

INITIATIVE ON THE ENVIRONMENT

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Initiative on the Environment

Executive Summary

The purpose of the Initiative on the Environment is to guide the Agency's environmental and natural resource interventions to areas where our assistance will have the greatest impact. While concern for the environment is not a new A.I.D. agenda item, its relationship to the A.I.D. program has changed. Global environmental issues -- loss of biodiversity/tropical forests and inefficient use of energy -- have become more prominent. More importantly, there is growing recognition that without sound management of natural resources, sustained economic growth may be jeopardized.

The Agency's 1988 Policy Paper on Environment and Natural Resources identifies three cross cutting themes to which our programs must respond: sound economic and environmental policies; institutional development; and, technology generation and commercialization. These form the conceptual foundation for this paper.

Within this framework, the Agency has identified three areas of intervention where A.I.D. resources will be focused in response to the major environmental issues currently facing the developing world. The first two are global in nature and will be addressed by A.I.D. in each of the geographic regions. The third will be region specific and will respond to the principal environmental concerns identified within each region.

1. Environmental Policy and Economics. Unsound economic policy and ineffective environmental laws, policies and regulations are among the most significant causes of environmental degradation in developing countries. If the relationship between economics and resource conservation were better understood, economic forces could be harnessed to benefit the environment while promoting development. Recommendations for interventions include strengthening the data base and the capacity for policy analysis.

2. Strengthening Environmental Institutions. Developing indigenous capability in both the private and public sectors will help to foster concern for environmentally sound programs and policies. Recommended actions include an enhanced training and institution building program for developing country managers and policy makers in both the public and private sectors as well as public education for all age groups.

3. Priority Problem Areas. Each of the geographic bureaus has established priority areas of intervention. Using completed or planned regional environment and natural resource strategies, each bureau has identified the three or four major technical environmental problem areas on which their programs will be focused. These efforts will be further supported by activities within the Bureau for Science and Technology, the Private Enterprise Bureau and the Office of the Science Advisor. Beginning in FY 1991, each bureau will concentrate 75% of all new environmental resources to support activities in the two global problem areas and the several technical areas that the bureaus have identified. The technical areas identified by the bureaus are as follows:

AFR

- sustainable agriculture, particularly soil management
- tropical forests and rangelands
- biological diversity

ANE

- water and soil resources
- energy efficiency and use
- urban and industrial pollution
- tropical forests and biological diversity

LAC

- sustainable agricultural production
- tropical forests and biological diversity
- watershed and water management
- coastal zone management

In addition, the Initiative on the Environment proposes a strong program of staff development to increase A.I.D.'s ability to understand and address environmental concerns. The program will feature the addition of environmental experts to A.I.D.'s staff, increased training and building of awareness, and updating A.I.D.'s environmental procedures.

The Agency plans to make use of a number of mechanisms to support the Initiative in addition to its normal project and program funding. These will include reorienting existing programs in other sectors, debt-for-nature swaps, PL-480 food aid and greater use of the private sector.

The task of implementing the Initiative is one that will require the involvement of a number of institutions and organizations besides A.I.D. Other U.S. Government agencies, the environmental NGO community, private enterprises, and U.S. universities are all expected to play important roles in the process. In addition, we expect to coordinate with other donors and the multilateral development banks to maximize the resources needed to carry out these objectives.

In pursuing this Initiative, A.I.D. will continue to assure the environmental soundness of its entire program and actively incorporate those concerns into its development goals.

INITIATIVE ON THE ENVIRONMENT

I. BACKGROUND

The seriousness of the environmental challenges facing us has been recognized and articulated by the electorate; Congressional oversight and mandates to A.I.D. have increased; senior administration officials, beginning with the President, are providing leadership in response to increasingly serious environmental problems affecting both the developed and developing world.

Environmental concern is not new to A.I.D. Since 1976, A.I.D. has followed procedures to ensure that its assistance activities are environmentally sound. During this period A.I.D. has also supported projects which have as their primary goal the sound management of natural resources. These projects have supported efforts in:

- forestry (reforestation, agroforestry, research)
- soil conservation and watershed management
- conservation of biological resources
- resource inventories
- analysis of country environmental problems
- coastal resources management
- improving water quality in both rural and urban areas
- land use planning
- environmental education
- renewable energy, energy efficiency and planning

While many of these efforts remain critical to the Agency's overall programs, the relationship of the environment to the A.I.D. portfolio has changed. New factors affecting the role of the environment in AID thinking and programs should include:

- A recognition of the importance of renewable natural resources to economic growth and the need for a strong policy base if we are to have sound environmental management.
- The emergence of new global environmental issues such as biological diversity, tropical deforestation and global climate change that present challenges to A.I.D.'s programming approaches;
- The realization that the success of A.I.D.'s development assistance programs is dependent on the integration of environmental concerns into country-level strategies and sectoral programs. Environmental issues must be addressed with resources from virtually all sectors.

