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Environmental Policies, Procedures, and Performance  
of the  
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**NATURAL RESOURCES DEFENSE COUNCIL, INC.**

**February 1980**

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PREFACE

In July 1978, the United States Agency for International Development (AID) provided a support grant (No. AID/DSAN-G-0027) to the International Institute for Environment and Development (IIED) as partial funding for a study of the environmental policies, procedures, and programs of six bilateral assistance agencies (those of Canada, the Federal Republic of Germany, the Netherlands, Sweden, the United Kingdom, and the United States). The objectives of the study were to "assess the extent to which policies, procedures, and programs of the six bilateral agencies promote sustainable environmentally sound development; to examine the constraints on improved environmental performance in these agencies; and to recommend changes that might be necessary -- and if possible, to remove, or substantially reduce, these constraints."

IIED selected an Affiliated Project Team in each country where the assistance program was to be studied. The Natural Resources Defense Council (NRDC) received a subcontract to study AID.

The members of the NRDC Affiliated Project Team were Thomas B. Stoel, Jr., Director, NRDC International Project; S. Jacob Scherr, Staff Attorney, NRDC International Project; and Barbara Lausche, Attorney, NRDC International Project. Robert O. Blake, Co-Director of the IIED Bilateral Assessment Project, worked closely with the NRDC Team and made a major contribution. Barbara Lausche was primarily responsible for research, the preparation of various interim and background documents, and the drafting of portions of this Report. Gregory A. Thomas, Staff Attorney, NRDC International Project, contributed the review of AID's energy activities in Chapter VI-C. The NRDC Team met twice with the other Affiliated Project Teams and received helpful guidance from Brian Johnson, Co-Director of the IIED Bilateral Assessment Project. Ann Daniells and Angela Maddamma of NRDC's staff provided support for the preparation of this Report.

The NRDC study of AID included a review of the Agency's environment and natural resources policies, procedures, and programs, and evaluations of its activities in four specific areas of development assistance: forestry, soils, energy, and pesticide management. During the past 18 months, NRDC examined hundreds of AID documents and conducted more than 100

interviews with AID personnel and others in Washington and abroad. Members of the NRDC Team visited AID missions in Mali, Liberia, Bolivia, Peru, and Indonesia, and the AID Regional Economic Development Support Office in the Ivory Coast.

Most of the research for this study was carried out from July 1978 through July 1979. An effort has been made to reflect important changes and initiatives within the past six months. It must be stressed that AID's environmental and natural resources efforts are dynamic. It has not been possible to keep track of the current status of all the projects and activities which are cited in this Report.

NRDC appreciates very much the cooperation during the course of the study of AID officials in Washington and the field. Special thanks are extended to Molly Kux, the AID contract manager; Albert Printz, the AID Environmental Coordinator; and the AID Regional Bureau Environmental Officers for their constant assistance in gathering documents, providing information and insights, and arranging for the field visits.

## CHAPTER I

### INTRODUCTION

Within the last decade, the U.S. Agency for International Development (AID) has changed from an agency which paid little conscious attention to environmental aspects of development into a leader within the international development assistance community in addressing the serious environmental problems confronting developing countries. AID is moving toward a program of assistance which is sensitive to the relationship between environment and development, and responsive to the needs of developing nations for assistance in protecting and managing critical natural resources.

The natural resources of many developing countries have come under severe stress. Expanding populations, together with rapidly growing demands for food, energy, and shelter, are placing unprecedented pressures on forests, soils, water, and wildlife throughout the developing world. In many of these nations, the deterioration of the natural resource base is undermining their capacity to meet the basic needs of their people and to achieve sustainable development. In a few countries, such as Sahelian nations and Haiti, severe ecological degradation already has led to widespread human suffering.

In response to a 1976 cable sent to U.S. Embassies in 69 developing countries, Embassy personnel reported that 43 of those nations were experiencing problems with overcropping or overgrazing, resulting in serious soil erosion (28 countries) and declining soil fertility (twelve countries). In 24 countries, the rapid destruction of forests was said to be hampering food production. A number of these countries were said to be experiencing water supply problems due in large part to deforestation: sixteen suffered periodic water shortages and ten increased flooding. Eight of the more arid nations were said to be facing serious difficulties on irrigated farmlands due to salinization, waterlogging, and siltation.<sup>1</sup>

Environmental abuse is both a cause and an effect of poverty, especially in rural areas where most of the developing world's poor live. Programs to slow population growth and to meet basic human needs will ease the burden on the ecosystems of developing countries. However, sustainable improvement in the lives of the rural poor cannot be achieved without attention to the maintenance and protection of the natural resource base. In Losing Ground: Environmental Stress And World Food Prospects, Erik Eckholm writes:

[R]eform and development efforts will not achieve their aims if they are not also suffused with an ecological ethic that recognizes the conjugal bond between humankind and the natural world from which there can be no divorce. Environmental deterioration

requires direct attention in its own right; at the same time, the balance of nature will not be preserved if the roots of poverty, whatever they may be, are not eradicated.<sup>2</sup>

There is growing awareness of the severity of environmental problems in many developing countries. A number have established ministries or high-level commissions concerned with natural resource management and environmental protection. However, most still lack the institutional capability for effective environmental and natural resources management. The ecological feasibility and consequences of development schemes often are not given adequate consideration, despite the expensive lessons of the past. With rapid modernization, many developing nations are facing agricultural, industrial, and urban pollution problems which sometimes are even more serious than those in developed countries.

AID has received a clear mandate from the President and the Congress to assist developing countries with environmental and natural resources management. Senior AID officials have made repeated public statements confirming the Agency's commitment to environmental protection. AID requires environmental screening of all its projects and more thorough analyses of those with significant environmental effects. AID has brought a few environmental professionals onto its staff and has begun to provide environmental training for its personnel. It has undertaken a number of projects to build developing-country

environmental management institutions and to help protect and restore natural resources. It has carried out systematic evaluations of the environmental problems and host-government capabilities in a few aid-receiving countries.

This Report reviews the development of AID's environment and natural resources policy, procedures, and programs. It evaluates AID's environmental performance both generally and in four specific areas: forestry, soil conservation, pesticide management, and energy. It assesses AID's institutional capabilities. Throughout, this Report recommends specific actions which AID should take to increase the effectiveness of its environmental program and its capability to help developing countries meet the environmental challenges they face.

FOOTNOTES

1. See Bente, "The Food People Problem: Can the Land's Capacity To Produce Food Be Sustained?" (Paper presented to the U.N. Conferences on Water and Desertification, 1977).
2. Erik Eckholm; Losing Ground: Environmental Stress and World Food Prospects 24 (1976).

## CHAPTER II

### BACKGROUND

To understand AID's environmental policies, procedures, and performance in the environmental and natural resources area, it is important to have some general knowledge about the Agency and the way it develops policy and carries out its activities. AID administers a program of bilateral assistance to 71 countries, which costs about \$4 billion annually. Some 45% of AID's annual appropriation, or about \$1.8 billion, is used in development assistance projects which address a wide range of needs. AID has a total of 6,263 employees, of whom 4,217 are U.S. citizens and 2,046 are foreign nationals (as of July 1979). About 1,500 of AID's American employees work in developing countries. AID has 45 missions, eight field offices, and eight sections in U.S. Embassies in a total of 61 nations in Africa, Asia, Latin America and the Caribbean, and the Near East.

#### A. The Evolution of AID

AID was created by the Foreign Assistance Act of 1961. It is the successor to a string of U.S. foreign aid agencies and activities, starting with U.S. relief operations right after World War II. Announced in 1947, the Marshall Plan was aimed

at rebuilding Europe. Its operational concepts and its record of success marked and often distorted the work of AID and its predecessors in developing countries, which face much different problems.

President Truman, recognizing the need to help "underdeveloped" countries and to gain their allegiance against the Soviet Union, inaugurated the "Point Four" program in 1949 to give technical assistance to the developing countries. This program was in part designed to complement the huge amounts of military and economic assistance given to American allies, particularly along the Soviet periphery, to bolster their economic ability to stand up to the Soviets.

U.S. development assistance in the 1950's strove to build the economies of developing nations upon western industrial models. The focus was on the industry, power, and transport infrastructure. The Mutual Security Act of 1954 set up the Mutual Security Administration, the first comprehensive American economic assistance organization with responsibility both for military and security assistance to American allies and for broader development aid. Over the decade, agricultural aid became much more important, reflecting American expertise and American interest, if also often American temperate-zone experience. Support of research, intensive training for foreign technicians (usually in the United States), and determined institution-building efforts became characteristic

of American aid programs, as did close consultation and collaboration with aid-receiving governments in the planning of economic and social development. AID's approach to development assistance during these years followed the "trickle down" theory that the creation and strengthening of a modern industrial sector ultimately would benefit the rural poor. The establishment of AID in 1961 reflected the desire in the early Kennedy years to move away from preoccupation with the Cold War in our relations with the developing world, even though competition with the Soviet Union and then China in Africa, Asia, and Latin America was still a principal leit-motif. During the 1960's, AID began to show greater understanding of the problems of developing nations. Social and anthropological analyses became part of program and project design.

In 1973, Congress passed the "New Directions" amendments to the Foreign Assistance Act, calling for a major shift in U.S. economic assistance to developing countries. AID was to focus upon meeting the basic human needs of the poor majority, with an increased emphasis on food production and rural development. AID was to redirect its activities away from large capital-intensive projects, such as industrial facilities, highways, and large dams.

The 1973 amendments established five "functional" sectors for AID's development assistance activities: (1) Food and Nutrition; (2) Population Planning; (3) Health;

(4) Education and Human Resources Development; and (5) Selected Development Activities. Bilateral aid was to be distributed on a worldwide scale according to these functional sectors, rather than entirely on a country-by-country basis. Since 1973, Congress has further amended the Foreign Assistance Act to require AID to act in the areas of appropriate technology, women in development, energy, and environment and natural resources.

B. AID's Current Program and Budget

AID's total Development Assistance Program amounted to \$1.23 billion in FY 1977, \$1.28 billion in FY 1978, and \$1.8 billion in FY 1979, with requests of \$1.8 billion in FY 1980 and \$1.9 billion for FY 1981.<sup>1</sup> The FY 1977 and FY 1978 figures represent about one-third of the total U.S. bilateral aid program. The remainder went largely for Economic Supporting Assistance (ESA) Programs to promote U.S. security and other policy interests in 17 nations. A total of 71 countries listed in Table 1 were assisted by AID in FY 1979-80. Eighty-six percent of the total AID FY 1980 ESA request of \$1.9 billion is allocated to the Middle East as part of a U.S. effort to achieve a stable peace.<sup>2</sup> ESA funds are used in a variety of ways to assist recipient countries, including cash grants, budget support, commodity imports, large-scale capital projects, and technical assistance. Tables 2 and 3, respectively, summarize AID's budget for FY 1979 and AID's proposed requests for FY 1980 and 1981.

TABLE 1

Development Assistance and Economic Security Assistance

Countries Assisted FY 1979 - 1980

Afghanistan	India	Senegal
Bangladesh	Indonesia	Seychelles
Benin	Israel	Sierra Leone
Bolivia	*Italy	Somali Republic
Botswana	Jamaica	Spain
Burundi	Jordan	Sri Lanka
Cameroon	Kenya	Sudan
Cape Verde	*Lebanon	Swaziland
Central African Empire	Lesotho	Syria
Chad	Liberia	Tanzania
+Chile	Malawi	Thailand
+Colombia	Mali	Togo
Costa Rica	*Malta	Tunisia
Cyprus	Mauritania	Turkey
Djibouti	Mauritius	Upper Volta
Dominican Republic	Morocco	Yemen
Ecuador	Mozambique	Zaire
Egypt	Nepal	Zambia
El Salvador	Nicaragua	
Ethiopia	Niger	
Gambia	Nigeria	
Ghana		
Guatemala	Pakistan	
Guinea	Panama	
Guinea-Bissau	Paraguay	
Guyana	Peru	
Haiti	Philippines	
Honduras	Portugal	
	Rwanda	

\*No proposed new obligations in FY 1980.

+Operational Program Grants will be obligated from regional funds.

Source: AID Congressional Presentation FY 1980,  
Main Volume 23 (1979)

TABLE 2

# Agency for International Development

## Fiscal 1979 Appropriations Bill

	(thousands of dollars)	
	FY 1979 Request	Final Action
<b>DEVELOPMENT ASSISTANCE</b>		
Functional Accounts		
Food and Nutrition	\$ 673,181	\$ 605,000
Population	205,445	185,000
Health	148,494	130,000
Education and Human Resources	109,036	97,000
Selected Development Problems	126,244	115,000
<b>Subtotal</b>	<b>1,262,400</b>	<b>1,132,000</b>
Sahel Development Program	90,000	75,000
International Organizations and Programs	282,150	260,000
American Schools and Hospitals Abroad	8,000	25,000
International Disaster Assistance	25,000	20,000
African Refugees	—	15,000
Operating Expenses	261,000	254,000
FS Retirement and Disability Funds	24,820	24,820
Contingency Fund	5,000	3,000
<b>Total</b>	<b>1,953,370</b>	<b>1,802,320</b>
<b>ECONOMIC SECURITY ASSISTANCE</b>		
Economic Support Fund *		
Israel	785,000	785,000
Egypt	750,000	750,000
Jordan	93,000	93,000
Syria	90,000	90,000
Maqarin Dam	50,000	50,000
Private Voluntary Agencies	3,000	3,000
Project Development and Support	1,000	1,000
Cyprus	5,000	15,000
Turkey	50,000	50,000
Southern Africa	45,000	45,000
<b>Subtotal</b>	<b>1,877,000</b>	<b>1,882,000</b>
Peacekeeping Operations		
UN Forces in Cyprus	8,700	8,700
Spain	7,000	7,000
Sinai Support Mission	11,700	11,700
<b>Total</b>	<b>1,904,400</b>	<b>1,909,400</b>
<b>TOTAL</b>	<b>\$3,862,770</b>	<b>\$3,718,220</b>

\* formerly Security Supporting Assistance

TABLE 3

Agency for International Development  
 FY 1980 Authorization and Budget Request and Proposed Program  
 FY 1981 Authorization Request  
 (in thousands of dollars)

	1980			1981	
	Foreign Assistance Act Authorization Request	Budget Authority Request	Estimated Reimbursements	Proposed Program	Foreign Assistance Act Authorization Request
Functional Development Assistance					
Agriculture, Rural Development & Nutrition	715,366	715,366	-	715,366	789,000
Population Planning	216,321	216,321	-	216,321	255,000
Health	146,573	146,573	-	146,573	210,000
Education & Human Resources Development	119,497	119,497	-	119,497	140,000
Selected Development Activities	136,122	136,122	-	136,122	180,300
Subtotal, Functional Accounts (Grants, included above)	1,333,879 (918,342)	1,333,879 (918,342)	-	1,333,879 (918,342)	1,574,300
(Loans, included above)	(415,537)	(415,537)	-	(415,537)	
Sahel Development Program	160,000 <sup>a/</sup>	105,000	-	105,000	- <sup>a/</sup>
American Schools and Hospitals Abroad	15,000	15,000	-	15,000	20,000
International Disaster Assistance	25,000	25,000	-	25,000	25,000
Foreign Currency Programs	-- <sup>d/</sup>	(20,500)	-	(20,500)	(-)
Subtotal, Functional & Other	1,533,879	1,478,879	-	1,478,879	1,619,300
Operating Expenses	268,000	268,000	2,000	270,000	285,000
Foreign Service Retirement Fund	- <sup>b/</sup>	25,676	-	25,676	- <sup>b/</sup>
Total AID Bilateral Development Assistance	1,801,879	1,772,555	2,000	1,774,555	1,904,300
International Organizations and Programs	277,190	277,190	-	277,190	315,325
Total Development Assistance	2,079,069	2,049,745	2,000	2,051,745	2,219,625
Security Supporting Assistance <sup>c/</sup>	1,995,100	1,995,100	-	1,995,100	
Total, Agency for International Development	4,074,169	4,044,845	2,000	4,046,845	

<sup>a/</sup> \$200 million has been authorized by Section 121 of the Foreign Assistance Act of 1961 as amended; in FY 1978 and 1979 a total of \$125 million was appropriated

<sup>b/</sup> Section 865 of the Foreign Service Act of 1946 authorizes necessary appropriations to the Foreign Service Retirement and Disability Fund. The Foreign Assistance Act of 1973 authorizes the participation of A.I.D. career Foreign Service personnel in the Fund

<sup>c/</sup> Programs for the Treaty of Friendship with Spain (\$7 mil), the Sinai Support Mission (\$12.1 mil), United Nations Forces in Cyprus (\$9 mil), and the Philippines (\$20 mil), included in this request, are justified in a separate Congressional Presentation Document submitted by the Departments of State and Defense.

<sup>d/</sup> Authorized by the FAA, Section 612

Source: AID Congressional Presentation FY 1980, Main Volume 22 (1979)

Among AID's other activities, the most significant is the "Food for Peace" program, which the Agency administers in cooperation with the U.S. Department of Agriculture under Public Law 480. Under this program, concessional sales of U.S. agricultural commodities are made to encourage development and combat hunger. AID also donates agricultural commodities to meet famine and other urgent relief requirements, to combat malnutrition, and to promote economic and community development, mainly through food-for-work projects.

C. AID Organization and Structure

AID is an agency closely associated with the United States Department of State. The Administrator of the Agency traditionally reported directly to the Secretary of State and the President, and was charged with responsibility for the U.S. foreign economic assistance program. Pursuant to a reorganization which took effect on October 1, 1979, the Administrator now reports to the Director of the new International Development Cooperation Agency on matters of policy and budget, while retaining authority over the day-to-day operations of AID. Also proposed under the reorganization plan is an Institute for Scientific and Technological Cooperation (ISTC), which would assume some of AID's present research responsibilities and resources.

AID consists of a central headquarters staff in the Washington, D.C., metropolitan area (AID/washington) and 61 overseas missions and offices. An organization chart for the Agency is appears as Figure 1. In addition to the Administrator and Deputy Administrator, there are nine Assistant Administrators, heading five Functional Bureaus and four Regional Bureaus. Among the Functional Bureaus:

The Bureau for Program and Policy Coordination is responsible for overall program policy formulation, planning, coordination, resource allocation, and evaluation activities, and the supporting management information systems.

The Bureau for Development Support provides professional leadership and technical support to the Agency's activities in the areas of agriculture, nutrition, education, health, urban development, rural development and development administration, science and technology, population, engineering, energy, and environment and natural resources. It significantly influences Agency policy in these technical areas.

There are four Regional Bureaus: Africa, Asia, Latin America and the Caribbean, and the Near East. These Bureaus are the principal line offices of AID, with responsibility for planning, formulating, and managing the U.S. economic development and security supporting assistance programs in their respective regions.

# Agency for International Development

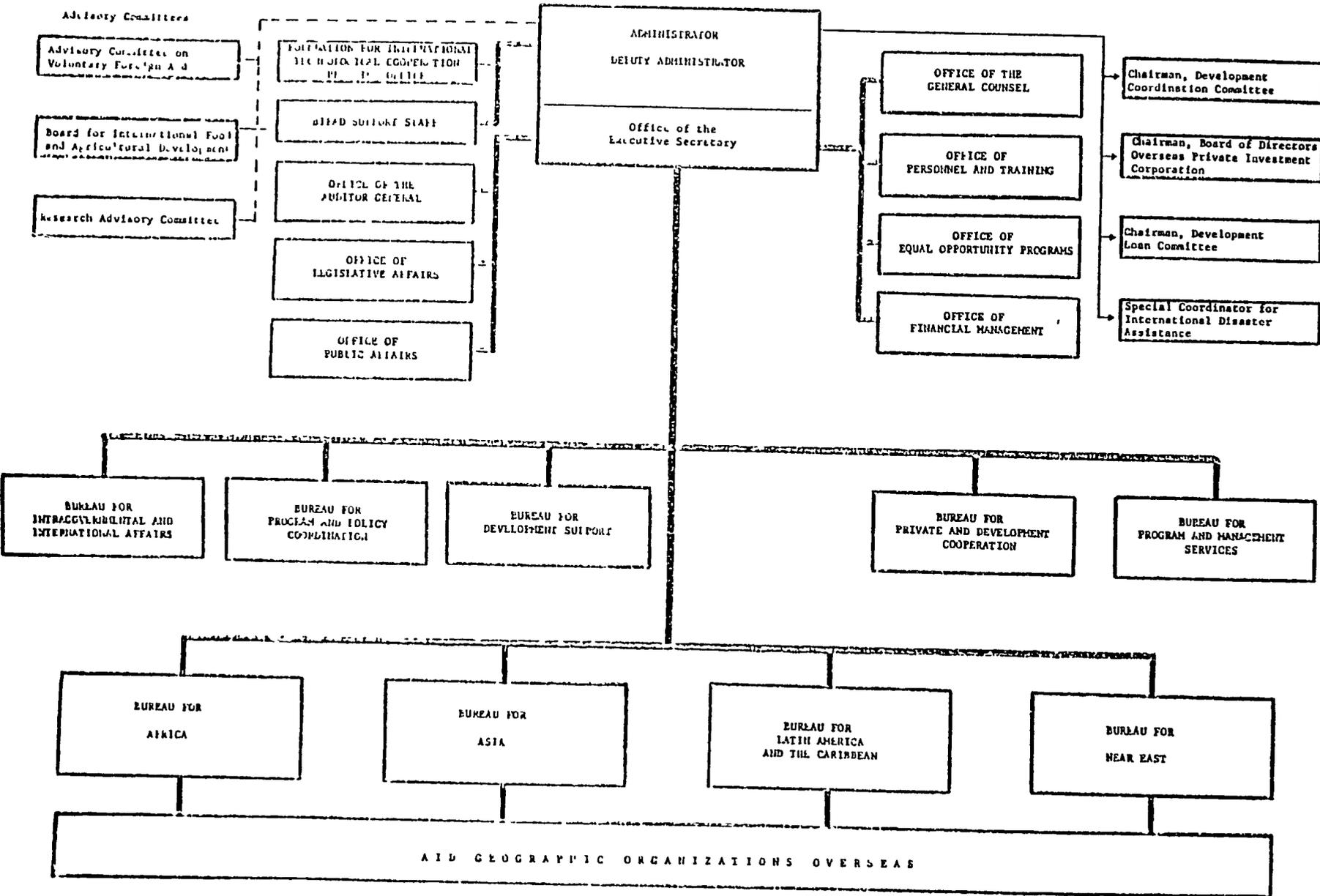


FIGURE 1.

Effective Date: 8-1-78

AID field offices are located in countries where AID is carrying out bilateral economic assistance programs. AID field decisions are controlled by the United States Ambassador. Within the Agency, AID country organizations report to the Regional Bureaus.

AID Missions are currently located in 45 countries in which the AID program is major, continuing, and usually involves multiple types of aid in several sectors. Each Mission is headed by a Mission Director who has been delegated program planning, implementation, and representation authority, and reports to the United States Ambassador.

AID Offices are currently located in eight countries in which the AID program is small, declining, or limited in objectives. Each Office is usually headed by an AID representative who has been delegated program planning, implementation, and representation authority.

AID Sections of Embassy are currently located in eight countries in which the AID program is small or is being phased out. AID program planning and implementation authority is delegated to the chief U.S. diplomatic representative in the country.

Other overseas offices include Offices for Multi-Country Programs (ten offices), which administer AID overseas program activities involving more than one country; Offices for Multi-Country Services (six offices), which provide services to

AID overseas organizations, primarily AID country organizations and multi-country program offices; and Development Assistance Coordination and Representation Offices (five offices), which maintain liaison with various international organizations and represent the U.S. and AID on development assistance matters.

D. AID Country Program and Project Planning

Beginning in 1979, the planning document for each country program was designated as the Country Development Strategy Statement (CDSS). The CDSS is a five-year rolling strategy document, updated annually. A CDSS required for countries where the Mission proposes a development assistance program that totals more than \$35 million over a five-year period planning period, including the value of proposed Food-for-Peace programs. The CDSS is prepared as part of a larger planning exercise to define overall U.S. policy towards such nations. It should be no more than 60 double-spaced pages in length. The CDSS is defined as a "summary analysis of the country development situation in the context of AID's policy interests and a proposed AID program strategy derived from that analysis. It is to express the Mission's understanding of the overall development problems and issues, propose what objectives, policies, and programs AID should pursue, and explain the reasoning behind the choice. [emphasis in original]"<sup>3</sup> It is to be used in project and program evaluation as "the standard against which effectiveness

will be measured." <sup>4</sup> The CDSS, once approved, serves as a guide for preparation and review of each country Annual Budget Submission.

In F Y 1979, AID undertook some 2,725 development assistance projects. The Agency has very detailed procedures for the development, review, and approval of projects. The design of projects begins with the Project Identification Document (PID). The PID is the formal method by which project ideas are communicated by AID Missions to AID/Washington. According to AID's procedural handbook, PID's represent "the earliest possible formalization of the project and should be not more than five to ten single-spaced pages in length."<sup>5</sup>

Discussions with host governments always proceed the PID. The development of the project has moved along substantially by the time the PID is written. The subjects discussed in the PID are:

- (a) Project Description
- (b) Relationship of the Project to the Country  
Development Strategy and Host Country Priorities
- (c) Discussion of AID Policy Issues
- (d) Estimated Project Cost and Cost to AID Including  
Dollar and Local Currency Costs
- (e) Project Preparation Strategy
- (f) Initial Environmental Examination.<sup>6</sup>

PID's are prepared by the AID mission where the project is to be carried out. The responsible Regional Bureau arranges for review of the PID by the appropriate technical, regional, policy, and other AID offices, and then may approve, disapprove, conditionally approve, or hold it.

If the PID is approved, a Project Paper (PP) is prepared. The purpose of the PP is to provide both the Mission and AID/Washington with a sufficient basis for action and a record of the project's history; a detailed description of the project design; discussions and conclusions of all the analyses carried out to assure the soundness of the project; and a statement of the responsibilities of AID and the other project participants, including a plan of implementation. The PP serves as the record of feasibility and other studies undertaken to review economic, environmental, and social concerns. Since approval of the PP will lead to obligation of U.S. funds, there must be full collaboration with the host government. With the major exception cited below, the review procedures described above for PID's are followed for Project Papers.

During the past few years, there has been a movement towards greater operational autonomy for AID Missions. As of December 1978, several Mission Directors were delegated authority by the AID Administrator to approve projects with life-of-project funding totalling not more than \$5 million. Under this system, the PID is still reviewed in Washington, but it is now up to the Missions to

indicate when the PID is submitted whether they want to complete project design and approval in the field following acceptance of the PID by AID/Washington.

The Project Agreement is a written understanding between AID and the recipient government(s) as to the responsibility for and timing of actions with respect to a project. The Agreement establishes the framework for project implementation. The Project Agreement obligates the United States to furnish up to a specified amount of assistance and sets forth the terms and conditions under which the assistance is to be furnished, including undertakings or covenants by the recipient country with respect to the project. AID staff members estimate that for a normal project about one and one-half to two years elapse between the PID and the beginning of project implementation.

#### E. AID's Style of Operating

AID is a large organization, though not vast when compared with other U.S. Government agencies. Much of AID's work is conducted through its overseas Missions and Offices, in which, as noted earlier, about 1,500 of AID's more than 4,000 American employees work. The growing independence of AID Missions and their ability to carry on extensive day-to-day dealings with host countries is a major feature of AID's operations.

Over the years, AID has gradually become an organization of administrators and planners. There has been a significant reduction in the number of agricultural and engineering

officers. At the same time, AID's program has become more diverse and complex. The number and scope of analyses and documents required for project design and approval has increased. As a result, AID has had to turn to a large and sophisticated network of contractors to help design and implement projects. In FY 1979, AID employed over 1,000 contractors and consultants for varying periods. They come mainly from consulting firms and from U.S. universities.

Reflecting domestic experience and the tradition of the American missionary overseas, AID also extends its reach through hundreds of "private voluntary organizations" (PVO's), many of them church-related groups. In theory, the projects planned or carried out by PVO's or private consultants are closely watched by the AID Mission staff. In practice, since the Mission staffs are overworked and often lack technical expertise, the important task of monitoring projects often is not effectively performed.

About one-third of AID's staff are foreign nationals, a number of them professionals working in AID's field offices. This reliance on foreign nationals gives continuity to AID programs which might suffer from the transfer of American employees every few years.

There is a tendency on the part of AID field personnel to feel neglected by "headquarters" in Washington, reflecting a perception that policies and regulations are handed down from on high in Washington without their participation. AID is

making a determined effort to change this. Steps are also being taken to ensure that people don't stay too long in the field and that Missions have a chance to comment on new policies and regulations before they are adopted. The potential for field resentment and passive resistance to new programs and new policy directions remains. AID's leaders recognize that they should do more to ensure intellectual exchange between the field and Washington and to move AID officers (other than regional bureau officers, who now travel extensively) more often to the field. However, this takes time and money, and both are in short supply.

F. AID's Relations With the Congress, Business, and the Public

AID and its programs are extremely responsive to the Congress. The Congress sets the overall policy framework for the Agency's activities. As a general matter, AID has lagged behind the Congress in proposing new approaches to development problems. Congress engages in surprisingly thorough examinations of AID programs, sometimes disapproving individual projects. The Congress has placed specific restrictions on how the Agency operates, for example by limiting the amount AID spends on consultants and dictating in what countries AID can work. Congress has often forced AID to cease operations in certain countries for political reasons, which have included the denial of human rights. The argument that cutting off

development assistance hurts the same poor people the Congress wants to help usually carries little weight in the heat of political arguments. Congress is largely responsible, directly or indirectly, for the large amount of reporting and other paperwork required of AID field offices.

AID's operations generally do not strongly reflect foreign trade considerations. AID's projects usually are not "tied" to purchases of goods in the United States. Although much of AID's money is in fact spent in the United States, AID has substantial local currency components in certain programs and is ready to employ host- and other foreign-country consultants. The fact that AID's programs are not more oriented towards American business reflects a relative lack of interest on the part of big American business. Major American corporations tend to consider AID's projects in the poorer countries economically uninteresting, and they put little pressure on Congress in this regard. The major exception is the massive "Food for Peace" program, where strong commercial pressures are brought to bear on Congress and AID.

AID maintains both formal and informal relationships with other sectors of the American public. There are three formal advisory committees. For many years, AID has cooperated with U.S. universities. As previously mentioned, private voluntary organizations receive funding from AID for their overseas

activities. The universities, PVO's, and other non-governmental organizations are involved in lobbying Congress and AID on policy issues.

The Agency is very open. There are relatively few AID secrets and little classified material. AID personnel must respond to Congress and are generally willing to handle requests from the public for information and copies of documents. This reflects the long tradition in the United States of governmental disclosure of information, most recently embodied in the Freedom of Information Act. AID also has a desire to widen its public support by providing favorable accounts of its activities. The result is release of a plethora of information and eventual disclosure of virtually everything AID does.

G. AID's Attitudes Towards Development Assistance

There are other significant, intangible factors which characterize and affect the way AID approaches the problems of developing countries. AID officials, like many Americans, believe in and welcome change. Thirty years of aid-giving experience and many setbacks have not destroyed the belief that the developing countries should, can, and will improve the lives of their people through development. There are many more "ifs" attached to that proposition today than a generation ago, but this basic and surprisingly uncynical attitude remains one of AID's psychological foundations. There is perhaps less

belief today than a decade ago in the saving values of technology, though recent emphasis on "intermediate technology" shows this belief is not dead.

AID's strain of practical idealism is complemented by a hard-headed approach to bringing about change in individual countries. AID has repeatedly shown that it is ready to urge developing countries both to do more or different kinds of development and to change basic institutions, even those not directly related to development. For example, AID, pushed by Congress, has historically used U.S. assistance as a lever to bring about land reform or respect for human rights, to bring the poor into the mainstream of a country's economic and social life, or to adopt what is often regarded locally as radical population control measures. In a number of countries, small AID programs give financial help to private groups working to get their governments to change population, social, or even environmental policies. Despite this streak of realism, there is a very American tendency in AID to overrate how much change can be brought about and how fast.

Strongly-held American beliefs about the importance of education also help to shape AID's program. AID has supported the education and training of thousands of developing-country administrators and technicians. A hallmark of U.S. foreign assistance remains the effort to build new and more effective governmental institutions in developing nations.

FOOTNOTES

1. Development Coordination Committee, Foreign Assistance Study, Part II-3 (1977); AID, Congressional Presentation Fiscal Year 1980, Main Volume 22, 27 (1979).
2. Congressional Presentation, , supra note 1, at 31.
3. AID, "Guidance for the Country Development Strategy Statement," at 2 (HIOTO Circular A-384, September 16, 1978).
4. Id. at 4.
5. AID Handbook No. 3, at 4-1.
6. AID Administrator, "Delegation of Authority for Field Projects" (Memorandum to the Executive Staff, December 20, 1978).

## CHAPTER III.

### ENVIRONMENT AND NATURAL RESOURCE POLICIES

Concern about environment and natural resources problems arose within AID in the early 1970's. It reflected the wave of environmental consciousness which had swept over the United States and other industrialized nations. In 1970, the National Environmental Policy Act<sup>1</sup> made protection of the environment part of the mandate of AID and every other U.S. Government agency. As awareness of the severity of the environmental problems facing developing countries grew, AID developed policies concerning environmental and natural resources matters. These include commitments to assure the environmental soundness of AID activities and to help developing countries protect and manage their environment and natural resources. Policy declarations are found in a variety of documents, from the Foreign Assistance Act and Presidential statements to Agency policy determinations and a report to Congress.

#### A. Congressional and Presidential Mandates

In 1977, the Congress gave AID its first direct mandate in the environmental and natural resources area. The Congress amended Section 102 of the Foreign Assistance Act<sup>2</sup> to add "Environment and Natural Resources" to the list of development problems upon which AID is directed to focus its efforts. At the same time, Congress added a new Section 118<sup>3</sup> to the Act

which authorized AID to provide assistance for environmental and natural resources protection and management, and called upon the Agency to make special efforts to maintain and restore the natural resources of developing countries.

In 1978, two subsections were added to Section 118. The first confirmed AID's obligation to consider the environmental impacts of its development assistance activities. The second required AID to identify the major environmental and natural resources problems in each aid-receiving country and the capability of the recipient to solve them. Section 118 now reads (the 1978 additions are underlined):

Sec. 118. Environment and Natural Resources -- (a) In carrying out programs under this chapter, the President shall take into consideration the environmental consequences of development actions.

(b) The President is authorized to furnish assistance under this part for developing and strengthening the capacity of less developed countries to protect and manage their environment and natural resources. Special efforts shall be made to maintain and where possible restore the land, vegetation, water, wildlife, and other resources upon which depend economic growth and human well-being, especially that of the poor.

(c) In furtherance of the purposes of this section the President shall carry out studies to identify the major environment and natural resource problems, and the institutional capabilities to solve those problems, which exist in developing countries. The results of these studies shall be reported to the Congress by March 1, 1979.

In 1978 and 1979, Congress gave AID specific mandates to address the problems of deforestation and soil erosion. The amendments to Section 103(b) of the Foreign Assistance Act<sup>4</sup> authorize AID to undertake forestry and soil conservation projects as part of its efforts under the functional account "Agriculture, Nutrition, and Rural Development." This was an important step, since "Agriculture, Nutrition and Rural Development" is the most heavily funded account. In Fiscal Year 1979, it amounted to more than \$609 million, or about one-third of all AID bilateral development assistance. AID's forestry and soil conservation activities are reviewed in Chapter VI.

In his 1977 Environmental Message, President Carter directed AID to adopt long-range development programs that are environmentally sound. He asked AID to make available to developing countries assistance in environmental and natural resources management, so they could design environmentally sound projects for themselves.<sup>5</sup> In August 1979, President Carter issued the second Environmental Message of his Administration. He noted his earlier directive to AID to "examine the environmental effects of [U.S.] federal actions abroad."<sup>6</sup> He recognized the interdependence of nations and reaffirmed "the responsibility of each to avoid actions which harm other nations or the world's environment."<sup>7</sup> The President called for special initiatives concerning the world's forests; these are discussed in more detail in Chapter VI, Part A.

B. AID Policy Statements

Partly in response to a 1975 lawsuit by environmental organizations (see Chapter IV), AID issued in that year Environmental Policy Determination 63 (PD-63), which remains AID's major internal environmental policy statement. It provides, in part:

[I]t is AID's policy:

-- to assist in strengthening the indigenous capabilities of developing countries to appreciate and evaluate the potential environmental effects of proposed development strategies and projects, and to select, implement and manage effective environmental protection measures, and

-- to ensure that the environmental consequences of proposed AID-financed activities are identified and considered by AID in collaboration with the host country prior to a final decision to proceed, and that appropriate environmental safeguards are adopted.<sup>8</sup>

PD-63 notes that NEPA directed all U.S. Government agencies to recognize the worldwide and long-range character of environmental problems, and affirms AID's intent to "seek consistently to further these broad environmental objectives within the framework of the U.S. bilateral development assistance program . . ."<sup>9</sup> It expresses AID's intent, in providing environmental assistance to developing countries, "to stimulate and assist cooperating countries to develop the knowledge and institutional capabilities necessary to address successfully the environmental aspects of their national development programs."<sup>10</sup>

A concise restatement of this policy determination was issued in May 1978. Entitled "AID Policy on Environment and Natural Resources," it reflects the addition to the Foreign Assistance Act of Section 118 (described earlier in this chapter):

The new categories of assistance we expect to provide may include aspects of reforestation, watershed protection, wildlife preservation, improvements to the physical environment, environmental education and institutional strengthening.

AID also will train as many of its own personnel as possible to recognize the critical relationship between environment and development . . . and will work with other donor agencies to develop coordinated approaches for building environmental safeguards into all development activities.<sup>11</sup>

The May 1978 policy statement is attached as Appendix 1.

Since March 1978, the principal policy guidance with respect to AID's bilateral development assistance program has been "A Strategy for a More Effective Bilateral Development Assistance Program: An AID Policy Paper." The Strategy Paper contains a section on environment and natural resources policy which acknowledges the special efforts called for by Section 118 of the Foreign Assistance Act. It reaffirms that AID will place emphasis "on environmental management and protection in projects funded under other Sections [of the Act], such as: land management, terracing and afforestation, and non-toxic

pest control under Section 103, malaria control under Section 104, etc."<sup>12</sup>

The Strategy Paper notes the "special physical and biological features of the developing countries," and the inability of developing countries to provide for "basic human needs if further aggravated by increased pressures on the environment from an ever expanding population, over-grazing of lands, expansion of subsistence agriculture into marginal areas, soil erosion and rapid forest depletion for human settlements, agriculture and fuel."<sup>13</sup> It stresses that "the achievements of long-term benefits for the world's poor . . . must be based on environmentally sound planning, and on a clear understanding of a country's natural resource potentials and limitations."<sup>14</sup>

The Strategy Paper declares:

The objectives of our environmental and natural resources program are to help developing countries avoid both short-term and long-term damage to the environment and to improve it where possible . . . for example, . . . through the preparation of environmental assessments of its major actions, even though effects may be localized in an AID recipient country.

\* \* \*

AID intends to make available to developing countries help in understanding environment and natural resource issues in order to facilitate their ability to select, design, and manage environmentally sound programs . . .

\* \* \*

AID will also look for new ways to involve specialists of non-governmental organizations in the planning and review of its activities, and will work with other donor agencies to develop coordinated approaches for building environmental safeguards into all development activities.<sup>15</sup>

In a February 1979 report to Congress entitled "Environmental and Natural Resources Management in Developing Countries,"<sup>16</sup> AID renewed its commitment to "increase its support for training and institution building in host countries, to increase its programs directed toward protection and rehabilitation of natural resources, and to work to promote greater awareness and understanding among other members of the international donor community."<sup>17</sup> The report reviews AID's role in helping developing countries deal with their environmental problems and build responsive infrastructures and institutions. It states that one purpose of AID's Country Development Strategy Statements -- the blueprints for AID's programs in individual countries (see Chapter II) -- should be to gather information about and "specifically address the environmental and natural resource issues within a country to the extent that they affect the country's equitable growth, eradication of poverty, and the fulfillment of the basic human needs of the poor." <sup>18</sup>

In addition to general environment and natural resource policy declarations, the Agency has produced policy statements in specific environmentally-related areas. In June 1972, the Agency issued a document, "The Relevance of Environmental Health to AID Objectives," which remains a useful guide to Agency policy on environmental health activities. A "Policy on Pesticide Support" was issued in May 1978 (AID pesticide management activities are reviewed in Chapter VI, Part D). An "Agriculture Development Policy Paper"<sup>19</sup> was issued in June 1978.

Because "Agriculture, Rural Development, and Nutrition" is the largest functional category of AID's development assistance program, it is pertinent to review the AID Agricultural Policy Paper. The paper states that its purpose is to set forth "the major policy implications and issues for AID of a broadly participatory, employment-oriented agricultural production strategy for developing countries."<sup>20</sup> The paper discusses agriculture strategy in terms of production, employment, local participation, and major functional programs (distribution, storage, and so forth). However, it does not deal with the interrelationship between a sound natural resource base and long-term, sustained agricultural production. One section, titled "Land and Water Development," briefly mentions the need for improved resource management as it discusses irrigated and non-irrigated lands and other development schemes. But there

is no emphasis on natural resource management. There is no directive that environmental and natural resource considerations be considered an integral part of agricultural planning and development. The paper was several months into preparation when Section 118 of the Foreign Assistance Act was passed. In light of AID's new statutory mandates and the growing problem of degradation of the natural resource base upon which agricultural production depends, the Agency should revise and update the Agriculture Policy Paper.

