EPM 23

COUNTRY ENVIRONMENTAL PROFILES: A Booklet for Producing Environmental Profiles Based on an Evaluation of Profiles Conducted Prior to 1983

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June, 1984

This document was produced for the Environmental Planning and Management Project of the International Institute for Environment and Development under the Advisory Services Contract No. AS-30

This report grows out of the work of Joshua C. Dickinson III set out in EPM documents #5 and 14.

The Environmental Planning and Management Project is a cooperative agreement between the International Institute for Environment and Development and the U.S. Agency for International Development to respond to requests for assistance from developing countries in a variety of environmental and natural resource management problems.

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Overview

The Country Environmental Profiles discussed here are among several on-going efforts to promote the integration of economic development and environmental management. "Sound environmental management is now recognized as a major and necessary element of any development strategy designed to raise successfully the living standards of the poor. While dramatic, this increased concern for improved management of the environment and natural resources has not been sufficient to solve the serious environmental problems that many developing countries face" (World Bank, 1983).

Current thinking assumes that decision-makers in both public and private sectors will make better (i.e., more comprehensive, responsible, and longer-term) decisions if appropriate scientific information is available. This requires that scientists become advocates as well as technicians. They must present scientific issues in a context germane to policy makers and a variety of non-specialists. The special role of the Country Environmental Profile in this effort is three fold:

- to increase availability of environmental information by gathering existing knowledge in a product that makes it accessible to a broad range of planners;
- to promote an understanding of a country as a coherent whole; and
- to enhance the possibilities for success of sustainable development strategies by evolving a process for monitoring the status of the country's life support systems and identifying development opportunities and conflicts.

The Profile is part of a country's environmental literacy. It becomes an integral part of a country's development plan when it sketches what the people who depend on a given environment consider to be its most important components and processes. The Profile serves as a standard by which to measure the state of the environment that supports development.

A sufficient number of Profiles exist at present making it possible to assess what seems to work and what doesn't. The IIED commissioned Joshua Dickinson to evaluate how Phase II Profiles are being used and what approaches showed the greatest promise for future Profiles. The IIED then asked Susan Marcus to prepare this booklet that provides background material for the preparation of Profiles.

Booklet Audiences

If you are in one of the groups below, you should read this booklet:

- o managers, technical staffs, and other professionals in host country organizations who will participate in the design and development of Profiles;
- o AID Mission staff who will assist in the preparation of Profiles;
- o AID Washington DC staff who participate in the Profile activities or who wish an overview of Profile objectives;
- o consultants hired to complement AID and host country teams in the research and writing of Profiles.

Booklet Objectives

This booklet describes the role of Profiles as both a process and product that you can use in formulating sustainable development strategies. It also offers you guidance in the design and preparation of Profiles.

The **Introduction** presents the background of the Profiles and the environmental aspects of development assistance within the US Agency for International Development (AID).

Chapter 1 describes the Profiles as both a process and a group of products.

Chapter 2 presents guidelines for a general process that you can adapt to a range of situations/conditions under which Profiles may be designed, executed, promoted, and updated.

Chapter 3 determines four product categories and describes various uses and audiences for Profiles within the host countries, the AID missions, and other development assistance organizations.

References

Five reports provided the information and recommendations for this booklet. They are:

Joshua Dickinson III, "An Evaluation of the Country Environmental Profile," JES/IIED/IUCN, 1983.

National Conservation Strategies: A Framework for Sustainable Development, IUCN, 1984.

Kirk P. Rogers, Integrated Regional Development Planning, Report of the Organization of American States, 1984.

M. Peter McPherson, "Environmental and Natural Resource Aspects of Development Assistance," USAID document, 1983.

W.C. Baum and S. Tolbert, "Development Projects," in The Role of Environmental Management in Sustainable Economic Development, World Bank, 1983 (in preparation).

Other Elements in this Packet

The IIED is preparing materials to supplement this booklet. A wall chart, printed in color, conveys selected issues graphically. A "tool kit" supplies technical information and instructions for specific tasks in the preparation of a Profile. Aspects of project management, how to run workshops, guidelines for modelling, descriptions of the Holdridge Life Zone System, units of measure, and geographical information systems are part of the kit. The wall chart and kit are available from the IIED, 1717 Massachusetts Avenue, N.W., Washington DC 20036 USA.

Other Projects Based on Profiles

The IIED is preparing a Profile of Latin America as a region. The material for that Profile comes from individual countries' Profiles. The Regional Profile will be available by the end of 1984.

What are Profiles and Why Are They Useful?

Growing numbers of development planners recognize that sound management of the environment is a necessary component of economic development. No longer considered a luxury for the rich, environmental management is acknowledged as a major and necessary element of any successful development strategy designed to raise the living standards of the poor. AID recognizes that to achieve long-term benefits, development in less-developed countries (LDCs) must be based on environmental management that accounts for a country's natural resource base and social structure. Therefore, in 1979 AID called for Country Environmental Profiles to provide natural resource information that could encourage sustainable development.

Most developing countries now collect economic, social, and health-related statistics such as Gross National Product per capita, inflation rate, population size and growth rate, literacy, food production and calorie consumption per capita, etc. The Country Environmental Profile is intended to contribute substantially to a country's development strategy by providing the natural resource information and analysis required for managing development in a sustainable way. Profiles offer a benchmark description of the country as a system of interdependent natural, agricultural, and urban-industrial components that assesses the capability of the environment to supply goods and services for sustained development.

