

PN-ABH-595
70804

**Design Study for an
Environment and Natural Resources Information Center**

April 24, 1991

Office of Forestry, Environment, and Natural Resources
Bureau of Science and Technology
United States Agency for International Development

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EXECUTIVE SUMMARY AND RECOMMENDATIONS

The consensus among A.I.D. staff and contractors is that the Agency needs more timely and useful information with which to plan, manage, and assess its growing environmental and natural resource program. The Agency now spends at least \$400 - 500 million per year on projects and other activities in the areas of forestry, biodiversity, coastal resources, urban and industrial pollution, environmental health, watershed and water resource management, sustainable agriculture, energy conservation and efficiency, and global climate change, but its ability to monitor and assess has not kept pace with program development.

As a result, the Environmental Working Group, in cooperation with central and regional bureaus, is proposing to establish an Environment and Natural Resource Information Center (ENRIC): a new, centralized information aggregation, analysis, and reporting activity.

The World Resources Institute was asked to initiate a design study that would be used to plan ENRIC. Over the past two months WRI staff have interviewed 46 A.I.D. employees and contractors and examined the use of environmental data and information to develop perspectives on the priority functions and structure of ENRIC.

Principal Findings:

1. A.I.D. staff need a great variety of environmental information for the following activities:
 - o financial management: statistics on project obligations by activity and special issues to meet Congressional earmarks, internally track special programs, and inform constituents and special interests;
 - o project planning and management: measures of project outputs and impacts and information on the activities of other donors and NGOs to assess effectiveness and program priorities;
 - o policy and strategic planning: indicators of environmental conditions and trends and studies to plan future programs and develop internal strategies;
 - o analysis and research: biophysical data, analytical and research findings, and project and program information to assess program directions and examine priorities;

- o reporting to Congress and the public on program content: project and program obligations, outputs, impacts, and effectiveness and country-level indicators to report to Congress and others on the scope and impact of A.I.D.'s overall programs;
 - o responding to queries and demands of program staff functions: all of the above information and other pertinent environmental facts and figures to prepare efficient information summaries and responses to ad hoc queries.
2. A.I.D. staff can draw on a number of internal and external sources for this information, including:
- o The Activity Code/Special Issue Code database, compiled by PPC/PB for all A.I.D.-supported projects, and containing current and projected obligations.
 - o The extensive databases and documents maintained by DI such as A.I.D. project documents, A.I.D. research documents, on-line bibliographies, economic and social data, and the Research and Reference Services reports.
 - o Project/contractor databases and services such as the ICT database on FENR obligations or the WRI annual Directory of Country Environmental Studies.
 - o Outside databases and sources such as World Bank project appraisals and related documents, the CGIAR research reports, and many bibliographic, statistical, and GIS databases in federal agencies, private institutes, and international organizations.
3. The constraints faced by A.I.D. in using and improving the quality of the data are serious and need to be addressed. These include:
- o Inadequate internal review and analytical capacity: A.I.D. expertise is stretched thin and often inefficiently organized to make the best use of existing data;
 - o Greater need for monitoring: Aside from financial accounting there is a need for increased monitoring of environmental activities at the project and program level, for management, information description, and evaluation purposes.

- o **Difficulty of access:** Important environmental information is widely scattered both within and outside A.I.D. It is not essential that it all be centralized; it is essential that a central point of reference know where the information is located, its quality, and how to access it.
- o **Lack of communication and training:** Environmental information is under utilized because potential users don't know about its existence, or view its access and use as too laborious a process. There is little marketing of environmental information, both data and reports.
- o **Insufficient attention to information policies, management, and accountability:** Environmental information is a valuable asset, but not treated that way by the Agency. Responsibility for ensuring high-quality data collection is dispersed, responsibility for publishing major reports is diffused and viewed as a burden rather than an opportunity to enhance the image and role of the Agency. Policies for sharing responsibilities across bureaus have not been worked out for environmental activities.