High-level AID officials have made public statements concerning the Agency's commitment to address environmental problems in developing countries. In a March 1978 speech, former AID Administrator John Gilligan declared that the Agency "must continue its leadership role in helping the Third World protect its environment."<sup>21</sup> He said that:

"it is important that all nations understand that the problem is not how to choose between environmental protection and the achievement of development goals, but how to direct development so as to ensure maximum human benefits from the environment for both present and future generations."<sup>22</sup>

In an October 1978 speech at Harvard University, Abelardo Valdez, then AID Assistant Administrator for Latin America and the Caribbean, called attention to what he characterized as "second generation" development problems in the region, such as environmental deterioration. He pointed out that :

The Latin American countries are confronting environmental problems even more serious than those in the United States. Many of these countries lack the financial, technical and institutional capacity for dealing with widespread pollution and natural resource exhaustion. Serious problems of deforestation and soil erosion exist throughout the Andean countries and in advanced Central American nations like Costa Rica and Panama. For the poorest country in the Hemisphere -- Haiti -- resource depletion problems have reached disastrous proportions.<sup>23</sup>

Assistant Administrator Valdez warned that environmental problems in Latin America will continue to grow and could lead to "irreversible damage" to the region's "limited productive natural resources, undercutting the region's future development potential."<sup>24</sup>

#### D. Need for a New Policy Paper

In spite of the number of environmental policy documents and statements, many AID officers still are unfamiliar with Agency environmental policy. While time to read about policy is scarce, it appears that documents clearly identified as critical for program and project development usually are read by AID personnel.

To clarify and publicize AID's environmental policy, the elements of environmental policy discussed above should be consolidated and fully explained in a single paper on "Environmental and Natural Resources Policy." The process of preparing the paper would focus high-level AID officials on these important issues and their implications for AID's

program. The paper should be distributed as a standard part of every officer's desk materials and thus would familiarize AID personnel with the Agency's policy. It could also serve to inform persons outside AID and should receive wide circulation and publicity.

FOOTNOTES

1. 42 U.S.C. Sections 4321 et seq. (1970).
2. 22 U.S.C. Sec. 2151-1.
3. 22 U.S.C. Sec. 2151p.
4. 22 U.S.C. Sec. 2151a.
5. Presidential Documents: Jimmy Carter 793 (1977).
6. "Presidential Message on The Environment" 22 (August 2, 1979).
7. Id.
8. AID Policy Determination (PD)-63, at 1 (1975).
9. Id. at 2.
10. Id. at 6.
11. "AID Policy on Environment and Natural Resources," (May 15, 1978) in AID Handbook No. 1, Supplement A-38 (1978).
12. A Strategy for a More Effective Bilateral Development Assistance Program: AID Policy Paper, 72-73 (March 1978).
13. Id. at 72.
14. Id. at 72.
15. Id. at 73.
16. AID, Environment and Natural Resource Management in Developing Countries -- A Report to Congress, Volume 1 (February 1979).
17. Id. at ix.
18. Id. at 3.
19. AID Agricultural Development Policy Paper (June 1978).

20. Id. at 1.
21. AID Office of Public Affairs, "AID Chief Stresses Environment in Agency Programs 1 (AID-78-25, March 23, 1978).
22. Id. at 3.
23. Address by Honorable Abelardo Valdez, North-South Seminar, Center for International Affairs, Harvard University (October 24, 1978).
24. Id.

## CHAPTER IV

### ASSURING ENVIRONMENTALLY SOUND DEVELOPMENT ASSISTANCE

AID has made substantial progress in establishing and implementing procedures to assure that its development assistance activities are environmentally sound. This reflects an awareness that sustainable improvement in the well-being of the poor are dependent upon the continued productivity and quality of the natural environment. Environmental analysis of proposed projects can prevent significant environmental harm which might otherwise defeat development objectives. Environmental review during project design permits the consideration of alternative approaches and measures to mitigate adverse environmental effects.

Concern about environmental soundness must continue during project implementation. If poorly executed, even a well-designed project can result in unnecessary environmental damage. Through post hoc evaluations, the lessons learned about environmental design can be more widely applied. This chapter reviews the evolution of AID's environmental review procedures and the experience with them to date, discusses

recently proposed revisions to the procedures and makes recommendations for their further improvement, and emphasizes the need for more attention to environmental issues in project implementation and evaluation.

A. Evolution of AID's Environmental Procedures

On January 1, 1970, the National Environmental Policy Act (NEPA)<sup>1</sup> became law. NEPA requires all U.S. Government agencies to assess the environmental impacts of all proposed actions and to take these assessments into account in their decisionmaking. Like other agencies, AID resisted full implementation of NEPA.

Some AID officials did show concern and set in motion limited programs. The Office of Engineering in 1971 and 1972 developed a series of "inserts" for a Feasibility Study Manual intended to ensure that environmental aspects of each capital project would be studied along with economic and technical aspects.<sup>2</sup> These were published in the Federal Register as AID's Environmental Procedures.<sup>3</sup> The Office of Health began to focus in 1972 on environmental aspects of disease.<sup>4</sup> In 1971 and 1972, the Office of Science and Technology contracted with the Smithsonian Institution to prepare a series of case studies and environmental guidelines manuals on river impoundment, pollution in coastal areas, and rapid urbanization. AID issued early guidance documents, including

the Environmental Assessment Guidelines Manual<sup>5</sup> in 1974. Up to 1973, only major capital projects were targeted for environmental analysis. Thereafter, AID decided that all projects involving construction were to be analysed for environmental impacts. However, environmental reviews of projects remained few in number and superficial.

In April 1975, four United States environmental organizations sued AID for failure to prepare an environmental impact statement (EIS) on its financing of pesticide sales abroad and to establish procedures under NEPA for systematic review of all AID projects and programs. In August 1975, the Agency issued Environmental Policy Determination 63 (see Chapter II), which stated AID's interest in environmentally sound development. The President's Council on Environmental Quality (CEQ) and the environmental organizations considered this insufficient to meet the requirements of NEPA.

In December 1975, the parties agreed to a settlement by which AID agreed to prepare revised procedural regulations to implement the intent of NEPA, a programmatic Environmental Impact Statement on AID's pesticide program, interim pesticide regulations, and eventually, new, final pesticide regulations.<sup>6</sup> On June 30, 1976, AID issued new environmental review regulations (hereinafter referred to as "Environmental Procedures") which were developed in close consultation with CEQ, and in May 1977, interim pesticide regulations, and an EIS

on the pesticide program. In May 1978, AID amended the environmental regulations to include final pesticide regulations reflecting a new AID pesticide policy.<sup>7</sup> The AID Environmental Procedures are currently being revised based on new CEQ NEPA regulations and three years of experience. Proposed revisions were published on October 1, 1979.<sup>8</sup> Copies of the Environmental Procedures and the proposed revisions are attached as Appendix 2.

B. Overview of the Present Procedures

1. Purpose

As stated in the introduction, the purpose of the Environmental Procedures is "to insure that environmental factors and values are integrated into the decisionmaking process and to assign responsibility within the Agency for assessing the environmental effects of AID's actions."<sup>9</sup> AID's project design and approval process is described in Chapter II, Part D. The Environmental Procedures cover all new AID programs or activities, including those arising from ongoing projects, research, and commodity procurement.

2. The Initial Environmental Examination

The first step is preparation of an Initial Environmental Examination (IEE) concurrently with the Project Identification Document (PID). The purpose of the IEE is to identify reasonably foreseeable direct and indirect environmental

impacts of the project identified in the PID, to estimate their probable significance, and to recommend a Threshold Decision as to whether further analysis -- an Environmental Assessment (EA) or Environmental Impact Statement (EIS) -- may be required. A finding of significant potential environmental impact at the PID stage does not preclude a decision to move forward with a project; it does mean, however, that the impacts must be considered during project design and prior to final approval of the project.

### 3. The Threshold Decision

The next step is a formal Threshold Decision, based on the IEE, whether or not the proposed project would significantly affect the human environment and thus require the preparation of an EA or EIS. If it does not, a formal written document called a Negative Determination is issued. If the Threshold Decision is positive, the preparation of a formal EA or EIS follows. The Environmental Procedures list a number of AID activities which will not normally require the filing of an EA or EIS. These include education and training programs not designed to result in activities directly affecting the environment, projects where AID is a minor donor to a multidonor project and there are no potential impacts on the U.S. or the global commons, and disaster and emergency relief.

4. Preparation of Environmental Assessments and Environmental Impact Statements

If the Project Identification Document or other initial proposal document is approved, and if the Threshold Decision is positive, the Mission or Office originating the project proposal is responsible for the preparation of an Environmental Assessment or draft Environmental Impact Statement. An Environmental Assessment (EA) is a detailed study of the reasonably foreseeable environmental effects, both positive and negative, of a proposed action and its reasonable alternatives. The Procedures provide that, to the extent practicable, the EA will be developed in close collaboration with host-country institutions and will be subject to review by it.

An Environmental Impact Statement (EIS) is a detailed study similar to an EA but with a definite form and content complying with the requirements of NEPA and the guidelines of the CEQ. EIS's will be prepared and circulated in accord with NEPA when major Agency actions significantly affect:

- (a) the global environment or areas outside the jurisdiction of any nation (e.g., the oceans);
- (b) the environment of the United States; or
- (c) as a matter of policy, other aspects of the human environment at the discretion of the Administrator.

The major difference between an EA and an EIS concerns the role of the public. When an EA is prepared, the Agency is not required to provide the public in the United States or in the host country with an opportunity for formal review and comment. By contrast, an EIS in draft form must be circulated to U.S. federal agencies, to the public, and through the Missions or Offices to the affected developing-country governments, and their comments must be considered.

An EA or EIS is usually prepared prior to or concurrent with the Project Paper. Final review and approval of the Project Paper will include consideration of the EA or final EIS, as well as nonenvironmental analyses. A final EA or EIS must be completed and considered before the project is finally authorized.

The Environmental Procedures called for the establishment of the position of the AID Environmental Coordinator and required the designation of environmental officers in each AID Bureau, Office, and Mission. The Environmental Coordinator has overall responsibility for assuring that the review process works effectively. All IEE's, Threshold Decisions, and EA's are to be reviewed by the Bureau Environmental Officers. All EIS's are to be reviewed by the Environmental Coordinator and the Office of General Counsel. The functions of AID's Environmental Coordinator and Officers are fully described in Chapter VII, Part A.

C. Experience with the Assessment Procedures

On December 9, 1979, AID Administrator John Gilligan wrote to the Chairman of the Council on Environmental Quality, describing the Agency's experience with the environmental assessment process:

[O]ur overall experience is a positive one. We have discovered that developing countries themselves have come increasingly to recognize the inter-related nature of environment and development and to seek to ensure that environmental considerations are adequately addressed in development projects. Further, the practical experience of A.I.D. has been that it is possible to undertake detailed environmental analysis of U.S.-supported projects abroad and that the results obtained are useful to us, as well as to host country planners, in making project decisions.<sup>10</sup>

According to AID records as of March 1979, 29 EA's have been prepared on specific projects. These projects included road construction, rural electrification, irrigation schemes, water supply, river basin development, malaria control, and integrated rural development. One programmatic EIS on the Agency's pest management program was prepared to satisfy the requirements of the 1975 settlement of the lawsuit brought by U.S. environmental organizations. Another EIS was completed in 1979 for the Alexandria, Egypt, waste water Master Plan. A programmatic assessment is being prepared for AID's malaria control program. A list of 55 AID projects for which an EA or EIS is identified, in progress, or completed, is attached as Appendix 3.

EA's are currently being prepared for two major multidonor projects, the Mahaweli Irrigation Project in Sri Lanka and the Maqarin Dam and Jordan Valley Irrigation System Project in Jordan. AID has conducted most of the environmental analysis for the multidonor Senegal River Valley Development Project in Mali, Mauritania, and Senegal.

Most of the EA's have been prepared by U.S. consulting firms, which have sent teams on short-term field visits. The costs of the environmental reviews have varied widely. The programmatic EIS on AID's pest management activities cost \$276,000, while the AID Office of Housing estimated that consulting services to prepare either detailed IIE's or subsequent EA's cost \$30,000 for each proposed housing project. In Africa, the costs have ranged from \$55,000 for a contract to prepare an assessment for a rural development project to \$90,000 for a major irrigation project. In Asia, when assessments have been prepared by ecologists on long-term contracts with missions, the costs have been lower.<sup>11</sup> Assessments of large multidonor efforts may cost over a million dollars; the cost of the Senegal River Project environmental studies will approach \$3.5 million. AID estimates that the expense of preparing environmental reviews amounts to a very small part of total project design and project costs.

The programmatic EIS on AID's Pest Management Program resulted in substantial changes in AID's operations, including

the adoption of more environmentally sensitive pesticide policies and review procedures (see Chapter VI, Part D). According to Administrator Gilligan, this "is a good example of how a system of environmental review should work." While no project has been rejected as a result of an environmental review, the IIE's and EA's have brought about positive alterations in project design to eliminate or reduce potential negative environmental impacts.<sup>12</sup>

One example involves an environmental assessment prepared by AID, with the assistance of Filipino experts, on the BICOL Integrated Area Development II Project. The EA pointed out that the increased concentration of homesites in the project area would lead to the contamination of the individual shallow wells traditionally relied upon by local residents. In order to avoid this adverse environmental effect, AID agreed to increase the proposed loan by \$100,000 for design and construction of centralized water systems in at least three of the lowest-lying villages.<sup>13</sup>

In Panama, an environmental assessment of the San Miguel Wastewater Collection and Transport System found that the originally proposed arrangements for disposal of sewage would pose a serious health hazard to residents of San Miguelito and to marine resources in the Bay of Panama, including important shrimp fisheries contributing about \$15 million yearly to the Panamanian economy. The recommendations in the EA for changes in sewage collection and disposal were accepted in the final design of the project.<sup>14</sup>

The adoption of the Environmental Procedures has increased awareness throughout AID of the relationship between environmental protection and the achievement of development goals. AID Administrator Gilligan provided an illustration in March 1978 testimony before Congress:

Allow me to add, just for a moment, that a few weeks ago I was in Nepal where the Government has as its top priority the creation of a very large, enormously expensive hydroelectric dam up in the Himalayas and they were pressing us for funding it. I said that really is not our line of work any longer. We are interested in talking to you about it, but what you are not really looking at is the fact that while you are talking about this dam, you are permitting the hillsides in this whole region to be totally devastated. Very soon, whether or not you get the dam, you are going to lose more in the way of productive soil through soil erosion than you will ever be able to recover in terms of agricultural output through the building of the dam.

Well, they had not really been looking at that one, but they are now going to go back and do so. We offered to send a team of people in to help them with a reforestation program and with soil conservation practices and so forth, which may be of real help.<sup>15</sup>

In addition to spurring the development of projects addressing environmental problems, implementation of the procedures has increased AID's concern about environmental training, staff needs, and interagency coordination.

The environmental procedures became effective in June 1976. IEE's were to begin immediately for newly identified

projects. Because of AID's lengthy program and budget cycles, the first environmental assessments were not completed until 1977.

Like other U.S. Government agencies, AID experienced initial difficulties in implementing the procedures. At the outset, AID had little or no environmentally trained staff to provide guidance for environmental reviews. The responsible technical office, sometimes with assistance from the Office of Engineering, would define the scope of work for the preparation of environmental assessments. Contractors chosen to prepare EA's were as new to carrying out environmental analyses in developing countries as was the Agency to providing direction. Frequently, there would be little effective review of assessments because staff expertise was not available. Often the guide to quality became the number of pages produced.

Initial Environmental Examinations were generally prepared by Agency personnel without any environmental qualifications or training. The IEE's have been for the most part, essentially checklists. As observed by several AID field staff members, it is often difficult at the Project Identification stage to describe with much specificity the environmental impacts of a project. In these cases, the IEE has become a matter of procedure rather than substantive analysis, and usually has resulted in a determination of no significant environmental impact regardless of the propriety of such a determination.

There have been other difficulties. From the beginning, many field staff members have been uncomfortable with the environmental review requirements. There has been some guidance from AID/Washington to the Missions -- through reference documents, cable instructions, training, and so forth -- regarding the purpose and implementation of the environmental review procedures. But the effort has not always been consistent or relevant to field needs. Internal Agency expertise or qualified contractors have not always been readily available. Mission staffs have not always taken advantage of training, nor heeded current guidance from Washington.

Consequently, many Agency officers have been required to follow procedures they have not fully understood and to deal with complex environmental subjects about which they knew little. The reaction of the field staff to the environmental procedures has in many cases been negative. Some comments from Missions describe efforts to avoid environmental issues for fear that procedural requirements will delay or add unreasonable costs to project design or implementation. Others are concerned with making the procedures work better in a practical setting without overburdening staff time and energy.

Overreaction by AID staff to the need for procedural compliance has sometimes resulted in unnecessary environmental analysis. For example, an assessment was prepared for a Guyana project involving the upgrading of about 25 miles of existing

all-weather feeder roads in a heavily settled coastal area. The environmental impacts were minimal. The IEE could have shown this, and AID could have made a Negative Determination rather than prepare an EA. Any environmental concerns could have been handled by suggesting design criteria in the IEE and incorporating them into the Project Paper. In subject areas where the Agency has prepared a number of EA's, such as rural electrification and malaria control, transfer of information regarding common elements and impacts could have reduced the scope and length of EA's .

The form and content of EA's is guided by provisions in the Environmental Procedures (216.5(c)). The procedures contain several paragraphs of instruction on broad areas to be addressed (e.g., description of the environment, relation of proposed action to host country policies and plans, reasonable foreseeable impact, alternatives, and unavoidable adverse environmental effects). In application, however, there seems to be no standardization of form or content between geographic bureaus or even within bureaus.

Perhaps influenced by the breadth of the Procedures, most EA's have been overly general and long. Many EA's consist essentially of background descriptions of the country, project, and environment. Some of these provide information concerning the geography and resources of a country which could prove useful for general country development planning. Material is

often lifted from the Project Paper to which the EA is attached. Economic and social issues are often discussed without consideration of their relationship to environmental issues. An inability to discriminate between what is immediately important for the project and what is general information has resulted in some EA's which are encyclopedic, without any focus on the specific action which is proposed.

Some EA's have been excellent. The EA on Lesotho roads, for example, was completed by a U.S. expert who had experience in that country and was able competently to sort out and analyze the important physical and human environmental impacts. The Lesotho EA was well-written and presented a good balance of background and project-specific analysis in 115 pages.

While they do identify a variety of likely impacts (e.g., changing water levels, population increase, saltwater intrusion, pesticide contamination, soil erosion), EA's often contain little analysis of impacts on the specific project site. Clear guidance and recommendations to minimize adverse environmental impact in the design process or to safeguard the environment during implementation are rare. Secondary impacts, such as long-term effects on land and habitat areas of expanded human settlements and agriculture, often are not adequately analyzed.

As an example, one EA found that DDT concentrations near a project in the Philippines were already 250 times the "safe maximum limit" and that concentrations of other pesticides also exceeded the limits. The EA predicted that the project would increase pesticide concentrations, but noted only that the Philippine Government intends to take some actions to "minimize potential adverse effects." The single alternative discussed in the EA was a complete ban on pesticide use. The analysis of pesticide impacts was shallow, and the EA provided no concrete recommendations.

Contributing to the lack of concise, site-specific analysis is the fact that the majority of assessments have been prepared with little host country participation, even though the Procedures encourage it. Preparation has been by U.S. contractors who frequently have no training in tropical environments and are familiar neither with development problems nor with the specific country involved. Few EA's describe how much field work was actually conducted at the project site. In some cases, site visits have been so brief as to be hardly worth the effort.

The present Procedures focus primarily on the review and assessment of environmental impacts at the time of design. As a result, most EA's have limited their attention to what is identifiable at the design stage, whether or not all likely impacts are identifiable then, rather than on foreseeable

impacts over the life of the project. A lack of flexibility has caused some EA's to overlook important environmental issues that should have been identified and addressed in project design and implementation. The present Procedures do not sufficiently recognize the need in some projects for extending environmental monitoring and analysis into the implementation phase. Experience has shown that some of AID's greatest environmental problems have occurred during implementation, a point discussed at greater length in Part E.

The focus on design plus the limited time available for preparation of EA's (usually, no more than six weeks) has caused another fundamental problem with the EA process. Most EA teams have not generated new data where it is lacking, even though it may be desperately needed in areas such as environmental health (e.g., the occurrence of schistosomiasis). Data which should be developed over a period of a year or more to be useful has rarely been produced, and few recommendations have been made for data collection and analysis after the EA is completed. Most EA's have relied primarily on existing literature, leaving gaps in areas where little is known, precisely the areas where an environmental assessment can be most useful. An exception, which provides a good example of project monitoring as well as data collection, is the recent Alexandria, Egypt, Wastewater Master Plan Study. This EIS, completed in August 1979, considered oceanographic data which was collected for over a

year. The recommendations in the EIS include establishment of monitoring programs for offshore and beach areas and for enforcement of the existing sewer law. These were accepted by AID, and \$150,000 in foreign exchange costs will be provided to the Egyptian Government for monitoring equipment.

Because many EA's have provided so little project-specific environmental guidance, some comments from AID staff members responsible for overseeing projects reflect discouragement with the process and a belief that it is a waste of time and money. In addition, even when issues were raised and recommendations made, many EA's have come too late to be of use in design. They often have been prepared barely in time for submission with the Project Paper, leaving little opportunity for serious consideration of the EA in formulating the design and implementation proposals set out in the Paper. A clear record of the way in which environmental impacts were reviewed and addressed in project design and implementation has been lacking. For the most part, once the environmental documents are filed, it has been difficult to determine their role, if any, in design or implementation.

D. Improving the Environmental Review Process

AID has continued to refine and improve the implementation of its Environmental Review Procedures. Some of the problems will be solved only when the Agency develops an adequate

environmental staff capability (see Chapter VII, Part A). However, significant progress in a number of areas has been made:

1. Better Guidelines for IEE's

Some work has been done to develop guidelines for identifying and examining the environmental impacts of particular types of activities. During a training program at Clark University, AID staff members revised the guidelines for preparing Initial Environmental Examinations (IEE's) and prepared specific guidance for rural roads projects. The AID Housing Office has produced comprehensive guidelines for the preparation of IEE's on housing projects. While the housing guidelines seem to have been well distributed, some missions are less familiar with the rural roads document, which does not yet appear to have received formal Agency endorsement or circulation.

2. Taking a More Programmatic Approach and Developing Design Criteria

AID has recognized the need to minimize the necessity for project-specific environmental analysis, and has begun to take a more programmatic approach. One method is to prepare "programmatic" assessments of environmental impacts common to a class of Agency activities which are not country-specific. These programmatic assessments identify the class of activities, discuss its environmental impacts, and set out standardized measures to minimize adverse impacts.

As described more fully in Chapter VI, Part D, a programmatic environmental review resulted in a significant change in AID policy and procedures on pesticides. AID eliminated the most environmentally hazardous aspect of its program, the wholesale financing of pesticide sales abroad without guidance on selection or use of appropriate pesticides. It also set design requirements for future pesticide projects, such as including provisions for training of applicators. AID has begun to prepare programmatic environmental assessments of its malaria and housing programs.

A related tool which may ease the burden of preparing IEE's and EA's consists of general criteria to assist in designing specific types of environmentally sensitive projects (e.g., rural roads, irrigation schemes). Adhering to design criteria could avoid significant adverse environmental effects and the need for duplicative analysis.

While no specific environmental design criteria have yet been developed or approved by AID, some effort is underway through contractors. An AID contract for preparation of a Manual on Environmental Design Considerations was issued in August 1979. According to the Scope of work for the project, the contractor will "prepare a Manual that provides an identification of the likely environmental and social consequences of typical AID development assistance projects and alternative actions to eliminate or minimize adverse impacts

that should be considered during project design." The Manual will consider the following categories of activities: rural roads (farm to market and penetration), small-scale irrigation and "on farm" water management, rural electrification, rural water supply and environmental sanitation activities, and rural small-scale industry. AID is funding a related exercise through the U.S. Man and the Biosphere Program for the preparation by the Cary Arboretum of environmental guidelines for small-scale irrigation projects. The guidelines will address project planning, implementation, and post project monitoring of health effects, erosion, and other environmental factors.

Tools such as programmatic assessments and design criteria could minimize the necessity for lengthy, project-specific environmental analyses. They would improve the quality and efficiency of the entire environmental review process by ensuring that the remaining project specific analyses are well focussed. As with the review of the AID pest management program, AID should seek comments on programmatic EA's or proposed design criteria from other U.S., foreign, and international agencies and the public. The results should be shared with other donors.

### 3. Increasing Participation by Host-Government Personnel

The Environmental Procedures have made developing country officials aware of the need for an environmental review before

project approval by AID. Although some officials still may not understand the rationale, there is growing appreciation in developing countries of the value of environmental assessments.

However, collaboration between AID and developing country environmental officials and experts in preparing and reviewing EA's remains limited. There has been some effort in Asia, where long-term environmental consultants were placed in the AID missions in the Philippines and Indonesia. In the Philippines, one EA was prepared by the Filipino Inter-Agency Committee for Ecological Studies and the Man and the Biosphere Programme. In Indonesia, an Indonesian ecologist and students have worked with the AID consultant on an assessment of a rural electrification program. More importantly, the consultant has played a key role in developing a project to establish Environmental Study Centers at a number of Indonesian universities. The project will increase the ability of the Government of Indonesia to participate in AID assessments and to carry out environmental reviews of its own development efforts. Also, AID has identified and evaluated a number of consulting organizations in India which could be employed to undertake environmental analyses.

#### 4. Revising the Environmental Procedures

AID is revising its environmental procedures. In May 1979, draft revisions were transmitted to Washington and field offices with requests for comments by July 1. In June, the Agency conducted an informal briefing for other federal

agencies and environmental organizations. The proposed revisions were published on October 1, 1979, with a request for comments by November 1, 1979.<sup>16</sup> (See Appendix 2)

In addition to reflecting the Agency's three years of experience, the proposed revisions incorporate definitions and concepts from the recent CEQ NEPA regulations<sup>17</sup> and from President Carter's Executive Order 12114, entitled "Environmental Effects Abroad of Major Federal Actions" and issued January 4, 1979.

The major proposed changes include:

- - A new subsection calling for broader "categorical exclusions" of classes of projects that normally will not require the preparation of an Initial Environmental Examination because they: (1) are presumed to have no effect on the natural or physical environment; (2) are projects which, prior to AID approval of funding or prior to implementation, do not require AID control or knowledge of specific activities that have an environmental impact; or (3) are research or field evaluations of limited scope which will be carefully controlled and monitored (these exclusions would be in addition to activities "exempt" because they involve international disaster assistance or emergency circumstances).

- A paragraph in the "categorical exclusion" section stating AID's intent to develop design standards and criteria for certain activities to avoid significant harm to the environment and excluding projects which follow such standards or criteria from the IEE and EA process except under extraordinary circumstances (see below).
- A new subsection enumerating classes of actions for which an EA or EIS will normally be required (e.g., river basin development, irrigation or water management projects, agricultural land leveling, drainage projects, large scale agricultural mechanization, new lands development, resettlement projects, penetration roads, power and industrial plants, and large scale drinking water and sewerage projects).
- A section noting "extraordinary" instances when an action normally excluded would be subject to the regular environmental procedures because it has a significant effect on the environment, or when an action normally requiring an EA might not need one because it would have no significant effect; in each case the originator of the project would request these alterations.
- A new procedure called "scoping," an adaptation from the CEQ regulations. Scoping would be used when a Threshold Decision has determined that an EA or EIS is

necessary. It requires a written "scoping" document which identifies the significant issues to be addressed in an EA or EIS, so the document can be narrower and more relevant to the specific project. The proposed revisions provide that participants in the scoping process are to include representatives of host governments, public and private institutions, AID mission staff, and contractors. The scoping document may be circulated to selected federal agencies for comment.

- An amendment deleting the present guidance on the content and format of the EA, and substituting an adaptation of that in the CEQ regulations for EIS's. The revised procedures would require that EA's be prepared "in accordance with the scope decided in the scoping process . . .," "analytic rather than encyclopedic . . .," "concise, clear and to the point;" that the depth of information and data gathered for EA's be similar to that for economic, technical, and other analyses required by AID; it would require a list of the names and qualifications of persons primarily responsible for preparing an EA.
- More stress on collaboration with affected nations in preparing EA's.

## 5. Recommendations

The proposed revisions of AID's environmental procedures would improve the Agency's environmental review process. However, they do not go far enough in providing flexibility, nor do they assure that essential environmental analyses will be carried out in a useful form.

In general, the Environmental Procedures should be revised to reflect the need to tailor environmental reviews to the nature of the project. The process should ensure that the post-IEE environmental review of a project is adequate for each project's needs but not overly elaborate. The Project Paper should contain a clearly defined summary of the predicted environmental impacts and the measures adopted to deal with them in project design and implementation. It should include a discussion of tradeoffs between environmental and other considerations. Where recommended mitigation measures are not adopted, the Project Paper should explain the reasons why. In no case should a project be viewed in a vacuum. Impacts should be assessed in relation to surrounding activities, either planned or under way, so that cumulative effects on the environment are considered.

As under the current AID regulations, every project with a potentially significant environmental impact should be the subject of an Initial Environmental Examination (IEE) at the stage of project identification. This analysis should identify

potential significant environmental impacts and, insofar as possible, specify how and when they should be addressed. When impacts need further study or when mitigating measures are required, the IEE review -- supplemented if necessary by a "scoping" procedure -- should indicate where, when, and by whom the study is to be performed or the mitigating measures formulated. On the basis of this initial analysis, prepared with the assistance, when appropriate, of environmental specialists, a decision should be reached as to the nature and timing of further environmental analysis. This may take one or more of several forms.

(a) Design Criteria. In project categories where design criteria have been developed and approved, the IEE review may make it clear that following these criteria will eliminate or minimize environmental impacts. In some cases, no further formal environmental analysis may be needed. However, in other instances there will be a need for further study or review of site-specific issues in which case the IEE should describe clearly what these needs are and how they should be met. The Project Paper should summarize the IEE analysis, explain why adoption of the design criteria will eliminate or minimize adverse impacts, and describe any further analysis.

(b) Other Environmental Design Considerations. There will be instances in which an environmental impact will not be minimized by following routine design criteria, but can be dealt with by incorporating special mitigating measures into the project design, without preparing a full EA. In these

cases, it will be appropriate to include an environmental specialist or specialists on the project design team. The mitigating measures developed by the team, and their predicted effects, should be described in a clearly defined section of the Project Paper.

(c) Phasing of Analysis. For some projects, adequate environmental analysis may require not a single assessment but rather a series of reviews or analyses at different stages of project design and implementation. For example, at an early point, an environmental specialist might evaluate alternative sites or the environmental feasibility of the project. Later on, when a site has been chosen, further environmental analysis might be undertaken in cooperation with the design team. In some cases, analysis may have to wait until after the Project Paper is completed. In these instances, the Project Paper should describe in detail the reasons for phasing the analysis, the type of analysis which will be required at each phase, the time when that analysis will occur, and by whom it will be performed.

(d) Detailed Environmental Assessment. For some projects, the IEE and subsequent discussions will reveal potential environmental impacts requiring detailed analysis. In these instances, environmental specialists from within or outside the Agency should be assigned to prepare a detailed assessment of the impacts, the alternatives, and possible mitigating measures. The Project Paper should summarize the

conclusions of this Environmental Assessment and state what measures have been or will be adopted to mitigate or eliminate the predicted environmental impacts. The Assessment should be attached to the Project Paper as an annex.

Full-scale EA's should be prepared for large multidonor projects, including dams, irrigation schemes, river basin developments, and population resettlements. These projects involve major alterations of natural systems. They are often very complex, expensive, and politically sensitive. To its credit, AID has been willing to fund environmental assessments of multidonor projects even when U.S. funding covers only a minor portion of total project costs. In the case of the Senegal River Basin Development Project, the preparation of environmental studies was AID's only contribution. The Environmental Procedures should continue to require full assessments where the Agency's total contribution is over \$1,000,000. As the leader within the international development assistance community, AID should continue to offer its environmental expertise as a contribution to sound design of multidonor projects. AID should also encourage the participation of other donors in the preparation of environmental reviews.

E. Project Implementation

It is recognized at all levels in AID/Washington and in the field that poor implementation of otherwise well-planned projects is a principal cause of serious environmental problems for AID. Many AID officials agree that the Agency knows how to avoid such problems but for a variety of reasons fails to do so. Like the other development assistance institutions, AID is an organization of planners and administrators, much more concerned about getting projects planned and approved than about what happens later.

AID--and the receiving countries--pay a high price for sloppy implementation: costly reconstruction and, perhaps more important, many people disillusioned about the prospects for development. This is a glaring deficiency in AID's environmental record, and one which could be remedied without unacceptable costs.

What kinds of implementation deficiencies are at issue? The most common is carelessness in moving large amounts of earth, particularly in road or dam building. For example, contract laborers from India building an AID-financed mountain road in western Nepal destroyed many acres of precious farmland by careless--and needless--disposal of excavated earth. In

another rural road project in Central America, failure to follow plans for channeling runoff resulted in major erosion problems which destroyed not only sections of the road but also surrounding fields. In Bolivia, large areas of fragile soil designed to be farmed in a colonization project were destroyed in land clearing by untrained bulldozer operators. In each case, the AID monitoring which could have prevented damage was missing.

Another common implementation problem occurs in irrigation projects: too little or, more often, too much water is put on land, and serious waterlogging or salinity problems result. Until recent political events intervened, AID was engaged in expensive efforts in the Helmund Valley in Afghanistan to reverse severe salinization of U.S.-financed irrigated lands; this was due to use of too much water by untrained farmers who had been moved onto newly irrigated lands without adequate training and to inadequate provision for monitoring salinity. There have been cases where schistosomiasis and other waterborne diseases were spread because of failure to complete the drainage systems called for in the project design.

Why does all this happen? Excuses offered reflect real but not insurmountable problems: project officers responsible for watching implementation are "too busy" or "live too far" from projects distant from national capitals; receiving governments are "sensitive" to AID controls after a loan agreement has been

signed and want to oversee the implementation of their own projects for political and other reasons; it "costs too much" to hire U.S. technicians to supervise construction and maintenance operations.

AID's Environmental Procedures now call for monitoring to measure changes in environmental quality during implementation of projects, but only "to the extent feasible and relevant." As noted earlier, AID will provide assistance to the Egyptian Government to monitor changes in offshore water quality resulting from sewage treatment and disposal under the Alexandria Wastewater Master Plan. In the Panawangan Demonstration Watershed Rehabilitation Project in Indonesia, a U.S. agronomist has undertaken to measure changes in the level of soil runoff from hillsides with improved terracing. Such monitoring is valuable because it can identify changes in project implementation which will avoid environmental harm and it can help in designing future projects. Concern has been expressed by Agency personnel about the expense of gathering baseline data and about the complexity of existing monitoring systems which can be operated only by hard-to-recruit technicians or engineers.

Several changes are needed. First, AID's top leaders should decide firmly that the implementation of environmentally sensitive AID projects, such as roads, dams, irrigation, and new lands development, will be overseen; that the necessary

people and money will be made available; and that the establishment of effective controls over implementation will be a condition precedent to undertaking such projects. This means not relying on distant, overworked mission personnel to watch over complicated projects but hiring people who know how to recognize potential problems and giving them the authority to remedy mistakes. A number of AID officials recommended hiring retired engineers or technicians, or recruiting skilled ex-Peace Corpsmen willing to live in remote places.

These suggestions touch a key problem: relations with the host government and the people who are going to benefit from the project. AID has a moral responsibility to stay with a project not only until it is physically completed but also until host-country technicians are trained and capable of carrying on alone. When constructive, long-range plans for cooperation on projects are carefully worked out, the question of sovereignty is blurred and does not come up. Imaginative use of incentives for continuing cooperation--additional training, spare parts, new projects, or, in the case of farmers and villagers, life-enhancing improvements for their homes or communities--can play a part.

Second, AID should state more clearly its determination to turn down projects where there is a likelihood, or a major risk, that a project cannot or will not be properly implemented, resulting in failure to meet the project's long-term objectives or in serious environmental degradation.

The "cannot" side of the equation refers to the need for adequate governmental institutions: for example, to maintain a road in the mountains or to train or supervise farmers on irrigated lands. It also refers to the availability of funds and political will in the receiving community or national government to provide long-term support for a project. If any of these elements are lacking, such projects should be avoided or postponed. The developing world is full of abandoned projects which have left the recipients worse off, or at least more discouraged, than if they never had been undertaken.

Third, AID should make limited, but important, changes in its environmental and other regulations to assure better implementation. AID's Project Papers, loan and grant agreements, and implementation plans should reflect who will be hired or otherwise have responsibility for supervising project implementation and determining that environmental design criteria or other mitigating measures are actually carried out; what kinds of monitoring will be done, by whom, and who will pay; what relationship will be maintained with host-country officials; what authority the supervisor will have to forestall errors as they become apparent; what training will be given to host-country personnel; and how limited financial authority for supervisors to correct or avoid errors can be delegated (the latter is a problem frequently pointed out by field personnel).

Fourth, AID should tackle the problem of devising more rugged, simpler, cheaper, and more reliable monitoring systems, designed to meet the needs of AID field technicians and of technicians from developing countries who will watch over water and air quality, erosion, ordinary pesticide and fertilizer use, and so forth. Existing equipment often is too expensive and not usable under tough field conditions.

One example where the Agency has taken steps to assure environmental soundness during implementation is the Panama Roads Project. AID is providing both short-term and long-term technical assistance to the Government of Panama in the selection and construction of rural access roads. An environmental protection expert is helping the Panamanian Ministry of works to limit the adverse environmental effects associated with road construction, including soil erosion, deforestation, and water contamination. The consultant will assist construction supervisors in the field to carry out recommended changes and will evaluate the success or failure of any mitigation measures which are taken.<sup>18</sup>

Prompt, determined action is called for to improve implementation of all environmentally-sensitive AID projects. Often acting on their own, overworked AID field personnel repeatedly have shown devotion and skill in supervising complicated and potentially destructive projects. However, this is not a reliable or responsible way for AID to deal with a very serious problem.

F. Project Evaluation

AID has done surprisingly little evaluation of its projects to learn from its environmental mistakes or, just as important, to document and analyze its successes. As development agencies become more deeply involved in difficult natural resource management projects, particularly on marginal lands, the need to learn from past successes and failures will become ever greater. AID does have some procedures which require project evaluation during the implementation phase. However, the often lengthy implementation reports are largely devoted to financial and administrative matters and do not deal with social or environmental aspects. More important than the lack of formal evaluation is the almost universal failure, when lessons are learned about what should or should not be done, to get the word around. Often such information is not shared even within a single bureau.

Many AID personnel are aware of the weakness (usually the absence) of systematic evaluation, and the Bureau for Program and Policy Coordination is studying how this can be corrected. However, there is a kind of fatalism that, whatever might be ordered by high level AID officials, little will really be done. The difficulties perceived by AID personnel are much like those described in the prior section on project implementation: concern that continuing evaluation will be

resisted by host countries as prying too much into their affairs; fear that periodic evaluation of environmentally sensitive projects will be too expensive and too much of a burden on already busy and sometimes technically unqualified mission staffs; recognition that in many cases evaluation will not be meaningful without prior carefully performed baseline studies; and an understandable concern that if regular environmental evaluations are required, papers will be produced which no one will have time to read.

While there is some validity to these arguments, a modest, useful system of periodic evaluation can and should be established. First, AID should provide more specifically for systematic evaluation of environmentally sensitive projects. All environmental documentation should identify those environmental impacts and project activities which should be evaluated later on. As part of the assessment process, AID should carry out sensible baseline studies which provide adequate data for evaluation. Without accurate data on water or soil quality, vegetative cover, or health conditions, it is often impossible to know for sure whether a project is enhancing or hurting the human environment.

Second, project papers, project agreements with aid-receiving countries, and other relevant documents should provide an agreed framework for carrying out periodic environmental and, when applicable, sociological evaluations:

who will do this work, who will pay for it, what role host country representatives will play (they should always be included but should not have full responsibility), how often evaluations should be conducted, and on the basis of what baseline data.

Third, a simple system should be devised for the preparation of these evaluations which generates a minimum of paper; covers not just the implementation or immediate post-implementation phase but longer periods up to five or ten years after completion; and describes the lessons, including tentative lessons, learned. An interesting experiment, apparently halted for financial reasons, was a plan of the Latin America and Caribbean Bureau to take an overall look at the successes and failures of its programs in Bolivia, Brazil, and Colombia over a ten-year period. Such broad program reviews, with emphasis on natural resource problems, deserve encouragement.

Fourth, AID should devise a system for disseminating the lessons learned to others in AID and, to the extent possible, to all who are working in the same kind of problems. Fifth, AID should ensure that the process of evaluating its projects involves planners and technicians from developing countries.