A Profile reviews the country's activities that affect the status of natural resources, identifying practices that provide a basis for development through responsible management of resources. On the basis of data collection, site visits, and analysis, a Profile assesses both the actions required to improve environmental management and the human, technical, and financial resources needed to implement such activities.

The process, in itself, of producing a Profile can be a significant step toward sound development. Profiles help build networks, opening new lines of communication among institutions, agencies, and individuals. Further, the necessity to update a Profile's data and recommendations can serve to sustain these networks long after publication of a document.

General Recommendations for Future Profiles

The Profiles created to date have tended to be descriptive, "static" compilations of secondary data available on a country. Recent reviews of existing Profiles call for a more selective and analytical presentation of data that are more directly relevant to development planning. When this occurs, a Profile becomes a vehicle for recommending actions and policies that consider the present and future needs and the aspirations of the people, the institutional capabilities of the country, and any national development plans and associated aid programs.

The success of Profiles is linked to their coordination with other activities. In overall goals, Profiles are similar to efforts such as National Conservation Strategies, UNEP State of the Environment assessments, and Year 2000 reports. These efforts underline the connections between development and the environment. For instance, soil erosion and deforestation are manifestations of poverty and population pressures, while industrial pollution, environmental health hazards, and loss of genetic resources are conditions that can result from overlooking the environment. Profiles and other studies present ecologically sound ideas that can help you foster productivity and the sustainability of resources.

Host country institutions will take primary responsibility for future Profiles since improving a country's capabilities for research, analysis, training, and education are an important aspect of Profile preparation. With clear and established links between Profiles and national development strategies, the country's normal planning process will include the updating of Profile information. Therefore, Profiles must highlight opportunities for economic and social benefits that can result from effective environmental management.

When classifications of information are brief and introductory they focus on decision-oriented issues. These discussions should use parameters that indicate productivity or constraints to production. For instance, in the case of vegetation, useful parameters are standing crop, mean annual increments, livestock forage units, and vegetation of scientific or tourist value. Profiles should also describe trends such as forest successions after logging, grazing, or fire. Profiles should provide information at the appropriate scale for use by development officers.

Finally, Profiles should describe the system of resources and humans interacting. The summary of the Dominican Republic Profile states: "that natural resource management is a dynamic . . . process whose problems and solutions must be considered within a holistic framework of relationships between people and the land." These analyses should be built up from the local level. This would enable public participation in the Profile process and provide a means for dissemination of educational information to the broadest possible audiences.

Subsequent chapters of this booklet describe the Country Environmental Profile as both a process and a product through which you can incorporate natural resource information into development strategies.

