroves, air and noise quality, waste management and health and safety. Resource management and economic policies were examined and recommendations are made for natural resource master plans in critical areas such as land use, water, forests, fisheries, minerals and wildlife.

- Nepal. Initial AID projects in Nepal concentrated on profiling the country's natural resources. There was some focus on identifying major environmental problems such as deforestation, reduced agricultural productivity, impure drinking water and soil erosion. Again, as in the case of Philippines and Indonesia, current efforts are geared towards natural resource management.

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[4]. Marine and Coastal Sector Development in Indonesia, v. Strategy for Assistance, CIDA, May 1987, 198 pp.

[5]. Philippines Forestry, Fisheries and Agriculture Resource Management Study (farm study), World Bank, January 1989, 170 pp.

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Non-AID work essentially has been sector-specific. For example, the Master Plan for the Forestry Sector[6] is a deep, rigorous effort covering every aspect of that sector, including linkages with other sectors such as energy. This study has strong strategic and analytical content. Some other diagnostic work has been done in supplementing the AID projects cited above. A recent study has defined three major problem areas (forests, arable lands and grasslands) and the causes of problems in these areas.

- Sri Lanka. Initial AID efforts were directed at surveying natural resources like water, forests, wildlife, fisheries, atmosphere, minerals, soil and coastal lands. There has been some effort at identifying major environmental problems such as deforestation, lack and misuse of water and soil erosion. More recently, projects such as the[7] Sri Lanka, Biological Diversity and Tropical Forests and the Sri Lanka Natural Resources Management programs have tried to incorporate effective natural resource management with sustainable economic development. Perhaps the most comprehensive work outlining environmental strategy is the Environmental Laws and Institutions of Sri Lanka. This not only outlines major environmental problems such as water pollution, soil erosion, deforestation and wildlife poaching but also defines institutional problems such as inadequate management skills, ill-defined project planning, poor law enforcement, confusing procedures, inadequate training, poor facilities, poor interagency cooperation, inefficient use of existing data and lack of policy leadership.

From the above country descriptions, it is clear that the level of environmental policy research completed in the Asia/Near East Region varies according to country. However, it is safe to say that over the last ten years, environmental policy analysis in the entire region has progressed considerably. Several projects have been undertaken both by A.I.D. and other organizations to provide simplistic country profiles in lesser developed countries to more rigorous sector specific strategies in countries which are more capable of implementing policies. The real question which PRIDE must address is how to implement policies in countries which are ready to utilize existing and newly developed environmental policy analyses. The next section outlines the

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[6]. Master Plan for the Forestry Sector, Nepal: Main Report, Nepal Ministry of Forestry and Soil Conservation, December, 1988, 168 pp.

[7]. Sri Lanka, Biological Diversity and Tropical Forests: Status and Recommended Conservation Needs, May 1988 92 pp.

synergy between EPAT and PRIDE to provide an example of how environmental policy research can feed into a regional project which is implementation oriented.

3. Priorities and Comparative Advantage

Both during its conceptualization and in its implementation, PRIDE will be subject to a variety of potential pressures to provide a broader range of services than it reasonably can. In order to focus project resources, it will be valuable to define priorities and to gain a clear understanding of PRIDE's comparative advantage.

Yet the effort to clarify and narrow the project agenda is complicated by the very real need to be responsive to a diverse set of issues in many countries. In addition -- the desire for conceptual clarity notwithstanding -- there are few unambiguous criteria which can be applied to select one sector or policy issue as being of higher priority than another. PRIDE's "placement" along the continuum from policy problem identification to policy implementation[8] adds to this equation: relative to programs with worldwide coverage and a research focus (such as EPAT), PRIDE stands closer to the country implementation level. Implementation issues are less easily broken down into distinct modules because the bottlenecks to implementing even the same types of policies may differ widely by country.

This annex therefore takes a "non-mechanistic" approach to examining the several levels of factors which should be considered in developing the PRIDE agenda. Instead of arguing that the recommended project agenda necessarily follows from the discussion below, we have attempted to put forth a structured and transparent reasoning process which, at the least, explains the basis for the recommendations which are made.

What factors are relevant to setting PRIDE priorities in the area of policy analysis? They include three levels of topics:

Level One

- *Agency environmental priorities*
- *Bureau environmental priorities*
- *Mission environmental priorities*

Level Two

- *Existing activities within the host countries*
- *Existing projects/programs such as EPAT, GREENCOM, etc.*

[8] the conceptual steps, as developed in the EPAT project paper (Annex B.1, Chapter 3, p. 11), include: problem identification and valuation, development of policy instruments, policy change and policy implementation.

Level Three

- o *Synergy with the Private Sector and Public Awareness components of the project*
- o *Economies of scale through prioritizing on a limited number of topics, thereby maintaining expertise and providing high caliber services to disparate regions and disparate countries within those regions.*

3.1 Level One

Agency and bureau environmental priorities

A.I.D.'s Environmental Initiatives are
- environmental policy and economics;
- strengthening environmental institutions, and
- regional priority areas.

The ANE Bureau focus includes the overarching AID priorities (environmental policy and economics and strengthening environmental institutions) and four regional priorities which are:
- urban and industrial pollution,
- water and soil resources,
- energy efficiency and use, and
- tropical forests and biological diversity.

The ENE Bureau ENR priorities include all of the above; however, during the year bureau staff will reexamine the tropical forests and biological diversity priority in light of changed geograhpic responsibilities.

Mission environmental priorities

Environmental priorities in the A.I.D. missions of the Asia, Near East and Eastern Europe regions are themselves in transition. A.I.D.-sponsored natural resources projects have a well-established history in Asia, but have historically been dominated by "green end" projects: forestry, agroforestry, sustainable agriculture. In Indonesia, Philippines, Nepal, Sri Lanka and Thailand, A.I.D. has recently initiated major new environment/natural resources projects. While most of these continue a strong emphasis on forestry[9], Asia Missions are focussing increasing attention on the accelerating problems of urbanization and industrial pollution.

The situation in the Near East is more varied by country. Several

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[9] especially the Indonesia, Philippines and Nepal projects.

Missions (Egypt and Pakistan, for example) have worked with private industry and/or on urban environmental problems. Water resource management has been and continues to be an important focus throughout the region. In Egypt, Pakistan and Morocco, A.I.D. Missions have major on-going energy conservation programs. The recently begun Pakistan Private Sector Power (PSP) project includes a further promising development with respect to environment: one of the four long term advisors under the PSP is an environmental specialist. This integration of environmental concerns into non-environment projects (especially a project oriented towards private industrial activity) is a positive step towards more sustainable development and strategic planning.

While there is no established A.I.D. track record in Eastern Europe, it is not too early to predict that urban and industrial environment and energy problems will play a major (and perhaps preponderant) role in A.I.D. regional strategies. The strong emphasis on brown end environmental concerns is consistent with the environmental priorities enunciated by other bilateral and multilateral donors, and with those established by the newly formed governments of Eastern Europe. In a broader sense, the three PRIDE priority areas -- policy analysis, private sector and public awareness -- provide an extremely good fit with the thrust of the larger strategy of economic restructuring and integration into the world economy.

Issues

The following issues emerge from the above analysis of level one considerations:

- **The PRIDE agenda, to be practicable, must be narrower than the range of concerns expressed in the Agency and Bureau priorities;**
- **Mission priorities, and the objective needs to which they respond, are extremely diverse;**
- **there is an enormous diversity of ecological zones between Asia, Near East and Eastern Europe, from Indonesia to Egypt to Poland.**
- **even within similar ecological zones, there are enormous differences in social, political and economic structure, in stage of development, and in institutional opportunities for successful policy intervention.**

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- policy initiatives, even more than projects, must be tailored to the specifics of socio-economic and political systems. Thailand and Cambodia, for example, have similar ecological zones but would require radically different policy approaches to environmental problems. Market and pricing dependent policy changes offer considerable scope in the context of the sophisticated, growing market economy of Thailand; much more fundamental structural changes and, perhaps, direct intervention projects may be more appropriate to Cambodia.

Working Conclusion

One recommended component of the PRIDE strategy is, therefore, to be opportunity-driven, and to be capable of responding to country-specific needs and critical gaps.

3.2 Level Two

Existing activities within host countries

Chapter 2 above provides a summary discussion of existing environmental activities within host countries. A much more detailed listing of projects and analyses is contained in Appendix I of the Strategic Planning Annex of this project paper.

In purely quantitative terms, PRIDE will add little to the sum of resources already committed. Two questions emerge from this finding:

- given the number and diversity of existing initiatives, what is the most efficient use of PRIDE resources. That is, what approach will provide the maximum *value added*?

- how should PRIDE relate to existing programs? Can a general approach be determined on a regional basis, or should the decision best be made on a country-specific basis?

Existing regional or worldwide policy projects and programs

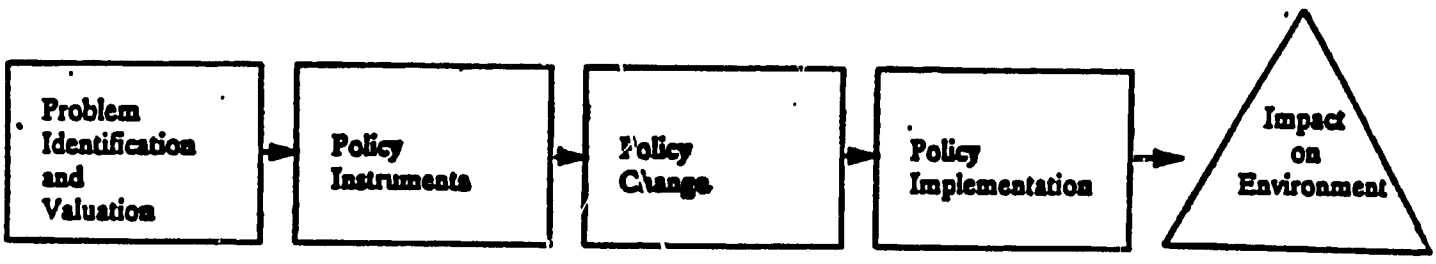
Annex F of the project paper provides a partial listing of A.I.D.-funded programs, with worldwide or regional coverage, which address one or more sets of issues associated with environmental and natural resources policy. The Annex shows that PRIDE can draw from and build upon policy analyses from a considerable range of projects. As in the preceding section,

the range of existing programs relevant to environmental policy analysis raises the question of how PRIDE should relate to these efforts. We believe that the answer to this question lies in the regional and mission-centered focus of PRIDE, and, in particular, in its greater proximity to the policy implementation level. As illustrative, the following sections consider the potential synergy between PRIDE and the major new environmental project being initiated by A.I.D. Washington: the Environmental Policy and Training Project (EPAT).

Synergy between PRIDE and EPAT

The EPAT project paper establishes a schematic framework for policy research from valuation and policy formulation to policy implementation. At the research level, EPAT focuses on gathering rudimentary data and on assessing quantitative impacts of environmental degradation. The next stage involves formulating the appropriate policy instruments based on the research. Finally at the third stage, problems of implementation are addressed. The approach, as summarized in the following graph, clearly links the steps of environmental policy research to the concrete objective of ultimate improvement in environmental quality.

Figure 3.1



PRIDE is not a research project. Relative to EPAT and similar "global" and "research" projects, it can be:

- o Country-specific
- o Sector-specific
- o Strong at the implementation level.

While EPAT can strengthen the conceptual base for environmental policy research, it has relatively weak links at the country-specific implementation level. Indeed previous experience suggests that a narrower and more specific focus at the implementation level will yield more realistic policies, with greater likelihood of success in a given social, political, economic and environmental context. Thus, using the EPAT framework, PRIDE can focus on the following issues.

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Stage 1 Problem Identification

EPAT Theoretical research, monetary valuation of environmental problems

PRIDE Identification and diagnosis of specific environmental problems in particular sectors and countries

Stage 2 Policy Formulation

EPAT Strategic policy for global problems like open access, global climate change, tropical deforestation.

PRIDE Strategic policy for country-specific sectors such as forestry, marine environment, urban pollution, etc.

Stage 3 Policy Implementation

PRIDE Here is where PRIDE's considerable comparative advantage comes in. The impetus for action is the greatest when the focus of policy is narrow.

Issues

- There is a growing number of environmental activities underway in the majority of countries in the three regions. A.I.D. Missions, however, are either still in the process of formulating long term environmental strategies for their assistance, or of expanding their traditional focus of environmental attention;

- With respect to country-specific activities underway, PRIDE can play a useful role in helping missions become more actively involved in those activities;

- With respect to global projects, PRIDE's comparative advantage is the ability to bring to bear, at the country level, the results of generic research; to transfer lessons from one region or country to another, and to provide feedback to such research from case-specific implementation experience.

Working Conclusion

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PRIDE has very limited resources relative to other projects and activities which already exist. An element of the PRIDE strategy should be to find ways to leverage the resources of existing activities, and to help fill critical gaps at the country level. This in turn implies a strategy of developing close working relationships with missions and host country institutions, and of maintaining a strong knowledge and information base on global A.I.D. projects and other U.S. resources which missions may be able to access.

3.3 Level Three

Synergy Between PRIDE Components

Perhaps the most important of the factors which influence the PRIDE agenda is the need to maintain the synergy between the three components of the project itself. To better understand the importance of maintaining this synergy, it is useful to review the nature of policy analysis:

> The goal of environmental policy change is to change the "generalized system of incentives" so as to influence production and consumption decisions towards more sustainable environmental management. Where specific changes run counter to other incentives, their impact tends to be reduced. In all societies, this is a complex process[10] in which initial changes may not yield the desired results. In most societies, successful policy change[11] is also an iterative process, involving several levels of social and political accommodation, potential economic tradeoffs and a good bit of "tinkering" with policy instruments.
>
> An important corollary to such changes is the need to inform and involve key stake-holders in the process. Government cannot make the millions of individual production and consumption decisions which policies seek to influence. For policy to be successful, individual stake-holders must find it in their self-interest. Hence, through decades of trial and error, sustainable agriculture projects, for example, have learned that they must first fully involve target rural populations. Similarly, industrial energy conservation projects have learned the need to work closely with the industrial sector and find measures which are not just technically and economically feasible, but also both practical and financial attractive for industrial managers.

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[10] the types of complexities differ considerably based on the socio-political and economic structure of a given society.

[11] success is measured here in terms of final environmental impact

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If the three components of PRIDE -- policy analysis, private sector and public awareness -- are not properly related, valuable opportunities for feedback, learning and mutual reinforcement will be lost. Chapter 1 cites the fact that policy signals are most effective when they are *clear, consistent, transparent* and *stable*.

What does this imply for project focus? First: all three components should have the same primary focus. Policies aimed at sustainable agriculture, coupled with a private sector effort oriented towards industrial plants and public awareness and education initiatives on biodiversity would squander the project's chances of going beyond generalizations. Second: other project components should also give primary attention to the types of environmental issues faced by the "modern" sector, since the private sector component will, in fact, work primarily with the "modern" private sector[12].

Economies of Scale in Providing Services

Another facet of the argument in favor of making the three components mutually reinforcing is the fact that there are real economies of scale in doing so. PRIDE will have a limited core staff. The need to service a diverse set of countries will already increase the difficulty of finding individuals capable of providing the level of expertise required for all missions. The economies of scale from focussing on a narrower set of topics occur in:

> **institutions:** working with a limited set of host country, donor and mission institutions/departments will increase both the realism of proposed policy changes and the likelihood of impact;
>
> **information:** the project will be better able, within its five year time frame, to develop the depth needed in its information base to move from policy formulation to actual policy implementation;
>
> **learning:** the learning and feedback process, within and across countries, will be more efficient if breadth of coverage is traded off for depth;
>
> **personnel:** in budgetary terms, the greatest economies of scale will occur in the types of personnel and consultant staff the project will require if its own policy analyses are both narrowed and made consistent with the types of issues being treated in

[12] industrial and commercial establishments, financial institutions, etc.

the two other project components.

Working Conclusion

PRIDE should adopt a twin strategy: its own services should be narrowly focussed; in its role as a broker, it should facilitate access to a broad range of services from other projects.

4. Focussing the PRIDE Agenda

4.1 Building on the Strategy Elements

The strategy elements developed in Chapter 3 provide the basis for the recommended project activities:

Recommended Activity 1

Economic and institutional analyses which contribute to broader ENR country assessments and profiles, with a focus on:

- costs of critical environmental trends to host country in terms of economic losses, environmental health, distributional effects, ecological sustainability and biological diversity
- policies or lack of policies fostering inefficient resource use, and market failures

Strategy elements: opportunity-driven, country-specific

Recommended Activity 2

Assisting Missions to establish policy development initiatives that address ENR issues by identifying where technical assistance can be obtained from other centrally-funded projects and by supporting special studies on policies affecting:

- urban-industrial environmental quality
- water resources quality, quantity and allocation
- private sector investment in pollution prevention, control and sustainable resource management
- public access to information on critical environmental trends and public participation in ENR policy formulation

Strategy elements: leverage other resources; narrow focus for own services; broad access for resources from other sources.

4.2 PRIDE as a Regional Project

The first two recommended activities build upon the strategy elements

developed in Chapter 3. In addition, however, PRIDE has a unique and useful role to play as a regional project which can cross-fertilize ideas and information and can help build an institutional memory on environmental policy issues at the regional level.