- A greater understanding of the complex relationship between rapid rates of population growth and pressure on the natural resource base.
- The rapid urban and industrial growth in some regions that has created a set of economic and environmental problems as well as opportunities for development.
- The growing capacity and role of non-governmental environmental groups in developing countries.

II. PURPOSE OF THE ENVIRONMENTAL INITIATIVE

The purpose of the A.I.D. Environmental Initiative is to provide an action framework to guide the Agency's natural resource and environment interventions to areas where assistance will have the greatest impact. Based on ten years of experience with a strong environment program and an expanded understanding of environmental issues, the Environmental Initiative identifies areas where A.I.D.'s environmental resources should be concentrated and recommends that new environmental efforts strongly support activities under these areas of focus. Beginning in FY 1991, each Bureau will be expected to obligate at least 75% of its resources going toward new environmental projects in the technical and programmatic areas of focus outlined herein. Thus, as older projects come to completion, A.I.D.'s environment portfolio will contain a growing percentage of projects in these areas. This gradual approach will permit A.I.D. to refine its environment program to reflect new knowledge or experience from ongoing activities.

III. MECHANISMS TO ENVIRONMENTALLY SOUND DEVELOPMENT

A.I.D.'s 1988 Policy Paper on Environment and Natural Resources emphasized three major constraints to environmentally sound development: inappropriate economic and environmental policies at national and local levels; ineffective public and private institutions; and inadequate access to and use of technologies to improve natural resources management. This leads logically to three primary means of removing or overcoming these constraints:

1. Sound Economic and Environmental Policies

Developing countries are expanding their political and financial commitments to dealing with environmental problems that are central to economic development. Since their experience and resources to treat environmental issues are limited, they are open to A.I.D. assistance in analyzing problems and developing the approach and capacity to deal with them. A.I.D. can play a useful role in helping to establish a rational policy framework for natural resource and environmental management. Rational economic

and sectoral policies which incorporate environmental aspects are of the highest priority. It is increasingly clear that inefficient markets and distorted economic policies are at the root of much environmental degradation. Price policies, tax, fiscal and monetary policies, and trade and investment policies all affect the production and consumption of natural resources. Price and market reforms are needed to correctly value natural resources and environmental services. A combination of price and non-price policies can provide incentives for efficient use of natural resources and the introduction of environmentally-sound technologies. Government has a key role to play in establishing a policy and institutional environment which avoids excessive depletion of natural resources, thereby leading to long-term efficiency and sustainable growth.

2. Environmental Capacity- Building

Developing countries are experiencing rapid structural and institutional change, change which requires the acquisition of new skills, information and data. New institutional arrangements are needed to cope with more complex and technologically-sophisticated problems which sound management of the environment demand. While government has a critical role to play, equal emphasis is needed on building democratic and pluralistic systems in which the affected public and private sector groups have a voice in basic development. Economic and environmental decisions need to reflect these concerns about environmental degradation. This will require institutional support to strengthen NGO capacity, promote education of policy makers and the public across age groups, and encourage a wide range of technical training.

3. Technology Generation, Transfer and Commercialization

Technological change, often a result of market demands, is a force underlying the structural change in developing countries. Technology plays a critical role in the expansion of economic and political choices. Correct economic policies are a prerequisite for sound environmental management, research, technology transfer and commercialization. Cost and availability of technology determines the potential to improve efficiency, to introduce alternatives for depleted resource or polluting industries, and to restore degraded land, water and air. Technology, in this context, includes access to and better use of information, as in geographic information systems and environmental impact assessment techniques.

The United States is a leader in environmental technologies. A.I.D. can be a catalyst in working with private industry and others to further the adaptation and transfer of relevant technologies and in helping developing countries adapt and commercialize these technologies to their particular circumstances and markets.

IV. AREAS OF FOCUS

These mechanisms for promoting change will be applied in varying degrees and in different combinations to key programmatic and technical areas of intervention. These are areas where A.I.D. can have the greatest impact and where A.I.D. resources should increasingly be directed. As additional resources become available, either from additional appropriations or from other sectors within existing appropriations, they will be channeled into these areas. Other sectors can contribute to the total environment investment by redirecting some funds toward those activities which serve multiple purposes.

The programmatic and technical areas of focused intervention are both global in nature and geographically specific.