Recommendations:

It is recommended that A.I.D. set up and maintain a central unit concerned with enhancing the development and use of environmental information. ENRIC should be dedicated to undertaking four core functions:

1. Proposed Functions.

Function 1. Supporting existing information gathering activities: validate, aggregate, and assist with interpretation and communication of financial and descriptive information. ENRIC should validate and check the AC/SI database, taking over the activities of the current ICT effort. Strengthening of CDIE/DI's collection and access of environmental information function is also recommended by dedicating CDIE staff to work on strengthening environmental information documentation within DI and/or by seconding CDIE staff to ENRIC. In later years ENRIC could expand these functions to include monitoring of environmental activities of other donors and expand project-level data collection beyond inputs to include information on project outputs and assist CDIE with impact and evaluation activities.

Function 2. Strengthening communication and reporting activities. ENRIC should take over annual Congressional report preparation functions now being consolidated into a single Environmental Program Report. In addition to the "unified" environmental report to Congress, ENRIC should conduct special studies based on analysis of existing databases and other information collected for Congressional reports, and it should assist A.I.D. staff in drafting program information summaries and preparing responses for testimony and similar requests. It should also prepare a newsletter.

Function 3. Expanding analysis services. ENRIC should conduct special studies and analyses based on existing databases and other readily available information.

In later years, ENRIC could also be called upon by missions and bureaus to perform special analyses and to prepare and publish special reports on country or regional environmental conditions and trends through buy-in arrangements.

Function 4. Expanding clearinghouse services. ENRIC should prepare a "road map" of existing sources both within and outside A.I.D., and provide rapid responses to "information please" queries from A.I.D. staff working with very close cooperation from CDIE/DI.

Conducting pro-active research and analysis of environmental and natural resource trends and issues could be done through buy-ins. Provision for technical assistance to missions on environmental monitoring and information and in setting up environmental information centers within developing countries are functions that would be handled by other central or regional projects.

2. Proposed Structure.

It is recommended that A.I.D. initially establish ENRIC as a sub-project within S&T/FENR, with a core budget approaching \$300,000 per year for the first two years. ENRIC should be given a long term commitment of funding and staffing because its functions are essential to the direct management and policy making of the Agency.

ENRIC should encourage strengthening of other existing environmental information services by working cooperatively with other bureaus and offices including PPC/CDIE/DI, PDPR, and PB as well as various offices of S&T and regional bureaus. This may also require putting additional effort into some of the environmental activities of these offices, especially CDIE. Limited funds should be made available for specialized consulting services and these could be substantially augmented through buy-ins.

A staff of at least 4 professionals should be hired: these four would constitute a core staff, and could be joined by two other staff from CDIE/DI. Staff positions are as follows:

1. Environmental Information Director
2. Environmental Data Management Specialist
3. Environmental Information Research Analyst
4. Environmental Communications Specialist

A substantial budget should be allocated to report preparation, printing, mailing, diskette and CD-ROM production, newsletter and report production and distribution, etc.

ENRIC core staff should be located in close proximity to A.I.D., particularly S&T/FENR.

A.I.D. senior management should appoint an Advisory Committee with members from central and regional Bureaus to ensure that the coordinating goals of ENRIC are met.

A more detailed description of functions, structure, size of staff, locations, and staffing scope of work are included in Section IV of the main report.

ACKNOWLEDGEMENTS

An initial draft of this report was prepared by Dan Tunstall and David Groenfeldt of the World Resources Institute's Center for International Development and Environment, through a cooperative agreement with S&T/FENR. The present report reflects substantial input from Dan Deely (S&T/FENR) and Ray van Raalte (S&T/MGT).