Chapter 1

The Profile as Process and Product

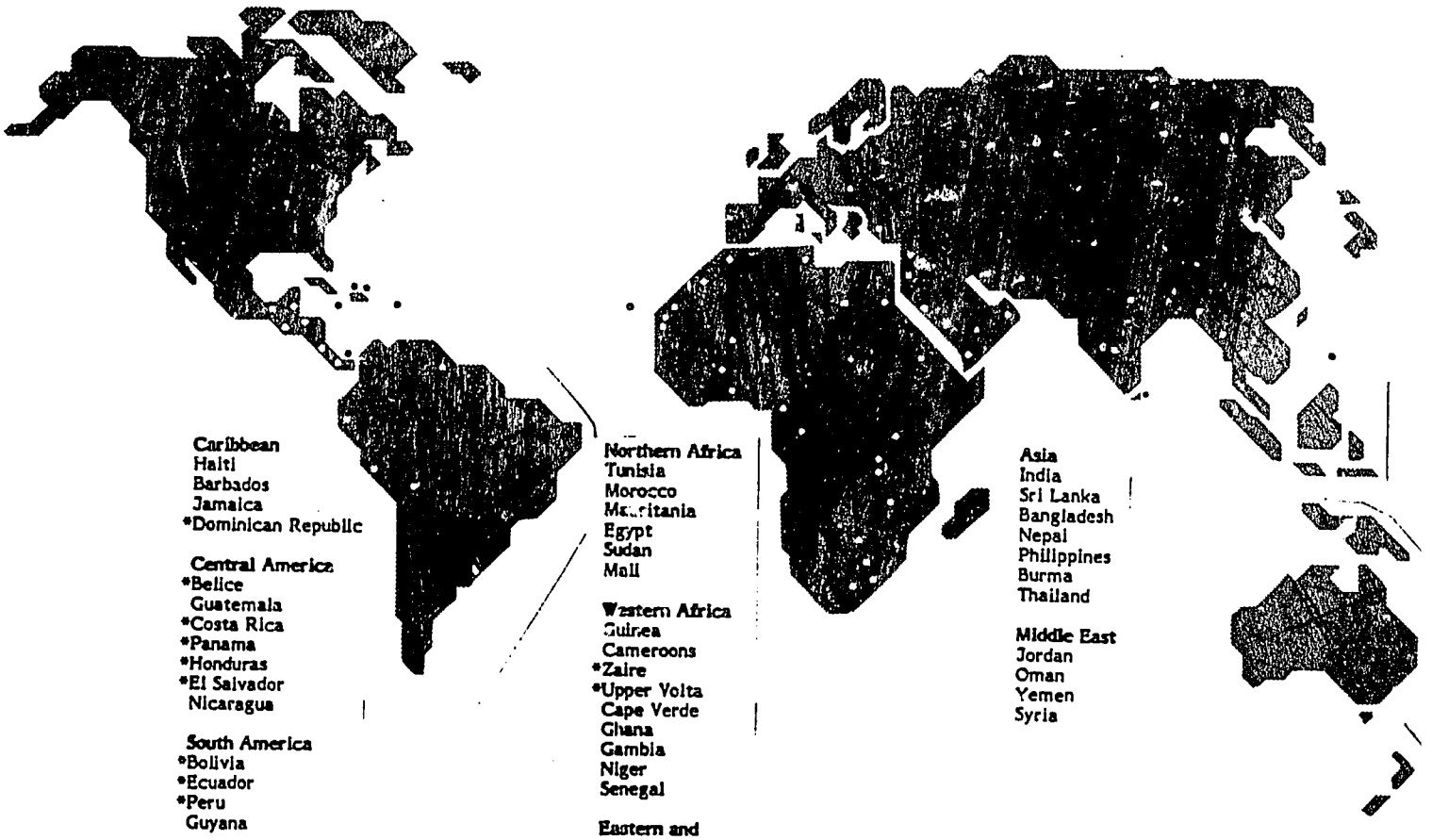
Overview

This chapter uses two case histories to show the Profile as both process and product. It sets out general considerations of how you or other interested people can determine what a Profile will do for a country.

Because each country's resources and needs are unique, both the products that present environmental information generated and the processes that produce them must be considered anew by every country undertaking a Profile. Therefore, this booklet sets forth options rather than prescriptions.

Background

Phase I Profiles are library studies prepared by researchers in the United States. To date, 47 have been prepared. (See list below map.) Phase II Profiles are field studies for which multi-disciplinary teams have visited field sites and critical areas to verify data and interview the people responsible for its collection. The structure of the multi-disciplinary teams, their geographic base, and their affiliation with the host country's government has been different in each case. However, the goal of matching a country's development needs with its various resources is common to all efforts. Eleven countries have produced Phase II Profiles. (They are indicated on the map by dots and in the list by asterisks.)



Caribbean
Haiti
Barbados
Jamaica
*Dominican Republic

Central America
*Belice
Guatemala
*Costa Rica
*Panama
*Honduras
*El Salvador
Nicaragua

South America
*Bolivia
*Ecuador
*Peru
Guyana

Northern Africa
Tunisia
Morocco
Mauritania
Egypt
Sudan
Mali

Western Africa
Guinea
Cameroons
*Zaire
*Upper Volta
Cape Verde
Ghana
Gambia
Niger
Senegal

Eastern and Southern Africa
Zimbabwe
Uganda
Rwanda
Burundi
Malawi
LeSotho
Swaziland
Zambia

Asia
India
Sri Lanka
Bangladesh
Nepal
Philippines
Burma
Thailand

Middle East
Jordan
Oman
Yemen
Syria

Different Approaches to Profiles

The case histories below of two Phase II Profiles indicate variations in targeted audiences and the organizational affiliation and procedures of teams. They also illustrate the shortcomings of existing Profiles and suggest new directions for future Profiles. In short, Profiles should change their approach from sectoral, negatively focused studies to holistic, positive approaches to issues of environment and development. This description is based on J. Dickinson's report.

The Dominican Republic

Growing concern over natural resource degradation led to the preparation in 1978 of an AID Project Identification Document (PID) on natural resource management. In 1979, hurricanes David and Frederick caused dramatic human suffering and massive erosion of an already degraded landscape. Together with the government of the Dominican Republic, AID supported the preparation of a Country Environmental Profile (Profile). The Profile helped to identify three projects:

- Natural Resources Management Project, designed to reduce extensive soil erosion in a major watershed;
- Forest Management Project, concerned with the management of forest and range land;
- On-farm Water Management Project intended to improve water management at the farm level.

The Profile inventories and describes environmental problems such as deforestation, erosion, and water resource degradation in the Dominican Republic. The Profile predicts further deterioration unless corrective action is taken. The Profile authors cite rapid population growth, lack of access to productive land, and failure of the service infrastructure as the significant contributors to increasing resource degradation.

The Dominican Republic Profile effort benefitted from the commitment and forethought of the Mission Director and the Agricultural Officer. Prior to arrival of the consultants from other countries, they selected a profile coordinator from the Subsecretariat of Natural Resources (SURENA) of the Ministry of Agriculture. The Agricultural Officer also identified local experts in agriculture, forestry, natural parks, and related areas who could contribute to the profile effort. During September and October 1980, the consultants carried out intensive field reconnaissance and interviews in collaboration with local counterparts.

Each team member prepared a sector report for his area of specialization. At the request of the Minister of Agriculture, the team leader edited the reports and prepared an introduction and summary. After a review by both the AID Mission and SURENA, the final document was published in July 1981 in both English and Spanish.

AID and SURENA seriously promoted the Dominican Profile. The team leader presented a summary of the study results to the country's President and cabinet. A newspaper serially published extensive parts of the Profile and the topic of resource management became an issue in the 1982 presidential election campaign. Significant Dominican participation in the

profile process, coupled with excellent use of political contacts and the press stimulated considerable publicity and debate. The Profile highlighted a set of problems that has served as the first step toward gaining public and political support to find solutions.

The number of Profile copies printed, especially in Spanish, did not meet the demand by professionals, schools, and citizens, not to mention interested readers outside the country. The first printing was largely absorbed by Ministers and Directors with few copies left for broader circulation. Unfortunately, a second printing was not available until long after the interest and enthusiasm had died down.

Ecuador

The Ecuadorean Profile is different from the Dominican Republic's both in execution and content. The government of Ecuador assigned the Profile to a private voluntary organization, Fundacion Natura. The preparation of the profile, called a Diagnostic Study, gave Fundacion Natura the opportunity to develop into an organization that can provide environmental assessment within Ecuador.