1. Interventions for global attention by A.I.D

- o Economics and environmental policy. Policy is considered both a means of effecting change and a programmatic area of intervention. This is because policy reform as a tool is applicable to all sectors but is also a specific target for intervention.
- o Environmental education, training and NGOs. Enhancing local capacity through environmental education and training and enhancing A.I.D.'s own capacity through staff and training.

2. Key technical interventions in one or more region

- o Environmentally sound energy production and use
- o Tropical forestry and biological diversity
- o Urban/industrial pollution and environmental health
- o Environmentally sound agriculture
- o Coastal zone management
- o Watershed and water management

The range of environmental issues differs in priority among and within the different geographic regions; obviously, not every initiative is appropriate for every country. Regional Bureau and Mission strategies and analyses will determine the extent to which the initiatives are applicable to any particular country or region.

The programmatic and technical areas on which the A.I.D. program will focus are more completely discussed in Section VI, with examples of specific actions.

V. BUREAU STRATEGY APPROACHES

In addition, the three Geographic Bureaus have adopted strategies which support environmental and natural resource management

programs. The global interventions outlined above (Economics and Capacity Building) are central to all Bureaus strategy. Each Bureau has focused on key technical interventions which meet the environmental problems particular to the region, as follows:

1. Africa

The "Plan for Supporting Natural Resources Management in Sub-Saharan Africa" was adopted in 1987 and continues to be an operational programming tool for focusing investments. The AFR Natural Resources Strategy is based on an in-depth review of ten major environmental issues. The review concluded that under "ordinary" circumstances the Africa Bureau should continue its focus on three technical areas:

- (1) Sustainable agriculture, particularly soil management.
- (2) Tropical forestry, including vegetative cover of forest and range lands.
- (3) Biological diversity.

At least 75% of environmental resources will be focused on these three areas. If a severe and widespread outbreak of locusts and grasshoppers occurs, resources devoted to environmental aspects of pest and pesticide management may exceed 25%. Thus, pest and pesticide management could become a fourth area of environmental focus.

Major emphasis has been and will continue to be on the following cross-cutting approaches:

- sound economic and environmental policies;
- environmental capacity building (including emphasis on NGOs);
- environmental monitoring (development and application of indicators of program effectiveness).

2. Asia Near East and Europe

The Asia, Near East and Europe Bureau is developing an Environment and Natural Resources Strategy that supports the Bureau's emphasis on open markets, open societies and sustainable economic growth through more efficient production, use and sound management of natural resources.

The ANE Bureau spans a vast area with diverse ecological, economic and political systems. Recognizing this diversity, the ANE Environment and Natural Resources Strategy will direct technical

interventions towards four critical areas of development in the 1990s:

- (1) Management of water and soil resources;
- (2) Energy efficiency and environmental impacts;
- (3) Urban and industrial pollution;
- (4) Tropical forests and biological diversity.

Programs and projects in these areas will pay particular attention to:

- establishment of rational economic and sectoral policies that incorporate full environmental costs;
- development of environmental and natural resource economic analysis capability;
- definition of appropriate public and private sector roles and institutional functions and strengthening of managerial and technical capacities;
- increased private sector, NGO and public participation in development decisions and in the management of natural resources.

Project specific activities will include technical assistance, training and public education, field pilot and demonstration efforts, applied research and market-oriented technology development, industrial cooperation and exchange, and trade and investment promotion. ANE will cooperate with multilateral development banks, other bilateral donors to mobilize other U.S. Government agencies and NGOs including the private sector, in carrying its programs and other resources to complement our resources.

The potential for global climate change will be addressed through programs and projects in energy efficiency, least-cost planning, renewable energy and forestry in the ANE countries that are key from a greenhouse gas emissions standpoint: Poland, India, Indonesia, Philippines, and Pakistan. Other Congressional mandates, such as conservation of biological diversity and assuring that environmental review is fully integrated into all ANE supported activities, will receive continuing attention throughout the region.

3. Latin America and Caribbean.

The approach of the Bureau for Latin America and the Caribbean to environment and natural resource management relies on

country and sub-regional level strategies which will be responsive to local needs, the Agency Policy on Environment and Natural Resources, and applicable legislation. The LAC Bureau is also in the process of developing a Bureau level strategy on environment as well as strategies on other technical areas with environment and natural resource elements. The goal is to promote long-term economic growth by helping countries manage natural resources for sustainable yields and improved environmental quality through appropriate programs and policies.

The LAC environmental strategy will be tied to new LAC Bureau objectives which include "Encourage Preservation and Sustainable Use of the Natural Resource Base." The performance indicators under this objective include: (1) an adequate framework of environmental policies, laws and regulations, (2) a strong public and private institutional capacity for environmental protection and natural resources management, (3) sustainable management of forests, watersheds, coastal zones and other areas that are highly vulnerable to deterioration, (4) improved conservation and diminished contamination of soil, water and air.