Recommended Activity 3

Information dissemination in the form of distributed materials and workshops which highlight:

- o policy research and reform conducted by ENE countries
- o emerging methods and approaches to ENR strategic planning and policy formulation and implementation

4.3 Issues for Further Consideration

In carrying out the recommended activities, the following issues will require particular attention during the early phases of the project, especially with respect to its role as a regional resource which is well-placed to build upon the lessons and experience from across the region:

- o guidelines for performance indicators
- o information sharing between missions
- o adapting analytical tools and policy instruments
- o applied country research
- o integration of social scientist skills and national policy-maker expertise

5. Recommended Policy Instruments and Underlying Issues For Implementation

5.1 Policy Analysis in the Country Context

Environment and natural resource degradation is already constraining current production in a number of ways. For environmental policy to have impact, it has to take into account economic and institutional constraints such as relative prices, economic and income opportunities and secure property rights. These constraints mark the thousands of individual decisions through which effective environmental policy can have impact. The purpose of this chapter is to explore the various economic and institutional elements that go into formulating environmental policy.

A priori, it is impossible to generalize on what the appropriate policy responses to environmental problems should be. Each case needs to be decided individually, depending on the unique economic and institutional infrastructure of the particular country and sector in question. However, what does become important are the generic methodologies devised to evaluate environmental problems. These include economic methods in valuation, pricing and correction of policy and market failures.

5.2 Policy Tools: Valuation

Valuation is the most basic of policy instruments. It has been the primary focus of a major portion of environmental research (especially during the initial years of attention to a given environmental problem) in the United States and other OECD countries, with a substantial body of research on valuation of health and other impacts, of air and water pollutants and of toxic solid wastes. In the United States, the Environmental Protection Agency (EPA) has sponsored detailed valuation and estimation exercises as part of the required cost-benefit analyses for each of its over one thousand proposed regulations. These have included estimation of the monetary value of benefits achieved at alternative levels of environmental control.

The ability to estimate the monetary value[13] of environmental impacts is essential to all further levels of policy formulation because it permits a more rational basis (comparative cost assessment) for selecting priority problems, for determining levels of social cost which are justified and for judging the economic tradeoffs in regulating the production or consumption activity which results in the pollution. The potential importance of such estimation in establishing the order of magnitude choices for decision-makers can be seen from the example of the National Ambient Air Quality Standards (NAAQS) for particulates: estimated net present value (NPV) of the net

[13] within reasonable confidence intervals

benefits over the period 1987-1995 was $0 to $1 billion if only health benefits were included, and $40 to $260 billion when avoided materials was added.[14] In this case and many others, the costs of analyses and policy development typically were less than one percent of estimated net benefits, and therefore well within the bounds of cost-effective expenditure.

5.3 Policy Tools: Pricing

Another policy instrument which has become increasingly important in environment and natural resource management is pricing. In a functioning market system, economically sound changes in resource pricing are both efficient and effective tools which need not disrupt overall market efficiency.[15] The ability to develop and put into practice efficient resource pricing polices is, however, particularly complex with respect to open access resources, which include some of the most important resources at issue. With no real sellers and buyers, a market for open access resources may not develop. Prices typically reflect short term access cost rather than long term economic costs, and can remain low even as resources become increasingly scarce. An obvious case of an unpriced resource is water. In many developing countries, the state makes a deliberate decision to provide farmers with irrigation water free of charge or at a nominal fee. The consequence of this is that water is inefficiently and wastefully used and the state is unable to recover capital, operation and maintenance costs. In addition, serious environmental problems such as sedimentation, soil salinization and waterlogging may result from watershed degradation and from over-irrigation, even as other potentially irrigable areas receive insufficient quantities of water to grow dry season crops. Effective water pricing is neither technically nor socially easy. However, as the acute water shortages in the Near East, and water pollution in all three regions demonstrate, the potential gains justify some form of pricing in the face of increasing resource degradation. Appropriate methodologies range from volumetric pricing, to water rights, land taxation, contributions in kind and self-management through water users associations.

5.4 Policy Tools: Addressing Market Failures

To a certain extent, the economic instruments described above make tacit assumptions about markets and governmental policy. Thus, well-functioning markets assume that all resources are priced according to supply

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[14]. U.S. Environmental Protection Agency, "EPA's Use of Benefit-Cost Analysis: 1981-1986", EPA-230-05-87-028, Office of Policy Planning and Evaluation, Washington, DC, August, 1987.

[15] The obvious caveat to this statement is the term "economically sound" changes. The relevant economic principle here is that prices either cover marginal cost, or that, in those circumstances where subsidized pricing is economically rational, that government be realistically able to pay the cost of subsidy without undercutting the financial incentive of producers, without overly skewing relative market prices and without creating supply bottlenecks or undue enforcement problems.

and demand, there are no significant externalities, competition prevails, public goods are minor exceptions and issues of myopia, uncertainty and irreversibility do not arise. If one of any of these conditions is not met, the free market fails to allocate resources efficiently among uses and over time. A classic example is insecurity of ownership of resources like private agricultural land, public forest and forest resources, irrigation systems and water resources, coastal zone and fishery resources and environmental resources. For efficient allocation of common resources, property rights must be well-defined, exclusive, secure, enforceable and transferable. For historical and sociocultural reasons, in many developing countries these conditions do not exist and common property resources remain free access resources. In such cases, economic policy reform may not suffice, and the social and legal infrastructure of the country has to be factored in as a major variable. To take an example, land tenure reform in Africa reveals that overriding local social traditions and imposing national tenure policies may pose formidable barriers as the interest of traditional landowners clash with the landless peasants who enjoy usufruct rights.

5.5 Policy Tools: Addressing Policy Failures

The failure of free markets in the allocation and efficient use of natural resources provides a rationale for government intervention aimed at correcting or mitigating market failures through taxation, regulation, private incentives, public projects, macroeconomic management and institutional reform. In practice, government policies have historically been as likely to introduce additional distortions in the market for natural resources as to correct existing ones. Policies such as subsidies often outlive their usefulness and in fact may even cause harm to the very resources being protected. For example Indonesia[16], in its drive for rice self-sufficiency, has provided generous subsidies (82 %) of its retail price for a variety of pesticides. These subsidies have led to overuse, which in turn has led to the severe reduction of predators of the brown planthopper threatening the country's self-sufficiency in rice. Reversing this policy failure[17] is as important as developing new policy interventions.

5.6 Conclusion

The advantage of PRIDE is its ability to adapt to the specific sector needs of the country in question. Positive environmental impacts are more likely to occur when policies have been narrowly focussed and tailored to the needs of the specific sector.

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[16]. Food and Agriculture Organization (FAO) Integrated Pest management in Rice in Indonesia (FAO, Jakarta, May 1988)

[17] the Government of Indonesia has, subsequently, abolished this policy

As mentioned above, changes in standards, regulations and incentives in the 1970's in the U.S. resulted in significant measured improvements in water quality in the United States. Higher energy prices and conservation incentives in the wake of the second oil price shock of 1979 altered trends in energy consumption per dollar of GNP in the industrialized and advanced developing nations. Similarly, stricter environmental standards have reduced pollution emissions per unit of output around a number of industrial sites in the U.S. and Europe.

These policy measures were effective in economies that are largely market and price driven, but may not be transferable without adaptation (or at all) to countries with different economic structures. In Egypt, for example, where the pricing system is strongly tied to specific political and social choices rather than market forces, similar approaches to market incentives may not work.

In general, analysis of the socio-political dimensions of environmental and economic policy research have historically received insufficient attention. This trend is being reversed, as increasing number of donor and host country programs throughout the developing world examine social and institutional, as well as economic barriers to policy reform. Recent A.I.D. initiatives where this transition has occurred include Madagascar, Niger and Sri Lanka. In Sri Lanka, for example[18], a major study on environmental policies (water pollution, soil erosion, deforestation and wildlife poaching) also focussed on key institutional problems such as inadequate management skills, ill-defined project planning, poor law enforcement, confusing procedures, inadequate training, poor facilities, poor interagency cooperation and inefficient use of existing data and lack of policy leadership.

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[18]. Sri Lanka Biological Diversity and Tropical Forests-Status and Recommended Conservation Needs, May 1988 92 pp.

6. Recommendations

Recommendation 1: Focus on intermediation between research on policy tools/instruments and the country and sector specific needs of policy implementation.

Recommendation 2: In terms of existing policy tools, give priority to transferring to the public and private sectors available information (such as from EPA, industry associations, etc) on such quantifiable factors as valuation techniques, standards and regulations, because these require less country-specific adaptation and will therefore maximize the value added of PRIDE.

Recommendation 3: Focus attention on understanding the policy opportunities within the context of a given country's social, political and economic structure. The best policy measures in the OECD countries were responses to opportunities and not just generic policy measures.

Recommendation 4: The more specific the policy instrument being transferred, the more likely it is to have an impact within the timeframe and resources of PRIDE. PRIDE is <u>not</u> a research project, but one which seeks to <u>leverage</u> existing resources and initiatives.

Recommendation 5: As an important part of PRIDE start up, whether formally or informally, inventory what other resources and initiatives are available in the region and determine greatest impact for the cost from limited PRIDE inputs.

Recommendation 6: The range of potential priority needs is greater than the range of effective services which PRIDE can provide. Subject to the opinions of AID Missions, PRIDE should consider narrowing its services to the "brown end" urban-industrial pollution issues and to the critical area of water resources management. This provides the greatest synergy with the private sector component of PRIDE, affords excellent transfer opportunities (from the OECD countries) on public awareness, and addresses a gap which is least well covered by traditional "green end" based development projects.

Recommendation 7: **Core staff** should include individuals with specific sector skills in urban-industrial pollution and water resources management, as well as expertise in economics and social science. Core staff should include one individual, of mid level, who can serve as a point of contact and coordination between missions and other A.I.D. projects which can be accessed through PRIDE. This individual can be a "generalist", but should be well-suited to maintaining close working relationships with field missions and with the staffs of other A.I.D. projects, and can, over time, become an important part of the regional "institutional memory" on environment.

Intermittent consultants should include, as an important element, senior members of the national policy community (national consultants, members of institutes, etc.). The important PRIDE role of facilitating the development of policy responses which are realistic and implementable in a specific country context will be best served through close interaction with the national policy and decision-making community.

ANNEX L: OPPORTUNITIES FOR PROMOTING PRIVATE SECTOR APPROACHES TO ENVIRONMENTAL ENHANCEMENT

A. INTRODUCTION

One of three purposes of the Project in Development and the Environment (PRIDE) is to "mobilize the private sector and NGOs to provide cost-effective solutions to environmental problems." . This annex identifies areas in which the private sector potentially could offer such solutions and analyzes alternative means by which AID could promote private sector action.

This annex focuses on the potential contribution of for-profit private enterprise, in both host countries and the U.S., to reducing health and other environmental impacts resulting from urban and industrial activity. A separate annex on Environmental Education addresses the role of and support for NGOs.

Present Project: WEC/IEDS

Stimulating private sector activity is central to the existing ANE project which PRIDE will replace. It consists of a cooperative agreement with the World Environment Center (WEC), a U.S. PVO.[1] Under the agreement, which began in 1983, WEC established the International Environment and Development Service (IEDS) to promote voluntary reduction in industrial pollution and occupational safety and health hazards in developing countries and to foster a dialogue between those responsible for industry environmental matters in the U.S. and developing countries.

IEDS now has more than sixty private sector donors, from large multinationals to universities and environmental groups, and more than twenty government donors from the U.S., Canada, and international organizations such as the UN and World Bank. IEDS has provided assistance to more than twenty countries and reached others through pamphlets and participation in regional workshops.

IEDS is expected to continue to play an important role under the new project. Therefore current and prospective future IEDS assistance activities are discussed in later sections, in the context of options and recommendations for the proposed PRIDE.

Summary of Conclusions and Recommendations

PRIDE should promote environmentally beneficial private sector actions in three ways:

(1) by helping Missions to devise private sector promotion strategies and to incorporate strategies in environmental, private sector development, and other relevant projects;

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[1] *Cooperative Agreement NEB-0150-A-00-3021, February 15, 1983, between USAID and World Environment Center.*

(2) by providing flexible vehicles by which Missions can access a broad range of possible technical assistance in implementing their private sector promotion strategies; and

(3) by demonstrating and evaluating alternative promotion approaches and widely disseminating lessons learned.

The project process will start with strategic planning: problem identification and analysis at a level of effort which the Mission thinks is appropriate to its needs. As part of this planning, PRIDE private sector experts will help Missions develop a strategy to promote indigenous and U.S. private sector actions to improve the environment. One aspect of the strategy development is interdisciplinary work including close cooperation between Mission environmental and private sector development officers.

Once it has a clear sense of what it wants to do, a Mission should have the option of using the PRIDE core contract, cooperative agreement, or other procurement to obtain needed technical assistance from any of a broad range of institutions including not only WEC/IEDS but associations of state and local government officials, industry and professional associations, private contractors, and EPA. PRIDE experts also could help Missions identify other sources of expertise such as PEDS, IQCs, or other cooperative agreements.

PRIDE should be able to provide Missions assistance to:

- Promote voluntary adoption of pollution prevention measures because it is in waste generators' self-interest to do so;
- Influence the pace and nature of environmental regulation and promote government-industry deregulatory dialogue; and
- Seek to overcome policy, information, financing, institutional and other barriers to implementation of environmental projects.

While discussed separately, these three areas are interrelated and mutually reinforcing. Voluntary low-cost actions are the most cost-effective way to reduce environmental impacts and also place the least demands on generally weak enforcement institutions. Promoting such actions thus is a logical first step. Beyond that, demand for environmental goods and services is driven by the pace and nature of regulation. By influencing governments' regulatory and nonregulatory approaches and helping overcome barriers to efficient response to such approaches, AID can help assure that scarce public and private sector resources are effectively applied. Building on cooperative no-cost/low-cost programs, it also can do so in ways which help promote both U.S. and local private sector market development.

1. Promoting voluntary private sector pollution abatement is feasible and desirable in the industrial and tourism sectors and, where it is a Mission priority, in urban transportation. Effective promotion requires a combination

of aggressive awareness-building, identification and assessment of pollution abatement opportunities, transfer of information and expertise, and follow-up.

Under the present project, IEDS has drawn on U.S. experts, initially entirely from industry but more recently also from Federal and state government and NGOs, to undertake individual industrial plant assessments. This approach seems effective in individual plants and has raised awareness and demonstrated the potential of voluntary pollution prevention. IEDS also has successfully demonstrated the use of multiple plant visits, sectoral studies, workshops and other approaches to reach beyond individual plants to entire sectors or industrial regions on a single technical assistance engagement. Finally, IEDS has supported a few countries interested in establishing their own environmental centers.

The basic IEDS approach now is proven and widely accepted, but in-country impact still is limited. Under PRIDE, IEDS should experiment with and test a range of in-country delivery mechanisms, some of which it already is beginning. To reach the large number of medium-sized firms which it cannot reach directly, IEDS can help establish and support in-country pollution prevention assistance programs through local industry associations, professional engineering associations, and/or independent WEC-type organizations. It can focus more on training in-country trainers (including offering them in-plant experience in the U.S.) rather than providing direct in-country training.

Most important, IEDS should demonstrate promotion of waste reduction in ways which stimulate development of a local private sector service industry. For example, besides training and awareness-building by local non-profit centers, IEDS potentially could reach more waste generators by training local engineering firms or other service providers and then co-financing assessments by such service firms. This approach has been very effective in building, for example, the U.S.energy efficiency services industry.

If funding permits, the project could test - or at least make available to Missions - options in addition to IEDS to promote in-country pollution prevention. Options include regional-U.S. business associations (e.g., the U.S.-ASEAN Council for Business and Technology and the National Arab-U.S. Chamber of Commerce), professional engineering associations, and Mission energy efficiency projects where the Mission is willing to add a pollution prevention component.

In tourism, regional tourism associations such as PATA have credibility and have some experience addressing environmental degradation problems in tourist areas. If the right country circumstances (including Mission support) can be found, PRIDE should demonstrate and evaluate a voluntary pollution reduction program, similar to WEC's industry program, in at least one "tourist enclave" in each region.

In urban transport, there are no obvious U.S.-based organizations similar to WEC or PATA to promote no-cost and low-cost pollution prevention by fleets (buses, taxis, intra-city trucks and perhaps government vehicles). Where air

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emissions from urban transport are a Mission priority, PRIDE and the Mission can start with assistance from the WEC or a PRIDE umbrella contractor[2], who in turn could access other sources of assistance if needed. The WEC, which has a number of corporate members with extensive fleet operations of their own, may be willing to address this area itself. Through the WEC or another contractor, PRIDE also should be able to access experts from municipal air quality districts such as Los Angeles that have fleet-oriented programs.

As with other project components, a system for sharing information and insights from demonstrations and evaluations is important.

2. The project envisages two initiatives to influence the pace, direction, and implementation of environmental regulations.

First, PRIDE should help countries prioritize environmental problems and identify and analyze regulatory and non-regulatory options which address each problem. The most appropriate sources of such assistance may be U.S. state organizations, such as the National Governors Association, or possibly the Environmental Law Institute. The same organizations also could assist in analyzing enforcement needs and other implementation issues and in implementation planning.