FOOTNOTES

1. 42 U.S.C. Sec. 4321 et seq. (1970).
2. AID's requirement for consideration of environmental aspects of capital developments projects was first delineated in M.C. 1221.2-Consideration of Environmental Aspects of U.S.-Assisted Capital Projects issued on August 18, 1970, and was later expanded by M.C. 1214.1-Procedure for Environmental Review of Capital Projects issued on September 20, 1971. These were incorporated into the section on "Feasibility Studies, Economic and Technical Soundness Analysis, Capital Projects" of the Feasibility Study Manual.
3. 36 Fed. Reg. 22686 (1971).
4. See AID Office of Health, "The Relevance of Environmental Health to AID Objectives" (1972).
5. AID Office of Engineering, Environmental Assessment Guidelines Manual (1974).
6. Environmental Defense Fund v. AID, Civ. A No. 75-0500 (D.D.C., December 5, 1975).
7. 22 C.F.R. Sec. 216 (1978).
8. 44 Fed. Reg. 56378 (October 1, 1979).
9. 22 C.F.R. Sec. 216.1(b) (1978).
10. Letter from John J. Gilligan to Charles Warren, (December 9, 1977).
11. Id.
12. Letter from John J. Gilligan to the Honorable Anthony Beilenson (March 10, 1978).
13. AID/washington, "Bicol Integrated Area Development II Project, 492-0275" (Cable - State 227606 to AID/Manila, September 21, 1977).

14. See, P. Kim, AID Office of Housing, "Panama Project 525-HG-009, Environmental Assessment" (Memorandum to AA/LA Valdez, March 15, 1978).
15. House Committee on International Relations, Hearings On Foreign Assistance Legislation For Fiscal Year 1979 (Part I), 95th Cong., 2nd Sess. 242 (February 21, 1978).
16. 44 Fed. Reg. 56378 (October 1, 1979).
17. 43 Fed. Reg. 55978 (November 29, 1978).
18. AID/Panama, "Panama Roads Project" (Cable - 09214, December 18, 1978).

## CHAPTER V

### ADDRESSING ENVIRONMENTAL AND NATURAL RESOURCE MANAGEMENT NEEDS IN DEVELOPING COUNTRIES

In 1977, Congress gave AID its first explicit mandate to help developing countries protect and manage their environment and natural resources. Section 118 of the Foreign Assistance Act, quoted in full at page 24, calls upon the Agency to make "special efforts . . . to maintain and where possible restore the land, vegetation, water, wildlife, and other resources upon which depend economic growth and human well-being, especially that of the poor."

The kinds of projects mentioned by Congress as appropriate included watershed protection, reforestation, drainage to control salinization and waterlogging, wildlife habitat preservation, water pollution control, resource surveys, and training.<sup>1</sup> Congress did not set a specific level of funding under Section 118, but instead directed the Agency to carry out "Environment and Natural Resources" activities under the existing major functional accounts.

In March 1979, the AID Environmental Coordinator presented an analysis of the proposed FY 80 Agency program, which showed a total of 158 environment and natural resources projects costing \$276,983,000. Individual projects were not identified,

but rather totals were provided for seven broad project categories: environmental institution building, information and education, conservation and land management, water resources, pollution control and abatement, disease control-health in general, and others. A chart showing the kinds of projects identified by AID as falling within each category is attached as Appendix 4.

Five projects in the "pollution control and abatement" area accounted for some \$112 million, or about 40% of the total. The categories were broadly drawn. They included projects which seem more oriented towards the development of natural resources than towards their protection and management (e.g., rural development, new lands development, irrigation water).

In the future, AID's analyses of its environmental and natural resources efforts hopefully will improve. AID missions have been provided with instructions for their 1981 Annual Budget Submissions which provide guidance as the classification of such activities. Examples are given of activities directed toward: (1) Environmental Assessment; (2) Mitigation of Environmental Impact; (3) Public Information and Training; (4) Institution Strengthening; and (5) Protection and Enhancement of Natural Resources and the Human Environment. These instructions should permit more precise identification of projects or project components which fall within the Section 118 mandate.

A. Designing Country-Specific Environmental  
and Natural Resource Programs

There appears to be agreement in AID and the Congress that the development of an effective environmental and natural resources assistance program for each aid-receiving country requires three steps. First, AID must identify and evaluate the environmental and resource problems and the institutional capacity to address those problems in the host country. Second, AID must work with host-country officials to develop an effective strategy to deal with those problems. Third, AID must help design and fund projects to carry out the strategy.

1. Environmental Profiles

In 1978, Congress directed AID, through an amendment to Section 118 of the Foreign Assistance Act, to carry out country-specific studies "to identify the major environmental and natural resource problems, and institutional capabilities to solve these problems, which exist in developing countries."<sup>2</sup> The amendment required that the results of the studies be reported to Congress by March 1, 1979.

According to the legislative history, the purpose of the amendment was to require AID to prepare environmental profiles which would "systematically identify environmental and natural resource problems and the institutional capabilities of each host country to solve these problems . . ." The profiles would

"rely primarily on work already under way in AID and on information developed by Mission personnel, in consultation with host government officials."<sup>3</sup> Consultants were to be employed where Mission personnel were not knowledgeable or available. It was intended that the profiles would provide the basis for developing AID country programs.

This amendment passed the Congress on October 6, 1978. Due to constraints on time, money, and expertise, it was not possible for the Agency to do over 50 separate, comprehensive, country-specific studies by March 1, 1979. AID decided to do general overviews of the environmental situations in each region of the developing world: Africa, Asia, Latin America and the Caribbean, and the Near East. The Agency submitted to Congress a report entitled "Environmental and Natural Resources Management in Developing Countries," a library study prepared by contractors with the U.S. Library of Congress. As an appendix, AID submitted national environmental background studies on Sri Lanka and Mauritania, also prepared by the Library of Congress under a separate contract. While the report did not benefit from systematic review by Mission personnel or consultation with host-government officials, some data were supplied by the Missions and a few Missions reviewed early drafts, providing detailed and helpful comments.

The Report was a first attempt by the Agency to provide a framework for analysis of environmental problems in developing countries. It included discussions of natural resource, urban

environmental, and health issues. Institutional capabilities to deal with these problems were surveyed, and examples were included wherever possible. The regional focus rendered the report of little value in designing projects, and did not satisfy either the Congressional mandate or the real need for country-specific studies. However, it did provide an impetus for the Regional Bureaus to develop regional environmental training programs.

During field visits conducted for this study, Mission staff and host-government officials seemed to agree on the need for country-specific environmental studies to identify, with the host government, major environmental problems and priorities for development planning. There was a strong preference for conducting the exercise in the field, even if it had to be by consultants, so that Mission staff, host country officials and other donors, if possible, could be involved. The Missions stressed their need for guidance from Washington as to format, content, and expectation. They were interested in learning how others were approaching the profile effort.

AID currently is experimenting with a number of different approaches, partly as a result of field requests. Some of these were initiated prior to the Congressional mandate; others are new approaches. According to the AID staff, the intent is to develop a variety of methodologies suited to meet different situations and host-country priorities.

a. Man and the Biosphere (MAB) Environmental Studies

Prior to preparation of the Report to Congress discussed above, AID had contracted, through the U.S. Man and the Biosphere (MAB) Program, with the Library of Congress and the University of Arizona Office of Arid Land Studies to prepare literature searches on the environmental situations in several developing countries. These MAB studies occasionally have been referred to as "profiles." They now are being used as background studies, and their existence has been communicated to the field in a cablegram.<sup>4</sup>

U.S. Library of Congress contractors began research under this MAB contract in the summer of 1978. Approximately 29 countries have been selected for study by the Development Support Bureau and the Environmental Coordinator, in consultation with the Regional Bureaus and some Missions. As of January 1980, the countries are:

<u>Completed</u>	<u>In Progress</u>		<u>Possible</u>
Mauritania	Ghana	Niger	Barbados
Haiti	Zaire	Egypt	
Nepal	Senegal	Morocco	
Bolivia	Thailand	Yemen	
Guatemala	India	Tunisia	
Jordan	Bangladesh		
Liberia	Philippines		
Sri Lanka	Cameroon		
Peru	Swaziland		
Ecuador	Mali		
Thailand	Upper Volta		
	Syria		

The value of these MAB studies to AID's work in the field will depend upon follow up, review, and revision by mission staff and host-country officials. Because the reports relied almost totally upon information available in Washington, they are not complete or entirely current.

The Agency has expressed its intention to use the MAB studies as a basis for field work. How rapidly this work will be carried out in all 29 countries has not been indicated. Whether and when studies will be planned for the other countries receiving AID's assistance is similarly unclear.

Three of the first MAB profiles to be followed up in the field are those on Guatemala, Bolivia, and Ecuador. In each case, an interdisciplinary team of experts was chosen and briefed by AID personnel. In the field, they held detailed discussions with Mission staff and host-country governmental and non-governmental experts. The purpose of the field work is to test and supplement the MAB studies, and, based upon the major environmental issues identified, help set priorities for the Country Development Strategy Statement.

The MAB profile on Nepal was expedited to provide back-up for an AID Mission effort to help Nepal set up a Ministry of the Environment. The Mauritania MAB profile was reviewed as background for an AID-funded National Academy of Science environmental workshop and training project in Mauritania.

b. Other Profiling Activities

In 1976, the Africa Bureau began a project to analyze environmental issues and trends in seven eastern and southern African countries: Botswana, Ethiopia, Kenya, Malawi, Sudan, Tanzania, and Zambia. The project involves host-country institutions and a U.S. contractor, Clark University.

As part of this project, literature searches were done and country overviews, including what were called "national environmental profiles," were prepared with assistance from host-country experts for each country. While these "profiles" were only a few pages in length, they became the basis for a series of more in-depth local studies, some of which are still underway, to identify and deal with the major environmental problems of these African countries. This work is being done in the field through local institutions, with guidance where necessary from the U.S. contractor.

One recent product of this effort was a Symposium on Drought in Botswana, June 5-8, 1978, organized by the Botswana Society, the University College of Botswana, and Clark University in collaboration with the Government of the Republic of Botswana. The work of the Symposium has been published in a book entitled Symposium on Drought in Botswana, and has led to national planning activity.<sup>5</sup>

In a separate profiling exercise, two American ecologists were retained by AID in 1978 to prepare an environmental profile for Somalia. This contract was requested by the

Mission and negotiated directly between the contractor and the African Bureau. The work was done over a three-month period in Somalia. A draft profile of Somalia was completed in March 1979.<sup>6</sup>

In early 1978, a 400-page environmental background document on Ethiopia was produced by a U.S. contractor.<sup>7</sup> It originated as a component of an agriculture project, not as a national environmental study. However, due to its environmental focus, it became one of the first AID examples of a detailed national environmental study. While its length makes it inappropriate for general use, it has served as a reference document.

More recent examples of national environmental studies come from Thailand and Panama. In Thailand, the AID Mission contracted with local university experts to prepare an overview of that nation's environmental problems. In Panama, the AID Mission has been investigating with the Panamanian Government the development of a national environmental profile. To initiate this effort and generate ideas, AID and the Government of Panama co-hosted a conference on environmental planning and development on June 27-29, 1979. This conference was attended by about 40 Panamanians representing both the private and public sectors. The Conference consisted of two days of lectures and discussions to generate ideas for the profile exercise. According to the

Mission, this Conference was "the first step in a process which will lead to a nationwide environmental assessment."<sup>8</sup> It is the expectation of the Mission that the assessment will serve as the basis for a project in FY 1981 to explore methods to control and possibly reverse deterioration of Panamanian natural resources.

c. Inadequacies

The profiling effort lacks vigor and an Agency-wide plan. It is of utmost importance that the Agency prepare and adopt such a plan as soon as possible. It should call for the availability of environmental profiles, or functionally equivalent data sources, for all AID countries no later than the end of 1981. Priorities should be established among countries, with those which appear to have the most severe environmental problems assigned the highest priority for preparation of profiles. Profiles, or functionally equivalent data sources, should be available for the 20 highest-priority AID countries by the end of 1980. Moreover, the profiling process needs to be managed more carefully than in the past. A specific officer in Washington should have responsibility for assuring that all profiles are prepared on schedule and are of high quality.

2. Incorporation of Environmental Issues in the Country Development Strategy Statements (CDSS)

In its February 1979 Report to Congress, "Environmental and Natural Resources Management in Developing Countries," AID explains that "The process of gathering information relevant to [the environmental and natural resource issues within a country] for the CDSS will produce, in effect, what is often called an 'environmental profile' of the country." The Report states that an environmental profile is "more of a process than a definitive document." It will identify information sources, serve as a basis for dialogue with host-country officials, help formulate development strategies to minimize or avoid adverse environmental effects, and serve as a basis for environmental and natural resource project initiatives.

In fact, it is unclear how many of the CDSS's as revised in 1980 will contain adequate environmental analysis. In most of the 1979 CDSS's, consideration of environmental issues was inadequate, and in some cases it was completely absent. Part of the difficulty was due to a lack of guidance. The 1979 CDSS guidance mentioned only briefly that the document should focus explicitly on environmental issues relevant to development.<sup>10</sup> without clear and detailed guidance on this relatively new "concern," many missions will not commit expertise and energy when most staffs are already overworked.

(This is not to say that missions are disinterested; the variety of profiling exercises now under way indicates otherwise.)

On September 22, 1979, the AID Environmental Coordinator sent a cable to all AID missions and offices entitled "Preservation of Forests" but dealing more with the need for "environmental profiling" and including consideration of environmental and natural resources issues in the CDSS's.<sup>11</sup> The cable requests missions to discuss environmental and natural resource issues with host-government officials with a view towards fully incorporating the subject in the CDSS's due to be submitted in January 1981. The cable notes that improvements in the identification of environmental "needs" should begin showing up in the January 1980 CDSS submissions. The cable does not call for any specific kind of environmental and natural resource projects, but rather for development of projects responsive to the needs and priorities of host governments. AID Missions were urged to work closely with the Peace Corps and to consider and inform AID/Washington about personnel and funding needs in the natural resources area.

It is extremely important that each CDSS include, as soon as possible, adequate discussion of environmental and natural resource problems and measures to address them. To assure that this occurs at the earliest possible date, all of the CDSS's submitted in January 1980 and January 1981 should be reviewed

by panels of qualified outside experts to determine whether they contain adequate environmental analysis and, if not, to recommend improvements.

B. Building Host-Country Capabilities

The most important aspect of AID's environmental and natural resource program must be close cooperation with host governments to build their capabilities to deal with environmental and natural resource problems. AID's February 1979 Report to Congress, "Environmental and Natural Resources Management in Developing Countries," discussed the prerequisites to effective environmental and natural resources management in developing countries. These include improved governmental administration, environmental laws and policies, research and data collection, and environmental training and education. The report found that developing countries are beginning to recognize the gravity of their environmental and natural resource problems and to understand the relationship between these and prospects for sustainable development. Yet many developing countries still lack the ability to protect their environment and to inventory and manage their natural resources.

with some exceptions, AID's efforts in environmental institution-building are new. Nevertheless, it is significant that AID has stated its intention to increase its support for

environmental and natural resource institution-building, and has proposed and initiated several new programs.

AID has begun efforts to strengthen existing environmental and natural resource agencies and to help establish new ones. These efforts may be components of larger projects to protect or manage natural resources. The \$10 million Watershed Management Loan to Panama in FY 1979 is an example.<sup>12</sup> The Panama loan includes funds to build the capability of RENARE, the Panamanian natural resources agency, through training, education, and acquisition of technical equipment. AID provided to the Government of Indonesia a consultant who contributed to the preparation of the Government's recently adopted Five-Year Plan on the Environment.<sup>13</sup> As noted earlier, a team of experts were sent to Nepal at the request of the Nepalese Government to undertake a study of the possible creation of a Ministry of Environment.

AID gave administrative support for a visit to Nigeria of a team from the U.S. Environmental Protection Agency, including an attorney who prepared a draft Nigerian environmental protection statute. Expressions of interest in this area are growing. Turkey, for example, has recently asked for help in funding a project on environmental legislation.<sup>14</sup> AID should indicate its readiness to provide technical assistance to developing nations in developing laws and policies concerning the environment and natural resources.

Natural resource and environmental research components are often included in AID programs in particular countries. For example, the AID/Liberia program is funding several agriculture-related projects, some under the label "Integrated Rural Development," which will support research in a number of areas, including schistosomiasis and soils within the Ministry of Agriculture.<sup>15</sup> Similarly, the AID/Mali program is funding two projects which focus on data collection and institution-building. The first, entitled "Land Use Capability Inventory"<sup>16</sup> is an effort to help the Government of Mali perform an inventory of land and water resources in the country and develop the capacity to plan how these resources should be utilized. AID will fund this project jointly with France over a four-year period. The second project, entitled "First Region Development,"<sup>17</sup> consists of a three-year economic, social, and natural resource analysis of that region of Mali to provide sufficient information for the design of an effective, long-term rural development program. The First Region Project is an encouraging effort by the Agency to commit project monies to the production of data on the relation between human needs and the natural resource capacity of an area, for use in development planning.

In some countries, such as Cameroon, the Agency has developed cooperative arrangements with U.S. technical agencies, including the Department of Agriculture's Soil

Conservation Service, and other donors to produce resource inventories.<sup>18</sup> This type of assistance is particularly useful in helping countries strengthen local resource institutions as well as inventory and classify flora and fauna.

AID continues to promote and support the use of satellite remote sensing as a tool for environmental data collection and assessment. For FY 1978, 1979, and 1980, AID has funded or committed funds worldwide for some 38 remote sensing projects at a total cost of over \$36 million. These projects provide for establishment of regional training centers and training workshops in developing countries, as well as direct data collection and analysis. While there is concern that satellite imagery does not provide enough detail for meaningful natural resource planning, particularly in tropical forests, it provides a beginning point. AID is starting to use LANDSAT activities in combination with the development of natural resources management capabilities. It is essential to assure that satellite mapping is not an end in itself but is used in combination with "ground truth" activities and as a tool by the host government for natural resource planning and analysis.

AID can make a contribution to increasing a host-country's capability through environmental training and manpower development. While AID does some training of developing-country nationals in the United States, the focus is on helping developing countries build their capabilities to train their

own people. One of the Agency's first such efforts is an Indonesian project which will support university environmental centers doing environmental analysis and planning.<sup>19</sup>

In 1977, AID began to design an African Environmental Training Program.<sup>20</sup> Thirteen countries (Sudan, Kenya, Tanzania, Lesotho, Malawi, Mauritania, Upper Volta, Senegal, Chad, Mali, Zaire, Ivory Coast, and Cameroon) indicated interest in a program, and twelve participated in a workshop in Dakar in March 1979 to formulate training proposals. Other participants in the meeting included the United Nations Environment Program and the UNESCO/Man and the Biosphere Program. In August 1979, the preliminary activities were merged with others involving the AID-sponsored environmental project in seven eastern and southern African Countries (see earlier discussion in Part A-1-b). The proposed five-year \$9 million consolidated program will provide training through seminars, short- and long-term courses, and environmental management assistance for these countries.<sup>21</sup>

Through the National Academy of Sciences, AID has begun to work with the Mauritanian Government on a review of the country's major environmental problems.<sup>22</sup> This project has been able to draw upon the expertise of scientists throughout the world, and the host country has been receptive. In the fall of 1979, a major workshop with top-level Mauritanian leaders outlined recommendations for action to cope with the

country's environmental problems. The Latin America and Caribbean Bureau has funded a project to be carried out by the World Wildlife Fund-U.S. to assess natural resource training needs in the region and to design a regional training program. A five-year Latin American training program has been proposed for Fiscal Year 1981 at a funding level of about \$8 million.

Some Missions remain unaware of the kinds of projects possible in this area. Projects such as those cited in this part should be more widely publicized by AID both inside and outside the Agency. In many countries, AID is already engaged in programs to train host-country officials in areas such as agricultural extension work and health planning. Whenever appropriate, AID should include environmental and natural resource components in these in-country training projects. AID/Washington should encourage Missions to examine their training projects for this possibility.

Environmental management efforts will be successful only if there is strong public support. Development of environmental curricula for public schools and of environmental programming in the media is a means of increasing local awareness and interest. For example, in Egypt, initiatives have been taken to interrelate population and environmental issues. Two Population and Environmental Education workshops were conducted in 1978 and 1979.<sup>23</sup> These workshops had the assistance of U.S. Health, Education, and Welfare experts and some AID

support. The Agency should incorporate environmental and natural resource materials in education projects whenever appropriate.

Another important element in building public awareness of environmental problems is support for nongovernmental organizations (NGO's). AID has long recognized the importance of NGO's in raising public concern in areas such as family planning, and it has begun to provide assistance to environmental NGO's.

In Costa Rica, the AID Mission provided a \$240,000 operational program grant to the Costa Rican Conservation Society, Asociacion Costarricense para la Conservacion de la Naturaleza (ASCONA). The two-year grant is for environmental studies and education, with the objective of increasing the effectiveness of the private sector in Costa Rica in promoting rational use of natural resources and environmental protection. ASCONA will prepare environmental education materials, conduct a nationwide media campaign and series of seminars, investigate specific environmental problems in Costa Rica, and propose solutions to them.<sup>24</sup> In December 1978, AID helped fund the first meeting of Central America Environmental NGO's in Guatemala. In Panama, the AID Mission provided a small grant to the Amigos de la Naturaleza to carry out a public information program, including some 50 lectures on environmental issues in public schools. In Indonesia, the

environmental consultant in the AID Mission has encouraged the activities of a newly formed coalition of environmental NGO's. In its environmental profile of each recipient country, AID should identify environmental NGO's. In this regard, AID also should work with the Environmental Liaison Center in Nairobi. AID should continue and increase its assistance to strengthen environmental NGO's.

C. Activities to Protect, Restore, and  
Manage Natural Resources

A complete review of all AID activities which involve the protection, restoration, or improved management of natural resources proved impossible. As noted at the beginning of this Chapter, AID will be in a better position in the future to identify such projects or project components (see Chapter VII, Part D, for further discussion of the problem of obtaining information about AID activities).

A major focus of AID's program remains upon agricultural development. As a result, many AID projects include elements aimed at protecting or rehabilitating crop and grazing lands. For examples of some of these, see the review of AID's soil conservation activities in the next chapter.

There is a growing recognition within AID of the importance of other natural resources to meeting the basic needs of the poor. As described in the next chapter, AID has shown renewed

interest in forestry, including fuelwood production and watershed forest protection. The Development Support Bureau recently queried AID Missions as to whether developing nations might want assistance in solving coastal zone problems. Some 30 Missions have indicated an interest. AID will propose for FY 81 a number of pilot projects for institution building and training in the area of coastal zone management.

Despite specific authorization in Section 118, AID remains reluctant to undertake activities to protect wildlife and its habitat. Many AID staff members still view wildlife protection as inconsistent with the Agency's "basic human needs" mandate. Nonetheless, millions of people in the developing world are dependent upon wild plants and animals as a source of food. Wildlife in developing countries accounts for much of the earth's gene pool. The maintenance of this genetic diversity is important to the continuing improvement of crops and livestock. It may also contribute important new drugs or industrial products.

There are a few instances where AID has provided assistance in this field. As part of the Panama Watershed Management Project, AID is helping to fund the establishment of a national park in the former Canal Zone. Through the U.S MAB Program, AID and the U.S. National Park Service are assisting the African College of Wildlife. AID has approved in principle a

project proposed by the African Wildlife Leadership Foundation to improve the use of wild game by the Bushmen of the Kalahari Desert.

While disclaiming any legal obligation under the U.S. Endangered Species Act, AID has recognized the need to consider impacts upon endangered species as part of its environmental review process. In the past, there have been consultations and informal discussions with the Fish and Wildlife Service on endangered species issues arising in specific AID projects. In Sri Lanka, the environmental assessment of the Mahaweli Project will include studies on how to protect the Asian elephants whose habitat will be affected by the creation of thousands of acres of new irrigated farmlands.

AID intends to carry out studies to identify endangered species and their habitat in each aid-receiving country. These studies will assist AID in avoiding unknowing harm to endangered species and in taking steps early in project design to minimize impacts on them. The first such pilot study is being carried out for Thailand through the U.S. Fish and Wildlife Service. In this work, AID should cooperate with the International Union for the Conservation of Nature and its worldwide network of institutions and experts.

AID generally is not involved in pollution control efforts. One exception is an industrial pollution control subproject in Egypt, which receives Economic Security Assistance from AID. The objective of the \$20.5 million program is to reduce the detrimental environmental effects of the uncontrolled discharge and disposal of industrial wastes. The project is managed by an employee of the U.S. Environmental Protection Agency on long-term loan to AID.

D. Centrally-Funded Research on Environmental and Natural Resources Problems

AID considers research to be a normal and even essential component of its development assistance program. Through the Development Support Bureau, AID finances research by U.S., foreign, and international organizations. Within the DSB, the various technical offices have responsibility for developing research programs. While there has been some effort to coordinate these activities, AID's program of research on environment and natural resources matters remains spotty and lacking in the holistic insights of modern ecological science. In natural resource-related areas, emphasis has been upon "green revolution" agricultural research, often to the exclusion of how promising new techniques can be adapted for use by the poorest farmers living in marginal areas. In fact, the first projects of this type are just now in the conceptual stage.

Congress is considering the establishment of a research arm for the U.S. development effort, the Institute for Scientific and Technological Cooperation (ISTC). If ISTC finally emerges, much of AID's research funds, personnel, and responsibility will be transferred to it: ISTC would have 141 people, 78 from AID and 63 additional. ISTC would be encouraged to assume an international leadership role in research, and apparently would give natural resource problems a priority. An institution like

ISTC would serve a very useful purpose. However, as this is written, ISTC's fate is uncertain. If ISTC is not authorized, AID should take other steps to improve coordination and policy planning for its research efforts.

AID has in recent years financed research projects through the Consultative Group for International Agricultural Research, an organization of donors which guides the work of the so-called "Bellagio Group" of institutions. These institutions include the International Center for Tropical Agriculture (Colombia) and International Laboratory for Research on Animal Diseases (Kenya). Much distinguished research has been done through these organizations, though some of them tend to shortchange environmental considerations and do little work on natural resource management. AID should exert more influence on these institutions' work through active participation on their boards of directors.

AID-financed research projects in the natural resources and environmental area are funded either centrally or from the regional budgets. AID has centrally funded some projects through universities, research centers, and other U.S. institutions involving research and data collection in environmental and natural resource areas. In the past many of these projects were supported by "Technical Cooperation and Development Grants" under Section 211(d) of the Foreign Assistance Act. Although Section 211(d) was repealed in 1978,

for several years it funded extensive research activities, many of which continue to provide a base of useful information in several areas. The 211(d) grant projects have been indexed in a useful Agency publication, "Directory of Institutional Resources Supported by 211(d) Grants--U.S. Centers of Competence for International Development."

A more recent AID resource publication, the "Directory of Development Resources," is a more comprehensive and current guide to research and data collection activities supported by the Agency. Released in June 1979, the Directory contains individual summaries of the development resources available through the Agency. The resources covered are U.S.-based data banks, U.S.-based information clearinghouses, newsletters and journals published by U.S. institutions and organizations, on-call technical support services available through AID arrangements, and institutions outside the United States which offer resources in these areas. In over 300 pages, the Directory lists many activities, several involving environmental and natural resource efforts, and provides for each an address where more information can be obtained. It is available in English, Spanish and French, and will be revised annually.

One recent centrally funded research project particularly worthy of note is a very imaginative and apparently successful soils classification project,<sup>25</sup> based like many AID projects

on cooperative work between American universities, in this case the University of Hawaii, University of Puerto Rico, and Cornell, and foreign universities. This multi-year project is aimed at adapting U.S. soil classification techniques to tropical soils; establishing research and adaptive centers in developing countries; and disseminating soils information, principally through regular regional and other seminars. Another project, carried out by the University of Arizona under a five-year grant, is to study integrated natural resources management in arid and semi-arid countries. The Arizona project has supported research activities in Niger and Ghana. An offshoot is an Arid Lands Information Center which will publish a monthly journal abstracting results of research on problems of arid lands.

AID is providing support for environmental research projects through the United States Committee of the UNESCO Man and the Biosphere Program. One interesting project involves an effort to determine the minimum size of critical habitat areas for animal and plant species. For several years, AID has partially financed the preparation of an imaginative series of National Academy of Sciences/Board on Science and Technology for International Development ("BOSTID") studies designed to help developing countries in a number of fields. Those related to natural resources include studies on fast-growing trees for fuelwood; tropical legumes, inter alia, for the protection of

soils; and the use of aquatic weeds for maintaining water purity. The Africa Bureau has contracted with BOSTID to provide technical assistance on the environmental aspects of the Sahel Program. AID should continue to assist this program which has produced some startling positive results at low cost.

Despite the foregoing, AID still is not doing enough research or the right kind of research in the natural resource area. Overall, despite some good individual research efforts, AID has not shown in the natural resources area the international leadership in development research that it should. As the 1980's proceed, it will become clearer that development projects must focus increasingly on planned use and management of marginal lands: arid lands, lands with "problem" soils, and tropical forest areas. It is also clear that much research remains to be done before this work can proceed. For example, the proceedings of the U.N. Conference on Desertification laid out a number of imperative research tasks. Likewise, the about-to-be-published report of the U.S. Government Inter-Agency Task Force on Tropical Forests points out that much more research on tropical ecosystems must be carried out and applied for effective development and management of natural resources in the tropics. The Report calls for a holistically conceived, comprehensive, internationally coordinated research program, and it is clear that many of the areas suggested for U.S. research should be

undertaken under AID auspices. AID should give close attention to these recommendations and ensure that, even before a comprehensive U.S. Government plan is evolved, AID undertakes in the coming fiscal year some of the more urgent research projects. AID should be ready to request supplemental authority from Congress if necessary to accomplish this.

AID should take one other major step regarding developmental aspects of tropical forestry and arid lands research: AID should find ways to develop a broader international scientific consensus about what research of this kind must be done and who should do it. This will require AID to figure out what the U.S. can do best and what U.S. priorities should be, a process which has just begun.

FOOTNOTES

1. House Committee on International Relations, Report on International Development and Food Assistance Act of 1977, H.R. 6714, 95th Cong., 1st Sess., at 33 (May 3, 1977).
2. Foreign Assistance Act, as amended, Section 118(c).
3. House Committee on International Relations, International Development Subcommittee, Hearings on "Foreign Assistance Legislation for Fiscal Year 1979," Part 8, 95th Cong., 2nd Sess., at 58-59 (April 4, 1978).
4. See AIDTO Circular A-106 (April 20, 1979).
5. Hinckey, ed., Proceedings of the Symposium on Drought in Botswana (1979).
6. "Somalia--Draft Country Environmental Profile" (1979), available from AID, Africa Bureau, Development Resources Office.
7. The report is part of Phase II of AID/Ethiopia 1977-78 Agricultural Minimum Package Projects, available from AID, Africa Bureau, Development Resources Office.
8. AID/Panama City, Cable No. 05948 (August 1, 1979).
9. AID, Environment and Natural Resources Management in Developing Countries--A Report to Congress (February 1979).
10. See AID, "Guidance for the Country Development Strategy Statement (AIDTO Circular A-384, September 16, 1978).
11. AID/washington, "Preservation of Forests (Airgram, AIDTO Circular A-210, September 22, 1979).
12. AID/LAC, "Panama Watershed Management Project Paper" (No. 525-0191, December 5, 1978).
13. Hubbard, "Strategy to Prepare a Programme for Environmentally-Adapted Development--Government of Indonesia" (Paper prepared for State Minister for Development Supervision and Environment, July 12, 1978).
14. AID/Ankara, Cable No. 5992 (August 14, 1979).
15. AID/AFR, Liberia Agricultural Research, Project No. 669-0135, Agricultural Sector Analysis, Project No. 669-0139.

16. AID/AFR, Mali Land Use Capability Inventory Project No. 688-0205.
17. AID/AFR Mali First Region Development Project No. 688-0215.
18. USDA, Soil Conservation Service; Fonds d'Aide et de Cooperation, France; and AID, "Resource Inventory of North Cameroon Africa."
19. AID/Asia, Indonesian Environmental Study Centers, Project No. 497-314.
20. AID/ARF, Environmental Training for Africans, Project No. 698-0135.
21. AID/AFR, Environmental Training and Management, Project No. 698-0427.
22. This activity is funded under AID/DSB, Science Policy Planning and Management Support, Project No. 936-5514.
23. AID/Cairo, Cable No. 14517 (July 1979).
24. AID/San Jose, Costa Rica-ASCONA OPG (PID, No. 512-0142, February 2, 1978).
25. AID/DSB, Soil Families--Tropical Soils Management (University of Hawaii), Project No. 931-0582; "Arid Lands and Semi-Arid Lands (Arizona University), Project No. 931-1027.

## CHAPTER VI

### AID'S PERFORMANCE IN SPECIFIC AREAS

#### A. Forestry

##### 1. Overview

Prior to the early 1970's, AID assistance in the forestry area was limited almost entirely to timber production projects. After the 1973 amendments to the Foreign Assistance Act, these industrial forestry activities were viewed as inconsistent with AID's "New Directions" mandate and phased out. However, there has recently been a resurgence of interest in a new kind of forestry effort.

During the last three years, attention has been focussed on the "firewood crisis" and the accelerating loss of forests throughout the developing world.<sup>1</sup> In October 1977, the AID Assistant Administrator for Asia, John H. Sullivan, warned publicly that the "destruction of forests hampers economic growth in developing countries."<sup>2</sup> He said that AID's Asia Bureau was responding to this serious problem, mentioning tree farming by small producers as one approach the Bureau was exploring. In June 1978, AID co-sponsored a U.S. Strategy Conference on Tropical Deforestation. The major conclusion and

recommendation which emerged from this meeting of over 100 governmental and nongovernmental experts and officials was that there was a need for "an accelerated and coordinated attack" to prevent the widespread destruction of forest and woodland resources in the tropics which otherwise will take place by the early part of the next century.<sup>3</sup> It has been estimated that rural forestation must be increased by more than ten times in some developing countries just to meet domestic fuelwood needs.<sup>4</sup> As a result of the U.S. Conference on Tropical Deforestation, an Interagency Task Force was formed to develop a comprehensive U.S. policy and strategy on tropical forestry. The Task Force, on which AID has played a major role, is expected to report to the President in February 1980.

In 1979, Congress gave AID explicit authority to provide assistance for forestry projects under the functional category "Agriculture, Nutrition, and Rural Development." The 1979 amendment to the Foreign Assistance Act added the following paragraph to Section 103(b):<sup>5</sup>

(3) The Congress recognizes that the accelerating loss of forests and tree cover in developing countries undermines and offsets efforts to improve agricultural production and nutrition and otherwise to meet the basic human needs of the poor. Deforestation results in increased flooding, reduction in water supply for agricultural capacity, loss of firewood and needed wood products, and loss of valuable plants and animals. In order to maintain and increase forest resources, the President is authorized

to provide assistance under this section for forestry projects which are essential to fulfill the fundamental purposes of this section. Emphasis shall be given to community woodlots, agroforestry, reforestation, protection of watershed forests, and more effective forest management.

The House Appropriations Committee in 1979 also encouraged AID to give more attention to forestry. The Committee urged AID:

to increase its staff capabilities in forestry, to plan for and include reforestation activities in all future rural development programs, to address forest management considerations within the framework of their environmental assessment policies, procedures, and reviews, and to examine all of its current rural development projects to insure that whenever appropriate, they incorporate a forestry/fuelwood component.<sup>6</sup>

In his August 1979 Environmental Message, President Carter called the loss of the world's forests and woodlands a global environmental problem of great importance.<sup>7</sup> Following the Message, the President sent a memorandum to AID, directing the Agency to evaluate its existing forestry efforts and give high priority to projects necessary for the preservation of natural forest ecosystems and multiple use of forests, including management of natural stands, development of ecologically sound forest plantations, and combined agriculture and forestry.

On September 22, 1979, the AID Assistant Administrator for Policy and Planning Coordination sent an airgram to all Missions concerning "Preservation of Forests."<sup>8</sup> The airgram included a copy of the Presidential memorandum and an excerpt from the report of the House Appropriations Committee described above.

In December 1979, all AID Missions were sent a memorandum, entitled "AID Guidance on Forestry and Other Related Natural Resources Activities."<sup>9</sup> The memorandum sets out AID's objectives in this area. They are:

1. To raise host government awareness of the problem of deforestation.
2. To provide support for the protection, regeneration, production and reforestation of forest lands.
3. To ease pressures on current uses of forests by developing renewable and alternative energy sources and alternative, sustainable cropping systems for the rural poor.
4. To increase the efficiency of forest utilization, and
5. To assist governments in the strengthening of their institutional capabilities to manage forests and other natural resources.

The memorandum also states:

the Missions must ensure that AID activities do not cause unnecessary deforestation and that the environmental examination carefully evaluates and concludes that the cleared

lands will sustain the intended uses and that the activity will go forward only if resource regeneration on other sustainable use components are incorporated into the project.

The memorandum directs the Missions to encourage and help host governments to identify the major causes of deforestation and related problems and to determine their magnitude, urgency, and possible corrective actions. The Missions are asked to examine all ongoing or proposed major projects to determine whether a forestry component might be added.

AID has begun to assess the forestry needs of some aid-receiving countries, but these efforts should be stepped up. A description of forestry issues and proposed AID responses should be included in each of the Country Development Strategy Statements which are due to be revised early in 1980.

AID has already sent teams to evaluate the forestry situation in a number of developing countries. In November 1979, the Asia Bureau held a Conference on Energy, Environment, and Forestry in Manila, which included AID mission personnel and host-government officials. The Conference was aimed at helping to identify regional needs, other donor activities, and country experiences in regard to forestry.

AID has also undertaken a review of other donors' forestry activities. This study, to be completed within a few months, should provide a basis for consultation and improved coordination among donors on the forestry problems in each

region. While too limited in scope, the Africa Bureau's informal exchange of views between donors and African nations on fuelwood and renewable energy, described later, may be a useful model for other bureaus.

AID is currently engaged in a variety of forestry-related projects. In a preliminary review of the period 1965-1985, the Agency identified 29 major forestry projects and 94 other projects with minor forestry components which have been completed or are underway, in design, or proposed. These projects or project components include institution-building, forestation, agroforestry, forest management, and park and reserve management. Various aspects of AID's forestry activities are discussed below.

## 2. Plantation Forestry

Plantation forestry involves large-scale production of timber, poles, or fuelwood for urban areas. With the exception of fuelwood plantations, AID generally should not give a high priority to these activities. Other donors, such as the World Bank, have more experience and are ready to finance plantation projects. However, some smaller-scale plantations could be funded by AID as part of integrated rural development schemes. Care must be taken to assure that plantations do not use lands needed and better suited for food crop production. Recent AID projects involving the establishment of plantations include:

Senegal. Fuelwood, Project No. 685-0219, F Y 80. Three hundred hectares of eucalyptus will be planted in the Bondia forest to provide firewood for Dakar. The project is based on three years of field trials.

The Gambia. Forestry Project, Project No. 635-0205, F Y 80. The project involves planting 1,300 hectares to meet firewood needs in urban areas, the establishment of village woodlots, and the exploitation of mangrove swamps destroyed by flooding.

Philippines. Nonconventional Energy Development, Project No. 492-0294, F Y 80. Eight 400-hectare pilot tracts will be established to provide wood for charcoal and electrical generation as part of integrated watershed development. The project also includes testing of various tree species, training in tree farming, and strengthening the capability of the Philippine Bureau of Forestry Development to manage tree plantations.

Sri Lanka. Reforestation and watershed Management, Project No. 383-0055, F Y 80, \$3.5 million. The first stage of this project will consist of field tests of various tree species for use in establishing or rehabilitating fuelwood or commercial timber plantations or for use in restoration of watersheds in the Upper Mahaweli Basin. The project will also involve replanting 15,000 acres of uplands in the Mahaweli catchment area and 35,000 acres for fuelwood. Other activities include

research, training, improvement of tree species selection and planting techniques, and establishment of a forestry extension service.

Panama Alternative Energy, Project No. 525-0207, F Y 79. Among the many aspects of this project, which mainly involves applied research, is the replanting and management of 3,000 hectares of natural forests to provide fuel for electrical generation.

### 3. Community Forestry

Community forestry involves small-scale planting of trees for fuelwood and construction materials, food, fertilizer and fodder, gums and other forest products, firebreaks, living fences, soil erosion control barriers, and protection of water supplies. The urgent need for community forestry projects for fuelwood is recognized by almost all donors. Fuelwood activities have expanded rapidly, but not fast enough to halt, let alone reverse, the serious degradation of woodlands in many developing countries. For a further discussion of the firewood problem, see Part C of this chapter.

For AID and other donors, Africa, and particularly the Sahel, is the most active region for community forestry efforts, though most projects are still in the early stages of design. In June 1978, AID's Africa Bureau held a Firewood Conference in Washington for AID personnel. The meeting produced an interesting background paper entitled "Firewood in

Africa," which has been given wide distribution. In June 1979, the Africa Bureau instructed its Missions in an airgram to discuss firewood problems and possible U.S. assistance with African governments. The airgram explained concepts about fuelwood, urged that fuelwood components be added to integrated rural development projects, and set out simplified procedures for planning and financing fuelwood projects. On behalf of the Africa Bureau the Overseas Development Council convened in October 1979 a working group of donor and aid-receiving countries in Africa to exchange views on fuelwood efforts and other aspects of renewable energy, to review existing and proposed projects, and to establish means for continuing liaison. The cooperative activities set in motion by that meeting hold real promise.