LAC's programming will emphasize the following two overarching and six technical foci which are listed below and described in greater detail in section VI of this initiative paper:

Overarching:

(1) Economic and Environmental Policy: An overarching theme of LAC programs and policy dialogue will be to correct (a) economic distortions and disincentives that result in environmental misuse and degradation, (b) policy, legal and institutional weaknesses that constrain improvement, and (c) information deficiencies on the real value of the environment and the cost of unsustainable use that prevent reasoned decisions.

(2) Environmental Education, Training and NGOs: LAC will build the environmental capacity of host countries through training, education and public awareness programs. NGOs will play a key role, especially in raising the level of public awareness and support. Public and private sector institutions need increased expertise in the environmental sciences and environmental law, economics, impact assessment, policy and planning. School curricula should include environmental studies.

Technical:

(1) Sustainable Agricultural Production: LAC will develop, disseminate and integrate technologies that lead to sustainable land use. Specific interventions will include agroforestry, pest and pesticide management, and soil conservation.

(2) Forestry: A.I.D. assistance will focus on research and management of priority tropical and commercial forests for sustainable yield, protection of biodiversity, and maintenance of wildlands.

(3) Watershed Management: Land use plans and land management practices (including soil conservation, reforestation, parks and forest reserves) will be developed to safeguard priority hydroelectric and water supply catchments and to enhance sustained productivity.

(4) Coastal Zone Management: Sustainable economic management and conservation of natural resources in coastal areas will include promoting ecotourism, halting degradation of reefs, seagrasses and mangroves, improving land use planning, preserving biodiversity and managing fisheries.

Beginning in FY 1991 LAC will direct at least 75% of its resources going to environmental projects into these six focus areas. Up to 25% may go into other critical environmental areas such as environmental health and urban industrial pollution.

4. Bureau for Science and Technology

The S&T Bureau provides research and a support element to the Regional bureaus in the following areas:

- (1) Natural resource policies and conservation economics;
- (2) Developing a technological and sociological knowledge base for sustainable management of natural resources;
- (3) Strengthening of public and private institutions and human capacities to incorporate fully environmental considerations into economic growth patterns, and raising public awareness; and
- (4) Environmentally sound energy sources and systems, policies and management approaches to provide the increased energy required for sustained economic growth.

5. Private Enterprise Bureau

The Bureau for Private Enterprise (PRE) is developing the capacity to establish leadership within A.I.D. to assist regional bureaus and Missions in using market incentives and the ingenuity of entrepreneurs to help deter pollution and reverse environmental degradation. PRE can provide assistance to Missions in the following areas:

- 1) developing strategies and marketing plans that present

commercially viable alternatives for sustainable natural resource use;

2) providing technical assistance to developing country industries and business firms on appropriate environmental technology and business restructuring;

3) contributing to policy dialogue with developing country governments on appropriate investment regulations, tax policies and environmentally sound business climates; and

4) developing creative financing techniques such as environmental bonds, debt-for-nature swaps, environmental "clean-up" funds, and the mobilization of resources both through the direct loan and the guarantee program.

6. Office of the Science Advisor

SCI supports development research which actively involves developing country scientists in collaborative efforts. Groundbreaking research has been supported in areas such as: the diversity of biological resources, use of renewable resources, global climate change, genetics of important species, integrated pest management, and the environmental impacts of hazardous materials. Through its relationship with the National Academy of Sciences, SCI has brought scientific advice to bear on key environmental issues for the donor community.

VI. AREAS OF FOCUS FOR A.I.D.'S ENVIRONMENTAL INVESTMENTS: TECHNICAL AND PROGRAMMATIC INITIATIVE

The environmental initiatives which will constitute the focus for A.I.D. investments are the following:

1. Economic and Environmental Policy

Unsound economic policy and ineffective environmental laws, policies, and regulations are some of the most significant causes of environmental degradation in developing countries. If the relationship between economics and conservation were better understood, economic forces could be harnessed to benefit the environment while promoting development. In the absence of an appropriate policy framework and concrete strategies, however, market failures and inappropriate economic incentives will continue to promote destruction rather than conservation.

The most important policy and economic constraints affecting environmental degradation are: (a) the absence or failure of markets to reflect the real costs, including environmental costs, of goods and services; (b) sector policy distortions and subsidies that encourage inefficiency and waste; (c) institutional weaknesses and inadequate definition of public and private sector

responsibilities for environmental management, including clear definition of property rights and resource tenure; (d) national income accounting systems which inadequately account for the loss of natural resources or environmental quality, (e) ineffective environmental laws and regulations; and (f) lack of information of trends on the condition of natural resources and environmental systems. As a consequence, renewable resources are mined, destroying the raw materials that fuel economic expansion; scarce funds are siphoned into wasteful consumption rather than investment; and genetic and ecological resources of great economic and environmental value are lost.