LIST OF ACRONYMS

ABS	Annual Budget Submission
AC/SI	Activity Code/Special Issues
AED	Academy for Educational Development
AFR	Africa (Bureau)
AGR	Agriculture (S&T)
A.I.D.	United States Agency for International Development
APRE	Asia/Private Enterprise (Bureau)
BSP	Biodiversity Support Program
CDIE	Center for Development Information and Evaluation (PPC)
CDSS	Country Development Strategy Statement
CGIAR	Consultative Group on International Agricultural Research
CIDE	Center for International Development and Environment (WRI)
CIDIE	Committee of International Development Institutions for the Environment
CIHI	Center for International Health Information (ISTI)
CP	Congressional Presentation
DI	Development Information (CDIE)
DIC	Development Information Center (DI)
DIS	Development Information Services (DI)
DISC	Development Information Services Clearinghouse (DI)
E	Evaluation (CDIE)
EA	Environmental Assessment
EIS	Environmental Impact Statement
ENE	Europe and Near East (Bureau)
EWG	Environmental Working Group
ENRIC	Environment and Natural Resources Information Center
ESDS	Economic and Social Data Service (DI)
FENR	Forestry, Environment, and Natural Resources (S&T)
F/FRED	Forestry, Fuelwood Research and Development Project
FSP	Forestry Support Program
H	Health (S&T)
IDRC	International Development Research Centre
IMF	International Monetary Fund
ISTI	International Science and Technology Institute, Inc.
IUCN	World Conservation Union
LAC	Latin America and the Caribbean (Bureau)
MGT	Management
NOAA	National Oceanic and Atmospheric Administration
NPS	National Park Service
PB	Office of Planning and Budget (PPC)
PDPR	Office of Policy Development and Program Review (PPC)
PID	Project Identification Document
PIR	Project Implementation Report
PP	Project Paper
PPC	Program and Policy Coordination (Bureau)
RD	Rural and Institutional Development (S&T)
R&RS	Research and Reference Services (DI)
S&T	Science and Technology (Bureau)

SAR Semi-Annual Report
USDA United States Department of Agriculture
USFS United States Forest Service (USDA)
WEC World Environment Center
WID Women In Development
WRI World Resources Institute

I. BACKGROUND AND SCOPE OF WORK

There is an emerging consensus within A.I.D. that the Agency needs more timely and useful information with which to plan, manage, and assess its growing environmental and natural resource program. The Agency now spends more than at least \$400 - 500 million on projects and other activities each year in the areas of forestry, biodiversity, coastal resources, urban and industrial pollution, environmental health, watershed and water resource management, sustainable agriculture, and energy conservation and efficiency, and global climate change. But the Agency has found that it does not have the information it needs to assess and report on the full scope of these activities and their considerable impacts on sustainable development. As the natural resource and environmental program has grown, so has the need for data collection and reporting and for consistent and sustained analysis and assessment of activities. But, the Agency's capacity to monitor and assess has not kept pace with program development.

Recognizing the limitations of the Agency's current data collection and reporting system, the Environmental Working Group, in cooperation with regional and central bureaus, is proposing to establish an Environment and Natural Resources Information Center (ENRIC): a new, centralized, information aggregating, analysis, and reporting activity. It is the purpose of this study to help identify functions and options for design of such a Center.

Many different groups within the Agency and the larger environment and development community are supportive of the concept and have identified numerous goals, objectives, functions, and ways to implement the Center. The purpose of this study is to capture the many ideas and suggestions from A.I.D. staff, NGOs, consulting firms, and others concerned with planning and implementing A.I.D.'s environmental and natural resource program; to carefully examine these in light of budget and staffing needs, to help generate a consensus within the Agency for the major functions of the Center; and to suggest a preliminary plan for the Center.

S&T's Office of Forestry, Environment and Natural Resources (S&T/FENR) asked the World Resources Institute's Center for International Development and Environment (WRI/CIDE) to undertake the design study for a proposed ENRIC under its ongoing Environmental Planning and Management (EPM) project.

The following list of functions was proposed by the Environmental Working Group in consultation with WRI staff as a provisional basis for the design study. The proposed Center might provide some or all of these functions:

1. To collect, scrub, and coordinate information on A.I.D.'s activities in the environment and natural resources area, making use of existing A.I.D. data and information systems (e.g., CDIE, AC/SI) so far as possible;
2. To prepare annual report(s) to Congress, activity summaries, responses for testimony, and similar requests from within and beyond A.I.D.;
3. To prepare selected reports on environmental and natural resource trends in areas of interest to A.I.D.;
4. To survey and analyze information from existing data bases outside A.I.D.;
5. To provide support functions on an ad hoc basis, as requested by Bureaus and Missions;
6. To produce a newsletter on "new developments" in environment and natural resources for distribution to A.I.D. staff, missions, and cooperators.