AID has financed the assignment of a forester with Peace Corps experience to help the Club du Sahel countries design forestry projects. AID also is offering the services of multidisciplinary teams, consisting of a forester and a social scientist, to plan village woodlot projects.

AID planning for community fuelwood projects has been extensive, but so far very few trees have been planted. AID's single fuelwood project now at or beyond the planting stage is:

Chad. CARE Acacia albida Expansion, Project No. 667-0008, FY 76. This project involves the planting of Acacia albida by individual subsistence farmers principally for firewood. CARE

is implementing the project, with assistance from the Peace Corps and Chad forestry agents. This is AID's first and most successful fuelwood project so far in the Sahel.

The Africa Bureau is eager to get a number of firewood projects under way in 1980 and has earmarked substantial funding for them. Projects now being planned for Africa include the development of model woodlots in Guinea, the selection of appropriate tree species and design of infrastructure to support large community forestry efforts in Mauritania, and the planting by Africare (a PVO) of five village woodlots in Senegal.

The Asia and Latin America and Caribbean Bureaus are engaged to a lesser extent in planning for community forestry activities. The Asia Bureau is planning a comprehensive natural resource project for Nepal, which includes a number of fuelwood projects and has as one of its objectives new training for Nepalese extension agents in community forestry. This project recognizes that there must be a change in the approach taken by developing country foresters, who have focussed too long on policing standing forests. AID is working with Great Britain's Overseas Development Ministry and the World Bank on this project, which will emphasize cooperation between foresters and village leaders. AID also has plans for community forestry projects in the Philippines and Thailand.

In the Latin America and Caribbean Bureau, fuelwood projects have been approved so far for Central America and Peru. The comprehensive FY 80 Central American regional "Fuelwood Alternatives" project includes a component for fuelwood planting by farmers, designed to explore the use of incentives for farmers to plant and care for saplings. In Peru, a project began in 1979 to aid community reforestation efforts. Farmers will be provided with Food for Peace assistance for planting trees primarily for firewood, as well as for soil conservation and timber production. Planning for fuelwood projects is under way both in Bolivia, where the projects will be undertaken with PL-480 counterpart funds, and in the Caribbean, where a number of small forestry and soils projects will be carried out under the auspices of the Caribbean Conservation Association.

The Near East Bureau has one afforestation project underway in Egypt, using PL-480 counterpart funds. To date, the Near Eastern countries appear more interested in industrial than in agricultural or forestry projects.

Where should AID's fuelwood program go from here? The emphasis in 1980 should be to get more trees into the ground to demonstrate that AID is serious about community forestry. The time has passed for waiting for the results of studies or pilot projects. While some additional research is desirable, AID need not wait for results to start a major program.

The other regional bureaus should follow the lead of the Africa Bureau in establishing community forestry as a priority. As a target for FY 81, AID should undertake at least three or four community fuelwood programs in each country desiring this kind of assistance from AID. There is a need for examples of successful projects in each such country. The careful selection of villages in which to start community forestry projects is critical. Villages must have a recognized need for wood and the capability to plant trees and protect young trees from animals and people. Security of land tenure must be present to assure that those who plant trees will reap the benefits. The value of community forestry must be explained to women in the village, because they are the major firewood consumers and may have an important role to play in caring for trees.<sup>10</sup> The village leadership must be strong and not otherwise overcommitted.

It is appropriate that AID give priority to fuelwood projects so that it can develop the experience necessary to make a real contribution to the solution of this serious problem. However, AID properly recognizes that it should not allow its enthusiasm for fuelwood projects to lead to the exclusion of other types of forestry and natural resource projects when the latter are necessary and desired by developing countries. Likewise, AID is correct in not insisting on carrying out fuelwood projects in every country.

Some do not want U.S. assistance in this area, preferring to turn to other donors or to other kinds of projects. The key point is for AID to make clear to countries with a serious fuelwood problem its recognition of the importance of doing something and its willingness to help.

An important problem will be obtaining enough qualified, experienced persons to design and implement community forestry programs. The Africa Bureau's proposal to send out two-man design teams seems appropriate for fuelwood plantations but inadequate for community firewood projects where the process of identifying suitable villages will require extensive fieldwork. In most cases, this should be done by the same people who will help villages with the implementation of projects. AID is planning to use Peace Corps volunteers and private voluntary organizations (PVO's) for plantation and community woodlot programs. This has great merit. AID is about to launch cooperative efforts with the Peace Corps. AID and the Peace Corps should meet with PVO's to stimulate greater interest in fuelwood projects and to obtain their agreement to undertake programs in countries or parts of countries where they have special capabilities or where the Peace Corps has no or few volunteers.

AID must assure that there is continuity of assistance and supervision for each community fuelwood project from five to ten years, a period during which young trees require special care and protection. Experience has shown that the success of

community forestry efforts depends upon the presence of a person who can help solve technical problems, can find methods to fund small projects, and, most importantly, can provide encouragement during the years until the trees can be cut. One possible solution would be to hire ex-Peace Corps volunteers on long-term contracts to live in rural areas and provide support to a number of fuelwood projects. AID also should strengthen host-country forestry institutions and train community forestry extension workers, as it is doing in Nepal. This will enable host countries eventually to undertake fuelwood projects without assistance from outside donors.

One of the constraints in starting community forestry projects is the heavy burden that intricate planning and conventional AID funding places upon busy Missions. In order to get community forestry activities underway in each country, AID should make project money available to Missions through such simplified means as the "Ambassador's self-help fund," "accelerated impact program funding," or "improved rural technology project transfers." In order to ease the load on Missions, support for community forestry programs should be provided in the field at the regional level or by AID/washington. Commodity procurement and technical back up could be handled on a regional basis.

AID should take steps to streamline the designing of larger community forestry projects which might involve tens or hundreds of small-scale village activities. As a priority, a programmatic review of activities related to community fuelwood should be carried out to establish design criteria. AID should commission a comprehensive study of AID's and other donors' experiences with community woodlots. It then would be appropriate to publish a pamphlet providing guidelines for selecting villages for community forestry projects and designing those projects. A useful model might be the AID-funded Mohonk Trust/VITA booklet on "Environmentally Sound Small Scale Agricultural Projects."

AID should take the lead, in cooperation with FAO and other donor agencies, to assemble in computerized form references to the voluminous information on the trees suitable for fuelwood and other forestry needs and experience with them in different climates, altitudes, latitudes, soil types, and pest and animal conditions. The search for new and more desirable tree species should continue on a pragmatic basis.

#### 4. Agroforestry

Agroforestry, the mixed cropping of food crops and trees, can help to relieve pressures on standing forests, control soil erosion, restore soil nutrients, and increase wood supplies and agricultural production. Agroforestry deserves more attention and funding from AID because this viable, sustainable cropping

system holds great promise as an alternative to the often destructive practices of farmers living on the agricultural frontier. Previously, the focus of agroforestry was the intercropping of timber (for example, teak as part of the "taungya" system in Burma) and food crops. The emphasis has shifted toward retaining existing forests or planting new fast-growing varieties, such as Leucaena and Sesbania grandiflora, which provide shade for crops, fuelwood, fodder for livestock, nutrients for soil and interplanted food crops, and protection against soil erosion.

There has been a reawakening of interest in agroforestry as an alternative approach to agriculture on rapidly leached and nutrient depleted tropical soils. It combines the latest insights of ecology, agronomy, forestry, sociology, and anthropology to make agriculture sustainable. Agroforestry has proven to be an economically and environmentally sound cropping system in a number of areas in the developing world. However, few agroforestry projects have been launched anywhere, and there is still a lack of understanding of agroforestry on the part of donor agencies, and developing-country officials and farmers.

Regrettably, AID has done little in agroforestry except to finance a few studies. Moreover, it has proven difficult to interest AID agricultural advisers and planners in embarking on this unfamiliar path. In the Philippines, AID has twice

undertaken planning for an agroforestry project aimed at stabilizing depleted farm lands in Luzon, but both times the planning was stopped.

AID recently considered giving help to the newly-established International Center for Research on Agro-Forestry (ICRAF) in Nairobi, Kenya. Regrettably, funding for ICRAF has been denied on budgetary grounds. It should be restored. AID should work closely with ICRAF by participating in the process of setting research priorities, by undertaking larger agroforestry projects in cooperation with ICRAF, and by helping to disseminate the results of agroforestry research projects. However, AID is giving assistance for agroforestry activities at the Center for Tropical Agriculture Research and Training (CATIE) in Costa Rica, which has done good work, and should help other institutions as well. AID could play a very important role in increasing awareness and understanding of agroforestry techniques by holding technical seminars for Agency personnel, other U.S. technical experts, and host-country planners and technicians.

##### 5. Protection, Restoration, and Management of Forests

Standing forests represent important natural resources which are being depleted at an alarming rate throughout the developing world. Forests are an important source of timber and other forest products, which can be produced on a sustained basis if properly managed. They are needed to protect water

supplies, prevent soil runoff, and control flooding. Tropical forests provide habitat for some 40% of the earth's plant and animal species. This repository of genetic diversity is vital to the development of new pharmaceuticals and industrial products and important as a source of germ plasm for maintaining the viability of many agricultural crops. The large-scale destruction of tropical forests could increase atmospheric CO<sub>2</sub> levels and thus affect global climate.

AID already has some efforts underway in regard to both improved management of production forests and restoration and protection of watershed forest lands. AID has financed some work on improved utilization of timber in tropical forests, focussing on tree species which are now passed over or destroyed in lumbering operations. In 1972-73, AID commissioned the Forest Service to prepare a series of studies on methods of harvesting and marketing more tree species and other aspects of tropical forest management. The studies identified the need for more research, which has been undertaken by the Forest Service's Institute of Tropical Forestry. In 1977-78, AID sponsored a further review by the Forest Service of advances in the utilization of tropical timber, particularly "second growth" species. AID has failed to follow up with funding for needed field research. The Asia Bureau is preparing guidance for its Missions on this subject, and may undertake some projects.

There are two other kinds of tropical forestry research that AID should support. First, research is needed to establish methods of harvesting, on a sustained-yield basis, managed forests that rely on natural regeneration. Past research has not been encouraging, but the stakes are so high that AID should make its contribution. Second, research is needed to develop sustainable uses of tropical forest plants and animals for a wide range of commercial products or subsistence food items. These studies should include the ethnobiology of native people in tropical forest areas, who have accumulated centuries of information about tropical plants and animals. Preliminary planning for such research is now underway in Indonesia.

AID has initiated a number of projects which involve reforestation and protection of watershed forests for the purpose of soil and water conservation.<sup>11</sup> These projects include:

Upper Volta. Forest Education and Development, Project No. 686-0235, F Y 79. This project will concentrate on training of personnel in forestry planning. It includes some funding for trial fuelwood areas.

Costa Rica. Conservation of Natural Resources, Project No. 515-614, F Y 79. This project involves a wide range of natural resource management and conservation activities, including the preparation of resource management plans for five regions of

Costa Rica and pilot watershed programs, and the establishment of a new forestry directorate with capabilities in forestry and wildlands protection. Other components of the project, which has top-level support in the host government, include restoration of degraded watersheds, the development of a production forest, and assistance in national park planning.

Panama. Watershed Management, Project No. 525-0191, FY 79, \$10 million. The project's objective is to protect and restore three major watersheds in Panama, of which the most important is the watershed for the Panama Canal. This watershed is being rapidly deforested, threatening water supplies for the Canal. The project also will provide support for planning, mapping, strengthening Panama's natural resources agency, and establishing a major protected forest area.

The chief constraint on an increased AID forestry effort remains the lack of sufficient forestry experts on AID's staff. AID needs immediately to build a stronger technical capability in forestry. During the first part of 1979, the DSB had only two persons working on forestry, and one was on loan from the Forest Service. DSB hired its first professional forester in the summer of 1979. While DSB was originally at the center of AID's thinking and planning on forestry, this role is now being shared--not without some rivalry and confusion--by the Office of Evaluation in the PPC and by the Africa Bureau. In order to improve intra-agency coordination,

a Forest Resources Group has been formed with representatives from the technical offices within DSB, PPC, and the Regional Bureaus.

AID should take steps now to strengthen its capability in forestry and related technical skills, such as land-use planning and watershed management. Increased funding and support should be provided for the development of agroforestry projects. The new Office of Environment and Natural Resources in the Development Support Bureau, which is proposed in Chapter VII, Part A, should, when established, include a major forestry component. In addition, each Regional Bureau should have at least one natural resource expert in Washington to backstop forestry activities. The placement in AID Missions of the three 1979 International Development Interns with forestry backgrounds will help, but AID should accelerate present planning to station more forestry experts in the field to serve at the regional or subregional level.

AID must face up to the longer-range problem of finding people who can carry out forestry programs. Ex-Peace Corps volunteers are a potential source of tropical forestry expertise; and AID should cooperate with the Peace Corps in surveying them for their interest in working with AID on future forestry projects. With the exception of the Peace Corps, there are very limited opportunities for young foresters in the United States to gain experience overseas without hurting their

career opportunities here. There is an immediate need to provide young forestry professionals with language training and the opportunity to work in the field. AID should encourage and support graduate and post-graduate field research and the FAO associate expert program. The latter offers young foresters the chance to work with tropical forestry experts overseas.

FOOTNOTES

1. See Erik Eckholm, "The Other Energy Crisis: Firewood" (Worldwatch Paper 1, September 1975); Norman Myers, The Sinking Ark (1979); Erik Eckholm, "Planting for the Future: Forestry for Human Needs" (Worldwatch Paper 26, February 1979).
2. AID Press Release, AID-77-113, October 23, 1977.
3. U.S. Department of State/AID, "Proceedings of the U.S. Strategy Conference on Tropical Deforestation," June 12-14, 1978 (October 1978).
4. See Freeman, "Forestry in Development Assistance" 24 (Background Paper for AID/DSB/Office of Science and Technology, September 1979), quoting unpublished 1978 World Bank estimates.
5. 22 U.S.C. Section 2151a(b)(3) (1979).
6. House Appropriations Committee Report on Foreign Assistance and Related Programs Appropriations Act, 1980, H.R. 96-273, 96th Cong., 1st Sess., 22 (June 14, 1979).
7. The President's Message on the Environment, August 2, 1979.
8. AID/Washington, "Preservation of Forests" (Airgram, AIDTO Circular A-210, September 22, 1979).
9. Shakow, AA/PPC and Levin, AA/DSB, "AID Guidance on Forestry and Other Related Natural Resource Activities" (Memorandum to all AID posts, December 1979).
10. See Hoskins, "Women in Forestry for Local Community Development: Programming Guide (Draft Report for AID/Office of Women in Development, September 1979).
11. AID's watershed management projects involve both forestry and soil protection activities; the latter are the subject of the next part of this chapter.

## B. Soil Conservation

The protection and restoration of degraded agricultural lands is one of the most difficult challenges facing development assistance agencies. Accelerating soil erosion throughout the developing countries reduces agricultural productivity and impedes economic development.<sup>1</sup> It is important that major efforts be made to halt and if possible reverse this trend.

The focus of soil protection should not be upon the symptom, soil erosion, but rather on the causes: overcropping, overgrazing, or other poor agricultural practices. Many methods and several types of projects are involved in soil protection. For example, AID soil conservation programs often have included the installation of physical barriers to erosion, by means such as check dams, catchment basins, terracing, stream control, wind breaks, and dune stabilization. While recognizing the importance of the related problems of salinization and waterlogging of irrigated soils and of the decline of soil fertility, this section does not describe AID activities addressing them.

As noted in the section on forestry, AID has worked on the protection, reforestation, and revegetation of watersheds. In fact, it is impossible to draw a clear line between "soil conservation" and "forestry" projects. Almost all soil

projects involve some tree planting or revegetation. Unlike tree planting projects, which have as a major objective the production of fuelwood or timber, trees planted for the purpose of preventing erosion are generally left uncut. The protection of standing forests in watersheds is also very important.

Unfortunately, soil conservation appears not to receive enough attention from AID agricultural project planners who often seem more interested in increasing agricultural production in the short term than in assuring its sustainability. It is difficult to find accurate information about AID's soil conservation efforts, since these are usually components of larger agricultural programs. However, some current AID projects involving soil protection include:

Niger. Niamey Department Rural Development, Project No. 683-0205, FY 77. The project involves reforestation, soil conservation, and land-use planning for 115 villages. A major objective of the tree planting is soil protection, though some wood will be used to meet fuel needs.

Lesotho. Land and Water Resource Development, Project No. 632-0048, FY 75. The project include funding for soil conservation training and demonstrations of improved agricultural practices to reduce soil loss.

Senegal. SODESP Livestock Production, Project No. 685-0224, FY 79. The purpose is to rehabilitate 1,200 hectares of degraded grazing lands. The project will develop

sound management practices for livestock in order to increase production and avoid overgrazing. One aspect involves tree planting around selected well points.

Upper Volta. Seguenega Integrated Rural Development Project, Project No. 686-0231, FY 78. AID will concentrate on tree planting to conserve soil and water in the larger Yatenga Basin. There will be education programs for farmers concerning soil conservation and the development of marginal lands for fuelwood plantations.

Jamaica. Integrated Rural Development, Project No. 532-004, FY 78. This project involves reforestation and the building of dams and terraces for soil erosion control. Serious difficulties have arisen in both planning and implementation.

Nepal. Resource Conservation and Utilization, Project No. 367-0132, FY 80. This is an important and ambitious project designed to reforest watersheds and construct soil erosion control structures. The project includes extensive research on better means to stabilize soils.

Indonesia. Citanduy River Basin Development II, Project No. 497-0281, FY 80. In 1970, the Government of Indonesia first requested AID assistance for the beleaguered Citanduy River Basin area, which had been the scene of severe flooding in 1969. The upper watershed is heavily populated and its slopes are intensively farmed. In the lowlands, irrigation

canals had become laden with silt and badly deteriorated. The result was frequent flooding and water shortages. In 1976, following the development of a master plan for the basin and several feasibility studies, AID made a \$12.5 million loan for Citanduy development. Of these funds, \$3.5 million went for flood control, including construction and repair of 200 kilometers of levees and other structures.

A \$4.9 million technical assistance component of the Citanduy Project included a feasibility study for an upper watershed conservation effort and a pilot project. This pilot project in the village of Panawangan involved the redesign and construction of terraces and the improvement of upland farming practices. The key to the project's success was obtaining the cooperation of over a dozen farmers with small plots sharing a single hillside. There was a patchwork of existing terraces in various states of disrepair. The new terraces should significantly decrease soil and water runoff. Improved techniques and crop varieties also were introduced to raise the productivity of these farmlands. For example, a new type of grass was planted on the terrace risers to provide better and more feed for livestock. Working with Panawangan farmers, local officials, and Indonesian forestry department agents was a U.S. agronomist on contract to AID from Colorado State University, who lived in the area over two years.

The Panawangan Pilot Watershed Project has attracted a lot of attention and is considered the best to date in Indonesia. There already has been an effort to bring other farmers in the region to Panawangan for training on the methods employed there. In FY 1980, a second \$9.5 million loan and grant will be provided, primarily to expand conservation development efforts in the Citanduy upper watershed. There also has been discussion in the AID Mission in Jakarta about providing help to the Government of Indonesia to set up a soil conservation service.

Other soil protection projects are at various stages of planning. Among these is a project in Burundi to reforest 1,000 hectares of degraded watersheds. In the Dominican Republic, a major project to reforest catchment basins in the western Mountains is being designed, but has been delayed by the need for AID to focus upon disaster relief there in the wake of a recent hurricane. AID is financing soil surveys in Syria and Yemen, involving the U.S. Agriculture Department's Soil Conservation Service (SCS) and Cornell University. These may lead to broader soil protection activities. AID also recently sponsored in Niamey, Niger, a seminar on soil erosion control in Sahelian countries.

AID's excellent soil classification program has been described in Chapter V. This program provides the basis for an expanded research effort on better use of tropical soils, particularly in marginal areas.

There is an urgent need for increased soil protection efforts, and the United States has more capability than any other donor nation in soil protection. Thus, it is difficult to understand why so little has been done. The major problem appears to be a lack of trained AID staff. AID depends largely upon the SCS for personnel, but the SCS has a limited staff and few technicians interested in or qualified for overseas assignment. AID does not appear to have been aggressive in identifying other sources of expertise.

Soil conservation should be an element of all AID agricultural development projects. The introduction of new cropping methods or other safeguards against erosion requires patience and close working relationships with farmers or herdsmen. AID did some good range management work in the Sahel, but where it failed it was because technicians did not understand the particular problems of herdsmen or gave up when the problems became too difficult.

Soil conservation work is often technically and politically complex. It involves risks and may be discouraging. For example, the Director of the AID Mission in Haiti pointed out that the rehabilitation of Haitian agricultural lands will require significant physical and social changes. At best, slow progress can be expected. AID must be willing to accept greater risks, as well as the unlikelihood of dramatic breakthroughs.

The problems of erosion in Haiti, Nepal, and many other developing countries are intricate and will require vast, sustained efforts. Yet, soil protection remains a low priority for farmers and host-government officials, often because they are pessimistic about the results. However, the attitudes of governments may change with the realization that the loss of crop and grazing lands due to erosion will prevent increased agricultural production.

Despite these conceptual and practical difficulties, AID should intensify and broaden its existing soil conservation efforts, which are crucial if AID is to better the lot of the rural poor. AID instructions to the field should emphasize the importance the Agency attaches to soil conservation, outline AID's concepts in this area, describe the kinds of soil conservation activities which should be undertaken, and indicate the kind of funding that could be expected.

Although many AID agricultural advisers have some soil conservation experience in this area, they usually do not have the time or the technical expertise to plan or carry out soil conservation activities. Thus, AID mainly will have to continue to rely on people on loan or contract. The best source will remain the SCS. The numbers available will be limited unless an increase in SCS's personnel ceiling can be obtained. AID should attempt to persuade the Department of Agriculture, Office of Management and Budget, and Congress to make more SCS people available for overseas assignments.

AID also should discuss with the Peace Corps the possibility of recruiting additional people to run more soil projects, particularly small-scale, community-based projects involving terracing and drainage. The Peace Corps has carried out and is carrying out some very successful small-scale community soil projects of its own, and on at least one occasion in India collaborated successfully with AID. Peace Corps officials believe that their organization has a much greater potential capacity to undertake soil programs, but they fear becoming dependent on AID. This is a problem which deserves sympathetic AID attention, for in many areas the Peace Corps is potentially the best source of sensitive, community-oriented Americans ready and able to live in remote areas.

There are other sources of help. The U.N. Food and Agriculture Organization often will undertake to plan soils projects. Also, there are a number of U.S. universities which have experience in soils projects overseas.

AID/washington presently lacks the staff capability to respond to requests from Missions for technical assistance on soil conservation and to promote and evaluate soil conservation efforts. AID has no soil engineers and only three soil scientists, two in DSB and one in the Asia Bureau. AID should fill this gap by creating a focal point within DSB for soil conservation activities and by hiring at least one new soil conservation specialist.

Most of AID's present soil conservation activities consist of training for host-country personnel both at the university (land management) and the middle school (agricultural extension service) levels. These efforts should continue and, to the extent possible, be expanded. As for training and sensitizing AID's staff, the Agency already includes some excellent material on soil conservation in its environmental training courses.

FOOTNOTES

1. See Eckholm, Losing Ground: Environmental Stress and World Food Prospects (1976).

### C. Energy

Energy use in developing countries is typified by low per capita consumption; heavy, unsustainable reliance on noncommercial fuels of biological origin; and high dependence by the urban and industrial sectors on imported oil. Because present energy use is so low, even a relatively small increase in energy supply could translate into substantial improvements in economic and social well-being.<sup>1</sup>

The link between energy availability and economic development permeates AID's charter, the Foreign Assistance Act. Four sections of the Act authorize AID to assist developing countries in energy planning and analysis and in utilizing new energy resources and technologies.<sup>2</sup> The Act emphasizes decentralized, renewable energy sources for the rural poor, but permits broader assistance programs. In addition, recent amendments direct AID to alleviate tropical deforestation -- caused in part by fuelwood demand -- by supporting community woodlots, agroforestry, reforestation, protection of watershed forests and more effective forest management practices,<sup>3</sup> and authorize AID to provide assistance for the discovery and production of indigenous fossil fuels.<sup>4</sup> The latter amendment is intended to complement assistance programs in the renewable energy field, not to divert resources from them.

The relationship between the use of energy and the integrity of the environment in the developing world has several dimensions. A major cause of deforestation is overcutting of forests to supply fuelwood to ever-increasing populations. Use of trees and shrubs for fuelwood in mountainous or arid regions causes soil erosion. In mountainous regions, the result is disastrous flooding, as in Nepal; in arid areas, it is desertification, as in the Sahel. Exhaustion of fuelwood supplies leads to the burning of dung which otherwise would be employed as fertilizer, with consequent impoverishment of soil.

The stress on forests could be substantially eased by employing alternative sources of energy for cooking food, especially in high mountain and semi-arid zones where plant growth and recovery are slow and in areas where overgrazing and fires frequently compound the problem. The solution does not lie in substituting nonrenewable sources of energy. Petroleum fuels and electricity, where available, are prohibitively expensive. A more promising approach lies in increasing the usable energy from renewable resources. This can be done by increasing the efficiency with which traditional sources of energy--principally wood and charcoal--are used and eventually by providing additional sources of renewable energy.

AID should pursue three objectives: providing energy for basic human needs, conserving forests, and developing indigenous decentralized sources of energy. These may be achieved by assisting developing countries to:

(1) Assess alternative, environmentally sound paths to development by ascertaining the tasks to be performed by non-human energy, the most affordable energy resources and technologies which can be made available immediately, and the barriers to their successful employment.

(2) Strengthen the range of institutions needed for development, management and delivery of energy resources.

(3) Develop, adapt and propagate efficient renewable energy systems to meet basic human needs.

AID's record is mixed but improving. In March 1978, an Office of Energy was established within the Development Support Bureau to provide guidance and assistance to the field. The establishment of this Office and increasing interest on the part of the regional bureaus (especially the Africa and Asia Bureaus) are encouraging signs. Both of these Bureaus held conferences with their field staffs in 1979 on energy assistance.

As with other categories of aid, planning of energy programs originates in the field, where it is properly influenced by the preferences of the host country. Policy statements from headquarters include the March 1979 energy policy statement from the Office of Energy and the December 1979 forestry message from the Bureau for Program and Policy Coordination. While these were intended to assist the missions in formulating development strategies, they are no substitute for country-level planning.

The Country Development Strategy Statements described in Chapter II appear to be the principal planning mechanism with respect to energy. The first set of CDSS's was reviewed at AID headquarters early in 1979. None of those which were considered by an AID review team as exemplary described the energy constraints on development or proposed a coherent response. Even granting that the level of activity in energy assistance is probably higher than the CDSS's reflect, more attention is clearly warranted. AID should provide experts to the Missions to help advise host countries on the full range of energy issues and to recommend specific country programs. Beginning with those submitted in January 1980, all CDSS's should be reviewed by outside experts with respect to their analysis of energy constraints to development and their strategies for overcoming them.

The March 1979 energy policy statement was issued by the Office of Energy to indicate the types of energy assistance which missions might appropriately undertake and for which the Office of Energy would provide support. Three basic assistance components were identified: (1) assistance in collecting and analyzing data for energy planning; (2) assistance in developing the requisite in-country energy institutions; and (3) assistance in applying alternative energy technologies. The following sections discuss how AID's assistance programs under these categories measure up against the three objectives set forth previously.

1. Energy Assessments

Energy assistance efforts must be sensitive to the social and cultural factors which influence the acceptability of solutions. Because these have been neglected in the past, technologies too often have worked but the transfer of those technologies has not.<sup>5</sup> In recognition of this fact, steps should be taken to assess the tasks which the beneficiaries desire to be performed by a new source of energy and the technology most likely to be compatible with local energy sources and community aptitudes, values, and desires. End-use preferences and acceptable technologies must then be matched with available primary energy sources.

Assistance must be compatible with the development objectives, strategies, and plans of the host government. But developing-country energy planning is often confined to a horizon of less than a decade and to extrapolation of supply and demand trends driven by outdated macroeconomic models. Often there is no mechanism for confronting, much less resolving, the impending crises associated with the decline of the petroleum era and the exhaustion of noncommercial fuel resources. Often, there is little information concerning the potential for a variety of small-scale, well-designed renewable energy systems to contribute to solutions. Improved energy planning in developing countries is thus a necessary precedent to effective and environmentally sound energy assistance.

AID has under way a few projects designed to upgrade the energy assessment capabilities of selected countries. The Office of Energy is developing a common methodology for data collection and analysis for application by developing country governments. Under a five-year Office of Energy program which began in 1979 and will cost \$8.3 million, six to ten countries will be selected for assistance in assessing their energy needs and resources, and in developing an energy plan covering both conventional and nonconventional sources through a personnel training program and technical consultancies (Energy Policy and Planning, Project No. 936-5703). A complementary \$3.5 million program over the same period is providing training, through the Energy Management Training Program at New York University at Stony Brook, each year to 60 senior officials from 20 developing countries in energy planning, analysis, policy formulation and management. Funding for the program includes support of the graduates in training their countrymen after they return (Training in Energy Management, Project No. 936-1160).

In collaboration with private institutions (the Overseas Development Council and the al Dir'iyah Institute), the Office of Energy plans to train Peace Corps volunteers to collect energy usage data in the field and to provide simple observations about the suitability of the local climate for renewable energy systems (wind energy converters, small-scale hydroelectric generators, photovoltaic arrays, and flat plate

collectors). The Peace Corps will dispatch training teams to conduct one-week, in-country workshops on renewable energy for volunteers and host-country counterparts. The training teams later will visit selected volunteers in their villages to solve specific problems and reinforce the training. Workshops were conducted in seven countries in 1979 with the effort concentrated in Latin America and Africa. In 1980, the project will expand to 15-20 countries, and an additional five to seven country programs will be initiated in 1981. The activities in each country will take approximately one year to complete. AID is providing \$1.5 million in direct and indirect expenses<sup>6</sup> (Renewable Energy Survey and Demonstration, Project No. 936-5711).

The Latin America and Caribbean Bureau has programmed \$2.5 million for energy assessments to determine the feasibility of renewable sources of energy (Rural Nonconventional Energy, Project No. 596-0086). A comprehensive, multisectoral energy assessment for Indonesia is being conducted by the Asia Bureau (National Energy Assessments (Indonesia), Project No. 936-5721).

In its assessment assistance, AID prefers to help host governments to develop their own capabilities. It provides methodologies for data collection and analysis and advice on policy and planning. This approach has the advantage of producing the requisite data and simultaneously building the

host countries' energy planning institutions. But AID's assessments are typically incidental to a more comprehensive AID assistance program. Accordingly, they tend to concentrate on the sectors (rural, traditional) for which AID anticipates extending implementation assistance (renewable energy, rural electrification). The complexity of the developing-country energy dilemma requires broader assessments to come to grips with the fuelwood crisis, substitutes for nuclear power, the potential for development of indigenous conventional fuels, and opportunities for energy conservation. Solutions for one sector cannot be divorced from problems in the others. AID's first attempt at meeting this challenge will be the comprehensive energy assessment for Indonesia.

AID should exert leadership among donor agencies to ensure that multisectoral energy assessments are a key component of assistance programs in every country which does not have a sufficient, environmentally sound national energy plan. AID's assessment work should examine the relationship between energy strategies and economic development options, rather than considering existing economic plans as immutable. This approach will permit a country to base its development strategy upon energy constraints, instead of basing its energy strategy upon preconceived development models.

Testing the conventional wisdom concerning the linkage between energy inputs and development is an important service which AID can render. While energy is essential to economic development, its increasing scarcity and price militate in favor of low-energy approaches so far as is feasible. The Office of Energy recognizes that greater quantities of energy can be made available in the near term by improving the efficiency with which present supplies are used than by efforts to increase supplies. It therefore plans to finance consultants to help developing countries perform energy "diagnoses" of commercial energy uses, primarily in the industrial sector. The consultants will help countries identify opportunities for use of more efficient technologies, processes or management techniques. The Office plans to spend \$6 million on this function through FY 1984 (Improved Energy Efficiency and Conservation, Project No. 936-5720).

Since the use of commercial energy in urban-industrial centers of developing countries resembles patterns in the developed world, the scope for saving energy through increased efficiency is large. Indeed, the potential for saving commercial energy may be even larger in developing countries since the industrial sector typically accounts for a larger proportion of commercial energy demand.<sup>7</sup> Moreover, due to rapid urbanization in developing countries, positive changes in energy use patterns can have larger per capita effects within a short time.<sup>8</sup>

Similar attention should be paid to the agricultural sector. AID is oriented towards an energy-intensive, "green revolution" doctrine. It assumes rather than analyzes the linkage between energy consumption and agricultural productivity. Low-energy approaches should be given priority as a part of the Agency's energy assessment work, if AID expects to help the poorest farmers on the poorest lands.

## 2. Building Energy Institutions And Skills

AID's orientation toward helping countries help themselves is reflected in its emphasis in the energy assistance area on the creation of in-country capabilities and structures. Assistance in conducting energy assessments, discussed above, is one example. A second institutional need on which AID places a priority is the technical capability to develop, operate, and maintain appropriate renewable and conventional energy systems. The Office of Energy has developed a course of instruction for developing-country energy technicians in the theory, design, construction, and maintenance of solar energy technologies. The 15-week course will be provided to 300 developing-country participants at the University of Florida's Solar Energy and Energy Conversion Laboratory and to 3,000 participants in host countries. Six million dollars is projected for the life of this program. The course concentrates on small-scale, low-cost solar technologies for use in refrigeration, crop drying, and water pumping (Training in Alternative Energy Technology, Project No. 936-5716).

The regional bureaus, particularly for Asia and Africa, are also beginning to pay attention to the need for new energy institutions. Two energy development and support centers will be established in the Asia Pacific area and the Asian subcontinent, at a cost of \$4 million, to test and apply nonconventional energy technologies (Project No. 498-0262).

A renewable energy program for Mali is a good example of energy assistance which combines technology transfer with institution building. It also reflects AID's emphasis on alleviating rural dependence on increasingly costly fossil fuels and rapidly depleting firewood. The project will involve both a hardware aspect, adapting proven technology by substituting local for imported materials, and a software component, determining effective ways for village groups to take over the ownership, operation, and basic maintenance of the new devices.

Four phases are planned. First, to gain immediate experience with a particular technology, four pilot photovoltaic water pumps will be installed by a Malian solar energy laboratory with materials, technical support, and training from AID. Durability and technical performance of the equipment and cultural acceptability will be tested for three distinct types of tasks and social settings.

The second phase will collect data regarding socio-economic factors, the availability of energy sources, village preferences as to end uses, and village capacity to operate and

maintain energy devices. Data will be collected in 25 villages by enumerators trained by the project.

In Phase Three, 20 villages of the 25 in Phase Two will be selected for testing the application of several different renewable energy devices. The technologies to be tested will vary in sophistication and cost, covering the spectrum from wood-burning stoves to photovoltaic pumps. Villages will contribute part of the cost with the remainder subsidized by the project. Operation and maintenance of the devices will be carried out by a village cadre receiving technical support from the Malian Solar Energy Laboratory. The enumerators will continue to gather socio-economic data during this demonstration phase.

Phase Four will be devoted to detailed analysis and evaluation of the experiment. The evaluation will attempt to determine which technologies are most susceptible to local operation and maintenance and how that local control should be exercised; the impact of the new technology on income levels, income distribution, and social welfare; the mechanical performance of the hardware; the cost-effectiveness of the technology compared with alternatives; and the cultural and social acceptability of the technologies. The project is designed to produce information rather than physical output (Renewable Energy, Project No. 688-0217).

AID's efforts to strengthen the ability of a developing country to solve their energy problems emphasize renewable energy solutions but do not ignore the potential for new production of fossil fuels. To strengthen developing countries' geologic and geophysical capabilities to find energy, a \$5.7 million program was begun in FY 1979 to provide long-term scientific and technical assistance, including the use of LANDSAT surveys. The objective is to enhance exploration for fossil fuel and geothermal energy (Conventional Energy Resource Identification, Project No. 936-5708). The Office of Energy projects that \$22.6 million will be spent over six years. The program will draw upon the expertise of the U.S. Geological Survey, the Department of Energy, and the National Atmospheric and Space Administration for exploration assistance.

Other energy institutions ripe for assistance are those which make new energy systems sustainable and replicable. Particularly important, as AID moves from the experimental phase of ascertaining what types of technologies will succeed into widespread deployment, will be institutions which can make possible the acquisition of alternative energy systems by users who cannot afford to purchase sufficient quantities of commercial energy, such as the rural poor.

Traditionally, the financial viability of an energy system has depended solely upon the rate of return on the investment due to enhanced output and the costs of competing sources of

energy. The first is heavily influenced by interest rates for loans and the second by the price of petroleum fuels. However, a more important criterion from the standpoint of donor and recipient nations, if not of individual users, should be the benefits of renewable energy systems due to decreased consumption of oil, preservation of forests and soils, improved nutrition, and enhanced national security.

It is on the latter grounds that renewable technologies are most attractive, but on the former that they are likely to be judged. Thus, in order to make renewable technologies sustainable, programs to improve their financial viability through "soft" credit and purchasing and operating cooperatives may be as important as their technical merits. AID should begin to support the creation of such institutions.

### 3. Technical Assistance

The third component of AID's energy assistance program involves adaptive and operational research and demonstration of promising alternative energy systems. AID's emphasis on renewable energy systems is reflected in the Energy Office's plan to test and adapt technologies for biomass, dispersed hydroelectric, photovoltaic, and solar thermal systems and for efficiency improvements. Yet, more traditional assistance in the form of centralized rural electrification, largely dependent upon conventional fuels, continues to receive a disproportionate share of AID's budget.

Historically, AID's energy programs have emphasized electrification, particularly extension of urban grids into rural areas. However, electrification too often is an unsuitable strategy for aiding the "poorest of the poor" because electricity costs too much and is likely to be inaccessible. In 1977, electricity prices in developing countries were two to four times typical consumer prices in the United States and Europe.<sup>9</sup> The majority of residents of Asia, Africa, and Latin America are dispersed throughout rural areas, in small villages, remote from electrical distribution systems.<sup>10</sup> Electrical power can be supplied to them only by extending central station electrical grids, installing small decentralized generators using conventional fuels, or constructing electrical systems using renewable resources on-site. The decentralized approaches solve the problem of access but may increase the problem of cost.<sup>11</sup>

A change of emphasis in AID's energy programs was produced by the 1973 "New Directions" policy, and by the 1977 amendment to the Foreign Assistance Act, which added a mandate, in Section 119, to provide assistance for renewable energy systems. For FY 1979 and FY 1980, all of the rural electrification projects are solely for distribution or management training. In some cases, such as in Bolivia and Indonesia, other aid agencies are providing assistance to construct the generating facilities. AID's recent funding of rural electrification is illustrated by the tables on the next page for fiscal years 1978 through 1980.

Table 4  
Rural Electrification Obligations\*  
(Millions of dollars obligated)

	<u>FY 78</u>	<u>FY 79</u>	<u>FY 80</u>	<u>Future Years</u>
Bangladesh	21.0	13.0		16.0
Indonesia I	33.0	3.0		
II			11.0	26.0
India		58.0		40.0
Honduras	10.0			
Philippines	8.7			
Guatemala		8.0		
Bolivia		.6	69.0	
	72.7	82.6	80.0	82.0

Table 5  
New Rural Electrification Project Starts\*  
(Millions of dollars obligated or  
estimated for entire life of project,  
displayed under fiscal year for which funds  
were first obligated)

	<u>FY 78</u>	<u>FY 79</u>	<u>FY 80</u>
Bangladesh	50.0		
Indonesia I	36.0		
II			37.0
India		98.0	
Honduras	10.0		
Philippines	8.7		
Guatemala		8.0	
Bolivia		69.6	
	104.7	175.6	37.0

\*Electrification programs that fall in the category of Security Support Assistance do not appear in these tables. Most of these programs administered by AID are in the Middle East, principally in Egypt, Israel, Jordan, and Syria.  
Source: AID, Congressional Presentation, FY 80.

AID should prepare a programmatic environmental assessment of its rural electrification program which explores, among other things, the implications of its current efforts for the energy futures of developing countries, the tradeoffs between electrification and other strategies and between centralized and decentralized approaches, and the environmental effects of various alternatives.

In important respects, the developing nations, most of which are in the tropics, are better prospects for solar energy than their industrial counterparts. They are more richly endowed with sunlight; their dispersed populations are better suited to decentralized energy sources: and the higher cost of conventional energy, especially electricity, has already made solar options economically competitive. And "since the Third World already obtains much of its energy from indirect solar sources (mostly firewood), the initial steps toward a solar economy involve no more than an increase in the efficiency of usage."<sup>12</sup>

Yet much of the U.S. renewable energy technology which is either now available or at the demonstration stage is inappropriate for use in the developing countries, particularly by the rural poor. It tends to be unduly expensive and difficult to install, operate, and maintain. It tends to use materials, implements, and utensils which are unavailable or unfamiliar to developing country users. Therefore, a high priority for technical support is the reworking of existing technology.