A related concern is the absence of current, reliable physical data in many developing countries. Without it there are enormous handicaps in making intelligent changes in existing policies or developing sound, new environmental policies. Consequently, efforts to strengthen capabilities for data collection and analysis go hand-in-hand with the emphasis on improving environmental policies.

Examples of Actions

- (1) Beginning in FY 1991, incorporate appropriate environmental analysis in all new policy dialogue and policy reform programs.
- (2) Support two centers of excellence in environmental economics over the next three fiscal years, in the United States and a developing country, to fund research and training in evaluation, national income accounting, market and policy failures which lead to environmental degradation, the appropriate role of government in regulating pollution, and the cost burden of pollution effects, prevention and remedies.
- (3) Improve the physical and economic information base to allow consideration of both environmental impacts of new development projects and the costs and benefits of investments in natural resource conservation, protection and restoration.
- (4) Assist environmental agencies with regulatory requirements such as environmental impact assessment and in cost-effective approaches to regulating industrial pollution, and solid and toxic waste management.
- (5) Establish a program with the World Bank and the regional development banks to analyze the environmental implications of structural adjustment and sectoral lending and to introduce explicit conditionality aimed at reforming relevant policies and institutions.

(6) Host a series of regional conferences for ministers of planning, finance, agriculture, etc. with each of the regional multilateral development banks (a) to illustrate how economic growth has been affected by inappropriate natural resource policies, and (b) to present case studies where effective policy changes have been implemented.

2. Environmental Education, Training, and NGOs

The long-term success of A.I.D.'s environment program depends on the ability to create indigenous capacity for influencing national policies and effective resource management. This capacity requires a cadre of experts in the public and private sectors trained in environmental sciences, law and economics, environmental assessment, cost/benefit analysis, policy analysis and reform, and administration. Developing a corps of professional staff in the government, private businesses, and local NGO community will ensure that environmentally sound policies and programs initiated under A.I.D.'s assistance will remain in place and continue to develop long after A.I.D.'s departure. Public education across age groups from school children to policy-makers is important in building individual and societal responsibility and accountability. Enhancement of media (press, radio, TV) coverage is a key component in building public awareness.

Examples of Actions

(1) Make environment a high priority in training and education projects beginning in FY 1991.

(2) Train host-country NGO, private business, and government staff in environmental impact assessment and economic cost/benefit and social soundness analysis.

(3) Host policy-level seminars for planning and financial and sectoral ministers, heads of environmental agencies private business leaders, NGOs and the media in developing countries to provide an opportunity for leaders to discuss policy and institutional issues with U.S. and other country counterparts.

(4) Provide support to indigenous NGOs to undertake programs, alone and in cooperation with their governments, in areas such as formal and nonformal education and training, park and buffer zone establishment and management, environmental assessment, demonstration programs, and public outreach. Strengthening mass media coverage of environmental problems is an important means of expanding public participation in government accountability.

3. Priority Problem Areas

The Agency has supported programs that respond to a wide range of environmental problems. The problems differ in their severity and their priority, both among and within each geographic region. To take into account these differences as well as to benefit from focusing A.I.D. resources on the most serious of these problem areas, each geographic bureau has selected three of four of the most pressing concerns in the region and will focus the bulk of its new resources (beginning in FY 1991) on them. The core list of these problem areas includes but is not limited to the following:

o Environmentally-Sound Energy Production and Use

The primary goal of A.I.D.'s energy program is to promote the development of cost-effective, efficient, reliable, and environmentally sound energy systems in developing countries in order to provide the energy necessary for broad-based economic growth.

Energy is essential for development. Only with adequate, affordable, and reliable supplies of energy can developing countries expand their economies. In virtually every economic sector the process of development requires more and higher quality forms of energy. Energy activities, because of the pervasive influence of energy on the economy, represent a particularly attractive target for A.I.D.'s macroeconomic policy reform programs. Agricultural development, improvement in health services, expansion of small and large enterprises, and improvements in social welfare are closely tied to changes in the quantity and form of energy consumption.

Inefficient energy production, insensitivity to its effect on the environment, and irrational energy planning and pricing are threatening the long-term economic future of three-fourths of the world's population.

Examples of Actions

(1) Establish that all new energy projects, beginning in FY 1991, will support efficiency improvements, renewable and other environmentally sensitive technologies, or least-cost energy planning, or training in any of these areas.