Second, in few countries does the process of considering or implementing regulatory programs include adequate dialogue and cooperative effort between the government and those to be regulated. Some of the organizations recommended for promoting voluntary pollution reduction - IEDS and industry associations and their U.S./international counterparts - are well positioned to promote such dialogue, as are the U.S. state government organizations used to address regulatory and non-regulatory options. (NGO involvement is also desirable and is discussed in Annex M).

Because demand for environmental goods and services is regulation-driven, assisting in regulatory planning also would give PRIDE the ability to gain valuable insight into local environmental markets. Regional trade associations and others should be used as vehicles through which to provide such market insights and intelligence to U.S. industry.

3. Going beyond voluntary no-cost/low-cost measures, PRIDE can help identify and overcome barriers to implementation of environmental projects. The most important of these barriers are lack of information, policy and institutional barriers, and financing.

a. Industry, national and local governments, and other project implementors in most countries lack reliable information on control technologies, costs, and sources of supply. Acquiring such information is difficult and expensive. Even an organization such as the Asian Development Bank cannot effectively identify and retrieve the wealth of control technology and cost information available from EPA. PRIDE should range of options to

[2] The "contractor" may denote a contractor, cooperator, or grantee depending upon the project implementation decisions made.

improve information access in selected countries in the ENE region. To supplement current EPA efforts to make its own data more accessible, PRIDE could support extension of environmental information services offered by U.S. NGOs such as the Conservation Foundation, WEC or others. In some cases where IEDS is supporting in-country pollution prevention programs, IEDS also could help those programs establish competent data retrieval centers. PRIDE also could use U.S. environmental trade organizations such as the newly formed Environmental Technology Export Council (ETEC) to provide information on U.S. technology and to inform the U.S. environmental industry of emerging opportunities. Finally, PRIDE should provide access to advisors on the technical, financial and operational aspects of a broad range of urban and industrial environmental technologies. PRIDE should provide ready access to advisors from state and municipal governments and the U.S. environmental control industry as well as from EPA, WEC and a PRIDE contractor.

b. Often there are policy barriers which impede application of cost-effective environmental control technology or information. Examples of direct barriers include tariffs on imports of environmental equipment or inadequate protection of intellectual property rights. Broader policies which are barriers include government protection of favored parastatal or private industries (which often are among the worst polluters). Many such barriers, such as industry protection policies or intellectual property rights, already may be being addressed, or would be best addressed, as part of a Mission's existing private sector development activities. Where this is not true, the Mission could draw on either an PRIDE contractor or one of the APRE Private Enterprise projects (for example, PEDS) for assistance.

c. Financing is perhaps the most important barrier. Environmental investments generally are long-term. In very few developing countries are there sources of long-term capital, whether hard currency or local currency. The PRIDE contractor could help selected environmental project developers identify and access sources of hard currency financing including bilateral and multilateral sources such as the IFC or OPIC environmental funds. PRIDE will not launch its own initiative to develop local financing vehicles. However, where a Mission has a financial or capital market development project, as in Egypt or Morocco, PRIDE could work with that project to develop and demonstrate use of municipal or industrial bonds or other environmental financing options.

PRIDE also should have a facility to co-finance, from core or (more likely) buy-in funding, feasibility study or project development costs of a few carefully selected projects which have a high probability of being financed by the IFC, OPIC or other sources and which would have a high export multiplier. Models include the TDP facility with the World Bank (and a new EEC-financed environmental facility with the IFC) and the S&T Energy Office's program for cofinancing private power project development costs.

d. Finally, in many cases necessary implementing institutions either do not exist or are incapable of effective implementation. Examples include municipal wastewater treatment (and often water supply as well), cooperative industrial pretreatment or recycling, treatment and disposal of infectious and toxic wastes, and so on. The WEC or the core contractor could assist in identifying institutional options including privatization, contracting to or

franchising of private firms, and so forth. Provision of actual restructuring or institutional strengthening assistance could be provided by either of these organizations but in many cases would be best undertaken through the Privatization Center, the Office of Housing and Urban Programs cooperative agreement with the International City Management Association (which has long experience with private sector contracting and franchising), or others.

B. Promoting Voluntary Private Sector Environmental Improvement

There are many cases in which it should be in the private sector's own interest to undertake voluntary environmental improvement measures. This section briefly characterizes potential, explores AID assistance options, and makes recommendations in three areas: industry, tourism, and urban transport. Greatest attention is paid to industry since this is a key regional priority for ENE.

Industry

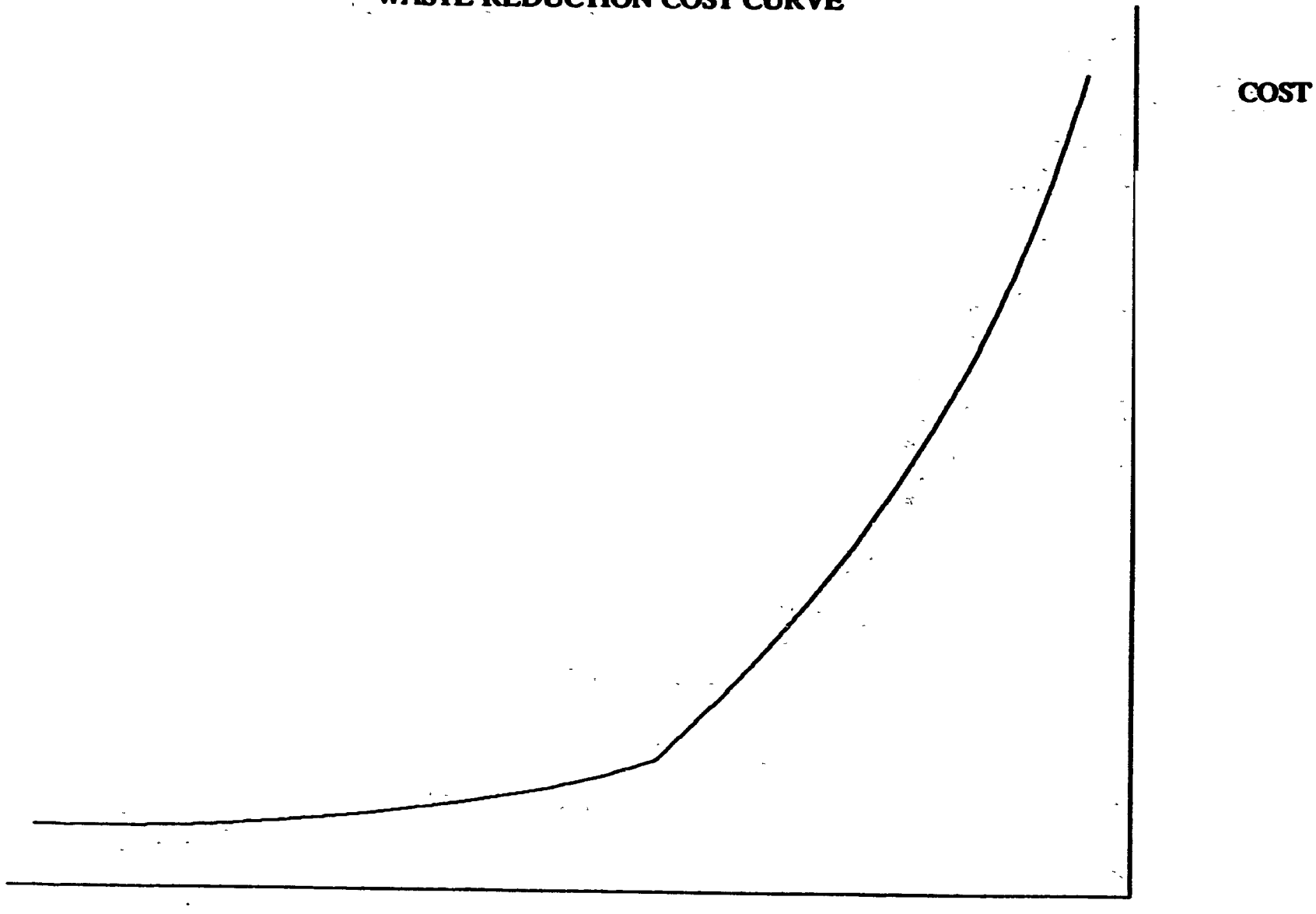
In virtually every industrial plant, there are opportunities to undertake "no-cost/low cost" pollution prevention/abatement measures. Such measures offer a positive financial return by reducing use of energy, water or raw materials; improving in-plant quality control, thereby reducing losses and improving product quality/marketability; reducing costs related to worker health and safety; reducing corrosion; and so forth. At the extreme, in one plant simply using a vacuum cleaner to recover spilled mercury removed a major workplace health hazard and environmental contaminant and had a positive financial return. Improved operation of boilers, furnaces, and other combustion processes can substantially reduce air emissions; and improved process monitoring can reduce process water use and wastewater generation.

Better "housekeeping" procedures, operator training and supervision, and equipment maintenance can achieve environmental, energy and efficiency benefits at virtually no cost. Substantial further savings typically are possible at relatively low cost by installing simple process and combustion controls and training operators in their use, segregating waste streams to recover metals and other valuable byproducts, or making modest process changes to reduce materials, water and energy use per unit of output.

For any waste generator, it is possible to construct a curve plotting percentage waste reduction against the cost of achieving such reduction. Some percentage waste reduction can be achieved at near-zero cost. Beyond that, successively greater percentages of waste reduction will require successively greater costs. One can demonstrate from economic theory and technical studies of specific waste generators that the <u>rate</u> of increase in costs will begin to increase, so that - while the actual curve will vary depending upon the industry, production process, etc. - the general relationship will be one of geometrically increasing costs of achieving successive increases in waste reduction (Table 1). In general, the least costly measures will be ones taken within the plant itself, and the most expensive will be end-of-pipe/end-of-stack systems (for example, scrubber systems) or wholesale changes in production process technologies employed (for example, switching from open-hearth to basic

TABLE 1

WASTE REDUCTION COST CURVE



oxygen furnaces for steel-making).

While prospects vary widely by industry and plant, experts estimate that from 10% to 25% of a plant's total environmental pollution loadings into the air, water, and land could be eliminated - and energy and process water use could be reduced by like amounts -through no-cost/low-cost measures. This estimate is consistent with AID and others' experience identifying no-cost and low-cost energy efficiency improvement options, which is similar in methodology and in many cases in actions taken. In cases in eastern Europe or elsewhere where current operating and management practices are particularly bad, no/low-cost reductions actions may be able to reduce waste generation by even more - as much as 40%, according to one estimate.

There also are cases where one enterprise can reduce its operating costs by using other firms' wastes as inputs to its production process. For example, the cement industry is extremely energy-intensive. Residence times of combustible materials in cement kilns are very long, and most combustion byproducts are absorbed into the material itself (clinker). As a result, depending upon the process used, cement kilns may be able to use solid or certain hazardous wastes as fuel while maintaining airborne emissions within acceptable limits.

Finally, there may be a few cases where an enterprise would be willing voluntarily to go beyond no-cost/low-cost measures and invest in environmental improvement. For example, in parts of eastern Europe it may be cheaper and more effective for a single plant or industrial enclave to treat and recycle its own process water than to treat highly corrosive water from local rivers for its process uses. Also, in some countries anxiety over potential future liability may be sufficient, even in the absence of a formal government regulatory program, to stimulate voluntary action to divert and process medical, industrial and other hazardous wastes.

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There are many reasons why waste generators do not currently undertake such measures. Their view of environmental controls as imposing costs and providing no positive return may keep them from seeing opportunities. Even where they see potential, they may lack the necessary information and experience

to identify and adopt no/low-cost measures; and there are no obvious or easy ways to get such information. Where cooperative action is required, they may lack institutional mechanisms - or, more generally, they have institutional mechanisms for cooperation but those institutions never have considered environmental action.

In most ENE countries, industry managers have enough problems simply operating. Using scarce management and technical resources to undertake actions which will not increase market share or dramatically improve operating margins is not attractive. Also, despite the term "private sector", most heavy industry in Eastern Europe, most Near East countries, south Asia, and even parts of southeast Asia is in the hands of government parastatals or is nominally privately owned but heavily protected by government. In most - not all, but most - such cases, managers have little incentive to operate their enterprises efficiently or environmentally responsibly. Finally, especially in the case of hazardous wastes where proper treatment or disposal is very expensive, enterprises worldwide historically have postponed incurring major costs until they perceive a credible imminent threat of government/legal action.

Promotion of voluntary industrial adoption of no-cost/low cost environmental measures has been the major focus of the present ANE project. Since 1983, ANE has relied on IEDS to counteract this combination of lack of awareness, information, and incentives.

IEDS is viewed as primarily providing experienced volunteers from U.S. industry to undertake individual industrial plant assessments to identify no-cost and low-cost pollution reduction opportunities. Certainly one of the great strengths of WEC/IEDS is its ability to draw on technically competent experts who have years of U.S. operating experience and who, because they are not selling equipment or services, are seen as unbiased. In fact, however, the mid-term evaluation completed in mid-1989[3] suggests that since 1985 IEDS field visits have focused less on individual plant assessments than on multiple plant assessments within a sector, broad industrial safety and health assessments or studies of broad environmental problems (for example, pesticide disposal), and workshops and training. In a few countries, it also has supported the development of indigenous environmental centers or ongoing processes to promote local government-industry dialogue.

The activities of WEC/IEDS have played an important and valuable role in building the environmental awareness of key industries in a number of countries. IEDS has demonstrated what can be done at the individual plant level. At the same time, both WEC and AID have recognized that depending on U.S. industrial experts is too expensive and slow to constitute the primary basis for large-scale pollution prevention in developing countries. Thus, within what until recently have been severe funding constraints, IEDS has been both creative and apparently largely effective in devising and field-testing approaches to using individual plant results and the credibility of its volunteer teams to stimulate sector- or region-wide interest in voluntary pollution prevention programs.

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[3] Energy and Environmental Engineering, Inc., "Mid-Term Evaluation of the International Environment and Development Service", July 1989.

PRIDE should support acceleration and strengthening of the evolution of IEDS from a source of technical expertise for individual plant assessments to a catalyst to promote development of indigenous long-term pollution prevention program initiatives. Thus, IEDS should place even greater emphasis on promoting, helping to establish, and providing long-term support to locally developed pollution prevention institutions and processes.

Under its cooperative agreement with WEC/IEDS, PRIDE will experiment with and evaluate a variety of potentially complementary approaches to promoting indigenous voluntary industrial pollution prevention:

- To reach the large number of medium-sized firms which it cannot reach directly, WEC can help establish and support in-country pollution prevention assistance programs through local industry associations, professional engineering associations, and/or independent WEC-type organizations.

- It can focus more on training in-country trainers and less on directly providing in-country training itself. Such training of trainers, which IEDS believes should include bringing host country trainers to the U.S. for in-plant experience, would constitute one aspect of IEDS' ongoing support of indigenous pollution prevention organizations.

- PRIDE could promote waste reduction in ways which stimulate development of a local private sector service industry. For example, as an alternative to or supplement to training and awareness-building by local WEC-type non-profit centers, PRIDE potentially could reach more waste generators by training local engineering firms or other service providers and then co-financing assessments by such service firms. This approach has been very effective in building, for example, the U.S.energy efficiency services industry.

The last approach above is particularly important. Even the smallest state in the U.S. has an extensive private sector infrastructure of engineering service firms, air and water quality monitoring firms, laboratories, and so forth. As host governments develop regulatory programs, waste generators will require many of the same types of services - yet virtually no basis for such a private service sector currently exists. Training of trainers is one way to begin building the capabilities of such a service sector. The cooperative relationships established also could provide a valuable basis for transferring U.S. technology as regulation-induced needs develop.

Demonstrating approaches to indigenous pollution prevention implies greater reliance on - and therefore greater need for - IEDS staff. IEDS will require relatively high-level country managers, preferably with experience in industry, management, and cross-cultural communications. Country managers should play a proactive role in thinking through suitable local approaches and then collaborate with local organizations to design and implement programs. They would manage IEDS training, technical manual development, planning and

management assistance or other support to local initiatives, arranging for volunteer or other assistance on specific assignments as necessary. Possibly most important, they would continuously interact and follow up with local counterparts to keep things moving. (One of the few criticisms of the present IEDS program, and a source of frustration to IEDS itself, has been that it is able to stimulate interest and initial activity but often has been unable to provide the persistent long-term follow up needed to translate local interest into viable long-term indigenous pollution prevention initiatives.)

AID must recognize that achieving broad industry impact will require years of continuous activity in a country, working closely with local private sector organizations to build indigenous capacity to deliver the kinds of plant assessment and training services for which WEC currently depends on volunteers from U.S. industrial plants. Thus, these activities imply support to IEDS long beyond the completion date of PRIDE.

Under proposed projects in eastern Europe, Thailand, and Pakistan, WEC will establish small in-country offices, staffed mostly by host country nationals with extensive industrial operations experience. It is likely that in-country offices in additional selected PRIDE countries will be desirable as IEDS activities intensify. This is likely first in ANE, where private industry is relatively more advanced and governments more supportive of private initiative. With the possible exception of Turkey if it becomes a full AID recipient country, progress is likely to be slower in the ENE region.