A. Scope of Work

The Study Team was composed of two staff: Dan Tunstall of WRI and David Groenfeldt, a WRI Consultant. The scope of work called for the following methods to be employed:

1. Identify key issues and questions for the study;
2. Gather information and sense of priorities by:
 - o Interviewing 8-10 key A.I.D. staff to gather information about information needs and priorities concerning Center purposes, functions, structure, etc.
 - o Conducting workshops with A.I.D. staff, NGOs, and contractors to gather information about their information needs, functions, etc.
 - o Conducting interviews with key staff in comparable information centers: CIHI, FSP, BSP, and others.

- o Reviewing selected A.I.D.-supported project databases.
 - o Reviewing databases, analysis procedures, and reporting activities at CDIE and WRI.
3. Prepare draft study.
 4. Review with S&T (FENR) and the Environmental Working Group.
 5. Make revisions and submit final study.

B. Methodological Approach

In undertaking the design study, the WRI team sought the views of a broad cross-section of Agency staff and cooperating organizations, including both information consumers (demand side) and producers (supply side). Although many parts of the Agency were necessarily excluded from the interview process, the team was able to meet with several people from each of the four regional bureaus (LAC, AFR, APRE, and ENE) and two central bureaus (PPC and S&T). An effort was also made to include the management levels of the agency, although primary emphasis was on the environmental staff of the regional and S&T bureaus, and staff involved in information functions within the PPC bureau. In all, 46 people were interviewed, either individually or in groups. (See Annex 1 for a list of persons and organizations interviewed.)

Although most interviews were with information consumers, the team made a special effort to interview representatives of the supply side of the information equation. Internally, supply side informants included PPC/PB, responsible for tracking financial obligations by topical area, and PPC/CDIE, which has overall responsibility for development information and evaluation of Agency programs. We also interviewed contractors such as the Academy for Education Development which operates the Research and Reference Service for CDIE; the International Science and Technology Institute, Inc. which operates the Center for International Health Information for S&T/H; and International Computers and Telecommunications, Inc. which maintains a separate database of environmental projects for S&T/FENR.

A.I.D. contractors and representatives from cooperating agencies were interviewed collectively during a lunch-time discussion. This group included a mix of information consumers and producers. The views of A.I.D. Missions were gathered indirectly through interviews with ex-mission staff now in

Washington. Further interviews were not pursued as it became apparent that the proposed ENRIC would primarily serve the needs of A.I.D./Washington.

Our intent was not to conduct an opinion poll of the Agency, but to sample a variety of perspectives that would help guide our own independent analysis of the Agency's information needs. That analysis has been informed by the WRI team's individual experiences and informal contacts within the Agency. The team was also guided by the new strategic management initiative of the A.I.D. Administrator that calls for upgrading information systems for more effective program tracking.

II. THE NEED FOR ENVIRONMENTAL AND NATURAL RESOURCE INFORMATION

Recent recognition of the environment as a critical component of the development equation has been marked by a dramatic upsurge of interest by the Congress, outside interest groups, and staff within the Agency in the environmental aspects of A.I.D. projects and programs. Many A.I.D. staff now view information on the biophysical status of the environment at a country or regional level as both necessary background for program development and management and as goals for project, program, and policy achievement. Several trends are significant for the design of an ENRIC: (1) environmental information needs within the Agency are at an all time high and still growing, (2) current needs are not being adequately met, and (3) the precise nature of future environmental information needs may change, as A.I.D.'s program continues to develop.