(2) Launch a Global Energy Efficiency Initiative emphasizing policy reform in pricing and private sector activities, private power and cogeneration, and end use efficiency to reduce the need for new generating capacity.

(3) Create a Feasibility Fund for Clean Energy Technology to increase funding for cost-share feasibility studies of site-specific applications of renewable energy,

environmental control, and other environmentally sound technologies.

(4) Target 10 countries where expert consultants will work with utility investment planners to undertake least-cost energy planning, working through the Multi-Agency Group on Power Sector Innovation.

(5) Develop a Clean Energy Training Fund to offer study tours and short-term courses for developing country nationals on choosing, designing, and implementing relevant applications of sustainable energy technologies. Brazil, Mexico, countries of Eastern Europe, and India will be targets of these resources.

o Tropical Forestry and Biological Diversity

More than half of the world's tropical forests have been lost since the turn of the century. Tropical forests provide wood for industry and local use, and valued fruits, nuts, medicinal and other products, together with soil and watershed protection, climate control and other environmental services. They provide habitat for more than half of the world's plant and animal species. Yet misguided land development, land tenure, tax and investment policies, inappropriate incentives, market failures and policy distortions encourage unsustainable use and conversion of tropical forests in many developing countries.

Deforestation and severe use and degradation of tropical forests result in increased soil erosion; siltation of rivers, dams, and irrigation systems; flooding; habitat loss; species extinction; local climate change; and release of carbon dioxide to the atmosphere. The costs of rehabilitation of the adversely affected downstream infrastructure can be enormous or, possibly, irreversible and will divert financial resources from more productive uses.

Examples of Actions

(1) Develop a comprehensive program to support natural forest management, including policy reform, in selected key countries; a minimum of ten percent of A.I.D.'s total forestry budget will be reoriented to fund this program beginning in FY 1991.

(2) Increase funding within the total forestry and biodiversity budgets for buffer zone management, without decreasing support for parks and protected areas or natural forest management. A component of this support will be funding for interdisciplinary studies by ecological anthropologists, ecologists and natural resource economists, linked to direct interventions to help meet the

material needs of local populations on a sustainable basis.

(3) Develop and fund pilot projects to demonstrate the feasibility of linking local resource conserving enterprises to U.S. business and other private interests in forest management, agroforestry and nature tourism.

(4) Develop a framework for assessing debt-for-nature swap possibilities.

o Urban and Industrial Pollution and Environmental Health

The rapid growth of urban areas in developing countries is changing their economic structure and creating markets for goods and services which stimulate national economic growth. An unfortunate by-product of this urban growth has been widespread environmental degradation. Water pollution is a severe problem. Untreated residential, industrial and toxic wastes pour into local streams and international waters, contaminating nearby fields and fishing grounds, endangering human health, threatens nascent tourist industries and decreases the efficient use of urban natural resources, such as land. Solid waste management is a growing problem. Air pollution brought about by industrialization and the rapid proliferation of automobiles -- most still using leaded fuels -- is becoming increasingly severe in urban areas. Occupational health and safety are major problems in most developing countries. Urban environmental degradation threatens both human health and economic growth.

Examples of Actions

(1) Announce in an AWIDE cable from the Administrator that environmental health issues are to be considered when developing all future health policies, strategies, and programs as a priority area.

(2) Increase funding to strengthen pollution control policies, legislation, regulatory and analytical capabilities in public and private entities.

(3) Prepare case studies in a select number of countries which prioritize pollution problems and their economic costs and demonstrate viable means of reducing or preventing urban environmental pollution and its associated economic issues.

(4) Use the U.S. private industrial sector to provide technical assistance and training in industrial pollution control and occupational health and safety, and to stimulate formation of U.S./LDC joint private ventures in these areas.

(5) Develop and collaborate -- with the World Bank, the regional development banks, and other donors -- pilot projects to demonstrate technologies and policy approaches to reduce air and water pollution in urban areas.

o Environmentally Sound Agriculture

Current agricultural practices in many parts of the world are often unsustainable. As a result, rangelands are overgrazed, forests disappear, soil becomes infertile or waterlogged, soil erodes, irreplaceable species are lost, freshwater and marine fisheries decline, water is polluted, and people sicken or die from the misuse of pesticides. In turn, agricultural productivity declines, less land is available for cultivation and farmers are forced to move into forests and other natural areas which are unsuitable for production. Sustainable agricultural systems, in combination with the correct policy structure, can reverse this environmental degradation and improve people's lives.

Promotion of sustainable agriculture will likely require changes in how A.I.D. addresses its agricultural portfolio. Methods of economic analysis need modification to reflect the real value of natural resources. Environmental assessments need to be better integrated into the project design process. Development of sustainable agricultural systems requires the full participation of the local population. Ongoing research is required to incorporate appropriate advances in biology and technology. A greater emphasis must be placed on the use of integrated pest management.