The Office of Energy intends to launch an effort to adapt off-the-shelf U.S. technology for developing country applications, which it estimates will cost perhaps \$2.5 million currently and more in future years. The Office has conducted a project to field test three renewable energy systems suitable for food production, and it has prepared a bibliography on worldwide use of energy in agriculture (Energy Needs in the Food System, Project No. 931-11-995-234). In Haiti, two solar cooking models were field tested to obtain information for the development of prototypes. In Nepal, community latrines and biogas digesters were constructed at two sites. The most successful aspect was reported to be the acceptance of a community latrine by the lowest caste of the local residents. The energy output was, however, a disappointment. While the latrine system was used, less gas was generated than had been anticipated.<sup>13</sup> In Upper Volta, a photovoltaic water pump and a grain grinder are being tested to gauge their socio-economic acceptability. A 1.5 kilowatt array is being demonstrated, together with storage batteries, grinding facilities and a pump. Field applications, workshops and technical consultancies will follow (Energy Production Through Photovoltaic Technology, Project No. 936-5710). The Office of Energy projects that a total of \$9.5 million will be spent on these projects over five years.

Additional plans described in the Annual Budget Submission for F Y 1981 include:

Biomass. Bioresource-Energy Production, Project No. 963-5709. In-country testing of simple biogas equipment, processes, and installation techniques with the assistance of advisory personnel to provide continuous, on-site technical assistance (\$10 million over four years).

Hydropower. Small Decentralized Hydropower, Project No. 936-5715. Evaluation of possible sites, engineering of prototype systems, and preparation of implementation plans for small, dispersed hydroelectric facilities for rural needs (\$8.5 million over five years).

Solar Thermal. Energy Production Through Solar Thermal, Project No. 936-5717. Survey to determine potential for installation at schools and medical facilities. Installation of 60 units is planned. Solar thermal water pumps will also be installed in five countries (\$8.5 million over five years).

The Africa Bureau anticipates spending over a million dollars on pilot projects to test renewable technologies, establish experimental woodlots, and conduct village-level energy assessments. The Africa Bureau first commissioned a report on village sources of energy in Africa by the Overseas Development Council.

The ODC paper, "Energy for the Villages of Africa,"<sup>14</sup> recommended a stepwise approach. As a first step, energy assessments should identify the tasks which villagers want to

perform with non-human energy, select the most suitable energy hardware taking into account cultural factors and resource availability, and evaluate particular approaches with respect to acceptance, costs, and other factors. A second step involves creating or strengthening energy institutions in the recipient countries: Manpower training and coordination of research efforts are two important needs. Third, hardware must be developed for small-scale, renewable energy systems determined to be suitable in the first step. Host countries should be assisted in adapting existing technologies and developing indigenous technologies. Designing and manufacturing cheap, reliable tools and implements for performing village tasks with these energy sources is essential.

Energy teams began discussions with African governments in thirteen countries to determine the potential for using small-scale renewable energy technologies to perform tasks which might otherwise increase the demand for oil. Demonstration projects, beyond those sponsored by the Office of Energy and described above, were approved and funded for three African countries in FY 1978 and 1979. They are designed to provide information to African officials from which they can make deliberate choices between centralized and decentralized approaches and oil-fired or renewable approaches. The projects will involve manpower training, equipment, construction of laboratory test facilities, and U.S. technicians. The projects are as follows:

Senegal. Small Irrigated Perimeters, Project No. 685-0208; Renewable Energy Resources, Project No. 685-0238. A 40-horsepower solar thermal pump will be installed to irrigate a 200-hectare section of land, for comparison with small diesel pumps and to test the socio-economic advantages. Field demonstrations will be performed of solar hot-water heaters for dispensaries, improved wood-burning stoves, bio-digesters, windmills, and solar fish dryers.

Cape Verde. (Project has not received a budget designation). Appropriate energy technologies such as improved wood-burning stoves, small solar stills, and solar fish dryers will be tested at the village level.

Niger. Niger Solar Energy, Project No. 683-0235. Applied research will be conducted on solar equipment for rural Sahelian populations, including small solar and photovoltaic pumps, crop dryers, solar refrigerators, and improved stoves for using local fuels.

FOOTNOTES

1. See generally, Brookhaven National Laboratory, Energy Needs, Uses and Resources in Developing Countries (March 1978).

2. Section 103(c) authorizes assistance for the rural poor through expansion of local or small-scale rural energy infrastructures.

Section 106(2) authorizes assistance for suitable energy sources and conservation methods, collection and analysis of information concerning energy supplies and needs, and pilot projects to test new methods of production or conservation of energy.

Section 107 authorizes activities in the field of intermediate technology, to promote the development and dissemination of "appropriate" technologies.

Section 119 authorizes assistance in research, development, and use of small-scale, decentralized, renewable energy sources for rural areas. Programs shall be directed toward the earliest practicable development and use of energy technologies which are environmentally acceptable, require minimum capital investment, are most acceptable to and affordable by the people using them, are simple and inexpensive to use and maintain, and are transferable from one region of the world to another. Section 119 directs AID to utilize the technical resources of the Department of Energy to the extent feasible.

3. See this Chapter, Part A.
4. A 1979 amendment to the Foreign Assistance Act (International Development Cooperation Act of 1979, Sec. 104(a)), 22 U.S.C. Section 2151d); authorized AID to facilitate geological and geophysical survey work in developing countries to locate potential energy reserves and to encourage their production. The impetus for this amendment was the realization that energy shortages in developing countries severely limit development and that there is significant potential for augmenting conventional energy production.
5. See D. Hayes, Energy for Development: Third world Options (Worldwatch Paper 15, December 1977).

6. Ashworth, J., Renewable Energy Sources for the World's Poor: A Review of Current International Development Assistance Programs, 6 (Solar Energy Research Institute, October 1979).
7. For example, industry consumes 75% of commercial energy in India compared to 40% in the United States.
8. Brookhaven, supra note 2 at 90-99.
9. U.S. Office of Technology Assessment, Application of Solar Technology to Today's Energy Needs, Volume I (June 1978).
10. In 1971, the percentage of the population living in rural settings was 50% in Latin America, 75% in Asia and 90% in Africa. The percentage of rural inhabitants served by electricity was 23% in Latin America, 15% in Asia and 4% in Africa. World Bank, Rural Electrification, page 17 (October 1975).
11. See, however, Tanzania National Scientific Research Council, Workshop on Solar Energy for the Villages of Tanzania, 1978. This workshop led to the broad conclusion that each of five small-scale solar technologies which were studied were able to compete with diesel generators or extensions from the electrical grid, or would be able to do so within a few years. These results are sensitive to grid characteristics and an assumed low per capita level of electricity use, an assumption which may be quite appropriate in the context of the rural poor in LDC's.
12. Hayes, supra note 5, at 1.
13. AID F Y 1980 Annual Budget Submission, Development Support Bureau, Office of Energy, at 11-12 (May 1978).
14. Howe, "Energy for the Villages of Africa," (Overseas Development Council, February 25, 1977).

#### D. Pesticide Management

Since World War II, the increasing use of chemical pesticides in developing nations contributed significantly to the reduction of crop losses and to a decrease in the incidence of vector-borne diseases. More recently, there has been a growing awareness of the health and environmental hazards associated with the widespread use of pesticides, as well as the problem of pesticide resistance.<sup>1</sup>

The World Health Organization estimates that there are now some 500,000 pesticide poisonings each year; pesticide poisonings of farmworkers have become a major public health problem in a number of developing nations. Excessive residues of pesticides have been found on crops and in mothers' milk. Pesticide use has also had adverse effects on fish and other wildlife.

More and more pest species are becoming resistant to chemical pesticides. A 1977 U.N. Food and Agriculture Organization (FAO) report found that the number of resistant insect strains had doubled in just ten years to 364 species. These include a number of important agricultural pests which prey on rice, cereals, and cotton. The resurgence of malaria

in some developing countries has been linked to the declining effectiveness of DDT and other chemicals against resistant strains of mosquitos.

AID financing of pesticide imports and the use of pesticides in AID projects became the subject of public controversy and close scrutiny during the 1970's. As part of the settlement of a 1975 lawsuit brought by four U.S. environmental organizations, AID prepared an Environmental Impact Statement (EIS) on its pest management program. The EIS led to the adoption by AID in May 1977 of a more environmentally sensitive policy on pesticides. The Agency has discontinued funding of pesticide assistance on a non-project basis except in emergencies or other compelling circumstances, and places greater emphasis on technical assistance and integrated pest management techniques. The Agency's Environmental Review Procedures make special provision for proposed pesticide assistance.

AID's efforts here should serve as a model for the development of sound environmental policies and procedures in other areas of the Agency's activities. AID has made progress in implementating its new pest management policies, but there is an unfilled and growing need in developing nations for assistance in safe and effective pest control.

1. Evolution of AID Pesticide Policies and Procedures

AID and its predecessor agencies have long provided pesticides to developing countries for agricultural and public health purposes. Throughout the 1960's, AID maintained a laissez-faire attitude toward the provision of pesticides. Recipient countries were free to purchase with AID funding any pesticide they desired and to set the conditions for their use. AID provided little or no technical assistance to developing countries in the choice of pesticides or in assuring their safe use. This policy was based upon the faulty assumption that developing countries were fully capable of protecting their people and environments from the adverse impacts of pesticides.

During the 1960's, there was growing concern in the United States and many other countries about pesticides. With the publication of Silent Spring by Rachel Carson in 1962, attention was focused upon the ecological harm caused by chemical pesticides, particularly DDT. In 1969, AID asked the U.S. National Academy of Sciences (NAS) to review the environmental aspects of the U.S. foreign assistance program. In January 1970, two ad hoc NAS expert committees met to consider AID's pest control programs. One of their major recommendations was that all requests for pesticide procurement be fully documented in order to permit a more thorough

evaluation of the need for the specific pesticide requested, the proposed method of application, and the potential hazards to man and the environment.<sup>2</sup>

From 1969-1974, AID financed the export of some \$105 million worth of pesticides to developing countries, a yearly average of \$17 million. The latter figure represented 5.7% of average annual total U.S. pesticide exports and 12.5% of average annual U.S. pesticide exports to developing nations. AID funded pesticide sales to 25 developing countries for one or more years during this period. Of these countries, those receiving AID-financed pesticides averaging more than \$1 million per year were Pakistan, South Vietnam, Brazil, India, Indonesia, and Colombia.<sup>3</sup>

In 1971, AID developed a list of pesticides eligible for AID financing. Pesticides were broken into two categories. The first were those considered to be "AID-approved" and thus eligible for financing without review by AID/Washington. The second consisted of "conditionally" eligible pesticides judged to be more toxic or more environmentally degrading and subject to prior approval by AID/Washington. That approval depended upon certification by the host government. The certification form requested information on the proposed use, method of application, and amount of pesticide to be applied. The host government also had to certify that no less toxic or environmentally degrading substitutes were suitable and that

proper equipment and technically trained personnel were available for any necessary formulation of the product. Pesticides not included on the AID list could be approved for financing on a case-by-case basis.<sup>4</sup>

While a step in the right direction, the new procedures fell far short of the NAS Committee's recommendation. There remained considerable public concern about AID financing of exports of DDT and other pesticides whose sale and use in the United States were being questioned on safety and environmental grounds.<sup>5</sup> There was no formal environmental review of decisions to place a pesticide on the AID list nor real scrutiny of individual requests to procure pesticides. On February 5, 1973, Russell Train, then Chairman of the President's Council on Environmental Quality, wrote to Dr. John Hannah, Administrator of AID, urging AID to prepare an Environmental Impact Statement (EIS) on its pest management program pursuant to the National Environmental Policy Act. AID resisted this and similar pleadings from U.S. environmentalists.

On April 3, 1975, four U.S. environmental organizations filed a lawsuit against AID, challenging the Agency's position that it was exempted from the EIS requirements of the National Environmental Policy Act of 1969 and was therefore not obliged to prepare an EIS on its pesticide program. The lawsuit

focused upon AID financing of DDT exports, which in fiscal year 1974 amounted to over nine million pounds, largely for malaria control programs. Ten months earlier, the U.S. Environmental Protection Agency (EPA) had cancelled almost all domestic uses of DDT (except for Health Service control of vector diseases and other very limited uses), finding that the chemical posed an unreasonable risk to the environment. Since DDT is highly persistent, it is difficult or impossible to prevent DDT from reaching land or aquatic areas far away from the site of application.

On December 5, 1975, Judge John Sirica approved a negotiated settlement of the lawsuit. AID agreed to prepare a detailed EIS on its pest management program, including its pesticide export financing activities. AID also agreed to adopt interim procedures on pesticides and to publish new pesticide regulations implementing the conclusions of the EIS.<sup>6</sup>

The AID interim pesticide procedures went into effect on December 31, 1975. Under these procedures, AID declared that it would not provide assistance for procurement or use of DDT except for public health purposes; aldrin and dieldrin except for certain restricted uses; or 2,4,5-T, chlordane, or heptachlor. This prohibition also covered pesticides or uses which were not registered, and pesticides or uses the registration of which had been finally suspended or cancelled

by the U.S. EPA. The procedures permitted waivers in emergencies or cases of compelling need, subject to AID/Washington review, consultation with EPA, and public notice.

The Draft EIS on AID's pest management program was made available for comment by other agencies and the public on September 30, 1976. In December 1976, Congressman David Obey released a report which illustrated the hazards associated with AID pesticide exports. The report was the result of an investigation carried out by AID of the widespread poisoning of workers in an AID-supported malaria control program in Pakistan during the summer of 1976. At least five persons were killed and about 3,000 were made ill due to exposure to malathion, then the fourth most widely used insecticide in the United States. According to the report, the reasons for the poisonings were poor work practices, including mixing of pesticides by hand, eating of pesticide-contaminated food, failure to cover the skin adequately during spraying, and use of two brands of malathion containing excessively toxic contaminants.

On May 13, 1977, AID published the final EIS on its pest management program. The EIS included a detailed analysis of the program, alternatives for future AID pest control efforts, the environmental impacts of such alternatives, and a proposed future policy and strategy for AID on pest management. The

750-page document included comments from ten U.S. federal organizations, six international agencies, three foreign governments, and six private U.S. organizations.

The EIS resulted in a dramatic shift in AID policy on pest control.<sup>8</sup> AID announced its determination to place greater emphasis on technical assistance and research to promote the concept of integrated pest management and to decrease its assistance to developing countries for the procurement and use of pesticides. AID discontinued any financing of pesticide sales to developing countries under its Commodity Import Program except in emergencies or other compelling circumstances. Pesticides were eliminated from the list of commodities automatically eligible for AID financing.

All requests for the use of pesticides in AID projects are now subject to environmental review on a case-by-case basis. On May 3, 1978, AID published its final pesticide procedures as an amendment to the Agency's environmental regulations.<sup>9</sup> The proposed use of pesticides is singled out for special attention in the environmental review process. When the proposed pesticide is one not registered for use by EPA or one for which EPA has begun an action to suspend or cancel its registration, an Environmental Assessment (EA) or EIS will be prepared. Where the proposed pesticide is restricted by EPA because of hazards to users, there must be an evaluation of these hazards and the implementation plan in the Project Paper

must include provisions for making the recipient government aware of these risks and providing, if necessary, technical assistance to mitigate these risks. Even where the proposed pesticide and use are registered with EPA, an initial environmental examination must be undertaken to determine whether or not the use of the pesticide will involve a significant impact on the environment or "a potentially unreasonable risk." If so, an EA or EIS will be prepared.

The factors which are required to be considered in an initial environmental examination or in an EA or EIS include:

1. The U.S. EPA registration status of requested pesticides;
2. The basis for selection of the pesticides;
3. The extent to which the pesticide use is part of an integrated pest management program;
4. The availability and effectiveness of other pesticides or non-chemical control methods;
5. The requesting country's ability to regulate or control distribution, storage, use and disposal of the pesticide;
6. The provision for training users and applicators; and
7. The provisions for monitoring the use and effectiveness of the pesticides.

## 2. Implementation of the Pesticide Procedures

AID has made progress in implementing more rigorous review requirements for selection and use of pesticides in agricultural and public health projects. In regard to agricultural projects, there were difficulties with the interim procedures. The procedures were cumbersome, requiring in some cases the personal involvement of the AID Administrator to approve waivers to permit the procurement of pesticides not registered by the EPA for the same use in the United States. More importantly, the Agency was ill-prepared to complete in timely fashion the necessary evaluation of waiver requests. Until recently, there was only one person in the Office of Agriculture responsible for a broad range of pest management activities. The result was long delays and resentment on the part of some AID field personnel. For example, the AID Mission in Liberia complained in April 1978 about the failure of AID/Washington to act on its year-old request to use certain pesticides in the Lofa County Integrated Rural Development Projects.<sup>10</sup>

AID has taken steps to resolve this problem. First, the new pesticide procedures are more streamlined. The waiver requirement has been eliminated, and the proposed use of pesticides in agricultural projects are subject instead to the normal environmental review requirements. Second, two more pest management specialists have been added to the staff of the

AID Office of Agriculture. This will increase significantly the capability of AID/Washington to respond to Mission requests for technical assistance. Third, AID has entered into an arrangement with the University of California whereby consultants can be provided on short notice to analyze proposals for pesticide use.

One recent example of the application of the pesticide procedures involved a community gardens project activity in Panama. On March 29, 1979, the Panamanian Government made a request to use about \$30,000 in AID-provided funds to purchase eleven different pesticides for distribution to some 275 small-scale growers. Shortly thereafter, a consultant to the University of California Pest Management Project visited Panama to evaluate the health and environmental risks associated with the use of these pesticides. The pesticides which were proposed to be purchased included endrin and heptachlor. Endrin at the time was the subject of an EPA proceeding which is likely to result in its cancellation for use on rice. The use of heptachlor on corn was canceled in February 1976. The concise, well-focused review recommended the use of alternative pesticides which were less toxic and registered for general use by the EPA. The Government of Panama accepted the recommendation and accordingly amended its request. The review also noted that participating growers will receive instructions from trained agricultural agents on application methods and that protective clothing, gloves, and boots will be provided to the growers.<sup>11</sup>

The present procedures alone do not assure consideration of pest management problems early in the planning of agricultural projects. The expert evaluation of alternative pest control methods may now wait until there is a request for use of a specific pesticide. As in the case of the Panama Community Gardens Project, this can occur even after the start of project implementation. The opportunity to develop an integrated pest management approach may be precluded. As a matter of policy, AID should include in all agricultural projects funding for the design and implementation of practical integrated pest management methods.

Aside from agricultural projects, AID provides pesticide assistance in projects to control disease-carrying pests. The Agency remains particularly active in malaria control efforts. It was determined in the EIS that DDT and other chemical pesticides must continue to be employed until alternative methods are developed.

There have already been three environmental assessments completed on AID malaria control projects: Sri Lanka (August 1977), Pakistan (April 1978), and Thailand (November 1978). The AID Environmental Coordinator has recognized that there is a need for a programmatic approach to the environmental assessment of these projects. Malaria control programs in various countries involve common elements and environmental hazards. The preparation of a full environmental assessment on each individual malaria control project is costly and duplicative.

The Pakistan Malaria Control Project environmental assessment considered the transferability of environmental variables from one project to another. In December 1978, one Group at the AID Asia Bureau Environmental workshop in Pattaya, Thailand, devoted an entire day to the environmental problems associated with malaria control. As a result, they formally requested the Development Support Bureau to carry out a programmatic assessment.<sup>12</sup> Work on the assessment is now underway.

The programmatic assessment should result in the development of design criteria for all future AID malaria control projects. It will obviate the need for analysis on a country-specific basis of a number of environmental factors, including the nature of various insecticides and anti-malaria drugs, training and supervision of malaria control workers, and appropriate spraying techniques. The assessment should consider the need for better planning to avoid the use of the same pesticides for both health and agricultural purposes. (For example, DDT has become useless in a number of malaria control programs because of its widespread use in agriculture.) The assessment should provide guidance as to the remaining country specific factors which must be analyzed during the environmental review process.

The U.S. Government should promote integrated pest management and a more coordinated approach to disease vectors and plant pests in international fora, such as the FAO and the

World Health Organization. It should encourage other donors to carry out environmental reviews of pesticide assistance and to monitor pesticide usage in their projects.

### 3. Technical Assistance

The use of pesticides in developing nations is expected to increase. Yet many of these countries still lack the institutional capability to assure their safe use. The pesticides provided by AID in the past accounted for only a small proportion of all pesticides used in the developing world. Thus, the Agency has recognized the importance of providing technical assistance to developing countries and of supporting research on pest management.

AID's technical assistance and research efforts are described in great detail in the EIS on the AID Pest Management Program.<sup>13</sup> Much of the technical assistance work has been carried out by the University of California (UC/AID) Pest Management and Related Environmental Protection Project, which has been operating under contract to AID since 1971. The UC/AID Project draws upon pest management experts at a number of cooperating U.S. universities. Its objectives include providing "backstop" resources to AID/washington and AID missions on pest management matters, assisting developing countries in the establishment of regulatory procedures and monitoring systems for pesticides, and helping to develop country-based integrated pest management methods.

The activities of the UC/AID Project have included pest management seminars for high-level agricultural and health ministry officials, short courses for research and extension personnel, training courses for aerial pesticide applicators and on pesticide residue analysis, and reviews of pest control problems in 38 developing countries. In June 1979, the AID Office of Agriculture sent a cable to all missions describing proposed UC/AID Project training and technical assistance activities over the next three years. Missions were asked to consult with appropriate host-country personnel to determine their interest in participating in these activities. Among the proposed new programs were masters degree training in integrated pest management and training courses for medical and paramedical personnel in prevention and treatment of pesticide poisonings.<sup>14</sup>

Both the EIS and the U.S. Strategy Conference on Pesticide Management, sponsored by the State Department and the U.S. National Committee for Man and the Biosphere in June 1979, recommended increased AID technical assistance to developing countries on pest management. A major constraint has been the lack of adequate AID staff. As noted earlier, the recent addition of two pest management specialists to the AID Office of Agriculture will help. There is a great need to place more technical experts in the field. They would be in a position to provide constant advice and assistance to AID

Missions and host-country officials on the design of pest control components of AID projects and the development of new projects on integrated pest management and safe use of pesticides. The first such specialist has been placed in Guatemala to serve Central America, where pesticide abuse has become a serious problem. His duties will include the preparation of environmental evaluations of pesticide use in AID projects, development of seminars on integrated pest management, assistance in formulating and implementing pesticide regulatory controls, and facilitation of UC/AID pest management technical assistance.<sup>15</sup> AID should give a high priority to stationing pest management specialists in all of its regions.

Footnotes

1. See UNEP, "The State of Environment: Selected Topics - 1979." (UNEP/G.C. 7/4, January 30, 1979); Christian Science Monitor, February 1, 1978; Eckholm and Scherr, "Double Standards and the Pesticide Trade, New Scientist, February 16, 1978, at 442.
2. AID, "Final Environmental Impact Statement on the AID Pest Management Program," at 11-14 (May 13, 1977).
3. Id., at 29-35.
4. Id., at 15-18.
5. Under the Federal Insecticide, Fungicide, and Rodenticide Act ("FIFRA"), 7 U.S.C. Section 1336-136y (1979), U.S. manufacturers are permitted to produce and export pesticides which are banned or otherwise not registered for use by EPA. A 1978 amendment to FIFRA, 7 U.S.C. Sec. 136(1), requires the exporters of unregistered pesticides to obtain an acknowledgement from foreign purchasers that they realize they are buying a product which cannot be sold or used in the United States. Notifications of such exports also must be provided to government officials of the importing country.
6. Environmental Defense Fund, Inc. v. AID, Civ. A No. 75-0500 (D.D.C., December 5, 1975).
7. washington Post, December 15, 1976; Baker et al., "Malathion Intoxication in Spray workers in the Pakistan Malaria Control Program (Report to AID, January 1977).
8. See AID/PPC, "Policy on Pesticide Support" (May 1978).
9. AID Environmental Procedures, 22 CFR 216.3(b) (1979).
10. AID, Monrovia 2988 (Cable, April 24, 1978).
11. See Schaeffers, "Analysis of Pesticide Use in Panama 'Rural Health Delivery Systems - Community Gardens Project' Loan 045" (1979).

12. See Printz, "Malaria Control and Environmental Evaluations" (Memoranda to S. Joseph, December 28, 1978, and January 9, 1979).
13. See AID EIS, supra note 2, at 64-93 and Appendix G.
14. AID, "AIDTO CIRCULAR A-139 - Proposed Activities, Revised Centrally Funded Project 'Pest Management and Related Environmental Protection'" (Cable, June 6, 1979).
15. AID, "STATE 303150 - Further Developments Concerning Regional Pest Management Specialist" (Cable, November 30, 1978).

## CHAPTER VII

### AID'S INSTITUTIONAL CAPABILITY

#### A. Environmental and Natural Resources Staff

The most essential prerequisite for an effective AID environment and natural resources program is an adequate number of environmental professionals to provide policy guidance, oversight, and technical support. The proper supervision and coordination of AID's environmental review process requires considerable staff time, both in Washington and in the field. In addition, the Agency's environmental workload has increased substantially with its new mandates to help developing countries identify and address their environmental and natural resource problems.

The most frequently heard comment during the course of this study was the critical need for more staff to advise on environmental and natural resource aspects of the Agency's development activities, and especially on field operations and initiatives. While it should be stressed that all staff members have environmental responsibilities to the extent that their work requires compliance with the environmental

procedures and mandates, the Agency's professional environmental and natural resource staff members fall into two categories which should be differentiated. First, there are "Environmental Officers" or "Advisors" who have overall responsibility in their respective Missions, Offices, or Bureaus for ensuring environmental soundness of projects and promoting environmental projects. Their responsibilities include assuring compliance with the Environmental Procedures; guidance and review of Initial Environmental Examinations and Environmental Assessments; participation in project review and approval meetings; writing scopes of work for, helping to select, and reviewing substantive products of environmental consultants and contractors; and generating ideas, guidance, and assistance on environmental and natural resources projects. Almost all of the full-time Environmental Officers are stationed in Washington but must maintain regular field contacts: two have recently been placed in the field to service several Missions.

Second, there are technical support staff members in the Development Support Bureau who have technical training and responsibilities in areas related to environment and natural resources (e.g., forestry, agriculture, health). Their purpose is to support and advise on Agency activities involving their technical areas. Their responsibilities include helping to develop policy and guidance, review of technical work by

contractors, generation of technical reports, and, in some cases, direct field assistance in their technical areas. These technical support staff members are posted in Washington and are on call for use throughout the Agency. Also, each of the Regional Bureaus has a technical support office which carries out similar activities for its respective region.

The Agency has nine full-time professional staff members classified as direct-hire<sup>1</sup> "Environmental Protection Specialists" or "Advisors," and one full-time "Environmental Consultant." These are as follows:

AID/Washington

Environmental Coordinator

Two Africa Bureau Environmental Officers (EO's)

Asia Bureau EO

Latin America and Caribbean Bureau EO

Near East Bureau EO

Development Support Bureau Environmental Protection Specialist

AID/ Abidjan, Ivory Coast

Africa Regional Economic Development Support Office (REDSO) EO

AID/Nairobi, Kenya

Africa REDSO EO

AID/Indonesia

Full-time Environmental Consultant

In an agency with over 6000 U.S. and foreign employees, with an environmental review requirement for all projects and an expanding program that generates some 200 projects each year with environmental or natural resource components, many of which support review and analysis, the burden on this small environmental staff is overwhelming. Even with some assistance from the Agency's technical staff, the environmental staff is increasingly overworked and cannot meet its present obligations and respond adequately to the growing demands.

1. Office of the Environmental Coordinator

In response to its obligations under the Environmental Procedures issued in 1976, the Agency established the position of AID Environmental Coordinator to serve as the focal point for environmental matters. As stated in guidelines issued in February 1978:

[T]he Office of Environmental Coordinator within the Bureau for Program and Policy Coordination [PPC] provides a central agency focus for reviewing, coordinating, and interpreting AID environmental policies and programs; . . . and for strengthening AID and developing country competence in the environmental field, drawing upon other AID resources as needed. 2

The Environmental Coordinator serves as the principal environmental officer for the entire Agency, and provides policy guidance and professional leadership. Pursuant to the Agency's Environmental Procedures, the Coordinator also serves

as chairman of the AID Committee on Environment and Development which is made up of the Environmental Officers for the Bureaus and Offices located in AID/Washington. The Coordinator is the principal point of contact on environmental affairs with the Council on Environmental Quality, the Department of State, all other federal agencies, and the public.<sup>3</sup>

During the first one and one-half years, the Environmental Coordinator was located in the Office of Science and Technology of the then Technical Assistance Bureau (now the Development Support Bureau). This continued until a February 1978 reorganization which placed the Environmental Coordinator's Office in the Bureau for Program and Policy Coordination. Since the 1978 reorganization, the staff of the Office has consisted only of the Coordinator, with the assistance in 1979 of a project officer on temporary assignment. Summer student interns and graduate work-study interns working for credit are occasionally available.

This very limited staff has had responsibility for overseeing all environmental policy, project coordination, intra- and interagency communication, and documentation. During the first one and one-half years, the Office concentrated almost entirely on the implementation of the Environmental Procedures, with substantial effort devoted to the preparation of the Programmatic Environmental Impact Statement on the Agency's pest management activities. During

the past one and one-half years, more attention has been given to the environmental management needs of developing countries, as new legislation mandated special efforts in this area.

Periodically, the Office has scheduled special sessions to acquaint the environmental community, as well as an informal AID environmental advisory group, with AID's procedures, projects, and other matters. Recently, the Office has been influential in encouraging the selection of natural resource specialists for the Agency's International Development Intern Program.

The Environmental Coordinator, who has held that position since its inception, has sought to avoid creating a large bureaucracy, and has worked instead to build up an Agency-wide staff awareness and capability through training and discussion. He has put special emphasis on persuading the Regional Bureaus to hire full-time environmental advisors.

The growing demands of AID's environmental program require an increased effort by the Office of the Environmental Coordinator in several important areas. It should step up its present efforts to refine and improve the environmental review process. The Office should play a more active role in articulating AID's environmental and natural resource policy and in assuring that environmental concerns are taken into account in developing other areas of Agency policy. It should strengthen its efforts to promote and help the Training Office

develop and implement an environmental training strategy for the Agency. The Office should work with the Contracts Office to oversee and rate the environmental and natural resource management contractors used by the Agency. These activities should be closely coordinated with those of the AID/Washington-based Environmental Officers through frequent meetings of the Committee on Environment and Development.

The Environmental Coordinator's Office must have more resources in order to carry out its responsibilities. AID should expand and strengthen the Office by adding at least one environmentally trained professional. To maintain good field rapport and keep informed about field developments, the professionals in the Environmental Coordinator's Office should regularly visit the regions and periodically visit Missions in countries where there are important environmentally-sensitive projects or environmental management initiatives.

## 2. Environmental Officers

The environmental regulations issued in 1976 specify that "the head of each Bureau, Mission and major Office will designate a competent officer to act as coordinator, advisor, and principal point of contact for environmental matters within that organizational unit . . . ." <sup>4</sup> In Washington, only the Regional Bureaus have full-time Environmental Officers. They are the key environmental staff in Washington who relate to the

missions in their region, review all projects and attend project review meetings to assure compliance the Environmental Procedures, assist in selection of contractors and definition of scopes of work for environmental assessments, support and initiate environmental and natural resource protection efforts, help with training and at times even project design, and respond to requests from the field for environmental information.

They produce guidance on environmental matters for the Missions in their regions and relay directives from the Environmental Coordinator's Office. A major problem in the environmental and natural resource area has been a lack of day-to-day environmental guidance to the field. Examples of good AID instructions are the cable providing guidance for the Fiscal Year 1980 Annual Budget Submission on "AID Environmental and Natural Resource Projects" (State 116748, 19 May 1978), sent by the Latin America and Caribbean Bureau, and the cable describing "AID Environmental Regulations, Procedures, and Development Challenges" (State 130158, 22 May 1978). There remains an urgent need for more regular exchanges between AID/washington and the Missions on environmental issues related to AID programs. These should be supplemented by clear guidance from washington on possible AID environmental and natural resource activities, including specific project approaches and advice as to the further support which is available.

Each Regional Bureau except the Africa Bureau has one full-time Environmental Officer. The Africa Bureau has two full-time Officers, who have divided up responsibility for the 38 aid-receiving countries in the region. The limited staff in these Bureau offices places considerable strain on each Officer. To be most effective and useful, each regional Bureau Environmental Officer should be spending substantial time in the field, advising missions on projects, Agency policy, and initiatives. However, they are already overcommitted with environmental soundness review responsibilities in Washington. Travel to the field and promotion of new environmental initiatives inevitably suffer. When the Environmental Officers are in the field, office work accumulates, creating more of a burden on their return.

A recent survey conducted by the Latin America and Caribbean Bureau, for example, identified over \$104 million worth of existing or proposed environmental and natural resource (Section 118) projects in that Bureau through Fiscal Year 1981.<sup>5</sup> The survey revealed a substantial increase in activities and funds each year, reflecting the growing need for such programs. Yet the Latin America and Caribbean Bureau has only one Environmental Officer to oversee these programs.

To handle the increased workload, the Regional Bureau Environmental Offices must be strengthened. At least one environmentally trained professional should be added in each

Bureau to serve as an Assistant Environmental Officer. In addition, Bureau Environmental Officers should be provided with sufficient funds to permit them to respond quickly and effectively to the technical and information needs within their region. Such funding could be used for placing environmental and natural resource specialists in the field, providing short-term technical assistance with the design of environmental projects, carrying out environmental profiles or other environmental studies, preparing detailed guidance to Missions on the particular environmental problems within the region and possible solutions, supporting environmental information and educational efforts, and so forth.

One other Washington-based, full-time environmental position should be noted. An Environmental Protection Specialist position was added in the Office of Science and Technology of the Development Support Bureau (DSB) in 1979 to oversee and interrelate that Bureau's environmental programs with Agency and Regional Bureau needs. DSB funds substantial technical support services with respect to environmental protection and natural resource management, principally through the U.S. Man and the Biosphere Program and the U.S. National Park Service. This Officer also has been actively involved in developing AID policies on natural resource matters, environmental training, and working with private voluntary organizations to increase their understanding of environmental aspects of their activities abroad (see this Chapter, Part C).

The Agency presently has only three full-time Environmental Protection Specialists posted in the field: one each in the AID Regional Support Offices in Abidjan, Ivory Coast, and Nairobi, Kenya, and one long-term consultant in the Indonesia Mission. The two regional officers in East and West Africa each service the Missions in their respective regions. They spend considerable time traveling from Mission to Mission advising on procedural questions, offering or recommending technical services, and promoting environmental and natural resource project initiatives. The Africa Missions find this arrangement increasingly useful as they become familiar with the Officers and possibilities for utilizing them.

The use of full-time AID environmental consultants has been tried on two occasions, both in the Asia Bureau. The first instance was in the Philippines; the second in Indonesia, an arrangement which is still underway. In Indonesia, the consultant has worked on a number of environmental assessments and assisted in the preparation of initial environmental examinations. He has developed an environmental institution-building project for Indonesia and supported the work of Indonesian Government environmental officials. He has helped to build environmental awareness within the Missions and served as a ready source of expertise on environmental matters.

Doubts have been expressed by some AID staff members about the long-term consultant approach: some argue that funds would be better spent within the Missions for short-term contractors

with specific environmental skills, as required. However, the consistent presence of an environmental professional, even if only for one or two years, can be valuable in strengthening a country program if good rapport with the Mission staff and host-country officials can be established and some skills transferred. Considering staff limitations and the immediate need for field assistance in large Missions, the use of consultants may be the most practical option in the short run.

At the mission level, pursuant to the Agency's Environmental Procedures, an officer must be designated as responsible for environmental matters in each country. The Environmental Officer has other project or program responsibilities and usually has limited or no direct environmental experience. In a number of Missions, an already overworked engineer has been assigned the responsibility. This is a carryover from the days of capital development projects, when the engineers were responsible for environmental analysis and were the first group to receive Agency environmental training.

In 1978, an effort was made by the Agency to identify environmental personnel, their professional training, and ranks. The following emerges from the information collected. As of late 1978, 67 persons with environmental officer designations were identified as stationed in the field (about 10 countries did not respond). The most common title of the

person holding the part-time position of Environmental Officer was Program Officer. The largest single professional category was engineer, followed by economist and development specialist.

Comments from many AID staff members in Washington and the field reflect a preference for increased flexibility in designating mission environmental responsibilities. Today, when projects are oriented toward rural development and basic human needs, engineers may not be familiar enough with current environmental issues (e.g., health or resource management). It was suggested that the primary responsibility might be placed with a program officer responsible for documentation and coordination, or with a public health specialist with some background in ecology. The Missions should evaluate carefully the skills represented on their staffs and make judgments about who should handle environmental matters based upon their particular needs. As is the situation in most of the AID posts in the Near East, environmental review responsibilities may be shared by two or more staff members. In some Missions, the size of the program, the environmental assessment workload, and the severity of the environmental problems in the country or region may warrant a full-time, environmentally trained person, to be used entirely at one Mission or shared by many in a region. In the immediate future, AID should establish several full-time regional or mission-specific environmental positions in Asia, Latin America, and the Near East.

### 3. Related Technical Staff

There are several technical offices within the Development Support Bureau (DSB) of AID which perform activities that increasingly relate to environmental and natural resource issues. These include the Office of Agriculture, Office of Engineering, Office of Health, Office of Rural Development and Development Administration, Office of Energy, and Office of Science and Technology.

The Agency has produced a bibliographic listing of professionals in the DSB who are on-call technicians for use in the areas of food and nutrition, health and population, education and human resources, and other development areas.<sup>6</sup> The environment and natural resource specialties listed include agronomy and soils, aquaculture and fisheries, agricultural research, environment, geology, public health, entomology and pesticides, malaria, rural development, and remote sensing. It is difficult to decipher actual technical capabilities from the list. Most persons are listed under several disciplines. For example, names under the "pesticides" category include staff members also listed under health (vector-borne disease), agronomy, and physical science, in addition to the expert in charge of pest management for the Agency. The category "environment" includes a physical scientist, a sanitary engineer, a fisheries expert on contract, the pest management specialist, and the one DSB Environmental Officer.

Discussions with DSB staff members have revealed that natural resource and environment staff capabilities within the DSB are limited and scattered through different offices which do not necessarily coordinate related activities. There is a five-person Division of Environment, Natural Resources, and Remote Sensing in the Office of Science and Technology, with one full-time Environmental Protection Specialist and one recently hired forester. There are also three pesticide experts, two agronomists, one water management expert, one soil microbiologist, and one soil fertilizer expert in the Office of Agriculture; and four health specialists in the Office of Health.

A list of these experts highlights the limitations of the Agency's internal technical capabilities. While these staff members are qualified and expert in their fields, their numbers are so small that they are hardly able to handle Agency central technical assistance and policy responsibilities. As a result, AID has become a contracts agency, managing contractors who are hired to meet its technical needs. The Agency is unable to respond directly to most technical field requests, and barely able to provide adequate review and oversight for the contractors who are selected.

Instead of reducing its technical support staff, AID should build up its technical expertise to provide assistance with the design and implementation of environment and natural resources

projects. This work cannot be effectively guided or overseen by contractors. There remains a critical need for in-house experts to provide technical support, policy guidance, continuity, and coordination for AID's environmental activities.

To meet this need, AID should establish a strengthened focal point for technical support in the environment and natural resource area. It should provide this by creating an Office of Environment and Natural Resources within the Development Support Bureau. This Office should have responsibility for coordinating and assisting environmental institution building, natural resource mapping, land-use planning, forestry and agroforestry, soil conservation and range management, natural areas and wildlife management, fisheries and coastal zone management, and pollution control and abatement. It also should assist on environmental education, training, and research projects.

4. Recruiting

a. International Development Intern Program

AID's International Development Intern (IDI) Program is a two-year program to train qualified individuals to become Foreign Service Reserve career officers specializing in development matters. The Program enrolls about 100 candidates annually; a class enters every three months. These officers are expected eventually to assume responsibilities for

planning, managing, and implementing AID's foreign assistance programs in developing countries. The IDI Program is particularly important since it is one of the principal means for entry into the Agency by young professionals. Generally, applicants are selected to meet identified needs within the Agency. Until the group which entered in the fall of 1979, applicants with environmental and natural resource training generally were not selected because there was "no identified need." However, with the encouragement of the Agency's environmental staff, the intern program chose four applicants with natural resource backgrounds for the Fall 1979 group. Three accepted, all with forestry backgrounds.

While the IDI Program staff say that they are not certain where these natural resource experts will be placed in the Agency, they seem persuaded of the value of such a background to Agency activities. The next IDI group has three slots designated for environment/natural resource applicants. In the future, the Agency should assign at least 10% of its IDI slots to technically qualified environment/natural resource candidates.