An consultant from the United States reviewed the proposed project outline and an outside project advisor oversaw the entire project. Otherwise, the process was carried out solely by Natura and its local consultants. Natura contracted the services of a project manager and 14 Ecuadorean professionals to prepare the various sector reports. Although Fundacion Natura is a voluntary organization, people were paid to prepare their sections of the Profile. This incentive encouraged participation. Rather than using highly specialized scientists to prepare chapters, Natura chose people with broad backgrounds in each area in order to enhance communication with the general public.

Americans who evaluated the Diagnostic Study noted that the scientific quality of the chapters was generally poor and criticized the emotional coloring, the lack of documentation of data sources, and the authors' failure to evaluate the quality of their data (Hartshorn, 1980 and Lieberman, 1982). Defenders of the Diagnostic Study dismiss these criticisms because scientific documentation was not a major concern, rather the primary objective of the study was to "raise the consciousness of the people" (Personal communication between Roque Sevilla, Natura President, and Joshua Dickinson).

The study operated within a flexible time frame. The technical writers were contracted for periods of four person/months, the institutional analyst for twelve months, and the Director and staff for seven-month periods. Beginning in 1980, elaboration and editing took approximately a year to complete. By the time the Profile was printed in 1982, it was a two-volume 1,400-page document written only in Spanish and published in a small quantity. After distribution to government officials and agencies, an insufficient number remained for use by professionals, students, and the public at large. The Natura library reproduced individual chapters of the document for reference use. People consult the copies available in the library.

A document with 1,400 pages is not useful for policy making or for broad circulation. Therefore, the government commissioned a journalist to write a shorter document, again in Spanish. This volume, called "Medio Ambiente y Desarrollo en el Ecuador" describes and analyzes Ecuador's environmental problems, provides an intersectoral cause-effect relationship analysis, and presents specific policy, legal, institutional, and other types of recommendations to address Ecuador's environmental and natural resources conservation issues.

Determine What a Profile Can Do for You

The case studies of the Dominican Republic and Ecuador indicate some of the country to country variations in Profiles. The first step in determining how a Profile would help your country is to ask general questions about the type of information you can use. Since a Profile can suggest solutions to the development problems your country faces, begin the Profile process by listing your most pressing development concerns, such as hunger and food shortages, debt repayment, trade imbalances, population pressures, endemic disease, rural-urban migration, and capital formation. The issues you enumerate should not be limited to narrowly defined environmental ones. A successful Profile should link development programs to your country's natural resource base.

In the three broad groupings below are some questions to suggest the kind of country description you should prepare to establish the scope of the Profile you need. These questions are only suggestive, and do not need to be answered in detail. You will want to develop your own set for your country. General responses to questions like these at the earliest stage of thinking about a Profile will help you formulate a realistic idea of your country's needs and study resources.

Biophysical Characteristics

Is your natural environment predominantly tropical, arid, or coastal?
How much of your land is farmed, forested, wetlands?
Do you still have frontiers awaiting colonization?
Do you have species of flora or fauna of scientific or tourist value?
Are there specific geographical areas where trends in resource outputs such as agricultural and forest products, fish catches, or hydroelectric generation have declined?
What factors of production are directly related to the physical characteristics such as slopes, land cover, agricultural soils, and water?
Does your country have an up-to-date land capability assessment?
Ask other questions about geology, soil structure, water sources, etc.

Socioeconomic and Cultural Characteristics

Is your country self-sufficient in basic foods?
How does food production compare to calorie consumption per capita?
Do you import commodities such as energy and food that you once exported?
How will national energy demands be met?
What are your pricing policies?
What is the rate of return on the investment of specific projects that involve a natural resource, such as a dam or irrigation project?

What unit of effort is required say, in harvesting forests or catching fish, and has it increased recently?
What attitudes prevail toward the environment?
Does your country have explicit policies for environmental and natural resource management?
What are your country's family planning policies?
How will your country provide education, health services, and employment in the future?
What are your future prospects for trade and capital formation?

Scientific and Institutional Characteristics

What scientific and technical expertise does your country have?
What programs does your country have in applied research?
What in-service training and extension services are available?
What has been the effect of road construction or irrigation projects on local populations and resource use?
What planning documents does your country currently prepare, and how would a Profile relate to those?
How will your country be able to use the information contained in a Profile?
What national institutions are capable of preparing, storing, and disseminating Profile information?

The data and analysis in the Profile for your country should help you understand and manage natural resources to improve overall development. It is important that a Profile address the questions and concerns of its target audience. What groups inside your country will be able to make use of natural resource information you supply: parliamentary committees, government agencies, private corporations, health and nutrition clinics, training and educational programs? Once you have formulated replies to questions like the ones above, you will be able to consider what products and what course of action will be in your best interests.

Chapter 2
The Profile as Process

Overview

Through the Profile proces, host countries build or strengthen networks of information and the people involved in development and resource management. This chapter describes the major goals of the Profile process, the responsibilities of team leaders, and offers general steps for completing the process.

Major Goals

The purpose of the Profile process is to document the interdependence of natural resource management and development within a country. The process and the resulting publication help justify the governmental commitment necessary to implement responsible development projects. A general process is described here to help people who will prepare a Phase II Country Environmental Profile. This process encourages the broadest possible participation of host country professionals, AID mission staff, professionals from other donor organizations, and consultants from other countries.