IEDS is likely to be as the core of ENE voluntary pollution prevention efforts under this project. At the same time, should there be sufficient funding, PRIDE may demonstrate and test supplementary means of stimulating broad industry adoption of voluntary environmental measures for the following reasons:

- IEDS has roughly doubled in size within the past two years, with much of this growth in the past six months. It is being asked to launch long-term staff-intensive programs in eastern Europe and in selected other countries. It seems prudent not to push the organization too far beyond this already rapid and difficult pace of expansion of both the size and scope of its operations.

- In addition to requiring rapid staff expansion, expansion of IEDS operations also taxes WEC's base of potential industry volunteers, which has been one of the main strengths of IEDS. Already, WEC is considering establishing relationships with individual industry associations in the U.S. (chemicals, iron and steel, etc.) as a way of expanding its volunteer base.

- To stimulate response across entire industry sectors in individual countries will require involvement of broad-based industry and professional associations. While its industry sponsorship gives it the ready ability to do so, WEC does not currently have ongoing relationships with most such associations; but other U.S.-based organizations do. In the ASEAN region, AID has had success, in both energy and now environmental areas, reaching such indigenous organizations

through their U.S. counterpart, the ASEAN-U.S. Council for Business and Technology. While less developed organizationally, the National U.S.-Arab Chamber of Commerce offers a similar opportunity for the Near East region. To launch even a minimally effective IEDS-type program, these organizations would require substantial technical support. However, if such support is available, these organizations have the potential to reach broadly into the private sectors in their member countries.

- Since energy and environmental concerns are the responsibility of plant engineers, local professional engineers' associations (which exist in virtually every developing country) present another way to reach a wide range of plants. Some engineers' associations already have experience with energy efficiency improvement training. A counterpart U.S. organization such as the Water Pollution Control Federation or the American Chemical Engineering Society potentially could constitute a means of motivating and supporting a number of such local professional associations.

- Several countries or regions including eastern Europe, Pakistan, the Philippines, India, Tunisia, Morocco and Egypt have had or are planning energy efficiency improvement programs funded by AID or the World Bank. Several AID contractors and at least one PVO (the International Institute for Energy Conservation) have long experience providing energy efficiency assessment and training services. At least one has adapted these services to cover pollution prevention as well. It would be desirable to test adding a pollution prevention component to ongoing energy efficiency improvement activities in one or more such countries where institutional arrangements include strong local private sector involvement.

- Though not cost-effective for ongoing in-country support, individual U.S. trade associations (for example, the American Textile Manufacturers Association) could be useful not only as sources of industry experts for one-time plant assessments but also for workshops or U.S. sectoral study tours. If only because there are so many of them, such associations probably are best accessed by and through WEC as the need/opportunity arises.

Subject to funding availability, PRIDE could experiment with some or all of the above options. At the same time, these options are worthy of consideration only after sufficient funding has been provided to permit prudent but continuous expansion of WEC/IEDS beyond its present levels.

Finally, PRIDE could test (as part of the WEC and/or other initiatives) an institutional option new to AID but which has been employed successfully in the U.S.: use of AID funding to both create a market for and build the institutional capabilities of an indigenous private environmental services

sector. In much of the U.S. including the Virgin Islands, Federal and State energy audit, weatherization, and similar funding has been used explicitly to develop markets for local providers of energy efficiency services. Combined with a program to train and in some cases license local providers of such services (many of whom already were providing engineering, HVAC, or other complementary services), this has provided a major stimulus to the emergence of the private energy efficiency improvement industry in the U.S. Though less explicitly used for this purpose, EPA Superfund and other environmental programs have had a similar effect, helping to create an enormous service industry without which regulatory and compliance programs would be ineffective.

In even the best of the ENE countries, governments are incapable of attracting, motivating and effectively using competent technical experts. In most countries, trade and professional associations have little staff capability. Given these weaknesses and the priority it places on private sector development, PRIDE should demonstrate and test for-profit alternatives to local provision of pollution prevention assessment, industrial health and safety, and related environmental services.
Such development could be carried out through IEDS and/or other of the options discussed above.

Tourism

Both worldwide and within the ENE region, tourism has been one of the fastest growing economic sectors. Coastal tourism constitutes an important source of employment growth and foreign exchange earnings throughout the ASEAN region and in the countries bordering the southern and eastern Mediterranean, and -until the Gulf crisis -along the Red Sea. Wildlife-and nature-based tourism is important to the economies of India and Nepal and to a lesser extent Indonesia. Tourism in eastern Europe is estimated to represent one of the major future sources of foreign exchange earnings.

Recently, governments and the tourism industry in a number of countries have recognized that the industry has been "fouling its own nest" and that future industry earnings and employment, and the country's foreign exchange earnings, may be jeopardized unless action is taken. In coastal resorts from Egypt (on the Red Sea and the Mediterranean) to Thailand, huge resorts have sprung up with no sewage collection or treatment. Sewage outfalls from individual hotels often barely get past the beach. In some cases tourists have seen floating syringes and other hospital wastes. In some areas of coastal reefs off Palawan in the Philippines, the Thousand Islands in Indonesia, and Thailand, pollution already has killed half or more of the coral. Inland, trekkers in Nepal must contend with air pollution in the Kathmandu Valley, tainted drinking water and standards of hygiene which all but guarantee intestinal parasites, and levels of deforestation and trailside litter which hardly fit one's image of the pristine Himalayas.

Most public or private sector pollution imposes external costs on others (externalities). In tourism, however, there are many cases such as those above where the waste generators themselves must bear all or most of the costs of their own pollution. As is evident now on the Italian Adriatic, deteriorating water quality rapidly can destroy a coastal resort's tourism potential. In

cases such as the Thai coastal resorts, the tourism industry has a strong incentive to develop and enforce its own environmental standards; cooperate to finance, develop and operate sewage treatment and other environmental infrastructure; support adequate collection and disposal of solid wastes; and so forth.

From Thailand to Egypt, the situation is sufficiently severe that the industry itself is seeking solutions. In most cases, the most pressing need is for adequate sewerage and sewage treatment. Where appropriate land is available, low-capital-cost options such as "constructed wetlands" may be feasible. Otherwise, much more capital-intensive on-site treatment or collection and centralized treatment will be required.

In tourism, the approach proposed is similar to that in industry, namely, (a) employing regional tourism organizations which interact with tourism associations within the target countries to undertake pollution reduction programs similar to those of IEDS in industry and (b) supporting and/or monitoring, evaluating and learning from Mission initiatives to encourage environmental improvement at selected tourist destinations.

In Asia, the Pacific-Asia Tourism Association (PATA) has broad membership throughout the region, credibility, and a strong staff both in San Francisco and in regional offices. It already has carried out initial environmental assessments in both montane and coastal tourist areas and with support is capable of doing considerably more. In addition, there are a number of Mission projects with which PRIDE could collaborate or from which it could derive lessons to be applied elsewhere. USAID Bangkok reportedly plans to support a private sector environmental improvement demonstration project at one coastal resort site and also is studying other coastal resort areas. In both Indonesia and Sri Lanka, natural resource management projects include coastal zone or marine biodiversity components. USAID Manila has had some coastal zone studies and reportedly is considering expanding its coastal activities.

In the Near East, the obvious country on which to focus is Egypt. Most of the Mediterranean and Red Sea resorts in Egypt have no or grossly inadequate sewage treatment. USAID water supply and wastewater treatment projects are centered in Cairo, Alexandria and the Canal Cities; but the Mission reportedly is being asked to look as well as selected tourist areas. Tunisia and Morocco historically have maintained relatively good environmental infrastructure; but because of their higher level of environmental sensitivity either potentially could be interested in exploring preventive programs, particularly as they turn gradually from state to private tourism enterprises. In all these countries, local tourism organizations already are working, directly or through the World Tourism Organization (WTO) in Madrid, with the UN Mediterranean environmental program.

Urban Transport

Historically, intra-urban transport has not been a major concern of AID in the ENE or APRE regions. However, with growing priority being given to urban environmental quality and the importance of motor vehicle emissions as a determinant of such quality, this may change. For example, in Thailand the

Mission, Office of Housing and Urban Programs and EPA recently conducted the first test application of the Risk Assessment Methodology used by EPA to rank-order environmental hazards. Using the methodology, the AID-EPA team concluded that elevated levels of lead in human blood from a variety of sources including motor vehicle emissions constitute the greatest environmental health hazard in Bangkok - greater even than contamination of drinking water, and this in the largest unsewered metropolis outside the People's Republic of China.

Around the world, cities are searching for ways to reduce worsening air pollution problems. At the extreme, Mexico City has banned private transport in the city during most daylight hours. The approach of promoting voluntary private sector action may represent an effective low-cost option for reducing emissions.

Fleets of taxis, busses, intraurban trucks, and government and corporate automobiles may account for 25% or more of total motor vehicle emissions in a metropolitan area. By working with the biggest of these fleets, one potentially could reduce emissions from a very large number of motor vehicle sources while dealing with only a few institutions. The institutions themselves have an incentive to promote emission reduction because some of the activities to reduce emissions - primarily improved maintenance and operations -also reduce fuel costs. Also, as anyone who has been behind a poorly tuned diesel bus or truck will attest, bus companies and other highly visible fleets can improve their public image and support by undertaking such measures. Other emission reduction measures, such as switching to unleaded gasoline, may require incentives such as reductions in fuel taxes.

Fleet owners have not adopted emission reduction programs in the past for a variety of reasons including lack of awareness of the potential savings and, when fuel prices were lower, insufficient incentive. Most importantly, however, they fear that they will incur costs to train their mechanics (and to a lesser extent their vehicle operators), who then will use their newly acquired skills to get better-paying jobs elsewhere. This fear can be overcome in two ways. First, a broad-based program where many fleets are improving their training simultaneously will reduce the risk of the best firms losing their trained mechanics to others. Second, fleet owners should recognize that supervision is at least as important as training, and a firm's supervisory structure is not as apt to be lured away as are individual mechanics or operators.

Since urban transport is unlikely to be a priority for most Missions, this will not be a major aspect of PRIDE. Nevertheless, in initial strategy development with Missions, PRIDE project staff should be able to address urban transport issues and to provide interested Missions access to sources of assistance. One such source could be WEC, whose corporate sponsors includes auto companies, other transportation companies, and companies with large fleet operations. Another is municipal air quality districts in areas that have grappled with motor vehicle emission problems (the Los Angeles AQD, for example), who could be accessed through WEC or the PRIDE contractor.

C. Influencing the Pace, Direction, and Implementation of Regulatory Change

There are two respects in which it would be desirable for PRIDE to

undertake activities related to regulatory policy. First, many countries are considering environmental regulation. Many may adopt ill-informed and possibly unenforceable regulations. PRIDE could assist in identifying and evaluating the range of regulatory and non-regulatory options. Second, PRIDE could foster closer collaboration between government and the private sector in developing and enforcing regulations.

Regulatory and Non-Regulatory Policy Options

Voluntary pollution prevention is a cost-effective means of reducing the first increment of environmental damages in industry and certain other sectors. It will not solve a country's environmental problems by itself; other means, including regulation, also will be needed. At the same time, while a relatively advanced and wealthy country such as Taiwan may be able to do so (and certainly is trying), it is not feasible for countries with limited financial and technical resources to adopt, say, U.S. or EEC environmental standards and enforcement mechanisms in their entirety. Rather, countries must set priorities, pursue voluntary pollution prevention and other relatively low-cost options where possible, and thereafter allocate their limited financial and staff resources to their most pressing environmental problems. They also will have to trade off level of stringency and rapidity of compliance versus economic, political, institutional and other aspects of practicability.

Current regulatory status varies widely by country and region. In general, east Asia is the furthest ahead, and progress slows as one goes west. Even in AID recipient countries in the ASEAN region, however, most countries with standards on the books are not effectively enforcing those standards. Moreover, although most AID recipient countries with standards have adopted EPA-type standards and stringent compliance schedules, those approaches probably are not feasible because of (1) high costs and (2) demand for large, well-trained, and relatively incorrupt enforcement staffs and supportive judicial systems. Facing either no standards or stringent but unenforceable standards, private firms are reluctant to take unilateral action which could put them at a cost disadvantage relative to their competitors.

In fact, both waste generators and the public at large would be better off negotiating and then if necessary mutually enforcing lower standards and/or stretched-out compliance schedules which would provide the public with some level of environmental quality improvement and the private sector with a "level playing field" afforded by consistent regulation. However, both government and business sectors lack information or expertise to consider what regulatory or nonregulatory options exist, the costs versus environmental benefits of such options, and implementation constraints and then to draw informed conclusions regarding which options are most appropriate for their situation.

There are three important ways in which PRIDE could help countries develop and implement improved regulatory and nonregulatory approaches.

In the first instance, PRIDE could use its strategic planning methods, those of other projects such as EPAT, and other tools such as the Risk Assessment Methodology to help governments identify priority environmental

problems and the regulatory and non-regulatory options to attack such problems.

Second, PRIDE could help improve countries' access to information, starting with published information from EPA and States on, for example, alternative control technologies and costs of alternative levels of control. The Conservation Foundation, for example, screens available information and selects that which would be most helpful to developing countries; PRIDE could broaden access to this service by countries in the ENE and APRE regions. As it supports in-country pollution prevention programs, the WEC could help those programs establish and operate information centers.

Third, PRIDE could provide mechanisms by which governments could obtain advice and assistance on regulatory options from the U.S. public sector. This should include not only EPA but state organizations (for example, National Governors Association), since like developing countries states have had to consider a range of regulatory options in the context of their own economic, political and institutional conditions. Within EPA, governments should be able to access not just policy or international staff in Washington but experienced operating program and regional office personnel. In some cases, it also may be desirable to access non-government experts through the WEC, environmental control industry groups such as the Hazardous Waste Action Group of the American Consulting Engineers Council, or the Environmental Law Institute.

The range of potential sources of technical assistance in fact is much broader than these few organizations. Table 2 presents a larger sample of possible sources of regulatory policy assistance. Most have experience working closely with EPA, many presently have programs for using volunteers from their member organizations, and a few such as the ICMA have worked with AID. Most have one or two areas in which they have particular expertise (for example, state attorneys general for environmental law or ICMA for solid waste collection). Therefore, in order to be able to draw on the best experts for each specialty, PRIDE needs to be able to access a number of such organizations.

The Environmental Law Institute, many EPA regions, and some state organizations already are IEDS subgrantees/cooperators or IEDS Cooperating Organizations. In terms of contracting arrangements, therefore, it may be wise to use WEC, if it is willing, as the principal point of access for all regulatory policy assistance. An alternative would be to handle this through subcontracts/subagreements to such organizations through the core contract.

Government-Private Sector Dialogue

In addition to PRIDE's providing planning and analysis methods, technical and cost information, and technical assistance to government regulatory policymakers, it also would be desirable to promote government-industry-NGO dialogue in considering regulatory options, developing standards and compliance schedules, enforcing standards, and monitoring and evaluating results. With the possible exception of some eastern European countries, governments throughout the ENE and APRE regions are unable to attract, train, manage, and retain the large, technically competent staffs required to operate stringent enforcement programs. Most could not institute the internal management controls necessary to prevent widespread corruption and/or do not have sufficient additional capacity in the judicial system to handle the huge new caseload implied by widespread standards and enforcement. For all these reasons, countries in the region are forced to rely to a much greater extent than in the U.S. on voluntary compliance, industry self-enforcement, and other approaches which lessen demands on government institutions themselves - yet most countries currently have far less open policy processes and less government-private dialogue than does the U.S.

Many of the organizations already discussed could be used to help promote such dialogue. The WEC's International Environment Forum provides a valuable model for U.S. government-industry dialogue, one which has been adapted by a few other countries. Local industry associations and their U.S. counterparts and environmental trade and professional associations provide other examples. Many states have their own formal processes to promote government-private sector dialogue, and U.S. state associations would be credible spokespersons in recommending that host countries establish similar processes. (NGOs are discussed in the Environmental Education component.)

D. Overcoming Barriers to Environmental Investment

Under this project component, PRIDE will help Missions and host countries identify and lower the barriers to applying cost-effective technologies to improving environmental quality. It thus has two complementary objectives: accelerating cost-effective indigenous private sector action and promoting transfer and use of U.S. technology.

Beyond no-cost/low-cost measures, there will be need for public or private sector investment to achieve further increments of reduction in environmental loadings. While some investment may occur voluntarily, as in the case of tourism, most will come only in response to regulation. Investment thus will reflect government environmental improvement priorities.

Particularly in Eastern Europe or Turkey, prospective investments may include air emission control systems in a few key sectors (energy, iron and steel, chemicals, etc.). However, most countries may consider their highest priorities to be water quality and hazardous wastes. To improve air quality, countries may find it more cost-effective (a) to address mobile rather than stationary sources and (b) to reduce emissions from stationary sources by promoting energy efficiency improvement, which will have a direct impact on air emissions while also saving fuel costs.

If these priorities in fact hold, the most likely prospective investments will be in individual plants' wastewater reduction and treatment (in-plant or end-of-pipe), industrial park or other centralized industrial pretreatment and possibly recycling/reuse, municipal sewage treatment, hazardous waste collection and treatment/disposal, and improved energy systems.