It is equally important to select many IDI applicants who have some environmental or natural resource training. As discussed in relation to mission-level environmental officer positions, much Agency work in the field involves environmental matters on almost a daily basis. The Agency's environmental performance will improve as the level of general staff

awareness is raised, partly through selection of environmentally sensitive staff members. Similarly, AID's personnel officers should be flexible enough to place natural resource specialists in positions such as agriculturalist, program officer, and rural development assistant, areas in which natural resource issues are important.

b. Experienced Staff

As noted above, there is an immediate need for additional Washington and field personnel with environmental and natural resources experience. The following are the priorities the Agency should follow:

1. Three additional Assistant Environmental Officers, one each for the Asia, Latin America and Caribbean, and Near East Bureaus.
2. One Assistant Environmental Coordinator.
3. Nine technically qualified Environmental Officers in the field:
  - (a) Three in the Latin America and Caribbean region--Andean, Caribbean, and Central American subregions
  - (b) Three in the Asia region--Bangkok, Colombo, Jakarta.
  - (c) Three in the Near East region--Amman, Cairo, and Rabat.
4. One soil conservation specialist in the Development Support Bureau (see Chapter VI, Part B).

## B. Staff Training

AID, despite some good beginnings, has not yet established a thorough and sophisticated environmental training program. The Office of Training, which has responsibility for designing and carrying out training programs for the whole Agency, has been conscientious in its efforts to build Agency environmental awareness through training. It has set for itself the overall goal that AID's officers should receive regular, compulsory training throughout their careers, designed not only to give them mastery of tools which they will need at particular stages of their careers but also to keep them abreast of new knowledge concerning development.

AID's environmental training efforts have so far focussed primarily on short-term seminars and workshops in the United States. Some of these have been quite innovative. Recently, the Agency has begun to take its staff training to the field and has generated some interesting self-teaching aids to increase understanding about ecological principles.

Before looking in greater detail at AID's existing and proposed environmental training efforts, it is helpful to review some of its earlier efforts, since these provided most of the training for AID's present staff. AID's job has been made easier by the fact that, like other Americans in the same age group, many AID employees now in their twenties and

thirties received considerable environmental and ecological education in high school and college. This tends to make these people more sensitive to and knowledgeable about environmental questions than older employees. So far, AID has not given any of its officers lengthy advanced environmental training in universities like that offered to some officers in other fields; its professional training in this area has been "in house."

The first Agency environmental training course was conducted in 1972-75 for the members of AID's engineering staff, who at that time had responsibility for environmental assessment of projects. Six two-week sessions were held at the University of North Carolina. The focus was highly technical, and tended to concentrate on the environmental problems of capital-intensive projects (e.g., large dams, highways). Almost all AID engineers, many of whom remain with the Agency today, participated in the course.

In 1974-75, AID offered, through the Brookings Institution, a sensitivity course on the environment for top-level managers. However, due to lack of support from the top-level Washington staff, participation was disappointing.

In August 1976, the Environmental Coordinator's Office arranged a one-day environmental workshop for AID/Washington personnel. The purpose was to inform the headquarters staff about the Agency's new Environmental Procedures and to discuss

the elements of Initial Environmental Examinations. More than 35 staff members attended. In 1978, AID conducted a training course at Clark University in Massachusetts for persons from field Missions designated as part-time Environmental Officers. The main emphasis was on preparation and use of Initial Environmental Examinations, but there was a wider discussion of the environmental problems of development. Three similar but separate courses of two weeks each were held in February, May, and July of 1978. Of approximately 75 total participants in the three courses, about 90 percent were mission staff members, together with a few from private voluntary organizations and the World Bank.

In December 1978, AID conducted two environmental seminars in Pataya, Thailand, for AID staff in the Asia region. There were about 40 participants, including seven local-hire AID employees and seven host-country counterparts. This effort to bring environmental training to the field went well. Application of the Environmental Procedures remained a major topic, though they were discussed in the context of real environmental problems faced by the countries in which the participants were working. The seminars highlighted the need to specify the role of and audience for Environmental Assessments. AID should hold every year in each region at least two environmental and natural resources seminars, including developing country officials.

One area where the Agency needs to do more is in incorporating discussion of environmental and natural resource problems, and AID's policies concerning them, into regular training programs. The first in this career-long series is the International Development Intern program given to officers when they first come to work for AID. In this orientation course, a half day has been devoted to environmental and natural resource problems and the corresponding responsibilities of the Agency. The Training Office intends to introduce more environmental material into the discussion of development problems during this course.

Mid-career AID officers receive a twelve-week course in general development studies. According to the training staff, natural resource and environmental issues are discussed throughout the course. The staff includes two anthropologists and one geographer, both with environmental interests; for a time, a wildlife expert was also on the staff. The intent is to integrate environmental issues into the coursework, rather than to have separate environmental discussions.

AID's planners at the early mid-career stage are given the Analytical Skills workshop, a two-week session offered every 18 months and intended to develop analytical skills needed in Agency operations. The program includes some reference to

cost-benefit analysis and relevant environmental considerations, but the Training Office is aware of the need to incorporate more.

AID's senior staff is occasionally invited by the Administrator to participate in short sessions designed to address major development policies and concepts. One such event was a one and one-half day conference of top-level AID decisionmakers held at the Belmont Conference Center in July 1978 at the initiative of then AID Administrator John Gilligan to discuss the outlook for AID programs in the year 2000. Presentations were made by experts from the academic community and developing countries. This conference is credited by some high-level participants with totally changing their outlook on natural resource problems. Such events are of enormous value and should be repeated annually.

The training programs described thus far are intended to give officers at every level the tools and insights they need for their work. As noted above, there is another kind of training designed to give AID employees a better idea about the problems of development. AID is experimenting with self-teaching materials for field missions, and this program is gaining in popularity.

Videotape cassettes with accompanying literature are new tools which reach more people and can be made available more flexibly according to mission needs. The Training Office has begun several projects to develop video and slide presentations

in natural resource areas for field use. A contract has been entered into with the Sierra Club to produce separate slide presentations on the major world ecological zones (e.g., savannah, deserts, rainforests). Each slide presentation will be about 20 minutes long, and will provide background material to acquaint mission staff members with environmental issues and ecological interrelationships in the various zones. The Training Office is also funding a case study film and narration concerning Niagara County, New York, the location of several ecological disasters, including the Love Canal industrial chemical pollution incident. The film will trace the history of 100 years of development of the area, to show the consequences of rapid and uncontrolled development. The conclusions will point out the extra costs which the United States is now paying due to short-sightedness and will suggest the need for environmental planning.

The Training Office has also purchased and produced a number of video tapes and films, including a film on firewood, a presentation by the Environmental Cooperation on AID's environmental policies and procedures, and a film on "Environment and Development," now in preparation. Video staff from the Training Office will prepare a film on the National Academy of Sciences environmental workshop in Mauritania and another film on major ecological issues in Kenya.

The Training Office maintains a video library of tapes and films available to the Missions and Washington offices on request. There is a growing exchange of training tools between AID and other organizations such as UNEP and the World Bank.

While the Agency should be commended for a good start in environmental training, its efforts have been piecemeal. The program is still not large enough or sophisticated enough to accomplish the principal objectives the Training Division has set for itself: first, to upgrade the ability of all officers with specific environmental responsibilities to identify, analyze, and find solutions for environmental and resource problems; and, second, to improve the environmental awareness of other AID decisionmakers. AID also can do a better job of integrating environmental and natural resource material into all training courses. To achieve these things, we strongly recommend that AID's Training Office develop a plan which sets goals for both general and technical environmental training at various levels for AID personnel in Washington and in the field. We believe that because of the rapid evolution of environmental knowledge and the constant change in AID's environmental policies and procedures, the aim should be to give some technical training, before assignment if possible, to all officers with either full- or part-time environmental responsibilities, plus some environmental retraining every three years.

Training in the field should be emphasized because it is more likely to concentrate on real problems and can more easily include people from developing countries. More environmental workshops and seminars should be held along the lines of the Pataya meetings, with at least one in each region each year. Special efforts should be made to include Mission Directors, Deputy Directors, and Program Officers. Within two years, every officer in these categories should have attended at least one such session. AID should continue to organize forward-looking annual conferences for high-level Washington officials on development problems, including a strong emphasis on resource problems. None of this, however, is a substitute for recruiting and assigning officers with sound technical backgrounds to positions requiring environmental expertise.

C. Information

AID lacks a single source of quantitative or qualitative information on environmental and natural resources projects, past or present. AID has at least four separate computer programs designed to fill the needs of particular Bureaus. However, there apparently has been no programming of environmental or natural resource information. A large number of people had to be interviewed in order to find out what was happening. Even then, offices often had to query field missions to find out. Also, there appear to be very few evaluations of how well projects--any projects--had gone environmentally, except for the occasional good evaluative report pointing out lessons to be learned from AID's success and mistakes. AID officers working on a problem were almost never aware even of the existence of relevant reports.

Evaluation and record keeping on environmental and resource projects is, and should be, inseparable from the problem of overall evaluation and record keeping. These tasks must be carried out in ways that generate a minimum of additional paper, for the chief battle that AID's most creative people are fighting is against the devil named paper.

Specifically, AID should use existing computer systems to establish a central record of environmental and natural resource projects and project components. In regard to all

Agency projects, the following kinds of data should be retrievable: whether the initial threshold decision as to significant environmental impacts was positive or negative; whether environmental impact statements or environmental assessments were prepared, and by whom; who was responsible for supervising environmental aspects during project implementation; and what evaluation reports were made. The regional Environmental Officers should be responsible for providing the necessary data for the computers. Obviously, AID should avoid setting up a system so burdensome that it falls of its own weight; exactly this has happened to us recently. However, AID must be easily able to obtain data on any country, project, or type of project.

More difficult, but very important, is knowing what has gone right and wrong in planning and implementation of projects. As a matter of some urgency, AID should establish a system for gathering implementation and post-implementation reports in a central spot, summarizing the lessons learned, and assuring that these summaries, with references to the full reports, are brought to the attention of persons in AID and other development agencies working on the same problems. These reports should be frank and normally unclassified. There are some good, extremely short summaries which give highlights of lessons learned from projects and indicate where to get more information. The regional Environmental Officers should be

responsible for ensuring the preparation of such summaries, and appropriate technical officers in the Development Support Bureau and officers in the Program and Policy Coordination Bureau should devise systems for broader dissemination of evaluation results.

AID has conducted an experiment through Clark University of occasionally publishing a newsletter, "Network for Environment and Development." It attempted, in addition to describing some of AID's projects, to look at projects of other donors and to review significant literature on environment and development.

In July 1979, AID approved a large project which will gather and generate technical information on environment, natural resources, and development.<sup>7</sup> It will be carried out through an arrangement with the United States Department of Interior, National Park Service. The project has a budget of some \$2 million and will produce four kinds of products:

- (1) Ten review papers which will review the literature and experience concerning legal and institutional aspects of environmental protection, the humid tropics, regional projections of scarcities and degradation, and environmental baseline data;
- (2) Three case studies on integrated planning, developing country government responses, and public involvement regarding natural resource development and environmental protection;
- (3) Five project design aids for ecologically sound development in key areas, such as river basins and watersheds;
- (4) Communication and dissemination of information derived from the project through workshops, publications, and so forth

The purpose of the project is to provide AID Regional Bureaus and Missions with technical information useful for their efforts to help developing countries to protect and manage their natural resources.

Finally, AID should establish a better environmental library, probably as part of its regular library system. AID's Information Center has very few reference books on environmental subjects. It should contain not only standard works from all countries on resource and environmental problems, but also documentation on resource and environmental projects and environmentally sensitive projects from AID and other donors who are willing to cooperate. Some evaluation reports are now there, but they are far from complete. A good card catalog of information to be found in AID's own documents should be available to environmental planners.

D. Use of Contractors And Intermediaries

As AID's program has grown in size and complexity, the Agency relies more and more on contractors and intermediaries,<sup>9</sup> such as private consultants and consulting firms, other federal agencies, universities, and private voluntary organizations. They are increasingly involved in designing, implementing, and evaluating AID projects. Heavier reliance on outside personnel both benefits and creates problems for the Agency. Contractors and intermediaries are important as sources of specialized technical expertise. They permit AID to extend its reach. However, as has been noted earlier, the proper selection, training, supervision, and rating of contractors places a heavy burden on AID staff. As in other areas of AID activities, the performance of environmental and natural resource contractors has been inconsistent and sometimes mediocre. Not enough attention has been given to assuring that contractors are well-qualified and briefed and to reviewing their work product.

AID should as a matter of urgency take a hard look at and tighten up on its procedures and policies for selecting contractors to work on natural resource and environmental problems. These contractors include not only those working directly on such tasks as preparing Initial Environmental

Examinations, Environmental Assessments, Environmental Impact Statements, and environmental profiles, but also those who plan, implement, or evaluate natural resource management or environmentally-sensitive projects.

AID's biggest problem is how to select well-rounded, environmentally qualified contractors. They must understand AID's environmental regulations and practices and know enough about the country where they are going to work and speak enough of its language to be effective. AID's selection record has been spotty, though it has lately improved due to attention from some of the Environmental Officers. It should improve further as AID sharpens its briefing and training techniques and learns by experience which contractors know what subjects and what countries.

That AID still has a way to go, however, was brought home forcefully by horror stories told about contractors who didn't have on their teams anyone who could speak or read the language of the country, particularly shocking when it was Spanish or French; about contractors who never visited the project site because it was uncomfortably distant from the capital; about contractors who avoided contact with host-country officials; and about contractors who rejected the help and advice of AID Missions. The selection process is complicated by time pressures and the resulting need to hire untried persons or firms when trained people cannot be found, and by the

requirements to hire some "small business," women's, and minority contractors whose performance tends to be unknown. When no available contractor on the regular list fits the need, more AID officers should follow the lead of some of the best Regional Environmental Officers and find and recruit a qualified person. AID should be more aggressive in recruiting environmental experts from organizations and universities which have worked for years with AID as contractors in certain countries.

As noted in Chapter IV, when AID's Environmental Procedures first came into effect, the terms of reference and the scopes of work for contractors preparing Environmental Assessments were usually prepared by the technical offices responsible for the projects. Because these offices frequently did not understand the environmental issues involved, direction tended to be too broad and general. This has improved as the Regional Environmental Officers have become more involved, but problems still remain and AID should tighten up its procedures.

Even though present contracting regulations have requirements for standard reviews and evaluations, AID has neglected to review systematically the work of environmental contractors. At first, there was no one really qualified to do this, but now that there are trained environmental officers on the Agency staff, review of all environmental contractors can proceed. Responsibility for basic evaluations should be

shared by the Contracts Office and the Regional Environmental Officers. However, the review process would benefit from the participation of field staff, including particularly field Environmental Officers, and other Washington environmental staff members. The Office of the Environmental Coordinator should assure consistency in the evaluations by the various Regional Bureaus. These evaluations, combined with creative recruiting of new personnel, should contribute to the improved performance of environmental contractors.

One persistent problem faced by AID is assuring that capable contractors, including environmental contractors, are available when they are needed. One inventive method for providing quick technical responses by qualified people is the Indefinite Quantity Contract (IQC). Any contractor can bid to provide a category of services sought by the Agency, and if awarded a contract is placed on a roster for a specified time, often two years. During this period the IQC contractor must be available to answer short-term requests. The Missions and AID/Washington offices are not required to use IQC's but this procedure has begun to provide an efficient way of obtaining quick, expert help. Long-term contracts, such as those required for the Senegal River and Mahaweli Environmental Assessments (see Chapter IV), do not qualify for IQC treatment.

On several occasions, IQC contractors have been used to prepare AID Environmental Assessments. When the Environmental Procedures first became effective, three environmental IQC's

were chosen. Some of their work was extremely poor. In one instance, the resulting Environmental Assessment was so unacceptable that new environmental studies were required as part of project implementation. In the summer of 1979, the Agency awarded six new IQC's in the area of environment and natural resource development, selecting from thirty contractors who bid.

There is a need for an improved system of Agency briefings to help contractors understand Agency mandates and country-specific environmental problems. Presently, the Office of Training provides an orientation session for contractors. But this session lasts two weeks and, especially for short-term assignments, is too long for contractors and for the Missions' project timetables. Only about 50 percent of the contractors now receive orientation. A more condensed orientation session would be useful, as would a manual and, in time, a film.

One additional problem requires brief mention: the potential lack of objectivity which arises from AID's occasional use of the same contractor for several phases of a project. The result can be that a contractor writes his own scope of work or evaluates his own performance. The Agency should establish a policy whereby contractors who prepare Environmental Assessments are not allowed to participate in implementation or evaluation of the same project.

Contractors are not the only source of outside environmental and natural resource assistance. AID has for years used personnel from other U.S. Government agencies. In its natural resources work, it has used to great advantage experts from the Soil Conservation Service and the Forest Service, both of the Department of Agriculture, and occasionally people from the Departments of the Interior and Commerce and from the Environmental Protection Agency. Mechanisms already exist to make this possible. AID has undertaken cooperative efforts with the U.S. Man and the Biosphere Program and the U.S. National Park Service, which will increase the Agency links with government, university and other experts in natural resources management. Consultations have recently been intensified with the Peace Corps regarding joint projects and arrangements to integrate Peace Corps volunteers into environmental and natural resource project planning.

The Agency should continue and expand close cooperation with U.S. domestic agencies which have expertise useful in AID's environmental and natural resource work. It should explore with these agencies the possibility of seeking Congressional mandates which will allow them to strengthen their participation in a coordinated U.S. development effort. AID must also face the problem of how to make such short-term assignments more appealing professionally to mid-career people

from other agencies. These people too often have to be concerned about delays in promotions if they accept "outside jobs," and this has proved to be one of the principal barriers to AID's getting good people from other U.S. agencies.

An increasing portion of the Agency's development budget is expected to be directed to projects designed and managed by private voluntary organizations (PVO's). In an effort to promote environmental awareness on the part of PVO's, AID provided funding to the Mohonk Trust for a Conference in October 1977 on "Environmental Concerns in Development," which brought together representatives of PVO's and U.S. environmental organizations and other experts. One of the recommendations of the Conference was that AID support environmental training seminars for PVO personnel. The first of a series of such seminars, organized by Coordination in Development, Inc. (CODEL), was held in New York in December 1979. The Mohonk Trust Conference also recommended that a series of handbooks on environmental issues be prepared for use by PVO field staff in project design. The first handbook, on "Environmentally Sound Small-Scale Agricultural Projects: Guidelines for Planning," was published in October 1979 by the Mohonk Trust and Volunteers in Technical Assistance.

E. Coordination with Other Donors

AID officials recognize that the kind of creative coordination with other donors of which AID is capable has not yet been extended to environmental and natural resource problems. The comment was often made during field trips and during interviews in Washington that more AID leadership in this area is now called for. A move in the right direction was AID's quiet initiative in helping to organize the Club du Sahel to expand and coordinate aid efforts after the disastrous Sahel drought, in giving those consultations a natural resource orientation, and in detailing an American forester to work on the Club's central coordinating staff.

AID has engaged in several kinds of inter-donor coordination: general overall policy coordination; developmental sector coordination; country-by-country coordination; and, rarely, regional coordination. Before discussing each, a few general comments are pertinent. AID realizes that coordination is an imperfect art because donors are to some extent in competition for political influence and often for commercial advantage. AID officials know and act upon the principle that other donors are ambivalent about the United States taking the initiative in development coordination: they want it, but they don't want to hear much about it.

Turning specifically to coordination on natural resource and environmental problems, more, and more effective, general international consultation--probably a more realistic label than coordination--is much needed. AID has done little of this to date. Meeting in Paris in September 1979, the multilateral development assistance agencies provided a precedent when they agreed to a declaration in which they promised to give careful consideration to environmental aspects of projects as well as to give higher priority to financing natural resource projects. The IDCA and AID should take the initiative in trying to get a parallel formal commitment from national donors. One way to achieve this would be for the United States to call for a meeting of the Development Assistance Committee (DAC) of the Organization for Economic Cooperation and Development, which includes the major national non-communist donors. Such a meeting could consider common environmental and natural resource problems and establish common goals for assuring the environmental soundness of projects. The United States tried unsuccessfully to get DAC to consider environmental problems several years ago, but the time is ripe to try again. At such a meeting, agreement should be reached not only on general principles but also on a broader exchange of information about projects underway and planned.

In the second area, coordination on particularly important sectors of natural resource development, AID is just beginning to exercise leadership. The AID-sponsored informal meeting of

experts and potential donors to fuelwood projects in Africa has already been mentioned (see Chapter V, Part A). There should be other regional donor meetings on fuelwood, agroforestry, and soil and water conservation, aimed at exchanging experiences and eliciting donor decisions to devote more resources to these areas. These meetings should not be publicized to avoid adverse reactions from developing countries, which often prefer to do their own coordinating.

In the third area, informal country-by-country coordination on environmental and natural resource problems, AID sources say consultations are underway, and this was confirmed by the Team's field visits. One interesting example was a June 1979 meeting of a number of donors in Jakarta, organized by the Indonesian Minister for Development Supervision and the Environment. The donors, including AID, were asked to discuss their environmental review procedures and possibilities for assistance to Indonesia in the environment and natural resources area.

Generally, in-country consultations on environmental problems are as good as the consultants' knowledge of and interest in their subject; when AID uses top officers who are strongly inclined environmentally, consultations can be expected to be fruitful. AID is correct in usually making such meetings informal and small. Large, formal meetings tend to be stilted and unproductive, partly because donors recognize that

aid-receivers may resent coordination meetings that they don't organize and control. In some posts and under some circumstances, broader and more formal meetings among donors in a country have proved useful. Also useful are consultations between headquarters staffers of different aid agencies involved in environmental matters when -- usually as part of trips to the field -- these people can visit the headquarters of other donors and discuss common problems. AID should arrange for more such meetings. Even though there is a theoretical commitment by U.N. members to leave aid coordination to the local UNDP representatives in each developing country, UNDP representatives are normally too busy and too politically constrained to do a good job in this regard.

Broader environmental coordination on a regional basis is difficult to arrange or make profitable except under crisis conditions, such as existed in the Sahel, when almost too much money was suddenly available. Usually neither competing aid donors nor competing aid recipients have much enthusiasm for such meetings. As a result, few have even been proposed.

When all is said and done, the most useful objective for AID in this area is the creation of informal networks -- in the field and among national headquarters staffs -- for the exchange of experiences among people working on common

environmental and natural resource problems. So far, such networks do not exist in the environment and natural resource area to the same extent as in other areas, and AID should work toward that end. The process could be furthered by the exchange of environmental documents. AID should take the initiative by beginning to exchange environmental profile information and, to the extent possible, information on environmental and natural resource successes and failures.

FOOTNOTES

1. "Direct-hire" refers to personnel directly employed by the Agency, in contrast to contractors and personnel on loan from other agencies.
2. AID Handbook No. 17-3 (1978).
3. AID Environmental Procedures, 22 CFR Sec. 216.4 (1978).
4. Id., Sec. 216.4(c).
5. AID Latin America and Caribbean Bureau, Office of Development Resources, "Survey of Environmental and Natural Resource Programs Existing and Proposed through FY 1981 for the Latin America and Caribbean Bureau" (August 1979).
6. AID/DSB, Office of Development Information and Utilization, "Technicians On Call for Development" (March 1979).
7. AID, "Environment and Natural Resources Expanded Information Base" (PIO/T No. 931-1029, July 1979).
8. The term "contractor" is often confused with the term "consultant." "Consultants" are part-time employees working under the same restrictions and controls and receiving the same benefits as permanent employees. They are used conservatively. "Contractors" are hired from outside the Agency to perform specific tasks, and are much more frequently used.

The term "intermediaries" refers to other federal agencies or outside organizations which receive AID funding to carry out program or project activities of broader range and longer-term duration.

## CHAPTER VIII

### MEETING THE ENVIRONMENTAL CHALLENGE

The environmental challenge facing developing nations is becoming more severe. In his book The Twenty Ninth Day, Lester Brown points out that increasing human population, consumption, and pollution are overtaking the earth's four major biological productive systems--fisheries, forests, grasslands, and croplands.<sup>1</sup> In many developing countries, the carrying capacity of these systems is being exceeded. The results include reduced food production, firewood shortages, erosion and flooding due to deforestation, and desertification. Natural systems under stress are more vulnerable; and seasonal flooding and droughts can become major disasters.

During the last decade, AID has recognized that sustainable development depends on a sound natural resource base, and has started to build an effective program to help developing nations protect and manage their environment and natural resources. The Agency has instituted and begun to refine procedures for environmental review of all its projects and activities. AID has completed thorough evaluations of the environmental and natural resource problems in a few aid-receiving countries. The Agency has repeatedly stated its

intention to strengthen environmental and natural management capabilities in developing nations and has initiated some environmental institution-building and training projects. AID has increased its efforts to address some of the serious environmental problems in the developing world, including deforestation, firewood shortages, and pesticide abuse. The Agency has expanded its activities to increase the environmental awareness and knowledge of its staff. Yet AID still has a long way to go before it succeeds in incorporating into all of its efforts a systematic, anticipatory approach to environmental problems.

This Report identifies a number of steps which the Agency should take to improve its environmental performance. The most important are: (1) to strengthen the Agency's staff capability in the environmental and natural resources area; and (2) to establish a sound data base concerning the environmental problems in particular aid-receiving countries, so as to be able to formulate strategies and projects for responding to them. Two other weaknesses in AID's performance affect not only environmental activities but the Agency's entire program. The Agency must do more to assure proper implementation of projects and effective oversight of the growing proportion of its work carried out by contractors and intermediaries.

AID should maintain its leadership position within the international donor community on environmental protection. The Agency should take the initiative to make host governments

aware of environmental problems and their effects on economic development. In each host country, the AID Mission should undertake close and continuing consultations with host government environmental officials. AID should share its experience in the environmental and natural resource area with other donors and should encourage them to strengthen their own environmental activities.

AID has decided to meet the environmental challenge. This will make the Agency's work more complex and difficult, but will result in economic development which is more likely to be sustainable. We hope that observers at the end of the next decade will find that AID helped to reverse the trend toward depletion and deterioration of natural resources essential to meeting basic human needs.

FOOTNOTES

1. Brown, The Twenty Ninth Day (1978).

APPENDIX 1.

## AID POLICY ON ENVIRONMENT AND NATURAL RESOURCES

Most of the world's developing nations lie within or near the tropical latitudes and, as such, their environment and natural resource bases are more fragile and susceptible to deterioration than those of the temperate climates of most developed countries. The special physical and biological features of the developing countries place distinct limitations on their ability to provide for basic human needs. This task is further aggravated by increased pressures on the environment from an ever expanding population, overgrazing of lands, expansion of subsistence agriculture into marginal areas, soil erosion and rapid forest depletion for human settlements, agriculture and fuel.

The achievement of long-term benefits to the world's poor, whether they be in urban or rural settings, must be based on environmentally sound planning, and on a clear understanding of a country's natural resource potentials and limitations. The President and the Congress have directed AID to address the environmental implications of its development activities and to help strengthen the capacity of the less developed countries to protect and manage their environment and natural resources. In Section 118 of the Foreign Assistance Act, the Congress directed AID specifically to make special efforts to maintain and, where possible, restore the land, vegetation, water, wildlife, and other resources upon which depend economic growth and human well-being, especially that of the poor.

AID seeks to help developing countries avoid both short-term and long-term damage to the environment and to improve it where possible. AID is ensuring the environmental soundness of its development programs through the preparation of environmental assessments of its major actions, even though effects may be localized in an AID recipient country. These assessments look at the long and short-term effects of AID activities on the people who are to benefit from the programs and are prepared, to the fullest extent possible, in cooperation with the host country. Professional staff, trained in the environmental sciences, are being located in select missions abroad to work closely with country officials in examining development problems from an environmental perspective and evaluating alternative means of achieving their goals. The Agency will continue to take a critical look at our ongoing and planned activities to see that they conform with these new directives. The best U.S. talent and scientific capabilities will be used to optimize this dimension of our assistance programs. A close working relationship is being developed with host country officials so that we can gain the benefit of their perceptions, knowledge and priorities.

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39.

New categories of assistance we expect to provide may include aspects of reforestation, watershed protection, wildlife preservation, improvements to the physical environment, environmental education and institutional strengthening. AID intends to make available to developing countries help in understanding environment and natural resource issues in order to facilitate their ability to select, design and manage environmentally sound programs. A number of projects in these categories are either under way or being planned.

AID will train as many of its own personnel as possible to recognize the critical relationship between environment and development. Both formal and informal approaches will be utilized. Any training materials prepared will be available to others to further the understanding of these relationships.

In developing its environment program, the Agency will draw upon expertise of the Environmental Protection Agency and the Departments of State, Agriculture, and Interior.

AID will also look for new ways to involve specialists of non-governmental organizations in the planning and review of its activities, and will work with other donor agencies to develop coordinated approaches for building environmental safeguards into all development activities.

APPENDIX 2.

Part I

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APPENDIX 4B

ENVIRONMENTAL PROCEDURES  
*(as amended)*

This appendix contains AID's environmental procedures as published in the Federal Register and as agreed upon pursuant to a Federal Court Order. The Court Order is mentioned not to indicate any reluctance of the Agency in setting in motion these standards; indeed these standards were well under development at the time legal action was taken against the Agency on an environmental issue. However, these standards do take on a special significance in light of the agreement of the Agency with Federal executive and judicial authorities to carry them out.

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**DEPARTMENT OF STATE**

Agency for International Development

~~TWENTY-TWO—Foreign Substantive~~

**CHAPTER II—AGENCY FOR INTERNATIONAL DEVELOPMENT, DEPARTMENT OF STATE**

[Reg 10]

**PART 216—ENVIRONMENTAL PROCEDURES**

**§ 216.1 Introduction.**

(a) *Purpose.* In accordance with the National Environmental Policy Act of 1969 (NEPA) and relevant AID policies, the following general procedures are established. These procedures have been developed to insure that environmental factors and values are integrated into the decision-making process and to assign responsibility within the Agency for assessing the environmental effects of AID's actions.

(b) *Environmental policy.* In the conduct of its mandate to help upgrade the quality of life of the poor in developing countries, AID conducts a broad range of activities addressing such basic problems as hunger and malnutrition, over-population, disease, disaster, illiteracy, and lack of adequate housing and transportation. As authorized by the Foreign Assistance Act (AA) of 1961 as amended, AID finances or directly furnishes both bilateral and multilateral development assistance through loan and grant programs of technical advisory services, research, training, construction and commodity support. These programs are carried out under the foreign policy guidance of the Secretary of State and in the context of the realities of the differing priorities of the developing countries. Within this framework, it is AID policy:

(1) To ensure that the environmental consequences of proposed AID-financed activities are identified and considered by AID and the host country prior to a final decision to proceed, and that appropriate environmental safeguards are adopted;

(2) To assist in strengthening the indigenous capabilities of developing countries to appreciate and evaluate the potential environmental effects of proposed development strategies and projects, and to select, implement and manage effective environmental protection measures, and,

(3) To identify impacts resulting from its actions upon the environment including those elements of the world biosphere which are the common natural and cultural heritage of mankind.

(c) *Definitions—(1) CEQ guideline or guidelines.* Guidelines promulgated by the President's Council on Environmental Quality (CEQ) under NEPA and Executive Order 11514, entitled "Preparation of Environmental Impact Statements" (FEDERAL REGISTER, Volume 33, Number 147, August 1, 1968), and amendments thereto.

(2) *Initial environmental examination.* As used, herein, an Initial Environmental Examination is the initial study of the reasonably foreseeable effects of a proposed action on the human environment. Its function is to provide the basis for a Threshold Decision as to whether an Environmental Assessment or an Environmental Impact Statement will be required. If an Environmental Assessment or an Environmental Impact Statement is required, the Examination will also provide the basis for its preparation. The Initial Environmental Examination should identify and describe where appropriate: (i) The nature, scope and magnitude of any reasonably foreseeable effects of an action or any part of an action on the human environment; (ii) the reasonably foreseeable effects of any such environmental impact on organisms in the biosphere including human life, and, where an Environmental Assessment or an Environmental Impact Statement is required, (iii) reasonable alternatives to the proposed action which will be studied in detail in the Environmental Assessment or draft Environmental Impact Statement.

\* The Initial Environmental Examination will be an integral part of the Project Identification Document or equivalent document which will be circulated to selected Federal agencies for comment, when an Environmental Assessment is to be prepared. \*

(3) *Threshold decision*

\* A formal Agency decision which determines, based on an Initial Environmental Examination, whether a proposed agency action is or is not a major action significantly affecting the human environment, and, if so, whether an Environmental Assessment or an Environmental Impact Statement is required. \*

This decision is made in the very early stages of activity conception, even before the activity is reviewed for consistency with

\* In every instance in these procedures the terms "host country" or "host government" or "recipient country" are meant to refer to the country that is both receiving and financially participating in the AID assistance under the terms of the FAA. ...

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### §216.1(c)(3)

AID objectives and recipient requests. While it is difficult to inclusively identify all such actions, types to be carefully considered for environmental effects would include those:

(i) Where the impact is localized, but the human environment will be significantly affected;

(ii) Where the impact is likely to be irreversible or highly controversial;

(iii) Which involve a complex of projects, with individually limited but cumulatively considerable effects;

(iv) Which involve a limited amount of money, but which set a precedent for future actions; or represent a decision in principle about future courses of action;

Actions that should be considered in determining "significant effects" include those which adversely affect such aspects of the human environment as air, water, land, flora and fauna, and socio-economic conditions. Special attention should be given to problems involving solid waste, noise, radiation, hazardous substances, energy sources and natural resources development, and in addition, actions which

(a) Degrade the quality of the human environment;

(b) Curtail the range of beneficial uses of the human environment and its resources and serve short-term, to the disadvantage of long-term, environmental goals,

(c) May have both detrimental and beneficial effects even if on balance the Agency believes that the effect will be beneficial,

(d) Have secondary effects which may be more substantial than the primary effects of the original action

(e) Are likely to have an effect on any natural or cultural heritage listed by the World Heritage Committee pursuant to Article XI of the "Convention Concerning the Protection of the World Cultural and Natural Heritage," of November 1972

(4) *Environmental Assessment (EA)*. The Environmental Assessment is a detailed study of the reasonably foreseeable environmental effects, both positive and negative, of a proposed action and its reasonable alternatives carried out within or affecting specific developing countries as further described in §216.5 of these procedures. To the extent practicable the Assessment will be developed in close collaboration with the host country institutions and subject to recipient country review.

(5) *Environmental Impact Statement (EIS)*. The EIS is a detailed study of the reasonably foreseeable environmental impacts, both positive and negative, of a proposed AID action and its reasonable alternatives on areas described in §216.5 of these procedures. It is a specific document having a definite format and content, as required by NEPA and as recommended by CEQ Guidelines, which is formulated in draft form in order to obtain

the comment or review by other Federal, State and local domestic agencies and the US general public. The final Environmental Impact Statement takes into consideration the comments received on the draft. The required form and content of an Environmental Impact Statement is further defined in §§ 216.5 and 216.6 of these procedures.

(6) *Negative Determination*. A Negative Determination is a formal written document based on a Threshold Decision that a proposed action is not a major action which will have a significant effect on the human environment and is, therefore, an action for which an Environmental Impact Statement or an Environmental Assessment will not be required.

(7) *Negative Declaration*. A Negative Declaration is an official written Agency decision made by an Assistant Administrator which states that the Agency will not develop an Environmental Impact Statement or an Environmental Assessment for an action which the Agency has identified as being normally covered by these procedures. The decision may be based on (i) overriding considerations such as the provision of disaster relief (ii) the fact that a substantial number of Environmental Assessments or Environmental Impact Statements relating to similar activities have been prepared in the past, or (iii) the fact that the Agency has previously decided to prepare a programmatic Statement or Assessment covering the activity in question.

(8) *Project Identification Document (PID)*. An internal AID document which initially identifies and describes a proposed project. It is a short paper presenting enough information on the project to demonstrate its relevance to Agency priorities and its practical potential.

(9) *Program Assistance Initial Proposal (PAIP)*. An internal AID document used to initiate and identify proposed non-project commodity import programs. It is analogous to the Project Identification Document.

(10) *Project Paper (PP)*. An internal AID document which provides a definitive description and appraisal of the project and particularly, the plan of implementation. Project Papers form the basis for a final decision on whether or not to offer AID funding for a project.

(11) *Program Assistance Approval Document (PAAD)*. An internal AID document approving non-project commodity import program assistance. It is analogous to the Project Paper.

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§216.1(c)

- \* (12) *Minor Donor.* For the purposes of these procedures, A.I.D. is a minor donor to a multidonor project when (i) A.I.D.'s total contribution to the project will not exceed either \$1,000,000 or 25 percent of the estimated project cost; and (ii) A.I.D. does not, under the terms of the agreement governing its contribution, control the planning or design of the multidonor project.

§ 216.2 *Applicability of procedures.*

These procedures apply to all new programs or activities, including those that may arise in connection with on-going projects, for project assistance, research and commodity procurement. Not every AID activity, however, will be a major action significantly affecting the human environment for purposes of these procedures. For example, the following general classes of activities will not normally require the filing of an Environmental Impact Statement or the preparation of an Environmental Assessment:

- (a) Education or training programs not designed to result in activities directly affecting the environment.
- (b) Controlled experimentation exclusively for the purpose of research which is confined to small areas and carefully monitored;
- (c) Analyses, studies, academic or investigative research, workshops and meetings;
- (d) Projects where AID is a minor donor to a multidonor project and there are no potential effects upon the environment of the US or areas outside any nation's jurisdiction.
- (e) Document and information transfers;
- (f) Contributions to international, regional or national organizations by the US which are not for the purpose of carrying out a specifically identifiable project or projects;
- (g) Disaster and emergency relief activities.
- (h) US Institution building grants, as provided for under Section 211(d) of the Foreign Assistance Act.

§ 216.3 *Procedures.*

(a) *General Procedures—(1) Preparation of the Initial Environmental Examination.* An Initial Environmental Examination will be prepared by the originator of a project concurrently with the Project Identification Document (PID) or Program Assistance Initial Proposal (PAIP). For projects including the procurement or use or both, of pesticides, the procedures set forth in § 216.3(b) will be followed in addition to the procedures in paragraph (a). If some of the activities to be conducted under the project are not identified in sufficient detail to permit the completion of an Initial Environmental Examination at the

PID or PAIP stage, the PID or PAIP will include (i) an explanation indicating why the Initial Environmental Examination cannot be completed; (ii) an estimate of the amount of time required to complete the initial environmental analysis; and (iii) a recommendation that a Threshold Decision be deferred until the Initial Environmental Examination is completed. The responsible Assistant Administrator will act on the request for deferral concurrently with action on the PID or PAIP and will designate a time for completion of the Initial Environmental Examination. In all instances this completion date will be in sufficient time to allow for the completion of an Environmental Assessment or Environmental Impact Statement, if required, before a final decision is made to provide A.I.D. funding for the project.

(2) *Threshold Decision.* If the Initial Environmental Examination is completed prior to or at the same time as the Project Identification Document or Program Assistance Initial Proposal, a Threshold Decision will be specifically recommended in the Project Identification Document or Program Assistance Initial Proposal and acted upon at the Bureau or office level concurrently with approval of those documents. When a Initial Environmental Examination is completed subsequent to approval of the Program Identification document or Program Assistance Initial Proposal pursuant to § 216.3(a)(1) above, it will be immediately forwarded to the responsible Assistant Administrator with a recommended Threshold Decision. If the Threshold Decision is negative (i.e. an Environmental Assessment or an Environmental Impact Statement is not required), the cognizant Bureau or office will record this decision and such record will constitute a Negative Determination. If the Threshold Decision based on an Initial Environmental Examination is positive (i.e. a significant environmental impact is likely to occur), then the activity is to be evaluated to determine if an EIS is to be prepared pursuant to § 216.6 of these procedures. When a Threshold Decision based on an Initial Environmental Examination indicates that an Environmental Assessment is required the procedures of § 216.5 will be followed and the approved Project Identification Document or other document containing the Initial Environmental Examination will be circulated to selected U.S. Federal agencies with relevant expertise, utilizing the list provided in the CEQ Guidelines. Such agencies will be invited to make written com-

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## §216.3(a)(2)

- \* **ments within thirty days on the Examination and on matters that should be considered in preparation of the Environmental Assessment. Comments received on environmental aspects from reviewing Federal agencies will be forwarded to the originating project office for consideration in the formulation of the design and implementation of the project and the required Environmental Assessment, and will form part of the project file when the project comes forward in the Project Paper stage for final approval.**

(3) *Preparation of Environmental Assessments and Environmental Impact Statements.* If the Project Identification Document or Program Assistance Initial Proposal is approved, and if the Threshold Decision is positive, the originator of the project will prepare, prior to or concurrently with the Project Paper or Program Assistance Approval Document, an Environmental Assessment or draft Environmental Impact Statement as required. Draft Environmental Impact Statements will be circulated for review and comment as part of the review of Project Papers and as outlined further in §216.8 of these procedures. Final approval of the Project Paper or Program Assistance Approval Document and the method of implementation will include consideration of the Environmental Assessment or final Environmental Impact Statement, as well as other required (non-environmental) analyses. If loans or grants for broad sector activities (e.g. river basin development etc.) are proposed, a general or programmatic Environmental Assessment or Environmental Impact Statement consistent with the scope of the proposed loan or grant will be prepared in conjunction with the Project Paper and agreement will be reached with the recipient government that a detailed Assessment will be prepared and considered on each individual project as it is developed and prior to its approval.