Examples of Actions

(1) Significantly increase the proportion of the agricultural portfolio devoted to environmentally beneficial agricultural activities, with an emphasis on integrated pest management (IPM), agroforestry, sustainable alternatives to shifting cultivation, and agricultural policy reform.

(2) Complete a set of guidelines on Agricultural Pest and Pesticide Management which update the 1978 Pesticide Policy and firmly establish IPM as the primary method of pest control supported by A.I.D.

(3) Undertake country-specific assessments of the pest management needs of developing countries and identify constraints to more widespread application of IPM practices.

(4) Initiate pilot projects to demonstrate the economic and environmental benefits of integrated pest management,

and expand existing IPM activities in the Latin America/Caribbean region.

(5) Work with the World Bank, the OECD, and the UN technical agencies to reorient the research agendas of the CGIARs to IPM, agroforestry, water conservation and management, and other environmentally and socially sound agricultural management practices.

(6) Develop and support programs in sustainable agriculture to identify methodologies for designing and implementing sustainable agricultural systems, to build institutional capacity in sustainable agriculture, and to provide technical support in this area to A.I.D. missions and offices.

o Watershed and Water Management

Watershed degradation is a serious problem which threatens agriculture, biodiversity, potable water supplies, hydroelectric generation, fisheries, irrigation, flood and drought control, navigable waterways, and tourism. Poor water quality and unreliable quantity limits industrial and urban development and leads to human health problems. If ignored, all of these problems present high economic costs to development that can be substantially mitigated at a fraction of the price through appropriate watershed and water management interventions.

Land use planning, reforestation and forest management, soil conservation, pollution abatement and parks all represent appropriate investments to protect this key resource.

Example Actions

(1) Identify watersheds of high economic importance and develop programs to stabilize and manage them.

(2) Work with the multilateral development banks and other donors to stimulate their funding of watershed management programs for existing and new hydroelectric and drinking water projects.

(3) Further develop cost/benefit analyses to more graphically quantify the need for watershed and water management in rural development projects.

o Coastal Zone Management

A major environmental problem confronting most Latin American and Caribbean nations is the deterioration of their coastal resource base. Deteriorating water quality threatens public health and the economically important shrimp industry.

Industrial and artisanal fisheries are being undermined by overfishing, mangroves vital as nurseries for many commercially valuable fish are being destroyed, and fragile coral reefs and seagrass beds are dying due to siltation and pollution.

Degradation of these coastal areas is occurring at a time when many countries are becoming increasingly dependent on coastal resources as a source of non-traditional exports, especially shrimp, conch, and spiny lobster, to bring in much needed foreign exchange. Coastal areas also are a major focus for tourism -- one of the world's largest industries.

Example Actions

(1) Develop integrated, site-specific resource management strategies and coastal resource management programs that focus on specific environmental/economic problems. Solutions to these problems must accommodate both conservation and development needs. Successful programs must bring together nationally supported efforts in community-based stewardship of local environment, research, policy development, land-use planning, and training.

(2) Strengthen the capacity of in-country, and where appropriate, regional agencies to analyze, monitor, and manage coastal resources. This requires interdisciplinary education and training in such sectoral areas as fisheries, protected area management, forestry, watershed management, and water quality.

(3) Strengthen NGO efforts to raise public awareness about the condition and potential consequences of degradation and mismanagement of coastal resource base.

(4) Promote policies, site-specific legislation, and relevant enforcement regulations that further environmentally sound management of coastal resources.

(5) Develop land use plans, zoning regulations and building codes that promote development and guide growth while sustaining the natural resource base.

VII. ENHANCING A.I.D.'S CAPACITY THROUGH STAFF DEVELOPMENT

A.I.D.'s ability to implement its current programs, enhance the environmental component of its assistance efforts, and implement new initiatives is dependent upon: (a) acquiring adequate expert staff to design and monitor programs and projects and help reorient current activities, (b) making senior managers, program and project officers cognizant of basic environmental issues and approaches to their solutions, and (c) incorporating

into all A.I.D. procedures and practices a concern for the environment.

A.I.D. managers at all levels and in all sectors as well as our host country counterparts need a better understanding of the ecological foundations of development and the economics of environmental and natural resources management. Only a small percentage of mission environmental officers have any significant technical training for their programmatic and regulatory duties. Very few have the time or capability to implement properly the Agency's own environmental regulations (CFR Part 216, commonly referred to as Reg. 16). Fewer than 10% of A.I.D. missions have any trained energy staff.