There are a number of important barriers to cost-effective investment in pollution reduction, recycling, and environmental control technologies. These barriers include:

- Lack of awareness and information
- Institutional barriers
- Policy barriers
- Financing

Awareness and Information

As in the case of no-cost/low-cost options, prospective investors lack awareness of and information on recovery/control technologies and their costs and benefits; and they would have to incur high costs to acquire such information. This barrier is due in large part to the fact that there no efficient ways for either the public or private sectors in developing countries to identify or acquire unbiased information on costs, performance, conditions of applicability, and other parameters of alternative technologies. Even a sophisticated and well-staffed organization such as the Asian Development Bank cannot even find out what published reports are available from EPA, let alone acquire such reports. Without ready access to such information, the ADB and the host of less well-equipped organizations must rely on trade publications,

information furnished by interested suppliers (who, because they are more aggressive, tend to be non-U.S. suppliers), and other sources which in the aggregate are likely to provide an incomplete and biased view of alternatives.

The WEC, Conservation Foundation and other information sources discussed in the context of regulatory policy also could provide a valuable service for prospective investors. In addition, U.S. environmental trade associations, either individually or through the new Environmental Technology Export Council (ETEC), or regional trade associations such as the ASEAN-U.S. Council for Business and Technology could sponsor in-country workshops and information transfer on specific areas of investment tied to host country regulatory priorities and compliance schedules.

Institutional Barriers

In many cases, the institutions needed to consider, develop and implement needed environmental projects do not exist or are inadequate to the task. In the private sector, industrial parks in some cases could be logical providers of centralized treatment of input water and treatment and possibly reuse of wastewater. Industrial parks presently may offer centralized janitorial or maintenance services, but relatively few presently have the capability to develop and operate a centralized wastewater treatment facility. Few enclave tourist areas have institutions, be they public or private, that could develop, finance and operate centralized wastewater treatment systems and impose and collect fees on users. In the public sector, AID and other donors are concluding that water supply institutions developed over generations are not well-suited to cost-effective water treatment and delivery or to promotion of efficient water use. At the same time, these organizations are far ahead of their counterparts, where they exist, in wastewater treatment.

Finally, there are virtually no environmentally sound hazardous waste collection, treatment or controlled disposal institutions in the ENE region. Such wastes now are disposed of on-site or enter the general wastewater or solid waste streams where they impose enormous direct costs (in municipal wastewater treatment, for example) and indirect costs (in terms of local health and safety impacts, groundwater contamination, loss of productive agricultural land, etc.). The impacts are most obvious in Eastern Europe, where in some cases all land within a radius of many miles of an industrial area is essentially unusable; but assessments in Jordan and elsewhere have documented fouled wastewater treatment systems, rivers whose waters are unsuitable for any use, and other impacts of indiscriminate disposal of unsegregated industrial and hazardous wastes.

In many ways, the case where no institution presently exists is easier than that where present institutions are ineffective. For virtually every environmental problem, qualified service firms currently exist in developed countries but also increasingly in emerging industrialized countries such as Taiwan and Korea. One also finds a trend toward private service delivery not only in solid waste collection and disposal but also in water supply (for example, many Pacific Island countries now have private water companies), industrial park water supply and wastewater treatment, and all aspects of collection, treatment/recovery, and disposal of hazardous as well as general urban and industrial solid wastes. There also are both private energy

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generation companies and private "energy service companies" (ESCOs) that invest in plant or office building energy efficiency improvement and are paid out of a portion of the resulting energy savings.

Where an institution exists but is incapable, PRIDE and the Mission could help the institution to consider and, if appropriate, enter into private service contracting or franchising arrangements which the institution oversees. This has happened throughout the U.S. and on a smaller scale in many developing countries in solid waste collection, for example. Members of U.S. municipal associations such as the International City Management Association (ICMA) have extensive experience with franchising, contracting and other approaches to private service delivery and, as fellow public sector managers, would have credibility with their host country counterparts.

Policy Barriers

There are many government policies which may appear unrelated to environmental matters but which impede application of cost-effective environmental control technology or information. Important direct barriers include:

- Tariffs on imports of environmental equipment, which increase the costs of imported control technologies and skew decisions toward no control or toward outdated and inefficient indigenous control technologies; and

- Inadequate protection of intellectual property rights, which impede host countries' access to the effective control or recovery technologies.

Investment and technology transfer also are impeded by broader policies such as government protection of favored heavy industries, be they public or private sector, which often are among the worst polluters.

Presumably these policy barriers would have been identified in the Project's strategic planning phase. Many - such as industry protection policies or intellectual property rights -already may be being addressed, or would be best addressed, as part of a Mission's existing private sector development activities. Where this is not true, the Mission could draw on either the PRIDE umbrella contractor or cooperator, if there is one, or one of the APRE Private Enterprise projects (for example, PEDS) for assistance.

Financing

Beyond no-cost/low-cost actions, environmental management quickly can become very expensive. The IFC estimates, for example, that current worldwide environmental expenditures total $300 billion annually, of which roughly $100 billion is in the U.S., $100 billion in developing countries (concentrated in

a few relatively wealthy countries), and the rest in Europe and Japan.[4] In the United States, growth rates of 20-30% per year are expected. Estimated growth rates in developing countries currently are much lower but are expected to increase rapidly.

In most AID recipient countries, impediments to investment even where market resistance (i.e., waste generators' resistance to spending money) has been overcome. Because there have been no effective regulatory programs there has been relatively little private sector investment in environmental controls. Public sector environmental infrastructure historically has been financed by governments, but such investment has been grossly inadequate even when governments were spending money freely. Now, fiscal pressures make it impossible for governments to finance needed environmental infrastructure.

For both private and historically public sector projects, therefore, private financing will be needed. However, unlike investment in, say an agribusiness project or a cement plant, there is no history of or models for financing private environmental projects.

In addition to specific project investments (wastewater treatment plants, powerplant electrostatic precipitator or scrubber systems, etc.), countries also will need an infrastructure of laboratories, engineering and other services, training of environmental specialists, and so forth. Most such infrastructure must be provided by private firms, universities, and other non-governmental institutions that respond to emerging market demand.

There thus will be a need for project finance (both hard currency and local currency) and enterprise finance (debt and equity). For an initial period which will extend at least through the life of PRIDE, there will be a concomitant need to develop models for such financing and to demonstrate to prospective investors and lenders that financing environmental projects or ventures can be profitable and that risks are within acceptable bounds.

PRIDE will not have sufficient staff resources to launch a major financing initiative of its own. However, in the many countries where AID has financial market development or other related activities, PRIDE could work closely with the Mission and/or APRE to:

> Assist in financial packaging of viable privately financed environmental projects, including projects such as wastewater treatment plants which historically have been publicly funded but which also could be privatized or financed on, for example, a BOT (Build-Operate-Transfer) basis. As AID has found in promoting, for example, private power projects, such financial packaging requires considerable time and effort to obtain necessary government approvals (and in most cases changes in legislation), negotiate purchase contracts and guarantees, and so forth.

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[4] Martyn J. Riddle, Senior Environmental Advisor, IFC, "The Rise of Eco-Business: The Environmental Market", 1990.

Publicize and help project developers access sources of hard currency cofinancing such as the APRE Revolving Loan Fund, the OPIC Environmental Fund or other OPIC sources, IFC, or regional funds (for example, the ADB private sector facility, the AID-ExIm tied aid facility for selected Asian countries, or U.S. funds for Eastern Europe).

Leverage Mission financial market development efforts, where they exist, to help the investment community develop and bring to market new financial products suitable for financing environmental projects. Possible examples could include long-term bonds for an industrial park treatment facility which are underpinned by long-term "put or pay" guarantees from the park's industrial tenants, revenue bonds for municipal wastewater treatment plants guaranteed by a credible waste treatment authority charging fees based on long-run marginal costs, or an environmental equity investment fund.

PRIDE and the Mission also would have to help build secondary markets for bonds or other traded instruments. The AID Office of Housing and Urban Programs has some related experience which could be useful. This approach would work only in those countries with sufficiently developed capital markets and Mission capital market activity. Potential countries include Philippines, Egypt, Morocco, and possibly Tunisia.

Except in major security assistance countries such as Egypt, financing of actual capital investment must come from sources other the AID. By promoting development and use of innovative capital market instruments, helping project developers identify and access sources of hard currency financing (and in selected cases co-financing costs of development of promising projects), and in a few countries possibly creating small co-financing facilities, AID can help mobilize and channel others' capital. This is an extremely valuable role, since it often is more difficult to finance project development and feasibility studies than it is to finance actual capital investment.

The role of PRIDE in these cases would be to work closely with Mission private sector and environmental officers and contractors to identify how limited AID resources could be most effectively employed to promote environmental project and enterprise financing and to provide access to U.S. experts in environmental project and enterprise financing to supplement more general financing experts available through Mission or APRE projects. PRIDE usefully could provide experts from both the private sector (investment bankers, project finance experts from firms such as Waste Management, etc.) and public sector (e.g., managers of municipal finance authorities) through WEC and/or core contractor.

This same situation of project development and feasibility study financing often being more difficult to access than is capital financing also exists for the World Bank and IFC. This need creates an opportunity to use limited PRIDE or other AID resources to develop projects promoted by U.S. sponsors which then

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would have a good chance of being financed by the World Bank of IFC. TDP already has an energy and environmental feasibility study co-financing program with the World Bank which seems likely to achieve a high export multiplier.

PRIDE can be used (1) to augment funding of the TDP/World Bank facility for studies in particular countries (funded by Mission buy-ins) and (2) establish a similar facility with the IFC. The latter is particularly important for three reasons. First, the IFC rather than the World Bank is the appropriate funding organization for all but competitively bid government projects. Second, as new hard currency financing models are demonstrated, IFC involvement will be important as a way of increasing the comfort level of international investors. Third, the EEC already has established a $2 million environmental project preparation facility with the IFC; and there is the very real danger that all IFC projects will be specified for European equipment if a similar facility is not funded by the U.S.

E. Conclusions and Recommendations

Clearly, the level of funding will not permit PRIDE to support all the activities discussed above out of core resources. PRIDE should support a few core activities out of core funding and make available a much broader set of assistance options for possible Mission buy-in funding.

PRIDE should concentrate initially on the following core private sector promotion activities:

- Working with Missions and AID/W to identify opportunities for private sector action, market PRIDE private sector approaches, and initiate consideration of strategies. Ideally, this should be done by an expert on both the environment and the private sector that is assigned to the Bureau itself. Such a person should be at a reasonably senior level, have private sector and environmental experience in the U.S., and have some experience in developing countries. An environmental engineering background would be desirable. If it is not possible to bring such a person into AID, this person should be provided through WEC or an umbrella contract/agreement (discussed below).

- Follow up with Missions and AID/W to develop strategies and program activities in greater depth and to plan and undertake implementation and monitor and disseminate results. This activity could be the responsibility primarily of the PRIDE core contractor or cooperator selected competitively for its ability to undertake not only private sector but other aspects of PRIDE contractor/cooperator support.

  In addition to having its own core resources, the contract and/or cooperative agreement should provide the ability for the contractor or cooperator to call upon experts from appropriate U.S. state and municipal associations and other

sources as discussed earlier. Ideally, such organizations could be accessed by the contractor or cooperator.

- Continuation and gradual expansion of IEDS, with clear direction to demonstrate various in-country approaches including particularly promotion of a local private services sector. If funding permits, it also would desirable to demonstrate use of the ASEAN-U.S. Council in the APRE region and the National U.S.-Arab Chamber of Commerce in ENE; but such demonstration should be supported out of core funding only after sufficient funding has been assured for IEDS.

- Support for Conservation Foundation or other efforts to identify and provide improved access to the most useful technical and cost information.

Beyond these core activities, longer-term in-country activities should be supported by Mission buy-ins to either the IEDS cooperative agreement or the PRIDE umbrella contract/cooperative agreement. Both vehicles should provide access to a broad range of assistance resources.

TABLE 2, Annex L

Sample List of State and Local Associations to assist with regulatory policy for PRIDE

Air and Waste Management Association, Pittsburgh, PA

American Consulting Engineers Council

American Public Works Association

American Textile Manufacturers Institute

Association of Metropolitan Sewerage Agencies

Association of State and Interstate Water Pollution Control

Association of State and Territorial Waste Management Officials

Chemical Manufacturers Assocation

Environmental Law Institute

Hazardous Waste Action Group

International City Management Association

National Association of Counties

National Association of Metal Finishers

National Association of State Development Agencies

National Environmental Training Assocation, AZ

National Governors Association

National League of Cities

National Solid Waste Management Association

US-Arab Chamber of Commerce

Water Pollution Control Federation, Alexandria, VA

Water and Wastewater Equipment Manufacturers Association

ANNEX M:

ENVIRONMENTAL EDUCATION, PUBLIC AWARENESS, AND ACCOUNTABILITY: APPROACHES AND OPPORTUNITIES

EXECUTIVE SUMMARY

Part I. Goal, Objectives and Premises of Environmental Education. Environmental education is a tool that development specialists and resource managers can use to enlist public support and participation in: (a) the solution of existing environmental problems, and (b) the wise use of natural resources on a sustainable basis so as to prevent the occurrence of environmental problems.

Part II. Review of experiences at the Mission level for Environmental Education and other A.I.D. and related U.S. programs.

Part III. Analysis of Environmental Education. 1. Audiences most in need of attention including decision makers (politicians and industrialists), special audiences (extension workers, journalists, and park, zoo and museum staff), community members (leaders, men, women, and youth), and those in the formal education system (primary, secondary, university, teacher training, and adult literacy). 2. The delivery systems most suitable to each audience. 3. A matrix to prioritize each strategy for each audience.

Part IV. U.S. and International resources needed to implement actions coming from the above analysis.

Part V. Recommended steps in PA/EE process:

(1) Conduct an appropriate country assessment of the Environmental Education status of the country by done at the outset;

(2) Design country specific Environmental Education Action Plan;

(3) Convene a National Workshop as the first pilot initiative after the Mission Plan for Environmental Education is decided upon;

(4) Develop a National Plan for Environmental Education;

(5) Initiate a National Study of Environmental Education as part of the National Plan;

(6) Set up a National Information Clearinghouse/Network for Environmental Education;

(7) Draw up a list of materials useful for Environmental Education and commission NGOs find, develop and distribute them;

(8) Sponsor training/environmental education programs in each ENE country;

(9) Support appropriate local NGO institutions working in Environmental Education;

(10) Develop an efficient funding mechanism for implementing pilot projects.

I. INTRODUCTION

A. GOALS, OBJECTIVES, DEFINITION AND PREMISES OF ENVIRONMENTAL EDUCATION

Overall Goals and Strategies

1. The overall goals for project environmental education are to:

- encourage greater participation by the public and NGOs in policy formulation and implementation

- support the Environmental Initiatives and Democratic Pluralism

The PRIDE goal for environmental education is to enhance the Missions' ability to use environmental education in support of development objectives

There is ample evidence from ancient times of humanity's consciousness of the physical, chemical, and biological aspects of nature. In the East there was an appreciation of the balance of opposing forces in nature, the yin and yang. The Aryans in the pre-Vedic periods sang hymns in deep awe of nature, as did the American Indians. The Egyptians saw their very lives dependent on the richness of the Nile. The Greeks spoke of the four basic elements in nature -- Earth, Air, Fire and Water. However, the Judaeo-Christian heritage emphasizes the domination of nature by man in the book of Genesis.

In this century the emphasis has shifted to the social environment, spurred on by several recent key writings and tragedies. The Silent Spring in 1962 described the dangers of pesticides to the environment. The Tragedy of the Commons in 1968 showed the dangers of population growth when resources were limited. Small is Beautiful in 1975 emphasized the value of appropriate technology. In Limits to Growth in 1974, the Club of

Rome frightened the world with its predictions of the fate of the globe if humanity continued using its resources and expanding its population as it had been doing since the Industrial Revolution.

2. Goals of environmental education

On the international scene, a series of United Nations conferences (Stockholm, 1972; Belgrade, 1975; and Tbilisi, 1977) have led to some consensus on what environmental education is and what environmental education should do. The result of the Tbilisi Conference, "The Tbilisi Declaration", presents a good overview of the goals of environmental education:

a. To foster clear awareness of, and concern about, economic, social, political, and ecological interdependence in urban and rural areas.

b. To provide every person with opportunities to acquire the knowledge, values, attitudes, commitment, and skills needed to protect and improve the environment.

c. To create new patterns of behavior of individuals, groups and society as a whole towards the environment.

d. To strengthen decisionmaker accountability of environmental issues.

3. Objectives for environmental education

The "Tbilisi Declaration" goes on to state five objectives for environmental education:

a. Awareness: to help social groups and individuals acquire an awareness of and sensitivity to the total environment and its allied problems.

b. Knowledge: to help social groups and individuals gain a variety of experiences in, and acquire a basic understanding of, the environment and its associated problems.

c. Attitudes: to help social groups and individuals acquire a set of values and feelings of concern for the environment and the motivation for actively participating in environmental improvement and protection.

d. Skills: to help social groups and individuals acquire the skills for identifying and solving environmental problems.

e. Participation: to provide social groups and individuals with an opportunity to be actively involved at all levels in working toward the resolution of environmental problems.

4. A working definition of environmental education for PRIDE:

Environmental education is a tool that development specialists and resource managers can use to enlist public support and participation in: (a) the solution of existing environmental problems, and (b) the wise use of natural resources on a sustainable basis so as to prevent the occurrence of environmental problems.