4 *Processing and Review Within A.I.D.* Initial Environmental Examinations, Environmental Assessments and final Environmental Impact Statements will be processed within A.I.D. in accordance with the normal A.I.D. procedures for other documents. These procedures call for participation in the project review process of technical, legal and country specialists. Environmental Assessments and final Environmental Impact Statements will be reviewed as an integral part of the Project Paper or equivalent. In addition to these normal procedures, Environmental Assessments will be reviewed by the appointed Bureau environmental officer and, periodically, by the Environmental Coordinator who

will monitor the Environmental Assessment process. Draft and final Environmental Impact Statements will be reviewed by the Environmental Coordinator and the Office of the General Counsel.

(5) *Monitoring.* To the extent feasible and relevant, projects and programs for which Environmental Impact Statements or Environmental Assessments have been prepared, should be designed to include measurement of any changes in environmental quality, positive or negative, during their implementation. This will require recording of baseline data at the start. To the extent that available data permits, originating offices of A.I.D. will formulate systems in collaboration with the recipient nation(s), to monitor such impacts during the life of A.I.D.'s involvement in the activity.

(6) *Revisions.* If, after a Threshold Decision is made resulting in a Negative Determination, a project is revised or new information becomes available which indicates that a proposed action might be "major" and its effects "significant", the Negative Determination will be reviewed and revised by the cognizant Bureau and an Environmental Assessment of Environmental Impact Statement will be prepared, if appropriate. Environmental Assessments and Environmental Impact Statements will be amended and processed appropriately if there are major changes in the project or program, or when significant new information becomes available. When on-going programs are revised to incorporate a change in scope or nature, a determination will be made as to whether such change may have an environmental impact not previously assessed. If so, the procedures outlined above will be followed.

(b) *Pesticide Procedures—(1) Project Assistance.* Except as provided in §216.3(b)(2) all proposed projects involving assistance for the procurement or use or both of pesticides shall be subject to the procedures prescribed in §216.3(b)(1) (i) through (v) below. These procedures shall also apply, to the extent permitted by agreements entered into by A.I.D. before the effective date of these pesticide procedures to such projects that have been authorized but for which pesticides have not been procured as of the effective date of these pesticide procedures.

(i) When a project includes assistance for procurement or use, or both, of pesticides registered for the same or similar uses by USEPA without restriction, the Initial Environmental \*

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§216.3(b)(1)(1)

\* Examination for the project shall include a separate section evaluating the economic, social and environmental risks and benefits of the planned pesticide use to determine whether the use may result in significant environmental impact. Factors to be considered in such an evaluation shall include, but not be limited to the following:

- (a) The USEPA registration status of the requested pesticide.
- (b) The basis for selection of the requested pesticide.
- (c) The extent to which the proposed pesticide use is part of an integrated pest management program.
- (d) The proposed method or methods of application, including availability of appropriate application and safety equipment.
- (e) Any acute and long-term toxicological hazards, either human or environmental, associated with the proposed use and measures available to minimize such hazards.
- (f) The effectiveness of the requested pesticide for the proposed use.
- (g) Compatibility of the proposed pesticide with target and nontarget ecosystems.
- (h) The conditions under which the pesticide is to be used, including climate, flora, fauna, geography, hydrology and soils.
- (i) The availability and effectiveness of other pesticides or nonchemical control methods.
- (j) The requesting country's ability to regulate or control the distribution, storage, use and disposal of the requested pesticide.
- (k) The provisions made for training of users and applicators, and
- (l) The provisions made for monitoring the use and effectiveness of the pesticide.

In those cases where the evaluation of the proposed pesticide use in the Initial Environmental Examination indicates that the use will significantly affect the human environment, the Threshold Decision will include a recommendation for the preparation of an Environmental Assessment or Environmental Impact Statement, as appropriate. In the event a decision is made to approve the planned pesticide use the Project Paper shall include to the extent practicable, provisions designed to mitigate potential adverse effects of the pesticide. When the pesticide evaluation section of the Initial Environmental Examination does not indicate a potentially unreasonable risk arising from the pesticide use, an Environmental Assessment or Environmental Impact Statement shall nevertheless be prepared if the environmental effects of the project otherwise require further assessment.

(ii) When a project includes assistance for the procurement or use, or both, of any pesticide registered for the same or similar uses in the United States but the proposed use is restricted by the USEPA on the basis of user hazard, the procedures set forth in

§216.3(b)(1)(i) above will be followed. In addition, the Initial Environmental Examination will include an evaluation of the user hazards associated with the proposed USEPA restricted uses to ensure that the implementation plan which is contained in the Project Paper incorporates provisions for making the recipient government aware of these risks and providing, if necessary, such technical assistance as may be required to mitigate these risks. If the proposed pesticide use is also restricted on a basis other than user hazard, the procedures in §216.3(b)(1)(iii) shall be followed in lieu of the procedures in this subsection.

- (iii) If the project includes assistance for the procurement or use, or both of:
- (a) Any pesticide other than one registered for general use or for restricted use on the basis of user hazard; or
- (b) Any pesticide for which a notice of rebuttable presumption against re-registration, notice of intent to cancel, or notice of intent to suspend has been issued by USEPA.

The Threshold Decision will provide for the preparation of an Environmental Assessment or Environmental Impact Statement, as appropriate (§216.6(a)). The EA or EIS shall include, but not be limited to, an analysis of the factors identified in §216.3(b)(1)(i) above.

(iv) Notwithstanding the provisions of §§216.3(b)(1)(i) through (iii) above, if the project includes assistance for the procurement or use, or both, of a pesticide against which USEPA has initiated a regulatory action for cause, or for which it has issued a notice of rebuttable presumption against reregistration, the nature of the action or notice, including the relevant technical and scientific factors, will be discussed with the requesting government and considered in the IEE and prepared in the EA or EIS. If USEPA initiates any of the regulatory actions above against a pesticide subsequent to its evaluation in an IEE, EA or EIS, the nature of the action will be discussed with the recipient government and considered in an amended IEE or amended EA or EIS, as appropriate.

(v) If the project includes assistance for the procurement or use, or both of pesticides but the specific pesticides to be procured or used cannot be identified at the time the IEE is prepared, the procedures outlined in §§216.3(b)(i) through (iv) will be followed when \*

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§216.3(b)(1)(v)

\* the specific pesticides are identified and before procurement or use is authorized. Where identification of the pesticides to be procured or used does not occur until after Project Paper approval, neither the procurement nor the use of the pesticides shall be undertaken unless approved, in writing, by the Assistant Administrator (or in the case of projects authorized at the Mission level, the Mission Director) who approved the Project Paper.

(2) *Exceptions to Pesticide Procedures.* The procedures set forth in §216.3(b)(1) above shall not apply to the following projects including assistance for the procurement or use, or both, of pesticides.

(i) Projects under emergency conditions.

Emergency conditions shall be deemed to exist when it is determined by the Administrator, A.I.D., in writing that:

(a) A pest outbreak has occurred or is imminent; and

(b) Significant health problems (either human or animal) or significant economic problems will occur without the prompt use of the proposed pesticide; and

(c) Insufficient time is available before the pesticide must be used to evaluate the proposed use in accordance with the provisions of this regulation.

(ii) Projects where A.I.D. is a minor donor, as defined in §218.1(c)(12) above, to a multi-donor project.

(iii) Projects including assistance for procurement or use, or both, of pesticides for research or limited field evaluation purposes by or under the supervision of project personnel. In such instances, however, A.I.D. will ensure that the manufacturers of the pesticides provide toxicological and environmental data necessary to safeguard the health or research personnel and the quality of the local environment in which the pesticides will be used. Furthermore, treated crops will not be used for human or animal consumption unless appropriate tolerances have been established by EPA or recommended by FAO/WHO, and the rates and frequency of application, together with the prescribed preharvest intervals, do not result in residues exceeding such tolerances. This prohibition does not apply to the feeding of such crops to animals for research purposes.

(3) *Non-Project Assistance.* In a very few limited number of circumstances A.I.D. may provide non-project assistance for the procurement and use of pesticides. Assistance in such cases shall be provided if the A.I.D. Administrator determines in writing that (i) emergency conditions, as defined in §216.3(b)(2)(i) above exists; or (ii) that compelling circumstances exist such that failure to provide the proposed assistance would seriously impede the attainment of U.S. foreign policy objectives or the objectives of the foreign assistance program. In the latter case, a decision to provide the assistance will be based to the maximum extent practicable, upon a consideration of the factors set forth in §216.3(b)(1)(i) and, to the extent available, the history of efficacy and safety covering the past use of the pesticide in the recipient country. \*

#### §216.4 Responsibilities.

(a) As a general principle, responsibilities for environmental decisions and actions will be similar to normal AID organizational responsibilities so that an environmental awareness will permeate the entire organization and environmental considerations will be weighed with others in an integrated manner at each level of responsibility. Thus each AID official empowered to authorize funds will be responsible to the Administrator for implementing these procedures and obtaining and managing the required resources.

(b) In view of the need for an internal and external focal point for environmental matters, the position of AID Environmental Coordinator has been established in the Office of Science and Technology, Technical Assistance Bureau (TA/OST). This person will serve as the principal environmental affairs coordinator for the entire Agency and will provide policy guidance and professional leadership within AID and will serve as chairman of the AID Committee on Environment and Development. The Environmental Coordinator will also be the principal point of contact on environmental affairs with the Council on Environmental Quality, the Department of State, all other Federal agencies and the public.

(c) The head of each Bureau, Mission and major Office will designate a competent officer to act as coordinator, advisor and principal point of contact for environmental matters within his organizational unit. Those officers located \*

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(in AID/Washington will also be members of the AID Committee for Environment and Development.

(d) The Committee on Environment and Development will provide advice on major issues, policies or procedures having agency-wide implications.

(e) Central technical offices will provide support and advice to AID Bureaus, Offices, and Missions as requested in their respective areas of expertise. The following Offices are expected to be involved most frequently:

1. Office of Engineering (SER/ENG)
2. Office of Agriculture (TA/AGR)
3. Office of Science and Technology (TA/OST)
4. Office of Commodity Management (SER/COM)
5. Office of Health (TA/H)
6. Office of Urban Development (TA/UD)
7. Office of Nutrition (TA/N)

(f) When required by responsible offices, qualified outside contractors may be employed to assist in preparing Initial Environmental Examinations, Environmental Assessments or Environmental Impact Statements.

§ 216.5 Environmental Assessments (EA).

(a) *General purpose.* The purpose of the Environmental Assessment is to provide Agency and host country decision makers with a comprehensive understanding of the reasonably foreseeable environmental effects of proposed actions and their reasonable alternatives so that the expected benefits of development objectives can be weighed against any adverse short or long-term impacts upon the human environment or any irreparable or irretrievable commitment of resources. The Environmental Assessment will be considered by AID prior to final approval of any activity as outlined in § 216.3 of these procedures.

(b) *Collaboration with Recipient Nation on Preparation.* Collaboration in obtaining data, conducting analyses and considering alternatives will help build an awareness of development-associated environmental problems in less developed countries as well as assist in building an indigenous institutional capability to deal nationally with such problems. Missions, Bureaus and Offices will collaborate with recipient countries to the maximum extent possible in the development of any Environmental Assessments required and obtain agreement of the recipient country to participate in the preparation of any required Assessment and to consider environmental consequences as set forth therein. In some cases, centrally funded Project Papers are prepared and approved prior to country selection.

In such cases, prior agreements, collaboration and specific details of any required Assessments must be deferred until a later date. In many recipient countries, neither baseline data for complete Environmental Assessments or monitoring may be available, nor local personnel with the knowledge required to participate substantively in the Assessments. In these cases, Missions should encourage and be responsive to host-country requests for training or technical assistance. When AID unilaterally considers that there is a reasonable risk of significant adverse effects on the environment from an activity proposed to it for support, and where efforts to encourage the incorporation of appropriate safeguards are unsuccessful, AID reserves the prerogative of declining to participate in the activity.

(c) *Content and Form.*<sup>2</sup> The scope and depth of information and data gathered for Environmental Assessments should be similar to that for economic, technical and other analyses required by AID and must be relevant to the specific environmental issues involved.

(1) Environmental Assessments should include or make reference within the same document to a description of the proposed action, a statement of its purposes, and a description of the environment affected, including information summary technical data and maps and diagrams where relevant, adequate to permit an assessment of potential environmental impact. Highly technical and specialized analyses and data should be avoided in the body of the draft, but if required, should be attached as appendices or footnoted with adequate bibliographic references and, if difficult to obtain, a notation of where they are available. In addition to a description of the proposed action and the environment affected, the Environmental Assessment should identify and describe further related activities which are intended to be undertaken in the same general area and of substantially the same nature which are promoted and financed by AID or another US Government agency, or where AID assistance is conditioned upon the recipient country's undertaking further related activities in the same general area and of substantially the same nature. The interrelationships and cumulative environmental impacts of the proposed action and other related activities.

<sup>2</sup> This section is substantially taken from EPA Guidelines, Section 1600J.

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as described above, must be presented in the Environmental Assessment. The amount of detail provided in such descriptions should be commensurate with the extent and expected impact of the action, and with the amount of information required at the particular level of decision-making (planning, feasibility, design, etc.). In order to ensure accurate descriptions of a proposed action and its alternatives, site visits should be made as appropriate. Population and growth characteristics of the affected area and any population and growth assumptions used to justify the project or program or to determine secondary population and growth impacts resulting from the proposed action and its alternatives should be identified. It is essential that the sources of data used to identify, quantify or evaluate any and all environmental consequences be expressly noted.

(2) The relationship of the proposed action to plans for land and resources use, policies and controls for the affected area and sectoral or national development plans should be examined. Since AID programs and projects are undertaken only at the request of and in collaboration with the recipient country, there should be no conflict with the objective and specific terms of LDC approved or proposed land use plans, policies and controls, if any, for the area affected.

(3) The reasonably foreseeable impact of the proposed action on the human environment must be assessed.

(i) Identification and quantification of such impacts requires an assessment of the positive and negative effects of the proposed action as it affects the environment of the recipient country or neighboring countries as appropriate. The attention given to different environmental factors will vary according to the nature, scale, and location of the proposed action. Among factors to consider should be the reasonably foreseeable effect of the action on such aspects of the environment as those listed in § 216.1(c)(3) of these procedures. Primary attention should be given in the Environmental Assessment to discussing those factors most evidently impacted by the proposed action.

(ii) Secondary or indirect, as well as primary or direct, consequences for the environment should be included in the Assessment. Many major Agency actions, in particular those that involve the construction or funding of infrastructure investment (e.g., irrigation projects, rural water supply systems, rural access roads,

water resources development projects, etc.) could stimulate or induce secondary effects in the form of associated investments, introduction of disease vectors, and changed patterns of social and economic activities. Such secondary effects, through their impacts on human health and existing community facilities and activities, through inducing new facilities and activities, or through changes in natural conditions, may often be even more substantial than the primary effects of the original action itself. For example, the effects of the proposed action on population movement and growth may be among the more significant secondary effects. Such population and growth impacts should be estimated if expected to be significant and an assessment made of the effect or any possible change in population patterns or growth upon the resource base, including land use, water, and public services of the area in question.

(4) Reasonable alternatives to the proposed action including, where relevant, those not within the existing authority of AID should be investigated. The sponsoring Office or Bureau should study, develop and describe appropriate alternatives to the recommended course of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources. A rigorous exploration and objective evaluation of reasonably foreseeable environmental impacts of all reasonable alternative actions, particularly those that might enhance environmental quality or avoid some or all of the adverse environmental effects, is essential. Sufficient analysis of such alternatives and their environmental benefits, costs and risks should accompany the proposed action through the review process in order not to foreclose prematurely options which might enhance environmental quality or have less detrimental effects. Examples of such alternatives include: the alternative of taking no action or of postponing action pending further study; alternatives requiring actions of a significantly different nature which would provide similar benefits with different environmental impacts (e.g., nonstructural alternatives to flood control programs); alternatives related to different designs or details of the proposed action which would present different environmental impacts (e.g., cooling ponds versus cooling towers for a power plant); alternatives that will significantly conserve energy; alternative measures to provide for compensation of fish and wildlife losses including

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the acquisition of land, waters, and interests therein. In each case, the analysis should be sufficiently detailed to reveal the comparative evaluation of the environmental benefits, costs and risks of the proposed action and each reasonable alternative.

(5) Any reasonable foreseeable adverse environmental effects which cannot be avoided (such as water or air pollution, undesirable land use patterns, damage to life systems, urban congestion, threats to health or other adverse consequences) should be identified. This should be a brief section summarizing in one place those effects that are adverse and unavoidable under the proposed action. Included for purposes of contrast should be a clear statement of how other avoidable adverse effects discussed in this section will be mitigated.

(6) Except for provision of some direct disaster relief and short-term balance of payments or budgetary assistance, AID's activities are normally to provide long-term benefits. However, the relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity should be explored. This section should contain a brief discussion of the extent to which the proposed action involves trade-offs between short-term environmental gains at the expense of long-term losses, or vice versa, and a discussion of the extent to which the proposed action forecloses future options. In this context, short-term and long-term do not refer to any fixed time periods, but should be viewed in terms of the environmentally significant consequences of the proposed action.

(7) Any irreversible and irretrievable commitments of natural or cultural resources that would be involved in the proposed action should be identified. This requires the sponsoring Office or Bureau to identify unavoidable impacts such as those listed in paragraph five of this section and the extent to which the action irreversibly curtails the range of potential uses of the environment.

(8) An indication of what other interests and considerations of US, AID or LDC policy are thought to offset the adverse environmental effects of the proposed action. The Environmental Assessment should also indicate the extent to which these stated countervailing benefits could be realized by following reasonable alternatives to the proposed action that would avoid some or all of the adverse environmental effects. Where cost-benefit analyses of a proposed action are prepared, they should be attached and should clearly indicate the extent to which environmental costs have not been reflected in such analyses.

(9) In developing the above points, every effort should be made to convey the required information succinctly, in a form easily understood, giving attention to the substance of the information conveyed rather than to the particular form, length or detail of the Assessment. Each of the above points, for example, need not always occupy a distinct section if it is otherwise adequately covered in discussing the impact of the proposed action and its alternatives—items which should normally be the focus of the statement.

(10) Environmental Assessments should indicate at appropriate points in the text any underlying studies, reports, and other information obtained and considered in their preparation, including any cost-benefit analyses prepared. In the case of documents not likely to be easily accessible (such as internal studies or reports), the Environmental Assessment should indicate how such information may be obtained.

(11) To the extent required to obtain a reasoned analysis, each Assessment should be prepared utilizing a systematic interdisciplinary approach which will ensure the integrated use of the natural and social sciences and the environmental design arts in planning and decision-making which may have an impact on man's environment. If required disciplines are not available within AID, appropriate use of relevant US Government and local LDC agencies or the professional services of universities and outside consultants should be made. The interdisciplinary approach should not be limited to the preparation of the Environmental Assessment, but should also be used in the early planning and design stages of the proposed action and its evaluation. Early application of such an approach should help assure a systematic evaluation of reasonable alternative courses of action and their potential social, economic, and environmental consequences as well as mitigating detrimental effects of the chosen project or activity.

(12) Broad program Assessments may be required in order to assess the environmental effects of a number of individual actions and their cumulative environmental impact in a given country or geographic area, or the environmental impacts that are generic or common to a class of agency actions, or other activities which are not country-specific. In these cases, a single, programmatic Assessment will be prepared in AID/Washington and circulated to appropriate overseas missions, host governments and to interested parties within the United States. Based upon consultation with the Committee on Environment and Develop-

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opment, the Environmental Coordinator shall recommend to the Administrator the subjects and appropriate preparing Offices for such Agency-wide programmatic Assessments. Decisions on the need for programmatic Environmental Assessments on actions relating to a specific country or region will be made by the cognizant Bureau or Office head in consultation with the Environmental Coordinator. To the extent practicable, the form and content of the programmatic Environmental Assessment will be the same as for project Assessments. Subsequent Environmental Assessments on major individual actions will be necessary where such follow-on or subsequent activities may have significant environmental impacts on specific countries where such impacts have not been adequately evaluated in the programmatic Environmental Assessment.

(13) In a situation where an analysis indicates that potential effects may extend beyond the national boundaries of a recipient country and adjacent foreign nations may be affected, AID will urge the recipient country to consult with its neighbor(s) in advance of project approval and to negotiate mutually acceptable accommodations.

(14) Environmental Assessments will not normally include material classified or administratively controlled. However, there may be situations where environmental aspects cannot be adequately discussed without the inclusion of such material. The handling and disclosure of classified or administratively controlled material shall be governed by 22 CFR Part 9. Those portions of an Environmental Assessment which are not classified or administratively controlled will be made available to persons outside the Agency as provided for in 22 CFR Part 212.

(d) *Consultation and Review.* When Environmental Assessments are prepared on activities carried out within or focused on specific LDCs consultations will be held between AID staff and the host government both in the early stages of preparation and on the results and significance of the completed Assessment before the project is authorized. Missions will encourage the host government to make the Environmental Assessment available to the general public of the recipient country. If Environmental Assessments are prepared on activities which are not country-specific, the Assessment will be circulated by the Environmental Coordinator to AID's overseas Missions and interested LDC governments for information, guidance and comment, and will be made available in the US to interested parties.

#### §216.6 Environmental impact statements (EIS).

Environmental Impact Statements (EISs) will be prepared and circulated in accordance with section 102(2)(c) of NEPA, as amplified by the CEQ Guidelines, when major agency actions significantly affect:

(a) The global environment or areas outside the jurisdiction of any nation (e.g., the oceans);

(b) The environment of the United States; or

(c) As a matter of policy, other aspects of the human environment at the discretion of the Administrator.

The content and form of the draft and final Environmental Impact Statement will generally follow Section 1500.8 of the Guidelines, but will take into account the special considerations and concerns of AID, such as those set forth in §216.5 of these procedures. Circulation of an Environmental Impact Statement in draft form will precede approval of a Project Paper or equivalent and comments from such circulation will be considered before final project authorization as outlined in §216.3 of these procedures. The draft Environmental Impact Statement will also be circulated via the Missions to affected LDC governments for information and comment. Draft Environmental Impact Statements will be made available for comment to US Federal agencies with jurisdiction by law or special expertise with respect to any environmental impact involved, and to public and private organizations and individuals for not less than forty-five (45) days (see Section 1500.9 (b), (c), (d), and (f) of CEQ Guidelines for details); and notice of the draft Environmental Impact Statements availability will be published in the Federal Register. Cognizant Bureaus and Offices will submit these drafts for circulation via the AID Environmental Coordinator who will have the responsibility for coordinating all such communications with persons outside AID. Any comments received by the Environmental Coordinator will be forwarded to the originating Bureau or Office for consideration in final policy decisions and the preparation of a final Environmental Impact Statement. All such comments will be attached to the final Statement, and those responsible comments not adequately discussed in the draft Statement will be appropriately dealt with in the final Statement. Copies of the final Environmental Impact Statement, with comments attached, will be sent by the Environmental Coordinator to CEQ, and to all other Federal state

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and local agencies and private organizations that made substantive comments on the draft, including affected LDC governments. Where emergency circumstances or considerations of foreign policy make it necessary to take an action without observing the provisions of Section 1500.11 of the CEQ Guidelines<sup>3</sup>, or when there are overriding considerations of expense to the US or foreign governments, the originating Office will advise the Environmental Coordinator who will consult with Department of State and CEQ concerning appropriate modification of review procedures.

§ 216.7 Public hearings.

(a) In most instances AID will be able to gain the benefit of public participation in the impact statement process through circulation of draft statements and notice of public availability in CEQ publications. However, in some cases the Administrator may wish to hold public hearings on draft Environmental Impact Statements. In deciding whether or not a public hearing is appropriate, Bureaus in conjunction with the Environmental Coordinator should consider:

(1) The magnitude of the proposal in terms of economic costs, the geographic area involved, and the uniqueness or size of commitment of the resources involved;

(2) The degree of interest in the proposal as evidenced by requests from the public and from Federal, state and local authorities, and private organizations and individuals, that a hearing be held;

(3) The complexity of the issue and likelihood that information will be presented at the hearing which will be of assistance to the Agency; and

(4) The extent to which public involvement already has been achieved through other means, such as earlier public hearings, meetings with citizen representatives, and/or written comments on the proposed action.

<sup>3</sup>Section 1500.11 of CEQ Guidelines outlines requirements for transmittal of statements to CEQ, minimum periods for review, etc.

(a) If public hearings are held, draft Environmental Impact Statements to be discussed should be made available to the public at least fifteen (15) days prior to the time of the public hearings, and a notice will be placed in the FEDERAL REGISTER giving the subject, time and place of the proposed hearings.

§ 216.8 Records and reports.

Each Agency Bureau will maintain a list of activities for which Environmental Assessments and Environmental Impact Statements are being prepared and for which Negative Determinations and Declarations have been made and will revise the list quarterly and provide copies to the Environmental Coordinator for transmittal to CEQ. Final Project Papers containing the Environmental Assessment will be forwarded to CEQ as soon as they are available. Copies will also be available to interested Federal agencies upon request. The cognizant Bureau will maintain a permanent file (which may be part of its normal project files) of Statements, Assessments, Determinations and Declarations which will be available to the public under the Freedom of Information Act except for actions covered by § 216.6(d) (14) of these procedures.

[FR Doc.76-18997 Filed 6-28-76;3:36 pm]

Dated: June 28, 1976.

DANIEL PARKER,  
Administrator.

Management Instruction 1410.10B,  
"Federal Register: Delegation of  
Authority and Requirements for  
Publication of NASA Documents,"

require that a semiannual agenda of  
significant regulations under  
development and review be published in  
the Federal Register on the first Monday

in April and the first Monday in  
October.  
September 24, 1979  
Robert A. Frosch,  
Administrator

National Aeronautics and Space Administration Semiannual Agenda of Significant Regulations

Title	Description	Legal citation	Status	Contact	Regulatory analysis required
*STS Services for Users of Small Self-Contained Payloads	Describes the policy for services provided by NASA to users of small self-contained payloads and the implementation of the policy	42 U.S.C. 2473	Proposed Rule	Donna J. Miller, Manager, Small Self-Contained Payloads Program, Office of Space Transportation Systems, NASA Headquarters, Washington, D.C. 20546, 202/755-2427	No

\*This was the only item listed in NASA's Semiannual Agenda which appeared in the FEDERAL REGISTER, Vol. 44, No. 64—Monday, April 2, 1979. This regulation is undergoing final review and it is anticipated that it will be published within the next six months.

[FR Doc. 79-30133 Filed 9-28-79; 8:45 am]  
BILLING CODE 7510-01-M

DEPARTMENT OF STATE

Agency for International Development  
22 CFR Part 216

Pesticide and Other Environmental  
Procedures, Proposed Amendment of  
Regulations

AGENCY Agency for International  
Development

ACTION Proposed Amendment of  
Regulations

SUMMARY These proposed amendments  
are intended to make AID's  
environmental procedures more  
effective and efficient and to reduce  
unnecessary paperwork and delay.

DATES Comments must be received by  
November 1, 1979.

ADDRESSES Comments should be  
addressed to Albert Printz, AID  
Environmental Coordinator, Agency for  
International Development, Department  
of State, Washington, D.C. 20523.

FOR FURTHER INFORMATION CONTACT  
Albert Printz, AID Environmental  
Coordinator (address same as above),  
202-632-1036.

SUPPLEMENTARY INFORMATION

1. Summary of Major Changes—A  
Definitions (Section 216.1(c))—A  
definition of the term significant effects  
being added. The definition is the same  
as in Executive Order 12114 entitled  
"Environmental Effects Abroad of Major  
Federal Actions" issued on January 4,  
1979 (the Executive Order). This  
proposed addition will eliminate  
unnecessary paperwork by making it  
clear that an Environmental Assessment  
is required only when it is reasonably  
foreseeable that a proposed action will  
cause significant harm to the natural

and physical environment. It also will  
make the procedural requirements more  
understandable and acceptable to  
foreign countries by not requiring an in-  
depth study of the environment unless  
the action, which generally is proposed  
by and developed in collaboration with  
the recipient government, appears to  
have adverse environmental  
consequences. Such a realistic position  
will assist AID in developing a  
positive environmental awareness in  
recipient countries and in other donor  
agencies. This definition is not  
applicable to the extent a proposed  
action has an effect on the environment  
of the United States. In that case, the  
National Environmental Policy Act of  
1970 (NEPA) and regulations issued by  
the President's Council on  
Environmental Quality (CEQ) are  
applicable.

B. Applicability of Procedures  
(Section 216.2)—This section is being  
substantially revised to add the  
concepts of exemptions, categorical  
exclusions and classes of actions  
normally requiring an Environmental  
Assessment or Environmental Impact  
Statement. AID's financing of the  
procurement or use of pesticides is not  
included in these exemptions or  
exclusions. The procedures regarding  
pesticides, including exemptions, are  
separately treated in § 216.1(b) only a  
minor editorial change to these  
procedures is proposed.

(i) Exemptions—The types of  
exemptions proposed are drawn from  
the Executive Order. The first,  
international disaster assistance  
applies to activities of limited scope in  
response to natural or manmade  
disasters. Such activities are for relief

and rehabilitation and are unlikely to  
cause significant harm to the  
environment. Moreover, cases of  
disaster or emergency generally require  
prompt action to avoid the loss of life  
and to prevent human suffering for  
which there is not time for formal  
review.

All such disaster activities are exempt  
from the procedures. The other grounds  
for exemption, noted in § 216.2(b) (other  
emergency circumstances and cases of  
foreign policy sensitivity) require a  
case by case justification and decision  
by the appropriate Assistant  
Administrator after consultation with  
CEQ regarding the environmental  
consequences of the action proposed for  
exemption.

(ii) Categorical Exclusions—A new  
subsection is being added to the  
procedures to provide for categorical  
exclusions, classes of actions that  
normally will not require the  
preparation of an Initial Environmental  
Examination or other environmental  
documents. The use of these exclusions  
should assist in eliminating unnecessary  
paperwork. The actions for which  
exclusion is appropriate fall within one  
of the following three general categories:

(a) Actions that do not have any effect  
on the natural or physical environment.

(b) Assistance activities for which  
achieving AID's assistance objectives  
does not require knowledge of or control  
over the specific activities that are  
implemented. For example, AID  
conducts a matching grant program with  
private voluntary organizations (PVOs)  
under which grants are made to assist in  
financing the PVO's own programs in  
developing countries in an amount equal  
to that provided by the PVOs. AID's

assistance purpose is to support the programs of such voluntary organizations which deal with identifiable development problems and to encourage an expanded use of private contributions to support development activities thereby increasing the total flow of resources to developing countries. Prior to approval of a matching grant, AID reviews the ability of the PVO to provide its share of the match and to carry out the development program presented by the PVO. There is a general programmatic review of the functional areas in which the PVO will work, for example, community development, the countries in which the program will be conducted, the anticipated beneficiaries and a broad outline of the budget. Decisionmaking generally is based upon the record of effectiveness of these organizations without knowledge of the specific activities that will be conducted, where, and without technical, economic or environmental analysis. To support the independence of these PVOs in conducting their own programs, AID does not reserve the right to review and approve or control specific activities. AID's broad objectives in the financing are achieved by providing support for the movement of voluntarism overseas increasing the flow of development resources, and measurable achievement of development objectives.

On the other hand, AID also makes operational program grants to PVOs to support specific development activities designed by the PVOs and presented to AID for financing. The details of the design are reviewed by AID as part of the decisionmaking process to determine whether to make such a grant, including the technical, economic and social merits of the specific activity. These activities are subject to the environmental procedures unless another categorical exclusion is available based upon the specific type of activity presented (i.e., not having an effect on the environment).

(c) Research or field evaluation activities of limited scope which are carefully controlled and monitored.

In the event an action has a number of components, some of which fit within the exclusion and some that do not (such as construction), an Initial Environmental Examination will be completed with respect to the components that are not within the exclusion.

In addition, AID intends to develop design standards or criteria which when applied in the design of projects will avoid the possibility of significant harm to the environment. Such projects will be excluded from the requirement of an

Initial Environmental Examination as the design standards or criteria are developed for them.

(iii) *Actions Normally Having a Significant Effect*—Experience has shown that the classes of actions enumerated in § 216.2(d) normally have significant effects on the environment justifying the preparation of an Environmental Assessment or Environmental Impact Statement. Completing an Initial Environmental Examination for these classes generally is an unnecessary step in the review process. None will be required, and an Environmental Assessment or Environmental Impact Statement may be started as early as possible in the program cycle when it appears that a proposed action is entering the design phase.

(iv) *Extraordinary Circumstances*—This section also provides for extraordinary instances in which an action that is normally excluded may be determined to have a significant effect on the environment. There is generally adequate information to identify such an effect in the description of the activity as it is designed or as it is in the project approval process. If it appears that a normally excluded activity may have a significant effect on the environment, it will be subjected to the usual procedures of § 216.3 described below which commence with an Initial Environmental Examination and may lead to an Environmental Assessment or Environmental Impact Statement. Likewise, if the originator of a project within the classes of actions normally requiring an Environmental Assessment believes that the project will not have such a significant effect the originator of the project may subject it to the procedures of Section 216.3 which require an Initial Environmental Examination and Threshold Decision. A similar decision may be made when appropriate, in the course of the scoping process discussed below in paragraph (C)(ii).

*C. Procedures (§ 216.3)*—The objective of these procedures is to integrate environmental considerations fully and early into the decisionmaking process involved in the design, approval and implementation of programs, projects, and activities financed or approved by AID. This applies to the timing of environmental review and the level at which it occurs. Toward this end the times decisions typically occur in the programming cycle are identified and the environmental review appropriate for various stages of program development indicated. See § 216.3(a)(1)-(5). The major changes

proposed in this section are the level at which Threshold Decisions are made, the introduction of scoping to narrow and focus the issues to be considered in an Environmental Assessment, or Environmental Impact Statement; and the deferral of environmental review, under certain circumstances, until after an action is authorized but in a manner consistent with AID's decisionmaking practice with respect to other aspects of the action.

(i) *Threshold Decisions* The Initial Environmental Examination and Threshold Decision regarding whether an action will have a significant effect on the environment should be made at the earliest practicable time in the selection or design of an activity. Generally, this will be done in connection with the Project Identification Document (PID). Since the Initial Environmental Examination and Threshold Decision are generally expected as part of the PID, responsibility for making the Threshold Decision will be placed upon the officer who signs the PID.

It is proposed that the Initial Environmental Examination and Threshold Decision be reviewed in Washington by the Bureau Environmental Officer at the same time that the PID is reviewed at the Bureau level in Washington. The Bureau Environmental Officer may concur in the Threshold Decision or request reconsideration by the officer who made the Decision providing reasons for nonconcurrence. Disagreements that cannot be resolved between these two officers will be submitted to the Assistant Administrator having program responsibility for the action.

(ii) *Scoping* In an effort to focus analytical attention on the significant issues to be addressed in an Environmental Assessment or Environmental Impact Statement and thereby eliminate unnecessary detail a new step is being added to the procedures. It has been adapted from the CEQ Regulations. The scoping process will be commenced by the originator of a project as soon as practicable after a Positive Threshold Decision is made, requiring an Environmental Assessment or Impact Statement. Persons having expertise relevant to the environmental aspects of the action will participate in the scoping process. They may represent host government institutions or citizens, public and private institutions, contractors or AID staff. The scoping process will result in a written statement which will be subject to review and approval by the Bureau

Environmental Officer who may circulate the scoping statement to selected federal agencies for comment when the Bureau Environmental Officer believes that such comments may be useful in the preparation of an Environmental Assessment.

If during the scoping process it appears that the proposed action will not have a significant effect, the originator of the project may request the person who made the Positive Threshold Decision to change it to a Negative Determination. Concurrence of the Bureau Environmental Officer is required. The scoping process may continue in the event there are environmental interests remaining, notwithstanding the absence of a significant effect, to provide guidance for addressing such issues in the detailed design of the project.

(iii) *Deferral of Environmental Review.* Generally environmental review, including any required Environmental Assessment or Environmental Impact Statement, will be completed prior to the time an action is authorized for financing by approval of a Project Paper as described in § 216.3(a)(1)-(5). Foreign assistance is furnished, however, in a variety of situations and forms. Not every project, program or activity will fit into the format described in §§ 216.3(a)(1)-(5).

There are instances in which final decisionmaking regarding the content of a project, program or activity is not completed prior to the time it is approved for financing. For example there may be projects involving subprojects that cannot be identified and planned before financing is authorized, there may be projects in which the sites where activities will be conducted (such as roads, wells or schools built) cannot be identified before financing is authorized. In such cases environmental review may be made after financing is authorized but as part of decisionmaking in the implementation planning of the project. In the examples cited above the environmental review would occur as part of the process of identifying subprojects and sites.

The standard to be applied in such cases is that environmental review should occur at the earliest time in design or implementation at which a meaningful review may be undertaken, that is as subprojects are identified and planned or sites are selected, and AID should not make an irreversible commitment of resources to an aspect of the project until environmental review is completed for that aspect. AID must retain authority to conduct Initial Environmental Examinations (and Environmental Assessments or Environmental Impact Statements where

appropriate) and take such environmental review and alternatives into consideration in implementation planning before the selection of options is foreclosed. The procedure to be followed in these extraordinary actions is outlined in § 216.3(a)(6). Consultation with the Office of General Counsel is required to ensure that project agreements retain adequate authority to make environmental review meaningful in the implementation of such actions.

(iv) *Pesticide Procedures.* The only change proposed in the pesticide procedures is to delete the reference to registration for general use with the Environmental Protection Agency in section 216.3(b)(1)(iii)(a) and to substitute the words "registered for the same or similar uses by US EPA without restriction". This revision is proposed to conform with the language of section 216(b)(1)(i). There are no other proposed changes to the pesticide procedures.

D *Private Applicants* (§ 216.4) This section is new. In the past, the environmental procedures set forth in § 216.3 have been applied to AID actions involving private applicants. Preliminary proposals from such applicants have been treated as PIDs for the purpose of timing of Initial Environmental Examinations and final proposals treated as Project Papers for the purpose of Environmental Assessments or Impact Statements. The practice has not always worked well and Initial Environmental Examinations in some cases have been completed late in the approval cycle. New § 216.4 should clarify the requirements with respect to actions involving private applicants and eliminate reviews late in the approval process.

E *Endangered Species* (Proposed § 216.5) This section is intended to ensure that impacts on endangered or threatened species and their critical habitat resulting from AID actions are identified and carefully assessed. AID will endeavor to obtain from the Fish and Wildlife Service of the Department of Interior (FWS) detailed information regarding such species and their critical habitat in each country in which AID programs are conducted. The information will be provided to the AID post in the country. In addition the AID post will request the foreign country to provide a list of species that the country considers endangered or threatened and their critical habitat. This information will be used in preparing Initial Environmental Examinations. Whenever it appears that a proposed action will jeopardize the species or adversely modify its habitat, a positive Threshold Determination requiring an Environmental Assessment will be required. The Environmental

Assessment will discuss alternatives or modifications to avoid adverse impact on the species and its habitat.

F *Environmental Assessments* (Proposed § 216.6) This section proposes to delete the content and format heretofore used for Environmental Assessments and to substitute in its place an adaptation of the format developed in the CEQ Regulations for Environmental Impact Statements. AID believes that use of this format will contribute to improved assessments and will eliminate material that is not necessary or useful in decisionmaking.

G *Environmental Impact Statements* (Proposed § 216.7) This section has been revised to make clear that major AID actions having a significant effect on the environment of the United States are subject to NEPA and the CEQ Regulations. The definitions and requirements of the CEQ Regulations are applicable to such actions. Environmental Impact Statements prepared with respect to the environment of the United States must satisfy the requirements of the CEQ Regulations.

Environmental Impact Statements prepared with respect to significant effects on the global commons or other aspects of the environment at the discretion of the AID Administrator will generally follow the CEQ Regulations but will take into account the special developmental and foreign policy considerations and concerns of AID as is the case under the present procedures.

H *Records and Reports* (Section 216.9) This section has been revised to eliminate the preparation on a quarterly basis, of lists of Negative Determinations, Environmental Assessments and Environmental Impact Statements that have been prepared and the transmittal of such lists to CEQ. The lists will be kept current under the proposed revision. Copies of such documents will be made available to Federal agencies and to the public upon request.

Accordingly, AID proposes to amend 22 CFR Part 216 as follows:

1. By revising §§ 216.1, 216.2 and 216.3(a) to read:

#### § 216.1 *Introducing*

(a) *Purpose.* In accordance with Sections 118(b) and 621 of the Foreign Assistance Act of 1961, as amended, (the FAA) the following general procedures shall be used by AID to ensure environmental factors and values are integrated into the AID decision-making process and to assign responsibility within the Agency for assessing the environmental effects of

A I D.'s actions. These procedures are consistent with Executive Order 12114 issued January 4, 1979 and further the purposes of the National Environmental Policy Act of 1970 as amended (42 U S C. § 4371 et seq.) (NEPA).