The preparation of a Profile is a valuable process because it:

- builds networks of people, organizations, and data bases;
- builds and strengthens institutions concerned with development and natural resources;
- identifies data gaps, options and constraints, and suggest strategies that respond to these issues; and
- acknowledges differences of bio-physical and political characteristics, budgetary limits, and professional staff of each country while determining appropriate development options. Differences that include language (professional and vernacular), cultural perceptions and traditions, as well as styles of problem-solving must be reconciled as a first step in working collaboratively and across traditional sectors.

The preparation of a Profile is frequently hindered because:

- human, financial, and natural resources available in most countries are generally insufficient for anything but the most urgent tasks.
- uncoordinated efforts frustrate each other and reduce the chances of success for either project.

Managing the Process

The identification of the goals that are shared by all participants is essential to establishing an atmosphere of cooperation in which the project can be managed. Of necessity these goal statements will be general. They will be most useful if they are kept informal as well.

Managing the process is likely to be complex and demanding, because The Profile process occurs at two levels. On the first level, the team members compile and interpret technical information to create a sketch of the country as a system. On the second level, the team is communicating the opportunities inherent in sound management of the environment. The following list suggests the multi-faceted nature of a Profile that:

- is exploratory, has several aims, and its end products cannot be precisely defined at its outset.
- requires multi-disciplinary activity drawing expertise from various professionals, agencies, and donor organizations.
- is a continuing process consisting of activities such as data gathering and analysis that may begin and end at different times.
- requires integration of socio-economic and technical factors in an exceptionally careful exercise of judgment.
- requires innovative economic criteria in order to monitor and measure progress. (For example, when sediment changes the flow in a stream, the design and operation of engineering projects are affected as well, increasing the maintenance costs and reducing the economic and/or useful life of hydroelectric and irrigation projects).
- requires harmonization of seemingly incompatible goals and the resolution of conflicts, (e.g., large building programs in coastal areas for industry, trade, or tourism versus the maintenance of near-shore fisheries dependent upon coral reefs and mangroves).

Team Formation

The size and composition of a Profile team will depend upon the region studied and the project's time, budget, and goals. Teams frequently draw on various disciplines including engineers, earth scientists, life scientists, and social scientists. Frequently, team members can provide expertise in a number of project-related fields. Specialists may be called in on a temporary basis as specific problems develop.

It is essential that team members show not only competence within their sectoral specialty but two other characteristics as well. First, they should be "environmentalists" who understand the interdisciplinary structure of environmental management. Second, they should have experience with working in a truly collaborative way with citizens of developing countries. In this way, the team structure--a complex network of interrelated activities--mirrors the complex environment it seeks to portray.

Team Leader's Tasks

The team leader should share the project's holistic philosophy and organize the team's activities to reinforce a systems approach. Therefore, three most important tasks of the team leader are to:

- consider and foster the interactions of sectors and develop overviews that synthesize sectoral reviews;
- prepare for dissemination and use of Profile; and
- insure data access and update capabilities.

The team leader also has routine tasks, such as to:

- ascertain that the problems addressed and the designated tasks fit within the Profile budget;
- control the level of detail in discussions; and
- serve as a liaison between AID Mission staff and the team.

The team leader must recognize the difficult trade-off between improving results and exceeding Profile resources. Throughout the process the team leader must monitor the team's efforts to insure that they do not concentrate on data collection and descriptive writing about sectors to the neglect of the more analytical tasks of evaluating the effects of sectors on each other and of making recommendations.

Modelling as a Process Tool

Models are tools we use for thinking. Donella Meadows, writing in Groping in the Lark, describes models as follows. A model is any simplified or generalized image of reality. Maps, toy trucks, corporate balance sheets, slogans such as "United we stand, divided we fall," and equations such as $E=MC^2$ are all models. A good model is not just any simplification, but one that reduces a complicated and confusing subject to its essence in order to serve a particular purpose. The best model is one that contains only what is needed for its purpose. Human decisions are never based on accurate perceptions of all relevant factors. In every action or decision we take, we use abstracted pictures based on our experience or what we have absorbed of others' experiences. Human beings think with models and cannot think without them.

The environment must be depicted as natural systems linked to socio-economic systems if the improved management of natural resources is to serve as the basis for sustainable development. Encyclopedic or textbook descriptions of soil characteristics and water networks are nearly useless in formulating strategies that seek to increase crop production or generate more electricity. In keeping with the objectives of Profiles to provide a sketch of a country as a coherent whole, a model is a tool for linking relevant information from various sectors into a system. Yet describing such a system can become a highly complex undertaking. Therefore, a model developed by Profile team members becomes an analytical tool that provides a systematic framework in which to examine a country's resources and interactions. A model also allows individuals from diverse professions and sectors to appreciate how their knowledge and data fit into an overall scheme.

Therefore, modelling serves several purposes within the Profile process as follows:

- It enables the team members to share and link individual or component models into a single systematic model and to identify the most productive and useful areas for study.

- It permits the many disciplines and sectors represented on a Profile team to understand how their work will fit in the overall scheme, identifies gaps in information, and permits the timing of products so that the information necessary for subsequent analysis is available on schedule.

- It facilitates the team's task of writing highly specific terms of reference for different disciplines and sectors.

- It provides an analytic framework for team members to identify system interactions for potential conflicts and opportunities that have an impact on development strategies.

Generalized Process

The following process description incorporates the experience of several Phase II Profile teams. Teams preparing future Profiles will want to adapt these suggestions to their specific needs.

The main stages and steps in the Phase II Profile process are listed in the following section. The accompanying diagram indicates the iterative quality of these steps. These basic steps will apply to virtually all Profile processes. However, within individual countries and teams you may need to adapt the steps to your specific projects.