5. Premises

Environmental Education utilizes the communication of correct information and should lead from public awareness education to behavior and self-sustaining attitude

changes. In the formal sector Environmental Education is most effective if infused into the curriculum. In the nonformal sector Environmental Education is most effective if infused into already existing, solid programs. Environmental Education should emphasize a grassroots, bottom-up approach, where citizens become aware and educated enough about the environmental implications for their own lives to encourage the government to listen, and thus affect government policy through public pressure. Environmental Education is usually long-term, often taking generations, and therefore should emphasize institution building for sustainability. Environmental Education should also be flexible in light of new information, new policies, etc.

Environmental Education is ineffective out of context and so first of all, it should be linked to related issues, such as problems of health and population growth. The PRIDE Environmental Education component should also be coordinated among donors, UN, other government, and local NGOs.

Environmental Education encompasses many different disciplines. For example, it has a scientific aspect since information is the tool; a communication arts and social science aspect, since information must be packaged so that it is motivational (clarity, timing, amount) and relevant (takes into account gender, age, social status, culture, ethnicity, and religion of audience); an economic aspect, since the means of communication should be cost effective (e. g. posters and magazines vs. AV mobile unit) and since financial incentives should be taken into consideration; and a legal aspect, since it should relate to laws and enforcement, and it should emphasize information flow for the development and enforcement of appropriate policies.

B. THE ROLE OF ENVIRONMENTAL EDUCATION IN DEVELOPMENT, DEMOCRATIC PLURALISM AND GOVERNMENT ACCOUNTABILITY

The reason that the "Tbilisi Declaration" mentioned above is still used as a standard guide after more than two decades is because its emphasis is on a practical problem solving approach. The Tbilisi declaration states that a good environmental education program moves people along a continuum -- from ignorance of a problem, to awareness of the issue, to possessions of skills and knowledge necessary to solve the problem, to motivation to become involved in seeking the solution, to active participation in solving the problem. A good environmental education program assesses where the target audience is on this continuum and helps the audience move through the initial stages to the final stage of active participation in solutions. Many environmental education programs make the mistake of stopping at the awareness level, forgetting the skills building and motivational strategies needed to progress to the action stage.

Public education is the key to sustainable use of natural resources since resource problems are people problems. Without the understanding and support of the public, the pollution of the air, water and land, overgrazing, illegal timber cutting, poor farming practices, etc. will continue to degrade the natural productivity of the land and/or circumvent careful planning on the part of development specialists. This is where the goals of democratic pluralism and environmental education converge. People need awareness

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and education about their environment so they can formulate and express their concerns to the government. The resulting dialogue and intelligent response between the government and the people will hopefully encourage both parties to realize the value of such participation. Since education is a process, starting with people's awareness and continuing to their attitude and behavior change, the more correct the information given to people about the things most important to themselves, e.g., health and job security leading to general well-being (physical, psychological, and spiritual), the more likely people will be to pressure their government. This pressure will be to have government dialogue with them and then to respond by reviewing and changing inappropriate policies. Public education about wise use of natural resources in combination with enlightened development practices offer the best hope for improving the quality of life for the developing world on a sustainable basis.

Colonial rule has strengthened the developing world's tradition of people not challenging the government, of not thinking for themselves. This tradition is continually fostered by schools that use the didactic methods of "chalk and talk" and rote memorization. On the other hand, fostering a true scientific attitude, including questioning and experimenting with nature itself, leads to the questioning of all authority. (Centuries ago, the development of a scientific attitude was the main reason for the clashes between scientists and those in the religious and political arenas.)

Science and education related to the environment can be even more threatening to policy makers because the questioning of and experimenting with nature is encouraged on many more disciplinary fronts (biology, chemistry,etc.) and in many more deeply personal ways (physically, culturally, philosophically, etc.). Environmental problems connect people in new ways. The polluted water upstream affects the neighbors downstream; polluted air knows no political boundaries, and causes health problems that cross generations as well. With such potential to arouse human concern, environmental education can strengthen democratic pluralism and government accountability in a myriad of ways.

II. REVIEW OF EXPERIENCES

This section is a review of relevant previous and on-going Environmental Education experiences including country-level Environmental Education assessments, mass media programs that are effectively increasing public awareness of environmental problems, and successful on-going formal and informal Environmental Education projects.

A. USAID ENVIRONMENTAL EDUCATION ACTIVITIES AT COUNTRY LEVEL

Country Assessments

Environmental Education is a relatively new field and one that encompasses many other traditional disciplines, including the biological sciences, chemistry, pedagogy, communications, etc. Not until recently has there been an understanding of the many factors that need to be considered, e.g., the research necessary and communication

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networks required, when undertaking Environmental Education projects. Country-level assessments recently completed by USAID are beginning to provide a more complete picture of some of these factors. For example, in Jordan a Survey of Public Education necessary for a Environmental Education project was completed. Other assessments recently completed were the sector reports on Environmental Education done for Sri Lanka and Thailand. In Latin America, more such studies have been done.

Mass Media

USAID has supported a wide variety of projects involving the use of mass media to increase public awareness of the environment. In Thailand, environmental messages (60 second spots) from the National Environmental Board are aired on radio and TV. Newspapers are also monitored for environmental content. In Turkey and Lebanon, public awareness campaigns using radio, TV and newspapers are underway. In the Philippines, radio is used to support a wetlands project. In India, the NGO Center for Environmental Education in conjunction with the Fish and Wildlife Service (FWS) is now producing a series of TV videos on the environment for classroom use. In Latin America, two of the most popular radio programs are from the Ecuadorian NGO Fundacion Natura. In one series, a truck driver talks about the local environment with his passengers, and in the other, a visitor from another planet talks to his friends about what earth people are doing to their home.

Formal Environmental Education

The main focus of USAID formal education activities has been at the primary and tertiary school levels, with the exception of Thailand, where USAID has supported the Ministry of Education in developing The Long Term Master Plan for Development. Another noteworthy project in Thailand is a very successful children's magazine begun in 1986, supported by USAID and produced by CARE, with the cooperation of the Ministry of Education and with assistance from OUTREACH. The magazine is now being sent to primary schools as a supplement to the curriculum. A similar effort is being undertaken by the largest NGO in Bangladesh, the Bangladesh Rural Action Committee (BRAC), which sends their own magazine to hundreds of primary schools administered by them. In Egypt, a new science curriculum and textbooks are being developed for the primary schools under USAID funding. They contain a strong environmental focus.

At the university level, USAID Thailand has awarded scholarships to junior faculty to participate in environmental education programs in the United States. In Latin America, scholarships are provided for study towards B.A., M. A. and PhD. degrees from American colleges. USAID is also assessing Environmental Education courses and curricula at various universities in Latin America, and is providing Environmental Education teacher manuals to teacher training colleges there.

Nonformal

USAID has funded many NGO nonformal environmental projects in the ANE region. Funding of similar projects in Eastern Europe is presently being considered.

Recently funded programs fall under one of three categories: conservation/wildlife management, study tours/scholarships, and institutional development.

Conservation/wildlife management programs in Thailand have been supported through the World Wildlife Fund (Ban Sup Tai Project and mobile conservation units), the Rural Friends Resource and the Environmental Management Project. USAID has also supported biodiversity studies in Thailand. Through the Fish and Wildlife Service, USAID has funded biodiversity studies in Turkey and Yemen, a Conservation Club Network in Pakistan, and visitor centers for parks and zoos in Tunisia, Jordan and Egypt.

Study tours and scholarships have been given to Jordanians to attend the annual conference of the North American Association for Environmental Education, and to Moroccans and Yemenis to study audio-visual materials production in London. USAID has also sponsored several study tours to the United States and Latin Americans have been funded to study in the United States for 1-2 months. Through the Office of International Training (O.I.T.), USAID has sponsored senior policy advisors to attend Environmental Education sessions at Duke University.

Through the FWS, USAID has assisted institutions by funding the development of management plans and visitor centers for wildlife preserves in Jordan, India and Pakistan. Technical assistance was also given to the Wildlife Institute of India. In Latin America, information [illegible] were funded to provide environmental status indicators for use in public awareness campaigns.

B. OTHER A.I.D. AND RELATED U.S. PROGRAMS

Besides the ANE programs supported by USAID, there are many other programs with Environmental Education implications that are now operating or are in the planning stages within USAID and within other U.S. Agencies. In the S&T/ED program, for example, several science education projects include Environmental Education topics. Interactive radio is used to teach science in Grades 4, 5 and 6 in Papua New Guinea and in the secondary schools of Kenya. Both programs increasingly have added environmental components to the basic science content. Such content is also included in a program now being designed for improving classroom learning. GREENCOM, to begin in 1992, will support individual and institutional change in developing countries through public awareness and education by providing technical assistance, operations research, evaluation research, and information dissemination. This Project will emphasize the institutionalization and sustainability of environmental communication programs. Another program, to begin in 1993, will emphasize the mass media for use in education and should rely heavily on environmental material for content.

The Environmental and Natural Resources Education and Training Program (EPAT), funded for ten years beginning in 1991, has components in environmental planning and management, coastal resource management, biodiversity, forest and agricultural policy and change. There are research and technical support/outreach themes where environmental concerns will be emphasized, and indicators of ENR trends will be developed. US based core courses, Economic Policy and Environmental Policy and

Regulation will also be initiated, followed by workshops for senior policy workers and NGOs that address these issues.

The Environmental Protection Agency (EPA) opened a Regional Environmental Center in Budapest on September 6, 1990 to serve Central and Eastern Europe. It offers services regarding information resources, institutional development, clearinghouse activities, education and training, focusing on the areas of health, energy, pollution and agriculture. EPA is now compiling a list of resources which will include institutions in the U.S. offering degree programs in Environmental Education. The Infoterra Program of EPA is based on UNEP's compilation of environmental data from 139 countries. Survey information is only available in diskette or book form as of 1987 (to be updated in 1991) but searches on current information are available.

The U.S. Fish and Wildlife Service (FWS) is an agency of the U.S. Government with a mandate to protect and enhance wildlife resources in the U.S. and abroad. It manages some 480 protected areas and over 50 national fish hatcheries. It also runs training courses on law enforcement and refuge management and administers the Convention on International Trade in Engendered Species (CITES) and all aspects of wetlands management in the U.S.

Because it has the largest program of research in fish and wildlife related matters in the world, it regularly receives many requests for assistance from other countries. Its Office for International Affairs attempts to match up the needed expertise with these requests. This has led to FWS directly supporting many international programs. Examples of their assistance are cited elsewhere in this report to clearly mark FWS as a key resource for activities in this area.

The U.S. Information Agency (USIA) has a vast potential for bringing up to date environmental material to the developing world. It now services libraries in 217 key cities abroad with a great variety of materials, e.g., weekly previews of 600 magazines, a bimonthly electronic bibliography of books and reports, selected documentary services, and monthly collation of 100,000 full text statements on CDROM. While the environmental aspect of these compilations still needs strengthening, arrangements made between USIA and the USAID Mission to provide some of these services to a clearinghouse for Environmental Education could be very useful for local NGOs starved for such information. The information could then find its way into materials developed for schools, radio, newspapers, and magazines.

The Peace Corps (PC) now has almost 6,000 volunteers serving abroad in more than 60 countries. The members have long been involved with environmental and health activities, e.g., water and sanitation, and education. Recently there has been an Environmental Education emphasis, as shown by the large African Environmental Education workshop in Tanzania (May 1989) and Inter-American Environmental Education Programming workshop in Belize (June 1989). Smaller environmental education workshops for the ANE region were held in 1989 on Parks/Wildlife and Coastal Zone Management in Morocco and Thailand and on Coastal Zone Management in Western Samoa. Their catalog of Information Collection and Exchange contains many published materials with an

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environmental education thrust. Many volunteers who have returned from their PC assignment and who have spent several years in advanced study and/or in management positions provide a rich source of personnel for environmental education projects in the future.

The Voice of America (VOA) transmits some 1,200 hours of programming each week in 44 languages, including English worldwide, to some 130 million listeners. At present, there is only one full time environmental reporter in the Washington offices. However, VOA could be an important avenue for broadcasting environmental education messages via international radio, since they have news bureaus in many cities in the ANE region and Eastern Europe, including Oman, Bangladesh, Cairo, Colombo, Islamabad, Manila, New Delhi, Prague, and Warsaw. With such a large network already in place, small efforts to emphasize environmental issues could be very effective. Local NGOs could provide environmental messages to VOA, as well as to smaller national and local networks.

III. ANALYSIS OF ENVIRONMENTAL EDUCATION

A. INTRODUCTION

This section includes a description of the general audiences that exist in the region and the most effective methods of information delivery to these audiences. As argued above, the development of an awareness is only the first step in education. After developing an awareness of problems, solutions, and techniques, it is possible to then develop the knowledge and skills that lead to attitude and behavior change -- the ultimate goals of education. Thus, in this section methods for increasing public awareness (PA) will first be discussed. Then nonformal (outside the Ministry of Education) and formal education will be considered. Audiences that should be considered for PA and nonformal Environmental Education include Decision Makers (politicians and industrialists), Special information conduits (extension workers, journalists, park, zoo and museum staff), and urban and rural community members (leaders, men, women, youth). The audiences that should be considered in the formal education sector are considered according to levels of the school system (primary, secondary, university, teacher training colleges, and adult literacy). Appendix (or Table 1) is a summary of the delivery systems most suitable for each of these given audiences with suggested priorities for effectiveness and funding.

B. PUBLIC AWARENESS -- MASS MEDIA

Awareness building the general public, the mass media conduits, including radio, TV, and print (newspapers and magazines) are of most concern here. Audiovisual slide programs are quite useful for large community audiences and advertising by posters, billboards, messages on milk containers and school notebooks can be quite effective. Special occasions, holidays and campaigns also serve to bring information to large audiences and are considered as well. Each of these media conduits will be related to the individual audiences.

The general populace is where the overall climate for environmental education can

be most widely recognized -- clean streets, water and air. Its voice may be heard in different ways in different countries, whether by individual vote or a general outcry. The upper and middle classes will be best influenced by radio in most of the developing world but TV is rapidly gaining importance in urban areas. Radio is more important among the rural poor. Newspapers and magazines, because of low literacy levels in many developing countries, are less important overall but most useful for the decision makers of the upper and middle classes where problems can be analyzed in more depth.

Radio

A strong emphasis should be placed on radio, since it is probably the most effective means of reaching audiences that are usually neglected, especially the rural poor and the illiterate (particularly, women and out of school youth). In shops and in public transportation vehicles, radios are heard playing all day long. There are many chances for short environmental radio messages that especially apply to the local scene. The messages could relate how the individuals themselves are influenced by environmental problems and how these problems can be solved. Weekly programs should be made available to all radio stations in all the major languages, either in the form of scripts or tapes, whichever proves more effective. Audio tapes are easier to use by the stations, but scripts would be more useful when stations need to broadcast in local dialects.

The environmental message could be included in a variety of current programs (women, science and technology, rural, general information, religious, news, entertainment and youth), and in a variety of formats (songs, poems, children's stories, discussions, drama and news spots). One of the first tasks would be to contact radio stations and have them complete questionnaires about what types of programs they would prefer and in what form. They should also be encouraged to feature environmental and health-related programs for rural audiences, especially women. The use of environment programs and news spots supplied to the radio stations should be monitored. Radio stations should provide feedback as to when (i.e., the days and times) these programs and news spots are aired.

If certain types of programs prove to be more effective and popular, they should be featured more regularly. Freelance writers could be hired on a part-time basis to help write these programs. Material and ideas can come from the same resources as mentioned below under "Print."

Television

Films on the environment can be provided free of charge to all major TV stations. Almost thirty full length broadcast quality videos on the environment are available at no charge to developing countries from Television Trust for the Environment (TVE). These films can be adapted for local television by dubbing them in the local languages and by adding short introductions and conclusions relating the films to the local environmental situation. Such films on the environment should be aired throughout the country, and the dates and times of the programs should be advertised on TV and in newspapers.

An arrangement can be made between the national/local TV stations and TVE for

the co-production of environmental films using local expertise under TVE's supervision. Since 1984, TVE has sent senior producers to many countries of the developing world to check on the technical facilities available and the local subject matter. If co-production is feasible, usually the local TV company will provide all equipment and supplies for film production including vans, the camera crews, and film, as well as travel costs within the country. TVE will provide field supervision, travel to and from London, and editing costs in London if required.

Television can and should be used to prepare and launch campaigns in support of environmental education, e.g., clean-up campaigns. The use of puppets in 7-second spots during the news hour has been used in Pakistan to attract people's attention to health messages.

Print

A weekly article or column and regular news spots on the environment should be provided to leading newspapers in the appropriate language(s). Research should be conducted to determine the most effective approaches for a country's audience, possibly relating the local situation to the larger global picture. These should be distributed to the principal dailies in the most appropriate way (perhaps by wire from a central distribution point rather than by mail, for example). High quality articles on the environment should be translated into the major national language(s) for this purpose , and to insure their inclusion in local newspapers, the use of these articles in dailies should be monitored. Such programs are now underway, e. g., those administered by the Centre for Environmental Education in India and the Arab Office for Youth and Environment in Egypt. National magazines should also have environmental material sent to them regularly. These materials can be provided by WWF, Earthscan, PANOS, OUTREACH, etc. Children's magazines, pamphlets, etc. (mentioned in the section on formal education) should also be considered to link formal and nonformal activities, especially in terms of adult literacy classes.