A recommended program of staff development is as follows:

- (1) Increase the number of A.I.D. direct hire and other staff experts in the environment and energy fields by 20 people in each of the next three years (FY 1990-92). Initial target emphasis will be placed on areas mentioned in Section VI above, including environmental planning and assessment, energy (efficiency, renewables, and least cost planning), forestry, and natural resource economics.
- (2) Initiate a comprehensive and coordinated training program for A.I.D. staff in environment, energy and natural resources with funds sufficient to train at least 100 on-board staff each year for the next five years. Training will be for mission directors, program officers, project officers, economists, environmental officers, and others involved in the program design, approval and implementation process and will include workshops, seminars, environmental modules in ongoing A.I.D. training, and long-term training.
- (3) Train at least one staff person in each AID Mission and Washington office over the next three years in environmental impact assessment techniques to improve implementation of Agency Environmental Procedures (22 CFR 216). As staff rotations occur, each mission is to ensure that a person is trained in this area.
- (4) Beginning immediately, place environment on the agenda of all conferences for mission directors and technical officers to update Directors and technical staff on environmental legislation, strategies and programmatic advances.
- (5) Update A.I.D.'s environmental procedures to include review of the use of local currency generation, assistance provided through intermediate credit institutions, and non-project assistance. The procedures should be reviewed periodically to ensure that new funding mechanisms are

covered.

VII. FINANCING MEASURES

A number of mechanisms, aside from the normal program and project funding, can and should be utilized to support the proposed initiatives. These include:

1. Reorientation of Existing Programs in Other Sectors

Other sectors can increase their contribution to A.I.D.'s total environment investment. For example, the population program could give increased attention to policy dialogue on the relationship between population and environment issues. The agricultural portfolio can place greater emphasis on integrated pest management, agroforestry and more efficient water management (see Section V). The education program could increase support for developing in-school curricula for environmental education. Environmental health issues could be addressed in the Agency's health program. The Housing Guarantee legislation could be revised to allow for financing of a broader array of urban environmental problems. In addition, the private sector programs such as the investment guarantee and direct loan programs, the Financial Sector Development Program or the Private Enterprise Development Support (PEDS) program, can be used to finance and support for profit sustainable environmental projects. Integrating environmental activities into existing programs would free additional resources for the environment without a corresponding decrease in other sectors as well as make A.I.D.'s environmental programs more effective.

2. Debt-For-Nature Swaps

A.I.D. will use foreign assistance funds to finance the purchase, by intermediary organizations, of debt currently owed by developing countries to foreign creditors. New authority permitting proceeds from debt-for-nature swaps to be used for endowments and permitting interest earned to be retained (rather than returned to Treasury, as before) and used for the same purpose as the swap, should increase the number of these transactions. A.I.D. will encourage as many countries as possible to propose debt-for-nature swaps to increase financing available for the new initiatives and for endowments for environmental research activities.

3. PL-480 Food Aid

In many food aid projects the proceeds from the concessional sale of U.S. agricultural commodities are used for environmental activities, primarily in forestry. A.I.D. will strengthen cooperation with the Peace Corps, NGOs and other donors working in natural resource projects supported by these funds,

particularly in the areas of environmental education. Food-for-Work programs can focus on environmental management.

4. The Private Sector

A.I.D. will create and expand investment, trade, and privatization programs that reverse environmental degradation. These efforts will be funded in part through the mobilization of private capital and innovative financing techniques such as developing country environmental bonds, establishing an environment fund with income generated from privatization transactions, or by supporting profit-making projects which are resource conserving. Examples include investments in ecotourism-related businesses, game ranching, energy generation using renewable and other environmentally sound technologies, sustainable forest-production enterprises, sustainable agriculture and natural forest management. A.I.D. will seek to involve U.S. corporations, including recently retired experts through the IESC program.

IX. IMPLEMENTING MECHANISMS

The new Environmental Initiative will be implemented in collaboration with private enterprises, other U.S. government agencies, and non-governmental organizations, including private voluntary organizations, U.S. universities, and the Peace Corps. A.I.D. will also attempt to expand the available funding for environmental activities by leveraging resources from other bilateral and multilateral assistance agencies and from private foundations.

For example, the Joint AID/EPA Steering Committee can be an effective mechanism to enable AID to draw upon the resources of the EPA where needed to implement the Initiative. The Steering Committee has constituted sub-groups on global climate change, institutional development, training, hazardous material use and waste disposal, particularly pesticides; and urban environmental issues.

In each of the seven focus areas, the roles of women in the production and consumption process are often different than those of men and economic constraints and benefits are often gender specific. A.I.D. will include gender considerations when addressing the focus areas.