Stage 1 — Scope and Research

Step 1 — The Agreement

Members of the host country organizations, representatives from an AID Mission, and AID Washington determine that a Profile is desired. Here, wide ranging discussions of existing regional problems, public perceptions, and governmental facilities and goals occur. The meetings culminate in agreement on the general goals, the proposed products of the study, and terms of reference for experts (local or foreign) to be contracted. The financial commitments of the participating agencies are also determined in this step. Meeting participants sketch preliminary workplans and schedules and discuss potential sources of technical staff and agency assistance.

Step 2 — Issues and Goals/Workplan

The people likely to prepare a Profile gather to formulate a workplan and to set technical and general educational goals through meetings and/or workshops. Project teams are assembled and tasks assigned. (See Team Formation.) Schedules and budgets are developed and refined. The team should be certain to identify and enlist a combination of agencies with strengths in data gathering and analysis as well as in project formulation and implementation. Agencies with a broad mandate and substantial financial and political power are desirable for their stability and effectiveness.

Step 3 — Conceptual Model

A conceptual model offers a useful means to better understand the interactions among various development activities and the natural resource system. As a simplification of reality, a model facilitates analysis. Such a model may be a written description, a matrix, a checklist, or a diagram representing relevant processes and interactions. The complexity of the system and the experience of the team determine what combination of representations to adopt.

Step 4 — Data Gathering

Team members gather existing information, use variables that conform to international standards, and document their sources. The team reviews the data requirements of development planners to make sure that data compiled for Profile analysis correspond to that context. Also, by using common metrics, the data gathered for a country's Profile can be utilized in a regional Profile at a later date. Team members make site visits to collect and evaluate existing data and interview representatives from government, industry, assistance organizations, and local populations. Fieldwork activities include making overflights, taking photographs, and gathering maps. Fieldwork also identifies gaps in available data.

Stage 2 — Analysis and Synthesis

Step 5 — Model as Analytic Tool

The limits of the study and the audience it addresses determine the extent of the analyses presented. The analysis describes the environmental and natural resource conditions and trends within the country in a way that anticipates the formulation of policy and the design of development projects. However, even the simplest analysis may require complex interpretations of a number of probable outcomes. Since the human brain can keep track of only a few variables at a time, a model is needed. A system with many components and linkages may warrant the assistance of a computer, if available.

Models, computer-assisted and otherwise, provide rapid identification of data gaps and inconsistencies. Identification, quantification, and qualitative evaluation of model interactions permit management options to be defined and potential conflicts avoided.