Special Activities and Occasions

Special activities and occasions can also serve to enhance public awareness of environmental issues, and a number of additional activities on special occasions could be coordinated to do this. Different NGOs, including women's and youth groups, could be brought together in this regard. Suggested special activities could include placing environmental and health messages on consumer goods, producing posters, and travelling exhibitions, sponsoring contests and awarding prizes for children's literature and art, awarding medals for environmental activities, and sponsoring film festivals or lectures on environmentally sustainable development. Suggested special occasions could include days when children could be encouraged not to litter as they usually would on World Environment Day, various religious and public holidays. Of course, the mass media, especially radio, would be the most effective way of advertising these activities and occasions.

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C. NONFORMAL ENVIRONMENTAL EDUCATION

Any educational activity not usually conducted by the Ministry of Education is considered nonformal education. Once there is a general awareness of environmental issues among the general public, it is the task of nonformal educators to take this awareness a step farther -- toward new knowledge and skills, and finally toward attitude and behavior change. The best methods to use for achieving these goals may differ depending on the audience being targeted. An analysis of the best methods to use for reaching decision makers, extension workers, journalists, and community members are discussed below.

Decision Makers

The decision makers form that part of the general populace most important for overall environmental awareness, fund raising, political and economic pressure. This audience needs to be considered at the international, national, and local levels. While the poor, rural and urban families are the main focus, very often relatively small attention paid to the decision makers can result in large benefits for the environment and thus for poor families as well. Laws regarding industrial pollution, deforestation, and sanitation, and their enforcement are particularly important reasons for considering this group, and they are reached most effectively by personal letters and phone calls, individual visits, small meetings and seminars as well as the mass media. This group will be key in the collaboration between the industrialized and the developing countries to build a sustainable world.

Extension Workers/Journalists

Extension workers and journalists are key conveyors of information to large audiences. Journalists are most important for bringing the environmental message to the literate public via the printed media, and more recently to radio and TV audiences via scripts for shows. Extension workers focus on smaller community groups in both urban and rural areas. They rely more on meetings, posters, plays and puppet shows to convey their messages. Neither journalists or extension workers necessarily need to be professional scientists or environmental educators to be effective. If they are aware of how environmental pollution is related to health and family planning or how forest destruction also causes erosion, river siltation and biodiversity degradation, for example, they can make their audiences aware of these implications and dangers. To get both journalists and extension workers more involved in environmental issues, special seminars, workshops, letters, reports, magazines and study tours would be appropriate.

Community Members

As mentioned above, it is radio that is generally the most important form of mass media for the poor and illiterate families of both urban and rural communities. But radio

can be used for more than awareness here because it is so prevalent in many communities. In the rural areas at the end of the day, after the work is over in the fields and before the evening meal, a program on local agriculture is sometimes the most popular program of all for the men. Along with information on the crops and weather, related environmental messages can be easily interwoven into these radio programs. These messages are not enough in themselves, but they set the stage and re-enforce the message from extension workers already given to both men and women of the community. Hopefully a similar message is given to children in school by their teachers.

The strategy will depend on the country and locale. One example is that of Pakistan where the literacy rate among women in some rural areas is as low as one to three percent. Newspapers, even if they reached the women, would be almost useless. TV is watched by few rural women because of bad reception in the remote, mountainous area of the west but also because of the lack of electricity and the lack of TV sets among the poor. On the other hand, radio reaches about three quarters of the people in both rural and urban areas nationwide. The larger amount of money spent for advertising on radio over TV in Pakistan bears this out. However, to reach the people of Brazil, one would use TV, as that country has the highest per capita "TV watching time" in the world!

Besides the use of the mass media for the development of a deeper understanding of environmental problems, beyond just a simple awareness of these problems, there are other methods of communication that are often more suitable to poor and illiterate families. These are methods that are more traditional in the village community, such as plays and puppet shows, lectures and talks, discussion groups and demonstrations. During community meetings, properly trained NGO or government extension workers can also advance the case of democratic pluralism by listening to the community and encouraging them to express their ideas to one another, come to a group consensus and then present this to the appropriate authorities. Learning how these ideas are best presented so that the authorities will respect the view of the community is difficult, but a key step in approaching government accountability.

D. FORMAL ENVIRONMENTAL EDUCATION

Curriculum Development

At the core of any formal education system is the curriculum. On it is built the expectations for students, the development of classroom materials and the training of teachers. It is considered first here because of its basic importance and because it is relatively easy to change, at least theoretically. If the Ministry of Education assembles a team of experts, who know about current models elsewhere, a new curriculum featuring environmental topics may be developed in a very short time. This is most easily done at the primary level because there is a great deal of flexibility in most elementary curricula already. The secondary curriculum is usually considered "too full" already to allow new material, and its structure is less flexible. However, when new material is added to a course, the most effective way to insure its coverage in classrooms is to include questions on this material in examinations given at the completion of the course. From the higher

primary grades on, especially in the better schools from which future decision makers will usually come, the passing of examinations with good grades is essential for entering secondary school, then for being accepted into good universities. As a result, teachers very often concentrate on teaching the material that appears on the exams.

At the university level, elective courses can often easily be added to a program (e.g., in agriculture, forestry, etc.). Separate environmental courses can be created for this purpose. More progressive departments could form new environmental programs by selecting courses from already existing programs that fit into the multidisciplinary field of environmental studies. Such new courses or programs could then be joined with the education department for separate environmental education programs.

The curriculum at teacher training colleges is geared to the primary and secondary schools where the future teachers will serve. Thus, if official curriculum changes occur at lower levels, they will be changed here as well. But, as at other educational levels, the curriculum is only a small part of the problem. Practically speaking, funding primarily for curriculum innovations is similar to establishing laws without any means of enforcement. For curriculum implementation, both the training of classroom teachers and the development of classroom materials must be given priority.

Classroom Materials and Approaches

In the industrialized world, it is usual to find students at all levels with textbooks and supplementary materials available to them in the classroom, in libraries, and at home. This is not the case in the developing world, where textbooks and even notebooks are too expensive to be generally available at the primary level. They are only available in the better private primary schools and in some of the government secondary schools. At the university level, textbooks are much more common but library books and research journals are usually scarce and out of date.

While it is possible to organize teams to modernize old textbooks or create new textbooks that emphasize environmental concerns, the prohibitive factor is the expense. The Ministry of Education in Bangladesh has to think about 50,000 crowded primary schools when it thinks of any supplies. Poor governments and poorer families have many priorities higher than textbooks -- like teacher salaries, classroom maintenance, school uniforms, etc. A primary school textbook for one subject for one child could cost several days wages for a parent or guardian. And there are likely to be several children needing several textbooks at the same time in the average sized family.

Since textbooks are not an easy solution to the problem of how to bring environmental topics to the primary schools, it is much more realistic at present to consider supplementary materials and approaches.

Radio has been used for distance learning in many primary schools of the developing world. Language, mathematics, and science have all been successfully taught

in an interactive manner. This procedure has been judged to be more cost effective than traditional methods.

TV has been used less often in primary and secondary schools because of the costs of buying and maintaining the equipment, but universities and colleges are experimenting more and more with this method. In some of the larger universities, they have also been experimenting with interactive satellite communications, which can be the least expensive way to interact with a foreign specialist for seminars and short courses. Global environmental monitoring is possible at even the secondary school level using satellite communications. Data gathered by students in remote areas can be shared electronically and used by all students in the global network to identify patterns of air and water pollution, etc.

Because of the lack of printed material in most primary classrooms of the developing world, children's illustrated magazines on the environment are being used as supplementary materials. Created by local NGOs to infuse environmental material into the regular curriculum, they satisfy the basic educational requirements by teaching environmental studies (science and mathematics) and offering reading materials (language arts) in a local framework (social studies). Most of these magazines also include ideas for the teacher to use in the classroom (teacher training). These magazines are often used in lower secondary levels and in the teacher training colleges as well.

Teacher Training Colleges

Scattered throughout the developing world are teacher training colleges with a variety of programs to educate teachers for the formal system. Many are quite effective in preparing secondary school teachers in certain subjects in the traditional didactic approach because the secondary schools demand more highly qualified teachers. However, the primary level schools are much more often under funded and under staffed. The result is that under qualified teachers are recruited to begin teaching the primary grades while still in their mid teens themselves. Coupled with the general lack of any materials, let alone good materials, and very large classes, these teachers can hardly be expected to do a satisfactory job. Such being the case, it is very difficult to assume teachers can use more participatory and investigative approaches which would instill in young students the rudimentary habits of questioning their texts and their teachers on the basis of their own observations. If such an attitude of mind is nurtured, it will naturally lead to democratic pluralism and the active questioning government policy, etc. It can hardly be nurtured by teachers in present educational systems of the developing world. The problem is -- how best to change it?

IV. U.S. AND INTERNATIONAL EXPERTISE

To develop a greater public awareness and deeper understanding of environmental problems through the mass media and formal and nonformal education, a great deal of expertise is necessary. This section will briefly list institutions from which such expertise can be found. The institutions mentioned have an excellent performance record, but no

attempt has been made to develop a complete list. Many other excellent organizations are emerging rapidly to fill necessary roles in Environmental Education.

A. U.S.

1. Assessment, planning and evaluation
   AEE - Alliance for Environmental Education (60 Environmental Education centers in network)
   NAAEE - North American Association for Environmental Education (1500 members of whom 400 are university Environmental Education types)
   TVA - Tennessee Valley Authority (13 centers in network)

2. Mass media
   TVE - Television for the Environment-USA
   RLP - Radio Learning Project
   PANOS
   TERC - Technical Evaluation Research Centers

3. Nonformal
   NGOs
      CARE - Cooperative American Relief Agency
      Global Tomorrow Coalition --TV, radio
      Partners for the Americas
      World Neighbors
   Industry
      Edison Electric Institute
      Rural Electric Cooperative
      Coal Institute
   Information
      Center for Foreign Journalists
      Clearinghouse on Development Communication
      ECONET
      Environmental Information Services (The Conservation Foundation)
      Worldwatch Institute
      WRI - World Resources Institute

4. Formal
   Curriculum Development and Training
      AED - Academy for Educational Development
      IIE - Institute for International Education
      IIED - International Institute for Economics and Development
      WWF-U.S. - World Wildlife Fund - U.S.

   Materials
      ERIC - Educational Resource Information Center
      International Clearinghouse, University of Maryland

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WWF-Britain - World Wildlife Fund for Nature - UK
OUTREACH
VITA - Volunteers in Technical Assistance

Teacher Training
CI - Conservation International

B. International institutions

FAO -- agriculture related
UNEP -- ENR profiles
UNFPA -- population related
UNESCO -- curriculum
UNICEF -- health related
WHO -- health related
World Bank -- assessments, teacher training, Metropolitan Environment Improvement Project (Jakarta, Manila, etc.)

Studies and funding sources

Canada, Denmark, Finland, Germany, Japan, Netherlands, Norway, Sweden, UK

V. RECOMMENDATIONS

Funding for the first two recommendations would normally come from A.I.D. Washington while funding for subsequent initiatives would normally be the Mission's responsibility. While a logical sequence of steps is suggested in these recommendations, a set linear flow, from one step to the next, is not prescribed. Depending on the country's and the Mission's present situation and past experiences with Environmental Education, various recommendations may have already been accomplished. In such cases, the Mission would possibly only need to implement some of the steps, or update them. A simple division of A.I.D. Washington and A.I.D. Mission activities is suggested in attachment B and the general steps and procedures for this process are outlined in attachment C.

USAID COUNTRY ASSESSMENT

Recommendation 1: That an appropriate country assessment of the Environmental Education status of the country be done at the outset. The results of this assessment will be needed before the Mission can plan an effective program. Since some Missions may already have parts of an assessment from another project,they need not do more than bring the results up-to-date. For a more complete study, a team of one or two experts from the U.S. would spend 6-8 weeks in the country to study the situation and report their findings to the Mission.

The team would focus on the various audiences and delivery systems that are

considered most effective for that country. Interviews with principals from the three basic areas (mass media, nonformal and formal education) would be held after completing a literature search, including a search through advertising journals for mass media information, development agency reports for nonformal NGO activities, and UNESCO reports on the formal education sector. This activity would normally be funded by A.I.D. Washington and administered through a new position in A.I.D/Washington or by an appropriate U.S. NGO.

USAID COUNTRY MISSION PLAN

Recommendation 2: That each USAID Country Mission interested in Environmental Education design an Action Plan for that country. This should follow the country assessment mentioned in Recommendation 1 and should be done with the help of the assessment team and would take about one week. This plan is meant to enable the Mission to begin activities immediately without waiting for the more thorough assessments and planning described in Recommendations 3, 4, and 5. Because this plan will not be as thorough and because the ENR and Environmental Education situation can quickly change, it should be flexible enough to allow for updating.

Since the field of Environmental Education is relatively young and encompasses many diverse disciplines, it is imperative that the Mission Plan clearly set out the general goals, the specific objectives and strategies for pilot projects that will allow the key audiences to be reached in the most effective way. Once priorities for individual pilot initiatives are chosen, an evaluation should be built into each project at the beginning. It should be as quantitative as possible and tied to specific milestones of the pilot initiative. Without such rigor at the beginning, there can be no true, practical evaluation that can lead to better projects in the future. This one week of planning by the planning team would be funded by A.I.D. Washington.

NATIONAL WORKSHOP

Recommendation 3: That the USAID Mission convene a National Workshop as the first pilot initiative after the Mission Plan for Environmental Education is decided upon. This workshop will have several important functions: to advertise the A.I.D. Mission's interest in this area, to raise public awareness about ENR and Environmental Education, to identify and link people and organizations that will be useful counterparts in the future, to identify needs and capabilities for materials development and training, and to create discussion and deliberation about ENR issues that could well be a major step towards democratic pluralism and government accountability in the country.

Key people representing all the main audiences of the country (international organizations, government organizations, NGOs, private enterprise, etc.) would be invited to this workshop. It would normally begin with papers delivered on ENR and Environmental Education issues but the participants should quickly be divided into small groups for discussions. A wide range of expertise and audience representation should be included in each small group. Exciting strategies may come from this mix which could lead

to Recommendations 4 and 5, a National Plan for Environmental Education and a National Study.

This workshop could be organized during the Country Assessment to be held soon after or even before the A.I.D. Mission Plan is agreed on. It would last for 3-5 days, depending on country size. For very large countries, several sub-national workshops might be necessary. The workshops would be funded by the Mission with the possibility of U.S. experts funded by A.I.D. Washington to help coordinate the workshop.

NATIONAL PLAN

Recommendation 4: That a National Plan for Environmental Education be developed. For Environmental Education to be really effective and for development to be truly sustainable in a given country, not only must the leaders and public become generally aware of key problems and learn of corrective actions that must be taken systematically over a broad front, but they must take ownership of these actions. At a given time one audience might be better approached by one delivery system, then later by another. In priority areas, certain audiences might need to be inundated with messages from a variety of sources -- the mass media as well as nonformal and formal education conduits. The best way to prepare for this is to create a National Plan.

From the National Workshop (Recommendation 3) key people who are willing and able to help develop this plan can be identified. They should come from all audiences and be involved with the important ENR issues of the country. Similar to the mission Plan, but broader, the National Plan will include not only national goals, specific objectives and strategies for pilot projects to be sponsored by A.I.D., but also all initiatives that should be taken to reach the objectives. Funding would be sought once the design was complete, and likely candidates for carrying out the individual projects (NGOs and other organizations) would be identified. Evaluation should be considered early in the National Plan, with quantitative expectations tied to specific milestones.

To widely advertise the National Plan and to create opportunities for further debate and input, a draft should be circulated widely, with replies and comments carefully considered as part of the exercise in democratic pluralism. While ministry members may not appreciate such a process, it should be adhered to, since it will lead to their accountability. An annual seminar would serve to review and update the National Plan. This would be funded by the Mission.

NATIONAL STUDY

Recommendation 5: That a National Study of Environmental Education be initiated as part of the National Plan. It would build on but be different from the assessment done by the U.S. experts in that it would be done by locals with some outside review and assistance over a period of one or more years. While the longer time frame should result in a deeper and more complete evaluation, the main reasons for this study are to insure the momentum and sustainability of the project. The ideas for the study and the people

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to do it should come from the National Workshop (Recommendation 3) and it should be advertised and used by those developing the National Plan (Recommendation 4) during the annual review of the plan when they will be taking current study findings into account.

The team would be comprised of members with ENR expertise to keep the study scientifically valid, as well as those with expertise in the mass media, nonformal and formal education. Economists and anthropologists should also be part of the team to emphasize fiscal and cultural considerations in the discussions.

The team should set up indicators of ENR and PA/ Environmental Education status. Regular reports should be made to the media and to educators of study results in terms of these indicators. This reporting should be an important part of the growing awareness and debate about environmental issues and lead to a strengthening of country efforts towards democratic pluralism and government accountability.

INFORMATION CLEARINGHOUSE/NETWORK FOR Environmental Education

Recommendation 6: That an Information Clearinghouse/Network for Environmental Education be set up by NGOs. There will be a continuous need for information on ENR and Environmental Education as countries become more aware of their needs and capabilities. Existing information needs to be stored, new information researched and all the information efficiently delivered to those who can use it. The recommendation includes the term "clearinghouse" rather than "library" to emphasize the dynamism envisioned in this undertaking. Not only will material be gathered locally and worldwide, but it will also be advertised and distributed to those in need of it. It might be started most easily by a USNGO because of the international linkages.