(b) *Environmental Policy.* In the conduct of its mandate to help upgrade the quality of life of the poor in developing countries, A I D. conducts a broad range of activities addressing such basic problems as hunger and malnutrition, overpopulation, disease, disaster, deterioration of the environment and natural resource base, illiteracy and lack of adequate housing and transportation. As authorized by the FAA, A.I.D finances or directly furnishes both bilateral and multilateral development assistance through loan and grant programs of technical advisory services, research, training, construction and commodity support. In addition, AID conducts programs under the Agricultural Trade Development and Assistance Act of 1954 (PL-480) of furnishing agricultural commodities to developing countries. Assistance programs are carried out under the foreign policy guidance of the Secretary of State and in the context of the realities of the differing priorities of the developing countries. Within this framework it is A I D policy

(1) To ensure that the environmental consequences of proposed A I D - financed activities are identified and considered by A I D and the host country prior to a final decision to proceed, and that appropriate environmental safeguards are adopted.

(2) Assist in strengthening the indigenous capabilities of developing countries to appreciate and effectively evaluate the potential environmental effects of proposed development strategies and projects, and to select, implement and manage effective environmental programs

(3) To identify impacts resulting from A I D.'s actions upon the environment including those elements of the world biosphere which are the common natural and cultural heritage of mankind, and

(4) To define environmental constraints to development and to identify and carry out activities that assist in restoring the renewable resource base on which sustained development depends

(c) *Definitions*—(1) *CEQ Regulations* Regulations promulgated by the President's Council on Environmental Quality (CEQ) (Federal Register Volume 43, Number 230, November 29, 1978) under the authority of NEPA and Executive Order 11514, entitled Protection and Enhancement of Environmental Quality (March 5, 1970)

as amended by Executive Order 11991 (May 24, 1977).

(2) *Initial Environmental Examination.* An Initial Environmental Examination is the initial examination of the reasonably foreseeable effects of a proposed action on the environment. Its function is to provide a brief statement of the factual basis for a Threshold Decision as to whether an Environmental Assessment or an Environmental Impact Statement will be required. Without weighing or comparing beneficial and adverse effects, if it appears that a proposed action will have a significant effect (significant harm to the physical or natural environment), the Threshold Decision will be positive (an Environmental Assessment or Environmental Impact Statement is required) even though on balance the proposed action is believed to be beneficial to the environment

(3) *Threshold Decision.* A formal Agency decision which determines, based on an Initial Environmental Examination, whether a proposed Agency action is or is not a major action significantly affecting the environment. If it is such an action, a determination is made whether to do an Environmental Assessment or an Environmental Impact Statement based on the criteria set forth in section 216.7

(4) *Environmental Assessment.* The Environmental Assessment is a concise evaluation of the reasonably foreseeable significant effects, both beneficial and adverse, of a proposed action on the environment of a foreign country or countries. It is intended to inform decision makers in a full and fair way of such significant effects and reasonable alternatives which would minimize such effects or enhance the quality of the environment. The Environmental Assessment is further described in § 216.6 of these procedures

(5) *Environmental Impact Statement.* The Environmental Impact Statement is a detailed study of the reasonably foreseeable environmental impacts, both positive and negative, of a proposed A I D. action and its reasonable alternatives on the United States, the global environment or areas outside the jurisdiction of any nation as described in § 216.7 of these procedures. It is a specific document having a definite format and content as provided in NEPA and the CEQ Regulations. The required form and content of an Environmental Impact Statement is further described in § 216.7 of these procedures

(6) *Project Identification Document (PID).* An internal A I D. document which initially identifies and describes a proposed project. It is a short paper

presenting enough information on the project to demonstrate its relevance to Agency priorities and its practical potential

(7) *Program Assistance Initial Proposal (PAIP).* An internal A I D. document used to initiate and identify proposed non-project commodity import programs. It is analogous to the Project Identification Document

(8) *Project Paper (PP).* An internal A I D. document which provides a definitive description and appraisal of the project and particularly the plan of implementation. Project Papers form the basis for a final decision on whether or not to offer A I D. funding for a project

(9) *Program Assistance Approval Document (PAAD).* An internal A I D. document approving non-project commodity import program assistance. It is analogous to the Project Paper

(10) *Environment.* The term environment as used in these procedures with respect to effects occurring outside the United States includes the natural and physical environment

(11) *Significant Effect.* With respect to effects on the environment outside the United States, a proposed action has a significant effect on the environment if it does significant harm to the environment even though on balance the action is believed to result in beneficial effect on the environment

(12) *Minor Donor.* For purposes of these procedures, A I D. is a minor donor to a multidonor project when A I D. does not control the planning or design of the multidonor project and either (i) A I D.'s total contribution to the project is both less than \$1,000,000 and less than 25 percent of the estimated project cost, or (ii) A I D.'s total contribution is more than \$1,000,000 but less than 25 percent of the estimated project cost and the environmental procedures of the donor in control of the planning of design of the project are followed

#### § 216.2 Applicability of Procedures

(a) *Scope.*—Except as provided in § 216.2(b), these procedures apply to all new projects, programs or activities authorized or approved by A I D. and to amendments or extensions of ongoing projects, programs or activities that substantially modify their scope

(b) *Exemptions.*—(1) *Actions.* Projects, programs or activities involving the following are exempt from these procedures

- (i) International disaster assistance
- (ii) Other emergency circumstances,
- (iii) Circumstances involving exceptional foreign policy sensitivities.

(2) *Procedures.*—A formal written determination, including a statement of the justification therefor, is required for

each project, program or activity for which an exemption is made under paragraphs (b) (ii) and (iii). The determination shall be made by the Assistant Administrator having responsibility for the program, project or activity, or the determination shall be made by the Administrator for projects, programs or activities with regard to which authority to approve financing has been reserved by the Administrator. The determination shall be made after consultation with CEQ regarding the environmental consequences of the proposed program, project or activity.

(c) *Categorical Exclusions*—(1) *Criteria* The following criteria have been applied in determining the classes of actions included in § 216.2(c)(2) for which an Initial Environmental Examination, Environmental Assessment and Environmental Impact Statement generally are not required:

- (i) The action does not have an effect on the natural or physical environment,
- (ii) The objective of AID in furnishing assistance does not require, either prior to approval of financing or prior to implementation of specific activities, knowledge of or control over the specific activities that have an effect on the physical and natural environment for which financing is provided by AID.
- (iii) Research activities which may have an effect on the physical and natural environment but will not have a significant effect as a result of limited scope, carefully controlled nature and effective monitoring.

(2) *Classes of Actions* The following classes of actions generally are not subject to the procedures set forth in § 216.3 (i.e., and Initial Environmental Examination and Environmental Impact Statement generally are not required):

- (i) Education, technical assistance, or training programs except to the extent such programs include activities directly affecting the environment (such as construction of facilities, etc.).
- (ii) Controlled experimentation exclusively for the purpose of research and field evaluation which are confined to small areas and carefully monitored.
- (iii) Analyses, studies, academic or research workshops and meetings.
- (iv) Projects in which AID is a minor donor to a multidonor project and there are no potential significant effects upon the environment of the United States, areas outside any nation's jurisdiction or endangered or threatened species or their critical habitat.
- (v) Document and information transfers.
- (vi) Contributions to international, regional or national organizations by the United States which are not for the purpose of carrying out a specifically identifiable project or projects,

(vii) U.S. institution building grants to research and educational institutions such as those provided for under Section 122(d) and Title XII of the FAA,

(viii) Programs involving nutrition, health care or population and family planning services except to the extent designed to include activities directly affecting the environment (such as construction of facilities, water supply systems, waste water treatment, etc.);

(ix) Assistance provided under a Commodity Import Program when the objective in furnishing such assistance requires neither knowledge of at the time the assistance is authorized, nor control during implementation over, the commodities or their use in the host country;

(x) Support for intermediate credit institutions when the objective is to assist in the capitalization of the institution or part thereof and does not involve reservation of the right to review and approve individual loans made by the institution.

(xi) Programs of maternal or child feeding conducted under Title II of P.L. 480.

(xii) Food for development programs conducted by the food recipient countries under Title III of P.L. 480 when achieving AID's objectives in such programs does not require knowledge of or control over the details of the specific activities conducted by the foreign country under such program.

(xiii) Matching, general support and institutional support grants provided to private voluntary organizations (PVOs) to assist in financing programs with respect to which the objective of AID in providing such financing does not require knowledge of or control over, the specific activities conducted by the PVO.

(xiv) Planning studies, projects or programs, including natural resource identification by remote sensing or otherwise, and projects intended to develop the capability of recipient countries to engage in such planning except to the extent designed to result in activities directly affecting the environment (such as construction of facilities, etc.), and

(xv) Classes of action for which criteria or standards are developed and approved by AID for the design of activities which shall be applied in the design of such activities and will avoid a significant effect on the environment.

(3) *Procedure, extraordinary circumstances* The originator of a project, program or activity shall determine the extent to which the project, program or activity is within the classes of actions described in subparagraph (c)(2) of this section. This determination shall be made in writing prior to, in, or with submission of the

PID, PAIP or comparable document and shall be reviewed by the Bureau Environmental Officer in the same manner as a Threshold Decision under section 216.3(a)(2) of these procedures. Notwithstanding subparagraph (c)(2) of this section, the procedures set forth in § 216.3 shall apply to any project, program or activity included in the classes of actions listed in subparagraph (c)(2), or any aspect or component thereof, if at any time in the design, review or approval of the activity it appears that the project, program activity, or aspect or component thereof, is subject to the control of AID and may have a significant effect on the environment.

(d) *Classes of Actions Normally Having a Significant Effect on the Environment* The following classes of actions have been determined generally to have a significant effect on the environment and an Environmental Assessment or Environmental Impact Statement, as appropriate, normally will be required:

- (i) Programs of river basin development,
- (ii) Irrigation or water management projects including dams and impoundments,
- (iii) Agricultural land leveling
- (iv) Drainage projects,
- (v) Large scale agricultural mechanization
- (vi) New lands development,
- (vii) Resettlement projects
- (viii) Penetration road building or improvement projects
- (ix) Power plants,
- (x) Industrial plants
- (xi) Potable water and sewerage projects other than those that are small-scale.

(3) *Extraordinary Circumstances* An Initial Environmental Examination normally will not be required for activities within the classes described in Section 216.2(d). If however the originator of the project believes that the project will not have a significant effect on the environment, the activity may be subjected to the procedures set forth in Section 216.3.

(e) *Pesticides* The exemptions of section 216.2(b)(1) and the categorical exclusions of section 216.2(c)(2) are not applicable to assistance for the procurement or use of pesticides.

### § 216.3 Procedures

(a) *General Procedures*—(1) *Preparation of the Initial Environmental Examination* Except as provided therein, an Initial Environmental Examination is not required for activities and actions identified in § 216.2(b)(1), (c)(2), and (d). For all other actions, an Initial Environmental Examination will be prepared by the

originator of an action at the earliest possible time. Except as indicated in this section, it should be prepared no later than concurrently with the PID or PAIP. For projects including the procurement or use, or both, of pesticides, the procedures set forth in § 216 3(b) will be followed in addition to the procedures in this paragraph (a) If some of the activities to be conducted under the action are not identified in sufficient detail to permit the completion of an Initial Environmental Examination at the PID or PAIP stage, the PID or PAIP will include (i) an explanation indicating why the Initial Environmental Examination cannot be completed, (ii) an estimate of the amount of time required to complete the Initial Environmental Examination; and (iii) a recommendation that a Threshold Decision be deferred until the Initial Environmental Examination is completed. The responsible Assistant Administrator will act on the request for deferral concurrently with action on the PID or PAIP and will designate a time for completion of the Initial Environmental Examination. In all instances, except as provided in § 216 3(a)(7), this completion date will be in sufficient time to allow for the completion of an Environmental Assessment or Environmental Impact Statement, if required, before a final decision is made to provide AID funding for the action.

(2) *Threshold Decision* The Initial Environmental Examination will be accompanied by a Threshold Decision made by the officer who signs the PID or PAIP on behalf of the originating office. If the Initial Environmental Examination is completed prior to or at the same time as the PID or PAIP, the Threshold Decision will be reviewed by the Bureau Environmental Officer concurrently with approval of the PID or PAIP. The Bureau Environmental Officer may concur in the Threshold Decision or request reconsideration by the officer who made the Threshold Decision, stating the reasons for the request. Differences of opinion between these officers shall be submitted for resolution to the Assistant Administrator having responsibility for the action when the PID is submitted to the Assistant Administrator for approval. When an Initial Environmental Examination is completed subsequent to approval of the PID or PAIP pursuant to § 216 3(a)(1) above, the Initial Environmental Examination and Threshold Decision will be immediately forwarded to the Bureau Environmental Officer for action as described above. A Negative Threshold Decision shall be made if it is determined based on an Initial Environmental Examination that the

proposed action is not a major action that will have a significant effect on the environment and therefore an Environmental Assessment or an Environmental Impact Statement will not be required. The cognizant Bureau or Office will record this decision, and such record will constitute a Negative Determination. A Positive Threshold Decision shall be made if it is determined based on an Initial Environmental Examination that the proposed action is a major action that will have a significant effect on the environment in which case an Environmental Impact Statement shall be prepared if required pursuant to Section 216 7 or an Environmental Assessment will be prepared in accordance with Section 216 6.

(3) *Negative Declaration* Notwithstanding the foregoing, the Assistant Administrator having responsibility for the proposed action, or the Administrator in actions for which the approval of the Administrator is required for the authorization of financing, may make a Negative Declaration that the Agency will not develop an Environmental Assessment or an Environmental Impact Statement for an action which the Agency has identified as normally requiring an Environmental Assessment or Environmental Impact Statement. Such a Negative Declaration must be in writing and may be based upon (i) the fact that a substantial number of Environmental Assessments or Environmental Impact Statements relating to similar activities have been prepared in the past, (ii) the fact that the Agency has previously prepared a programmatic Statement or Assessment covering the activity in question which has been considered in the development of such activity, or (iii) the Agency has developed design criteria for such an action which if applied in the design of the action will avoid a significant effect on the environment.

(4) *Scoping (a) Procedure and Content* As soon as practicable after a Positive Threshold Decision has been made or a determination is made under the pesticide procedures set forth in Section 216 3(b) that an Environmental Assessment or Environmental Impact Statement is required, the originator of the action shall commence the process of identifying the significant issues relating to the proposed action and of determining the scope of the issues to be addressed in the Environmental Assessment, Environmental Impact Statement or otherwise the design of a proposed activity. The originator of an action within the classes of actions described in Section 216 2(d) shall

commence this scoping process as soon as practicable. Persons having expertise relevant to the environmental aspects of the proposed action shall also participate in this scoping process. (Participants may include but are not limited to representatives of host governments, public and private institutions, the A.I.D. Mission staff and contractors.) This process shall result in a written statement which shall include the following matters and be reviewed and approved by the Bureau Environmental Officer:

(i) A determination of the scope and significance of issues to be analyzed in depth, including direct and indirect effects.

(ii) Identification and elimination from detailed study of the issues that are not significant or have been covered by earlier environmental review, narrowing the discussion of these issues to a brief presentation of why they will not have a significant effect on the environment.

(iii) A description of the timing of the preparation of environmental analysis and the tentative planning and decision-making schedule for the action, and

(iv) A description of the means by which the analysis will be conducted and the disciplines that will participate in the analysis.

(b) *Circulation of Scoping Statement* The Bureau Environmental Officer may circulate copies of the written scoping statement, together with a request for written comments within thirty days to selected federal agencies when, in the judgment of that Officer, comments by such federal agencies will be useful in the preparation of an Environmental Assessment. Comments received on environmental aspects from reviewing federal agencies will be forwarded to the originating project office for consideration in the preparation of the Environmental Assessment and in the formulation of the design and implementation of the project and will, together with the scoping statement, form part of the project file when the project comes forward in the Project Paper stage for final approval.

(c) *Change in Threshold Decision* If, in the course of the scoping process, it becomes evident that the action will not have a significant effect on the environment (i.e., will not cause significant harm to the environment), the originator may request the officer who made the Positive Threshold Decision to change the decision to a Negative Determination provided that the concurrence of the Bureau Environmental Officer is obtained. In the case of an action included in § 216 (d)(2), the request shall be made to the Bureau Environmental Officer. The scoping process may be continued if

necessary in order to provide guidance regarding the manner in which any remaining environmental issues (that are not significant) will be addressed in the detailed design of the action.

(5) *Preparation of Environmental Assessments and Environmental Impact Statements* If the PID or PAIP is approved, and the Threshold Decision is positive, or the action is included in § 216.2(d), the originator of the action will prepare, based on the results of the scoping process and prior to or concurrently with the Project Paper or Program Assistance Approval Document, an Environmental Assessment or draft Environmental Impact Statement as required. Draft Environmental Impact Statements will be circulated for review and comment as part of the review of Project Papers and as outlined further in § 216.7 of these procedures. Except as provided for in § 216.3(a)(7), final approval of the Project Paper or Program Assistance Approval Document and the method of implementation will include consideration of the Environmental Assessment or final Environmental Impact Statement, as well as other required (non-environmental) analyses.

(6) *Processing and Review Within AID* Initial Environmental Examinations, Environmental Assessments and final Environmental Impact Statements will be processed within AID in accordance with the normal AID procedures for other documents. These procedures generally call for participation in the review process by technical, legal and country specialists. Except as provided in § 216.3(a)(7), Environmental Assessments and final Environmental Impact Statements will be reviewed as an integral part of the Project Paper or equivalent. In addition to these normal procedures, Environmental Assessments will be reviewed by the appointed Bureau Environmental Officer and periodically by the Environmental Coordinator who will monitor the Environmental Assessment process. With respect to actions for which approval authority is delegated to field posts, Environmental Assessments prepared in connection with such actions shall be reviewed by the Bureau Environmental Officer prior to the approval of such actions. Draft and final Environmental Impact Statements will be reviewed by the Environmental Coordinator and the Office of the General Counsel.

(7) *Environmental Review After Authorization of Financing* There are instances in which final decisionmaking regarding the content of a project, program, or activity is not completed

prior to the time it is approved for financing. For example, there are projects involving subprojects that cannot be identified and planned before the project is authorized, there are other projects in which the sites where activities will be conducted (such as roads, wells or schools built) cannot be identified before the implementation stage of the project. Environmental review of unidentified subprojects, or of aspects of projects that are unidentified, is not entirely effective. In such cases environmental review may be made after financing is authorized.

The standard to be applied in these projects, programs or activities is that environmental review should occur at the earliest time in design or implementation at which a meaningful review can be undertaken (not later than when previously unidentified subprojects are identified and planned or sites selected) and AID should not make an irreversible commitment of resources to an aspect of a project, program or activity until environmental review is completed for that aspect. An irreversible commitment of resources can be avoided in a variety of ways depending on the kind of project, the manner in which it will be financed, the parties participating, and the approval rights reserved by AID. The obligation of funds can be made incrementally as subprojects or aspects of projects are identified and planned including environmental review conditions precedent to disbursement for subprojects or aspects of projects or other appropriate covenants. In project agreements also may be utilized.

Since there are a number of effective alternatives that may be used to avoid an irreversible commitment of funds before environmental review is completed and environmental review is only one feature of many to be considered in selecting an alternative, no effort is made here to require use of any particular method other than to state the following order of preference. Whenever adequate information is available, environmental review will be completed for an entire action before financing is authorized by the approval of a Project Paper in the manner described in § 216.3(a)(1)-(6). If at that time there are unidentified subprojects or aspects of projects, environmental review will be completed prior to project authorization to the extent adequate information is available and environmental review will be deferred only with respect to subprojects or significant aspects of the project that are unidentified at the time of authorization. An effort will be made to obtain adequate information to undertake environmental review of the deferred

aspects of the action before funds are obligated for such aspects of the action. (Funds may be obligated for the other aspects for which environmental review has been completed.) If it is not possible to obtain adequate information regarding aspects of projects for which environmental review has been deferred, before funds are obligated for such aspects of the project, the project agreement or other agreement through which such funds are obligated should contain conditions precedent to disbursement for such aspects of the project. The conditions precedent should require environmental review to be completed and taken into account in planning the implementation of previously unidentified aspects prior to the time funds may be disbursed for such aspects by AID under the agreement. If it is not possible to obtain adequate information regarding the aspects of projects for which environmental review has been deferred prior to the time funds must be disbursed for such aspects of the project (because for example of long lead times for the delivery of goods or services) the project agreement or other agreement obligating funds must contain a covenant or covenants requiring environmental review including an Environmental Assessment or Environmental Impact Statement when appropriate to be completed and taken into account prior to the time such aspects of the project are implemented, ensuring that implementation plans may be modified in accordance with the environmental review.

In such cases the Initial Environmental Examination and Threshold Decision required under § 216.3(a)(1) and (2) will identify those aspects of the action for which environmental review will be completed prior to the time financing is authorized by approval of the Project Paper and those aspects for which environmental review will be deferred, the reasons for deferral, the time when environmental review (an Initial Environmental Examination and an Environmental Assessment or Environmental Impact Statement if appropriate) will be completed, the manner in which an irreversible commitment of funds will be avoided to ensure that environmental review including a study of alternatives and mitigating factors when necessary, will be completed at a time when modification effectively may be made in the implementation of the action, and the AID officer who will be responsible for making environmental decisions for the action (the same officer who has decisionmaking authority for the other aspects of implementation of the action). This deferral shall be reviewed and

approved by the officer making the Threshold Decision and shall be reviewed and approved by the officer who authorizes funding of the action by approval of the Project Paper after consultation with the Office of General Counsel for the purpose of establishing the manner in which conditions precedent to disbursement or covenants in project and other agreements will avoid an irreversible commitment of resources before environmental review is completed.

(8) *Monitoring* To the extent feasible and relevant, projects and programs for which Environmental Impact Statements or Environmental Assessments have been prepared should be designed to include measurement of any changes in environmental quality, positive or negative, during their implementation. This will require recording of baseline data at the start. To the extent that available data permit, originating offices of AID, will formulate systems in collaboration with recipient nations, to monitor such impacts during the life of AID's involvement.

(9) *Revisions* If, after a Threshold Decision is made resulting in a Negative Determination, a project is revised or new information becomes available which indicates that a proposed action might be "major" and its effects "significant", the Negative Determination will be reviewed and revised by the cognizant Bureau and an Environmental Assessment or Environmental Impact Statement will be prepared if appropriate. Environmental Assessments and Environmental Impact Statements will be amended and processed appropriately if there are major changes in the project or program or when significant new information becomes available. When on going programs are revised to incorporate a change in scope or nature, a determination will be made as to whether such change may have an environmental impact not previously assessed. If so, the procedures outlined above will be followed.

(10) *Other Approval Documents* These procedures identify certain AID documents such as PIDS, PAI's, Project Papers and Program Assistance Approval Documents as the AID internal instruments for approval of projects, programs or activities. From time to time certain special procedures, such as those in section 216.4, may not require the use of the aforementioned documents. In these situations, these procedures shall apply to those special approval procedures, unless otherwise exempt, at approval times and levels comparable to projects, programs and activities in which the aforementioned documents are used.

2 By revising § 216.3(b)(1)(iii)(a) to read:

- (b) \* \* \*
- 1) \* \* \*
- (iii) \* \* \*

(a) Any pesticide other than one registered for the same or similar uses by USEPA without restriction or for restricted use on the basis of user hazard, or

3 By deleting §§ 216.4, 216.5 and 216.6, renumbering § 216.7 as § 216.8 and adding new §§ 216.4, 216.5, 216.6 and 216.7 which read:

#### § 216.4 Private applicants.

Programs, projects or activities for which financing from AID is sought by private applicants, such as PVOs and educational and research institutions, are subject to these procedures. Except as provided in Sections 216.2 (b), (c) or (d) preliminary proposals for financing submitted by private applicants shall be accompanied by an Initial Environmental Examination or adequate information to permit preparation of an Initial Environmental Examination. The Threshold Decision shall be made by the Mission Director for the country to which the proposal relates, if the preliminary proposal is submitted to the AID Mission or shall be made by the other officer in AID who approves the preliminary proposal. In either case the concurrence of the Bureau Environmental Officer is required in the same manner as in Section 216.3(a)(2) except for PVO projects with total life of project cost less than \$500,000 for which AID Mission Directors have project approval authority. Thereafter the same procedures set forth in Section 216.3 including as appropriate scoping and Environmental Assessments or Environmental Impact Statements shall be applicable to programs, projects or activities submitted by private applicants. The final proposal submitted for financing shall be treated for purposes of these procedures, as a Project Paper. The Bureau Environmental Officer shall advise private applicants of studies or other information foreseeably required for action by AID.

#### § 216.5 Endangered species.

(a) *Policy*—It is AID policy to conduct its assistance program in a manner that is sensitive to the protection of endangered or threatened species and their critical habitat. Toward this end, AID will endeavor to obtain from the Fish and Wildlife Service of the Department of the Interior (FWS) detailed information regarding endangered or threatened species, and their critical habitat, for each foreign country in which AID conducts a

foreign assistance program. This information will be provided to the AID post in the country. In addition, AID will request each country in which AID programs are conducted to furnish a list of species the country considers to be endangered or threatened and their critical habitat.

(b) *Procedure*—The Initial Environmental Examination for each project, program or activity having an effect on the environment shall specifically determine whether the project, program or activity will have an effect on an endangered or threatened species, or critical habitat, as indicated by the information provided by FWS for the country and the list provided by the recipient country. If the proposed project, program or activity will have the effect of jeopardizing the endangered or threatened species or of adversely modifying its critical habitat, the Threshold Decision shall be a Positive Determination and an Environmental Assessment or Environmental Impact Statement completed as appropriate, which shall discuss alternatives or modifications to avoid such impact on the species or its habitat.

#### § 216.6 Environmental assessments.

(a) *General Purpose*—The purpose of the Environmental Assessment is to provide Agency and host country decisionmakers with a full and fair discussion of significant environmental effects of a proposed action and of the reasonable alternatives which would avoid or minimize adverse effects or enhance the quality of the environment so that the expected benefits of development objectives can be weighed against any adverse short or long term impacts upon the human environment or any irreversible or irretrievable commitment of resources.

(b) *Collaboration with Affected Nation on Preparation*—Collaboration in obtaining data, conducting analyses and considering alternatives will help build an awareness of development-associated environmental problems in less developed countries as well as assist in building an indigenous institutional capability to deal nationally with such problems. Missions, Bureaus and Offices will collaborate with affected countries to the maximum extent possible, in the development of any Environmental Assessments required and obtain agreement of the affected countries to participate in the preparation of any required Environmental Assessment and to consider environmental consequences as set forth therein.

(c) *Content and Form*—The Environmental Assessment shall be prepared in accordance with the scope

decided upon in the scoping process. It shall be analytic, rather than encyclopedic, and shall be concise, clear and to the point. Impacts shall be discussed in proportion to their significance. Environmental Assessments shall be written in plain language and may use appropriate graphics so that decisionmakers can readily understand them. The depth of information and data gathered for Environmental Assessments should be similar to that for economic, technical and other analyses required by AID. Material may be incorporated by reference when the effect will be to reduce bulk without impeding review. The Environmental Assessment shall be based upon the scoping statement and generally will include the following format, unless the Environmental Assessment is included in the text of a Project Paper in which case paragraphs (1) and (2) may be omitted.

(1) *Summary* A summary will be made which adequately and accurately summarizes the Environmental Assessment. The summary shall stress the major conclusions, areas of controversy, if any, and the issues to be resolved.

(2) *Purpose and Need* The Environmental Assessment shall briefly specify the underlying purpose and need to which the Agency is responding in proposing the alternatives including the proposed action.

(3) *Alternatives Including the Proposed Action* This section should present the environmental impacts of the proposal and its alternatives in comparative form thereby sharpening the issues and providing a clear basis for choice among options by the decisionmaker. This section should rigorously explore and objectively evaluate all reasonable alternatives and briefly discuss the reasons for eliminating those alternatives which were not included in the detailed study, devote substantial treatment to each alternative considered in detail including the proposed action so that reviewers may evaluate their comparative merits, include the alternative of no action, identify the Agency's preferred alternative or alternatives, if one or more exists, include appropriate mitigation measures not already included in the proposed action or alternatives.

(4) *Affected Environment* The Environmental Assessment shall succinctly describe the environment of the area(s) to be affected or created by the alternatives under consideration. The descriptions shall be no longer than is necessary to understand the effects of the alternatives. Data and analyses in the Environmental Assessment shall be commensurate with the significance of

the impact with less important material summarized, consolidated or simply referenced. Useless bulk in Environmental Assessments should be avoided, and effort should be concentrated on important issues.

(5) *Environmental Consequences* This section forms the analytic basis for the comparisons under (3) above. It will include the environmental impacts of the alternatives including the proposed action, any adverse effects that cannot be avoided should the proposed action be implemented, the relationship between short-term uses of the environment and the maintenance and enhancement of long-term productivity, and any irreversible or irretrievable commitments of resources which would be involved in the proposal should it be implemented. It should not duplicate discussions in paragraph (3) above. This section of the Environmental assessment should include discussions of direct effects and their significance, indirect effects and their significance, possible conflicts between the proposed action and land use plans, policies and controls for the areas concerned, energy requirements and conservation potential of various alternatives and mitigation measures, natural or depletable resource requirements and conservation potential of various requirements and mitigation measures, urban quality historic and cultural resources and the design of the built environment, including the reuse and conservation potential of various alternatives and mitigation measures, and means to mitigate adverse environmental impacts.

(6) *List of Preparers* The Environmental Assessment shall list the names and qualifications (expertise, experience, professional discipline) of the persons primarily responsible for preparing the Environmental Assessment or significant background papers including the basic components of the Environmental Assessment. Where possible the persons who are responsible for a particular analysis shall be identified.

(7) *Appendix* An appendix may be prepared, and may include material prepared in connection with an Environmental Assessment (as distinct from material which is not so prepared and which is incorporated by reference), material substantiating any analysis fundamental to the Environmental Assessment and material that is analytic and relevant to the decision to be made.

(d) *Program Assessments* Broad program Assessments may be required in order to assess the environmental effects of a number of individual actions and their cumulative environmental impact in a given country or geographic area, or the environmental impacts that

are generic or common to a class of agency actions, or other activities which are not country-specific. In these cases, a single, programmatic Assessment will be prepared in AID/Washington and circulated to appropriate overseas Missions, host governments, and to interested parties within the United States. To the extent practicable the form and content of the programmatic Environmental Assessment will be the same as for project Assessments. Subsequent Environmental Assessments on major individual actions will be necessary where such follow-on or subsequent activities may have significant environmental impacts on specific countries where such impacts have not been adequately evaluated in the programmatic Environmental Assessment.

In addition, the Environmental Coordinator may recommend that the Agency conduct other programmatic evaluations of classes of actions in an effort to establish additional categorical exclusions or design standards or criteria for such classes that will eliminate or minimize adverse effects of such actions, enhance the environmental effect of such action or reduce the amount of paperwork or time involved in these procedures. The format for such evaluations will depend upon the circumstances and purpose of each such evaluation.

(e) *Effect in Other Countries* In a situation where an analysis indicates that potential effects may extend beyond the national boundaries of a recipient country and adjacent foreign nations may be affected, AID will urge the recipient country to consult with its neighbor(s) in advance of project approval and to negotiate mutually acceptable accommodations.

(f) *Classified Material* Environmental Assessments will not normally include material classified or administratively controlled. However, there may be situations where environmental aspects cannot be adequately discussed without the inclusion of such material. The handling and disclosure of classified or administratively controlled material shall be governed by 22 CFR Part 9. Those portions of an Environmental Assessment which are not classified or administratively controlled will be made available to persons outside the Agency as provided for in 22 CFR Part 212.

#### § 216.7 Environmental impact statements

(a) *Applicability*—Environmental Impact Statements will be prepared when major agency actions significantly affect

(1) The global environment or areas outside the jurisdiction of any nation (e.g., the oceans).

(2) The environment of the United States; or

(3) As a matter of policy, other aspects of the environment at the discretion of the Administrator.

(b) *Effects on the United States—Content and Form*—An Environmental Impact Statement relating to subparagraph (a)(2) shall comply with the CEQ Regulations. With respect to effects on the United States, the terms environment and significant effect wherever used in these procedures have the same meaning as in the CEQ Regulations rather than as defined in Section 216.1(c)(12) and (13) of these procedures.

(c) *Other Effects, Content and Form*—An Environmental Impact Statement relating to subparagraphs (a)(1) and (a)(3) will generally follow the CEQ Regulations, but will take into account the special considerations and concerns of AID. Circulation of such an Environmental Impact Statement in draft form will precede approval of a Project Paper or equivalent and comments from such circulation will be considered before final project authorization as outlined in § 216.3 of these procedures. The draft Environmental Impact Statement will also be circulated by the Missions to affected foreign governments for information and comment. Draft Environmental Impact Statements generally will be made available for comment to Federal agencies with jurisdiction by law or special expertise with respect to any environmental impact involved, and to public and private organizations and individuals for not less than forty-five (45) days. Notice of the draft Environmental Impact Statements availability will be published in the Federal Register. Cognizant Bureaus and Offices will submit these drafts for circulation through the Environmental Coordinator who will have the responsibility for coordinating all such communications with persons outside AID. Any comments received by the Environmental Coordinator will be forwarded to the originating Bureau or Office for consideration in final policy decisions and the preparation of a final Environmental Impact Statement. All such comments will be attached to the final Statement, and those responsible comments not adequately discussed in the draft Environmental Impact Statement will be appropriately dealt with in the final Environmental Impact Statement. Copies of the final Environmental Impact Statement, with

comments attached, will be sent by the Environmental Coordinator to CEQ and to all other Federal, state, and local agencies and private organizations that made substantive comments on the draft, including affected foreign governments. Where emergency circumstances or considerations of foreign policy make it necessary to take an action without observing the provisions of Section 1506.10 of the CEQ Regulations, or when there are overriding considerations of expense to the United States or foreign governments, the originating Office will advise the Environmental Coordinator who will consult with Department of State and CEQ concerning appropriate modification of review procedures.

3 By deleting § 216.8 and adding new § 216.9 and 216.10 which read.

**§ 216.9 Bilateral and multilateral studies and concise reviews of environmental issues.**

Notwithstanding anything to the contrary in these procedures, the Administrator may approve the use of either of the following documents as a substitute for an Environmental Assessment (but not a substitute for an Environmental Impact Statement) required under these procedures:

(a) bilateral or multilateral environmental studies, relevant or related to the proposed action, prepared by the United States and one or more foreign countries or by an international body or organization in which the United States is a member or participant, or

(b) concise reviews of the environmental issues involved including summary environmental analyses or other appropriate documents.

**§ 216.10 Records and reports.**

Each Agency Bureau will maintain a current list of activities for which Environmental Assessments and Environmental Impact Statements are being prepared and for which Negative Determinations and Declarations have been made. Copies of final Initial Environmental Examinations Assessments and Impact Statements will be available to interested Federal agencies upon request. The cognizant Bureau will maintain a permanent file (which may be part of its normal project files) of Environmental Impact Statements, Environmental Assessments, Determinations and Declarations which will be available to the public under the Freedom of Information Act. Interested persons can obtain information or status reports regarding Environmental Assessment and Environmental Impact Statements

through the A.I.D. Environmental Coordinator.

Dated September 20, 1979.

Robert A. Nooter,

Acting Administrator

[FR Doc. 79-30294 Filed 9-28-79; 8:45 am]

BILLING CODE 4710-02-M

**NATIONAL SCIENCE FOUNDATION**

**41 CFR Ch. 25**

**45 CFR Ch. VI**

**Improving Government Regulations; Semiannual Regulations Agenda**

**AGENCY:** National Science Foundation.

**ACTION:** Publication of semiannual regulations agenda

**SUMMARY:** The National Science Foundation publishes its semiannual agenda of significant regulations under development or review as required by Executive Order 12044, Improving Government Regulations (43 FR 12661, March 24, 1978).

**FOR FURTHER INFORMATION CONTACT:** For additional information regarding any particular regulatory action contained in the agenda, contact the individual identified as the contact person in the agenda. Comments or inquiries of a general nature about the agenda should be directed to Arthur J. Kusinski, Office of the General Counsel, National Science Foundation, Washington, D.C. 20550 (202) 632-4396.

**A Status of Regulations Previously Listed**

**1 Grants Policy Manual (NSF 77-47)**

This document sets forth the basic policies and procedures in the award and administration of all Foundation grants. The manual is revised periodically as policies and procedures change. As such, the manual is undergoing continuous review. An updated edition of the manual is expected to be issued this fall. No significant changes in the manual have been made since the last agenda was published.

*Legal basis for issuances:* Section 11 of the National Science Foundation Act of 1950, as amended, (42 U.S.C. 1870) [hereinafter referred to as the NSF Act].  
*Name of agency official:* Francis G. Naughten, Division of Grants & Contracts, (202) 632-4148.

*Regulatory analysis:* None required.

**2 Conflict-of-Interest Regulations (45 CFR Part 600)**

These regulations govern the conduct of NSF employees and officers and

APPENDIX 3 .

AID PROJECTS REQUIRING  
ENVIRONMENTAL ASSESSMENT (EA)  
OR  
ENVIRONMENTAL IMPACT STATEMENT (EIS)

DEFINITIONS:

Identified: the need for an EA or an EIS has been determined but the assessment activities are yet to begin.

In Progress: assessment activities are under way.

Completed: environmental assessment on the project has been completed.

AFRICA

Identified:

1. Benin and Togo - Rural Water Supply
2. Chad - Bongor Irrigated Crop Production
3. Kenya - Marginal Lands Development
4. Sahel Regional Irrigation Rehabilitation Program
5. Liberia - Low Income Housing
6. Togo - Low Income Shelter

In Progress:

1. Chad - Irrigated Agriculture
2. Sudan - Traditional Agricultural Sector Mechanization - Southern Blue Nile
3. Ethiopia - Bemu Gofa Area Rehabilitation
4. Cameroon - Mandara Mountains Water Resources

Completed:

1. Lesotho - Rural Roads - Completed - Southern Perimeter
2. Liberia - Upper Bong County Integrated Rural Development
3. Senegal - Bakel Irrigated Perimeters
4. Swaziland - Integrated Rural Development
5. Tanzania - Research on Tsetse Fly Control

ASIA

Identified:

1. Bangladesh - Rural Electrification (issues were narrowed, not requiring a comprehensive environmental assessment)

## ASIA

### In Progress:

1. Indonesia - Rural Electrification
2. Thailand - Lam Nam Oon On-Farm Development
3. Sri Lanka - Mahaweli - entire

### Completed:

1. Pakistan - Rural Roads
2. Pakistan - Rural Clean Water Supply
3. Pakistan - Rural Electrification
4. Philippines - Rural Electrification
5. Philippines - Small-Scale Irrigation
6. Philippines - Barangay Water
7. Philippines - Small Farm System - Supplement A
8. Philippines - Bicol Integrated Area Development II
9. Sri Lanka - Mahaweli Basin Development (separate from present multidonor assessment under way)
10. Sri Lanka - Malaria Control

## LATIN AMERICA

### Identified:

1. Costa Rica - Resource Conservation Service

### Completed:

1. Costa Rica - Urban Environment Project
2. Panama - Watershed Management
3. Panama - Access Roads
4. Panama - San Miguelito Wastewater Collection and Transport System
5. Peru - Development of Subtropical Lands
6. Guyana - Roads Project

## NEAR EAST

### Identified:

1. Egypt - Flat Glass Plant
2. Jordan - Aqaba Water and Sewerage
3. Jordan - Irbid Water and Sewerage
4. Jordan - Zarqa Water and Sewerage
5. Syria - Akkar Plain Irrigation Development

NEAR EAST

In Progress:

1. Egypt - Grain/TOF Storage III
2. Egypt - Edfu Pulp and Paper Mill
3. Egypt - 600 MW Electric Power Plant (Cairo)
4. Jordan - Jordan Valley Irrigation Project (Stage II)

Completed:

1. Egypt - Alexandria Master Sewerage Plan
2. Egypt - Suez/Port Said Development
3. Egypt - Cairo Sewage System
4. Egypt - Low Cost Housing
5. Egypt - Canal Cities Water and Dewaterage
6. Egypt - Naadi Cement Plant
7. Jordan - Amman Water and Sewerage Project -
8. Syria - Tartous Lattakia Highway
9. Yemen - Taiz Water Supply and Sewerage Project

APPENDIX 4.

Appendix 4. (AID list of categories within Environment and Natural Resources Sector, issued March 1979, Environmental Coordinator's Office)

PROJECT CATEGORIES

I. Environmental Institution Building

- Institutional Development
- Legal and Regulatory Research
- Baseline Data
- Monitoring of Environmental Quality
- Enforcement

II. Information and Education

- Public Information
- Environmental Education

III. Conservation and Land Management

- Forests
- Range Management/Land Classification
- Erosion Control
- Reclamation
- Rural Development
- New Lands Development
- Agriculture Research
- Desertification
- Fisheries
- Crop Protection
- Perote Sensing
- Wildlife
- Parks

IV. Water Resources

- Drinking Water/Sewerage
- Irrigation Water
- Water Management

V. Pollution Control and Abatement

- Sewerage
- Solid Waste Disposal
- Industrial Wastes

VI. Disease Control - Health in General

VII. Other

- Laboratory Applied Technology
- Technical Feasibility Studies
- Development Information ?
- Evaluation