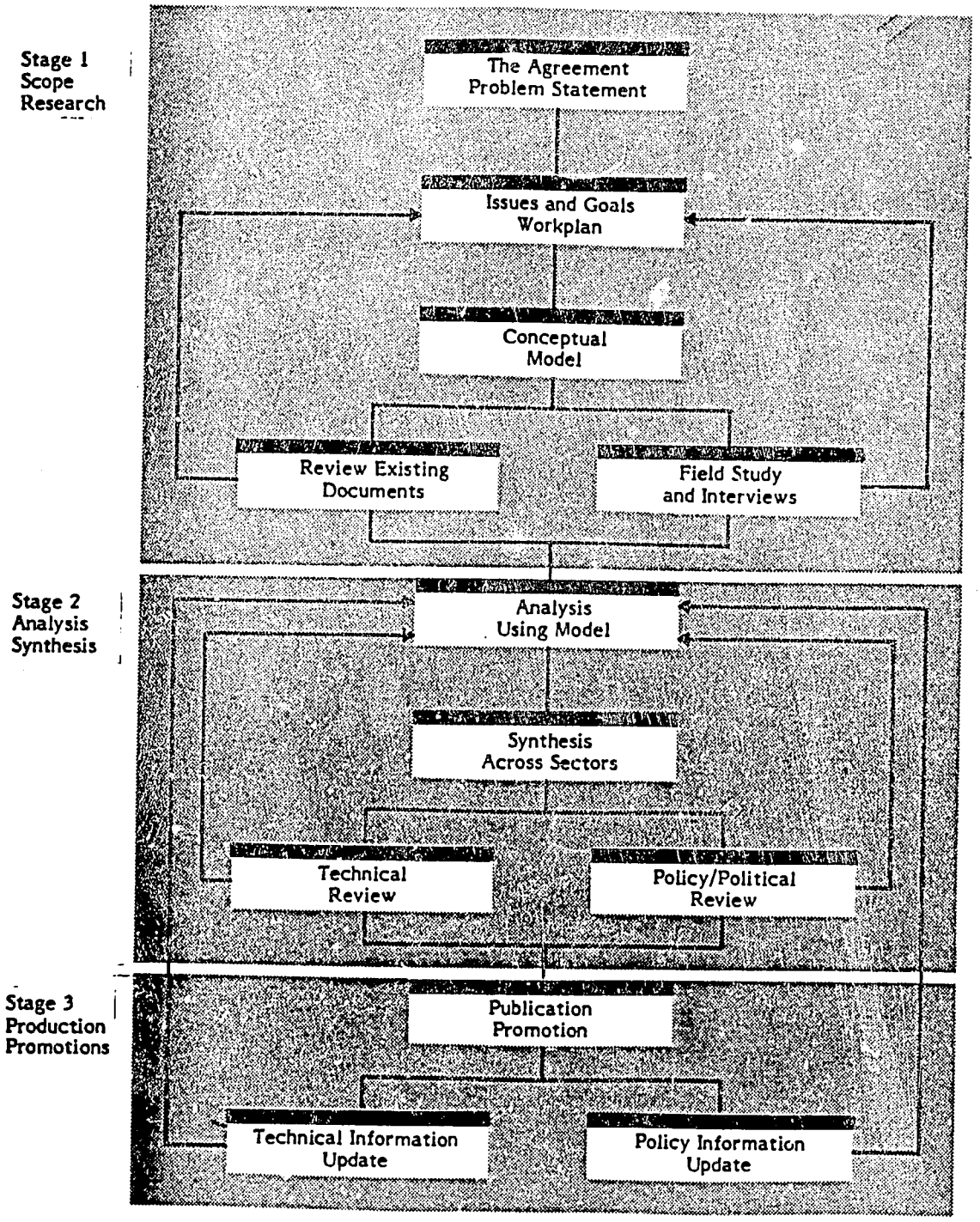
Step 6 — Synthesis

Data and recommendations from diverse sectors (agriculture, education, health, etc.) should contribute to a conception of a country as a coherent whole. Such a perception is vital for national planners to minimize intersectoral conflicts encountered in designing development strategies.

Step 7 — Review

To the greatest extent possible, the Profile should be reviewed both by team members and by people outside the team—preferably members of the targeted audience. The review process broadens support for the Profile, disseminates useful planning techniques and resource information, and instills a sense of accomplishment in those who participated in the Profile process.

A General Process for Phase II Profiles



Stage 3 **Production and Promotion**

Step 8 Publication

The format used for the Profile can clarify the documents' structure. Though each section should be graphically related to the others, each should be clearly identified as sector report, overview, etc. Such a structure will facilitate the reader's access to the kind of information he requires. Well before the publication of the volume, care should be taken that the format chosen is suitable conceptually and visually to all the sections.

All reviewers of existing Phase II Profiles lament the scarcity of printed copies. Profiles should be bi-lingual or published simultaneously in English and the language of the country. The AID mission staff together with host country organizations must determine a reasonable number of copies to be printed.

Step 9 Promotion

To be successful, Profiles must be promoted. To be effective, promotion strategies must be planned from the project's outset and tailored to suit the various audiences. Each audience will have its own interest in a Profile, requiring different promotional approaches. For example, an Executive Summary highlighting those issues that require executive attention and a briefing with audio-visual support may be appropriate for high government officials. Workshops, training sessions, and technical conferences may be the best approach to engineers, planners, researchers, and grass roots leaders. Press releases to the news media may offer a simple and effective means of reaching the general public, whereas local populations will be likely to require discussions, such as town meetings or coordination with training or health care programs. A local environmental educator could be invited to prepare a user or teacher's guide for the Profile to reach schoolchildren.

It is essential that promotional activities be well organized and coordinated with the various stages of a Profile's preparation and publication. At the project's outset, a promotional director should be named and given a budget. The director should be charged with the two-fold responsibility of developing strategies suited to the Profile's diverse audiences and uniting the technical and general educational goals of the Profile. For example, in Ecuador, a local journalist used the Profile as a source for a popular book about the country's environmental resources and development.

Step 10

Up-dating Mechanisms

Phase II Profile data provide a benchmark against which to measure changes in the environment at a future date. Therefore, the Profile team members, staff within the donor community, and members of involved host-country organizations must establish, if it does not already exist, a secure, accessible place with an oversight staff for an archive of environmental information. To continue refining the Profile as a tool, the Mission should prepare a report within a year of the Profile's publication, that highlights its contributions to the country's planning efforts, institutional development, and national awareness.

Chapter 3
The Profile as Product

Overview

This chapter discusses the content and the uses of the Profile as a document. The first section explains how a Profile's structure clarifies and reinforces the relationship of environmental information to development planning. The table on the next page establishes four categories of Profile information that collectively fulfill Profile objectives. The final sections describe various uses of existing Profiles.

Objectives Determine Profile Contents

AID assistance efforts worldwide seek to promote environmentally sound development. Profiles that provide information relevant to development planning reflect this objective. To inform the policy dialogue, the Profile publishes an analysis of present and future human, economic, and natural resource conditions. Profiles catalogue and inventory conditions and trends in various sectors. The descriptions they provide are short and analytical. This data strengthens the host countries' scientific data bases and the analysis capabilities of its institutions. Profiles present information in the units and indices used in development planning. Profiles provide environmental information in the form of site assessments, inventories, and monitoring methods to promote resource-conscious development projects.

Four Categories of Profile Information

Profiles contain four types of information:

- compilations of information from various sectors;
- analyses based on information in a way that depicts the country as a whole system;
- policy-relevant information, and
- project recommendations that fulfill sustainability requirements.

The table on the following page shows the different purposes served by each category of information. It will greatly simplify the Profile authors' tasks if the document is organized around these categories. This organization provides a structure that reinforces the objective of depicting the country as a coherent whole to increase the country's environmental literacy. Dividing the Profile into four categories will also:

- encourage Profile authors to present their natural resource information in a form relevant to the users' needs;
- control the level of detail while maintaining an integrated focus; and
- make each segment easier to write well.

There are other advantages to a four-section approach. Each section can be written in a tone and vocabulary that suits its audience. Presenting sectoral data in tabular formats makes it more useful in numerical comparisons than a prose text. Where the policy statement is more legal

the Profile without the technical assistance the AID Mission offered resulted in a final document that does not meet all of AID's internal Profile goals, but which has had a large influence nationally.