Materials should be gathered in the various sectors:

Mass media -- radio and TV tapes and scripts, newspaper clippings

Nonformal -- reports, posters, leaflets, plays, music (especially local material with low print runs)

Formal -- curricula and texts of other countries, teacher training and supplementary materials (especially magazines and science kits with a 'hands-on' emphasis)

Data bases on ENR and Environmental Education topics (e.g. country profiles and indicators) from a variety of international organizations should be made available.

The clearinghouse should be located where it can be readily available to those wanting to use it, possibly a university or teacher training colleges. In large countries several might be needed. A local network should be set up by phone and newsletter. An international network could be set up by newsletter and by electronic bulletin board as more countries develop the capability. A.I.D. Washington could provide funding necessary for the networking and lists of basic books, videos, etc.that should be included in the

clearinghouse. The rest would come from the Mission. The cost need not be more than several thousand dollars for each of several years for a very complete and useful database plus many of the

best Environmental Education materials in the world, which can be kept as resource materials for curriculum and materials developers, journalists, extension workers, etc. These materials would not be distributed. Only materials that are developed and mass published for use in schools, villages, etc. would be distributed, as per Recommendation 7.

MATERIALS DEVELOPMENT

Recommendation 7: That a list of materials useful for Environmental Education be drawn up and NGOs be commissioned to find, develop and distribute them. While there is an endless supply of ideas and materials about Environmental Education worldwide, very often little can be found locally that is relevant and useful to the particular local situation. To partially alleviate this problem, a clearinghouse is proposed (Recommendation 6) to gather and advertise materials. But even when local materials are found, they often need to be revised for another audience because of literacy levels, cultural values, etc. Thus, NGOs with the necessary expertise should be commissioned to adapt current materials and develop new ones. The first materials that are commissioned should be those most needed -- for key problems involving key audiences using the most appropriate delivery systems.

To adapt and develop materials, the matrix of audiences and delivery systems needs to be considered (Appendix A):

Radio -- This is generally acknowledged to be the most cost effective approach. Material for scripts can easily be found in journals, magazines, etc. Audio tapes of these scripts can cheaply be made and copied for radio stations that prefer tapes. Translations into languages and dialects that smaller stations use should be considered.

TV -- Creating new material can be very expensive but many environmental videos are available free for the developing world if they are to be shown nationally. Teams are available to film local environmental problems, issues, etc. with outside funding. There is often a national mandate to have several hours of TV time each week available for educational programming, and new material is usually welcomed.

Print -- For a literate audience it is usually quite easy to adapt and create short articles that newspapers and magazines can be encouraged to use. Editors often do not have or know of reliable sources and usually welcome the material if it helps them to do their job. Nonformal reports, posters, leaflets, magazines, plays, etc. from other countries should always be carefully adapted. Besides language differences, more subtle cultural differences are very important to consider. Sometimes a valid translation is impossible. In any case, materials should be pre-tested with small sample groups of the intended audiences to be sure the intended message is transmitted effectively. Post-testing will lead to further

refinements in future publications. Those who have not produced Environmental Education printed materials before usually take these steps: (1) use foreign materials; (2) imitate foreign materials; and (3) create new materials.

Formal curricular, teacher training and supplementary materials can also be found worldwide and then adapted for local use. NGOs who are working with print materials in the nonformal sector can easily use or adapt them for upper primary, lower secondary and adult literacy courses.

TRAINING/EDUCATION PROGRAMS

Recommendation 8: That training/education programs for Environmental Education be sponsored in each A.I.D. country. Once the above recommended workshops, assessments and pilot initiatives have begun, it should be very obvious that many NGOs, teachers, government officials etc. will need further training in a wide variety of programs. These training and education programs would be comprised of a variety of approaches: in-country seminars and workshops (often technical field training), study tours and scholarships for study, and should be scheduled to be least disruptive of people's regular assignments.

When choosing people to receive further training, the factors that should be considered include: major environmental concerns, personal qualifications, and the influence of their positions. Depending on their positions and needs, the levels of training would be:

1. Basic training -- in-country workshops and seminars for those NGO and government personnel responsible for conducting Environmental Education programs. Staff would come from an NGO agency in the training area coupled with U.S. experts.

2. Midlevel training -- short courses and study tours for those with more than basic needs. The training could be in-country or in the region, but very often the only appropriate courses or study tours would be in the US. Such training opportunities should be researched and advertised by the clearinghouse network (Recommendation 7). Careful plans should be made to insure that the tours are effective.

3. Degree level training -- for those who have potential for future leadership in Environmental Education. Since this is such a new field and one that intertwines with many other disciplines, it is important to have leaders familiar with Environmental Education research and literature. Eventually such leaders will be key personnel in fostering the infusion of environmental topics into the primary, secondary and adult education curricula, and in helping create separate Environmental Education courses and programs in the teacher training colleges and universities.

INSTITUTIONAL DEVELOPMENT

Recommendation 9: That appropriate local NGO institutions working in Environmental Education be supported. The tasks for which institutions should be

supported should include those noted by the Mission Plan and National Plan. Support for materials development and training is covered in Recommendations 7 and 8. This recommendation is concerned with support for office equipment (computers, typewriters, copying machines, etc.), for additional staff, fuel, etc. that would allow a worthy institution to expand its Environmental Education efforts and to do that work more efficiently.

Recommendation 10: That an efficient funding mechanism be developed for implementing pilot projects. Since the Missions are not set up to handle many small grants, possible solutions might include commissioning a large USNGO to serve as the distributor of these grants; recommending that the Peace Corps collaborate with local NGOs or by increasing discretionary funds given to U.S. Ambassadors, etc. It would be that NGOs responsibility to advertise the availability of the grants and their requirements, to receive and judge applications and make awards. Grants would be about $10,000.

APPENDIX A

PA/EE Matrix for Information Flow
Public Awareness (Mass Media)

Audiences	Decision Makers			Special		Community			
	Politicians	Industrialists	Extension	Journalists	Park, zoo museum, staff	Leaders	Men	Women	Youth
Delivery Systems									
Radio*	3	3	3	2	1	1	1	1	1
TV*	3	3	3	2	A	A	A	A	A
Print**	3	3	2	2	2	L	L	L	L
AV					3	2	2	2	2
Special Occasions	3	3	2	2	3	2	2	1	1
Nonformal Environmental Education (Personal, Presentations, Print)									
Interviews	1	1	1			2			
Seminars	1	1	1	1	1				
Meetings						2	2	2	3
Plays/Music Puppet Shows						2	2	1	1
Workshops			1	1	1		2	2	3
Advanced Study/Tours	2	2	2	2	2				
Letters/ Reports	1	1	1	1	1				
Posters			3		3	2	2	2	2
Leaflets			1		2	L	L	L	L
Magazines	3	3	1	2	1	L	L	L	L

Formal Environmental Education

	Primary	Secondary Academic	Secondary Vocational	University	Teacher Training (pre & inservice)	Adult Literacy
Curriculum						
Change	1	3	3	1	2	2
Add	1	2	2	1	1	1
Materials						
Texts						
Infusion	1	1	2	3	2	1
ENR focus				2	2	
Supplements						
Radio	1	2	2		1	1
TV		3		1	1	
Magazines/leaflets	1	2	2		1	1
Journals and Books		2	3	1	1	3
Computers/satellites		3 (env. monitoring)		2 (telecom)	3	

1 = highest priorities
2 = second level priorities
3 = third level priorities
A = depends on availability of TV
L = depends on literacy levels
* shows, spots, infusion
** articles, bulletins, infusion

APPENDIX B

ACTIVITIES IN PA/EE
Public Awareness/Environmental Education

AID Washington

Country Assessment	(1-2 U.S. experts, 6-8 wks)
Mission Plan Supply information on resources	(1-2 U.S. experts, 1 wk) - Personnel - Universities - Training Centers - Clearinghouse Book, Video Lists, Data Bases
Annual Evaluation	(1 U.S. expert, 1 wk)
Pilot Initiatives	(Ones the Mission does not consider funding at present but Washington wants to study for purposes of testing, comparison, replication, etc.

AID Mission

National Workshop
National Plan
National Study
Pilot Initiatives:

Mass Media (Radio TV Print)	- Monitor - Support - Create
Non-Formal	- Linkage, Coordination of NGO's - Materials Development - Training/Education Programs
Formal	- Curriculum Development - Materials Development - Teacher Training
Institutional Development	- Clearinghouse - Funding Mechanisms

Attachment C
PROCESS OF Environmental Education
GENERAL STEPS AND PROCEDURES

A. Washington sets goals and strategies
B. Washington advertises to Missions
C. Washington asks Missions to indicate interest
D. Washington dialogues with Missions and decides which to cooperate with
E. Washington agrees to supply cooperating Missions with a team to complete assessment, develop a Mission plan, coordinate workshops, evaluate projects and then advertise

1. U.S. team assesses (1-2 persons for 6-8 weeks):
   - interest
   - problems
   - possible solutions
   - audiences
   - resources
   - possible strategies
2. U.S. team plans (1-2 persons for 1 week):
   a. Mission Plan
   b. Pilot Initiatives
      - materials
      - training
      - clearinghouse
      - institutional development
3. U.S. team to coordinate National Workshop (1-2 persons for 3-5 days)
   a. National Plan
   b. National Assessment (Level II)
   c. National Priorities
4. U.S. team to evaluate in 3 and 5 years
5. Washington A.I.D. advertises Environmental Education Program beginnings, progress, results

LIST OF ACRONYMS

AEE	Alliance for Environmental Education
AED	Academy for Educational Development
ANE	Asian, Near East
AV	Audio-visual
BRAC	Bangladesh Rural Action Committee
CARE	Cooperative American Relief Agency
EE	Environmental Education
ENR	Environment and Natural Resources
EPA	Environmental Protection Agency
EPAT	Environment and Natural Resources Policy and Training Project (S&T)
FAO	Food and Agriculture Organization
FWS	Fish and Wildlife Service (US)
IIE	Institute for International Development
IIED	International Institute for Economics and Development
NAAEE	North American Association for Environmental Education
NGO	Nongovernmental Organization
OIT	Office of International Training
PA	Public Awareness
PC	Peace Corps
PRIDE	Project in Development and the Environment
RLP	Radio Learning Project
TERC	Technical Education Research Centers
TVA	Tennessee Valley Authority
TVE-USA	Television for the Environment - USA
UNEP	United Nations Environmental Program
UNFPA	United Nations Fund for Population Activities
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
VITA	Volunteers in Technical Assistance
WHO	World Health Organization
WRI	World Resources Institute
WWF	World Wildlife Fund

Attachment D

INITIAL ENVIRONMENTAL EXAMINATION

(A) PROJECT COUNTRY: ANE Regional

(B) ACTIVITY: Regional Environmental Activity Project (398-0365)

(C) A.I.D. FUNDING: $10 Million

(D) PERIOD OF FUNDING: FY 1991 - FY 1995

(E) STATEMENT PREPARED BY: Ronald J. Greenberg, ANE/PD/ENV

(F) ENVIRONMENTAL ACTION RECOMMENDED: Categorical Exclusion under 22 CFR Sections 216.2(c)(2)(i) and (iii).

(G) DECISION OF ASSISTANT ADMINISTRATOR

APPROVED: _____

DISAPPROVED: _____

DATE: _____

(H) DECISION OF ANE ENVIRONMENTAL COORDINATOR

APPROVED: M. Kux

DISAPPROVED: _____

DATE: 9-6-90

EXAMINATION OF THE NATURE, SCOPE AND MAGNITUDE OF THE POTENTIAL ENVIRONMENTAL EFFECTS

A. Description of Project:

The goal of the project is to promote long-term sustainable economic growth, through the wise use and management of natural resources and by reducing the rate of environmental degradation in the ANE region. The purpose of the project is to assist USAID Missions and host country institutions to identify and correct some of the environmental problems that are constraining sustainable economic growth and resources management.

The project will finance analyses, studies, and meetings to promote improved policy formulation, evaluate the potential for the transfer of environmental technology, and training.

technical assistance and educational development in environment and natural resources management.

B. Assessment of Potential Environmental Effects

The studies, technical assistance, and training to be financed by the projected will have the objective of supporting sustainable economic growth and improving environment and natural resources management. These activities are not anticipated to have a significant, negative, irreversible environmental effects.

The project subactivities are excluded from further environmental assessments under the following sections of 22 CFR 216. Section 216.2(c)(2)(i) provides a categorical exclusion for "education, technical assistance, or training programs except to the extent such programs include activities directly affecting the environment." Further, Section 216.2(c)(2)(iii) provides a categorical exclusion for "analyses, studies, academic or research workshops and meetings."

C. Recommended Environmental Threshold Determination

It is recommended that a categorical exclusion be approved because the project will have no direct negative environmental effects and it meets the conditions for exclusion as noted above.

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ANNEX P: Requirements for Long-Term Technical Assistance

(1) Senior Resource Economist (SRE)

The qualifications for this position are a Ph.D. in economics with a minimum of 10 years experience in applying the methods of policy analysis and strategic planning to water resource management issues in developing countries. Experience with AID procedures and planning processes will be essential, preferably with field experience in Near East countries. The SRE should demonstrate an ability to address ENR issues from a multidisciplinary perspective and to work effectively in multidisciplinary teams.

This person will serve as team leader for the core contract. For this reason, considerable mid to high level management experience and organizational skills are also required.

(2) Institutional and Information Specialist (IIS)

The IIS should have at least a Masters degree. The area of specialization may be development anthropology, political science, political economy or a related social science. This person should have at least 5 years practical experience with institutional and information management issues related to ENR in developing countries. In particular, the IIS should have practical experience with either communication technologies for promoting public awareness or institutional strengthening of environmental NGOs. A background in institutional aspects of policy development and implementation is desirable. Strong analytical and communication skills should be demonstrated, particularly the ability to evaluate pilot activities and report on the lessons learned. Experience and understanding of Near East cultures are preferable.

The IIS position will be funded under the core contract.

(3) Private Sector Analyst (PSA)

The PSA must have an MBA or equivalent and a minimum of 10 years of experience working in the private sector, preferably in an industry that provided environmental services or technologies, or a position that promoted private sector investments and technology transfer to other countries. At least 3 years experience should have involved international work, preferably including Near East countries. The PSA should demonstrate a general knowledge of industrial and urban environmental issues and of USG technology transfer and private sector programs. An essential skill for this position is the ability to communicate effectively, both in writing and verbally, with corporate representatives, trade associations, USG officials and host country private sector representatives and senior government officials.

The PSA will be part of the core direct contract, will coordinate closely with WEC Cooperative Agreement personn and will oversee the administration of sub-agreements and sub-contracts to the U.S. state or municipal organizations, for-profit institutions and NGOs for initiatives in ENE countries that demonstrate new mechanisms for stimulating private sector investments.

(4) Environmental Engineer (EE)

The EE should have an advanced degree in environmental engineering with at least 5 years practical experience with industrial or urban pollution abatement. This position also requires demonstrated management skills, the ability to work effectively with other disciplines, and strong inter-personal skills. International experience, particularly in Near East and European countries is preferred. This is an ENE/DR/ENR position.

(5) Urban Pollution Analyst
The Urban Pollution Analyst will be specialized on policy and pollution regulation and will identify trends and problems associated with urban pollution. This person will be available to ENE/DR part-time over the life of the project. The analyst will have an advanced degree in a relevant field and at least 10 years of experience in environmental planning and management. Overseas experience is preferred. The analysts must be familiar with the National Environmental Policy Act (NEPA) and with the EPA's assessment technologies.

(6) Pollution Control Officer (PCO)

The PCO will be responsible for technical backstopping of energy and infrastructure programs and projects and for ensuring that pollution impacts are minimized. The officer, working closely with the Bureau Environmental Officer, will provide intellectual leadership and management, particularly to the ENE Europe office. Specific duties will include:

1. Formulate policy, strategy, and technical assistance concepts for promoting environmentally-sound energy and infrastructure development in ENE countries.

2. Provide technical support and advice to Mission project and program officers related to the pollution impacts of energy and infrastructure projects and the choice of energy and industrial process and pollution control technologies.

3. Design and manage Eastern Europe pollution control projects.

4. Respond to information requests and opportunities for pollution control sales and investments in ENE countries.

The PCO should have broad knowledge of energy and industrial processes and technology. In addition, an understanding the relevance and application of these systems to the specific situations in diverse European and Near East countries is vital. The PCO should have at least ten years experience in industrial process evaluation and pollution control technology applications design, assessment and management. The officer must have a sound technical understanding of the physical science, engineering, financial and management issues in air, water and land degradation from energy, transportation, and other infrastructure development. Experience in private industry and with innovative financing approaches to pollution control is desirable. This experience should demonstrate a working knowledge of management, intellectual leadership and presentation skills. The PCO should have academic training in relevant engineering or physical science fields (e.g. chemistry or chemical engineering) at the BS level is critical and training in management, business, economics or engineering at

the Master's level is strongly preferred. Demonstrated competency in work experience in lieu of degree training will be considered.

(7) **Administrative Assistant**

The AA should have at least 5 years experience in the administration of development projects. Demonstrated skills in written communication and knowledge of AID procedures are also required.