With the exception of Ecuador, no Mission has considered institution building to be a primary or collateral function of the Profile process. However, there are some 114 Ministries of Environment in the world under a variety of names. In addition there exist at least as many struggling PVOs with a conservation/ environment orientation for which the Profile process could serve as a means for institution building. The AID Mission responsibility and involvement would need to expand but not at greater cost. Based upon slender empirical evidence from Profiles to date, it appears that a team effort by the Mission, host country and complementing consultants can be most effective given the tremendous value derived from participation where it has occurred. Neither an exclusively local effort nor an outside consultant team can benefit the country as well as a cooperative approach involving several organizations.

Categories of Information	Time Covered	Appropriate Products	Personnel Requirements	Updating/ Monitoring	Needs Addressed
Sector reports					
Conditions and trends in environmental sectors such as water, soil, forests, coastal regions	past - present	Statistical tables Taxonomies Maps Photographs Descriptive text Narrative	Environmental scientists Life scientists Social scientists	Continuously	Establishes or enhances data base on natural resources. Provides benchmarks for future studies. Establishes indices for other surveys to keep them complementary.
Overview					
Analysis of sectoral information to give interactive description of the environmental, human, and financial resources	past - present future	Short, clear text Thematic maps Photos augmented with line drawings Diagrams of inter-dependence among sectors	Generalists from fields listed above, plus Historians/politicians Ecologists/philosophers Graphic designers Writers/visualizers Systems analysts	Rewrite annually, if possible	Brings information to the attention of broad audiences to engender conservation ethic
Policy suggestions					
Assessment of long-term prospects Define effective set of policies to bring about a more balanced and sustainable society	present - future	Report suitable for drafting legislation. Materials for inclusion in CDSS and ABS	Politicians Lawyers Economists Local populations Scientists	Periodic review as part of national planning and legislative cycles	Provide decision-makers with as well-informed a basis as possible from which to make judgments Encourages multi-institutional cooperation Involves highest level of government Develops standards, guidelines, and comprehensive, uniform environmental legislation
Project recommendations					
Environmental terms of reference Environmental precautions	present - future	Materials for manpower training in environmental terms of reference controls for environmental quality monitoring	Engineers Architects Environmental scientists	Project-by-project with reference terms and general indices published regularly	Incorporates environmental considerations into pre-feasibility design studies in a routine and systematic way

Use of Profiles by Host Countries

Opportunities for utilization of Phase II Profiles by host countries have been limited because of factors that vary from country to country. Bolivia conducted the first Profile in late 1979. Two coups occurred during the publication period, breaking linkages between AID and government personnel. Although published in both Spanish and English, the Spanish edition was so limited it quickly became unavailable. In Panama three years passed between the field work and the publication of a Spanish edition in May 1983. The English version has yet to appear. Personnel changes in AID and editorial difficulties contributed to the delay. Two years lapsed in Honduras before a sufficient number of Spanish editions of the Profile were distributed (September, 1983). The supply of copies in the Dominican Republic, though larger than elsewhere, fell short of meeting the demand created by a very effective promotional effort.

The President of Honduras designated Year of Forest Protection and Environmental Improvement and formed a national committee for the conservation and improvement of the environment. The committee's members come from both the public and private sectors. According to the AID Mission Director, the Profile, coupled with other AID initiatives, was a decisive factor in these Presidential actions (Negroponte Cable, June 1983). The increasingly active Honduran Ecological Association (AHE) is using a workshop built around the Spanish edition of the Profile to promote awareness and action on environmental issues affecting development.

The Dominican Republic's Profile contributed significantly to national awareness of environmental problems, particularly when sections of the document were published serially in the newspaper and the "environment" became a political issue in the 1982 presidential election campaign. An official in SURENA (the Natural Resources Subsecretariat of the Ministry of Agriculture) said that the Profile is their "bible" on resource issues. The staff from SURENA seved as the principal counterparts to the consultants on the Profile team. Their participation in the profile process made them active advocates for AID projects in natural resource management and forestry.

According to the President of Fundacion Natura, the 1,400-page Diagnostic Study prepared in Ecuador made an impression on the few upper level administrators who got copies simply by its bulk. Publications, educational programs and press releases based largely on Profile data have increased public awareness of environmental issues at all levels.

Use of Profiles in Institution Building

Assisting developing countries "in building the institutional and scientific capacity required for identifying, assessing and solving their critical environmental and natural resource problems" (and opportunities) is a stated AID policy goal (PD 6, 1983 p. 1). Outside consulting teams drawing on local professionals for data conducted Profiles in Bolivia, Panama, Honduras, Upper Volta and Zaire. In Turkey a local PVO prepared a Profile without AID involvement. In the Dominican Republic a team of international consultants worked through a division of the Ministry of Agriculture but prepared the report themselves. In Belize and Costa Rica local consulting firms with U.S. nationals on their staffs coordinated national and international material. Costa Ricans drafted most of the Profile chapters. Ecuador provides a distinct case in which the Profile was used as a mechanism for expanding the capabilities and influence of a private conservation group. The determination of the PVO to conduct

and economic in its concerns, the material developed for specific project recommendations addresses engineers and managers should contain environmental terms of reference that can be routinely and systematically incorporated in feasibility or engineering design studies and construction contracts. The overview section, the most general and public in nature, can address the decision-maker, ecologist, educator, journalist, industrialist, forester, and farmer.

Learning occurs after repeated exposure to an idea. The slight overlap of information necessary to prepare separate sections enforces the teaching value of the Profile. Although few readers will read the entire Profile, some may read more than one or be aware of the other sections.