The term, "environmental information" is used broadly in this study to include information about A.I.D.'s environmental activities, projects, programs, and policies as well as information concerning the status of the bio-physical environment, both globally and in developing countries. Also included are the social, legal, political, and economic factors which relate to the natural environment (e.g., laws governing deforestation). Environmental topics frequently overlap with other sectors as evidenced by growing concern for environmental health, environmental education, sustainable agriculture, and renewable energy. ENRIC, once established, would have to more clearly define its scope of coverage; however for our immediate purposes it is enough to note that environmental topics are rarely found in a pure state, but they relate closely to other development sectors. Indeed, most sectors can be viewed as possessing an environmental aspect. Thus, environmental industry, environmental financing, environmental law, natural resource economics, environmental policies, etc. have become recognized fields of inquiry, and hence of information.

A. Types of Environmental Information

There are four major types of environmental information that A.I.D. staff will expect ENRIC to have on hand or be able to access: textual, bibliographic, statistical, and geographical.

- o Textual material will include: project papers, project evaluations, end-of-tour reports, ABS/CP, studies, research reports and findings, policy papers, policy research, environmental profiles and assessments, reports and evaluations of other donors, etc.
- o Bibliographic information will include: cataloging and abstracting information for major environmental reports, documents, research, etc.; bibliographic information on databases, map files, experts, EIAs, NGOs, legislation and regulations, other donor projects, etc.
- o Statistical data will include: data on aspects of A.I.D. activities such as project obligations, summary data on A.I.D. environmental activities, data on environmental conditions and trends in developing countries and in A.I.D.-supported countries, data on regional and global conditions, key research findings, etc.
- o Mapping information will include: hardcopy maps of countries, thematic maps, maps of selected field projects, digitized data for selected GIS applications, etc.

Increasingly, staff will want access to this information in hardcopy and electronic forms. More importantly, they will want to integrate more than one kind of information electronically. For example, they will want to have computerized access to all major reports from the environmental projects and activities of a given country and search these for key terms and relationships. They will want to access reports and statistical databases at the same time. They will want to link maps and bibliographic information.

The types of information and the ways they are accessed, integrated, analyzed, and used will change rapidly. ENRIC will be in a position to develop and facilitate new methods for accessing and combining environmental information and promote the use of this information within the Agency.

B. Uses of Environmental Information

To better understand how the environmental information needs of the Agency are evolving, we asked respondents to identify the kinds of environmental information they used regularly in their work and how they used this information. We also asked them to identify information that they wished they had or wished the agency would collect and make available to them.

We identified six major uses of environmental information:

1. Financial management. The highest priority information for many A.I.D. staff was financial data relating to Congressionally earmarked environmental activities. For example, each Bureau may be assigned responsibility for committing a portion of an earmark, and must ensure that it is met. For FY 1991 the earmarks were \$15m for biodiversity, including: \$3.0m - Parks in Peril; \$0.5m - Neotropical Migratory Bird Conservation; \$0.1m - Charles Darwin Station; \$0.75m - Project Noah; \$1.5m - National Science Foundation; and \$5.0m - elephant conservation; \$30m for global warming assessments; \$20m for energy; \$10m for the Montreal Protocol Facilitation Fund; and \$0.2m for the Antarctica Protection Act.

Staff use data on obligations, but increasingly would like to have a more accurate picture of expenditures. They get financial data on projects from the PPC AC/SI (Activity Code/Special Issues) database. Some staff use the ICT project database which modifies the AC/SI data; others concerned with biodiversity spending use the BSP project database. Staff would like ENRIC to help improve the availability of accurate and consistent financial data, standardize collection and distribution, and represent the views of the environmental analysts in discussions with PPC/PB.

2. Project Planning and Management. Project planning, design, and management is primarily the concern of mission staff and therefore the missions collect and maintain most project-level information. The Bureaus need only enough information on project status to support program planning and management. Bureaus use project-level information, mostly gathered via cables from missions, to monitor project effectiveness in terms of biophysical measures (e.g., hectares of agricultural land subjected to soil conservation measures; number of trees planted) and socioeconomic measures (e.g., income going to women beneficiaries of a reforestation project, value of annual harvest of non-timber forest products). This kind of information is not easily accessible and its collection and analysis is largely confined to the context of individual project evaluations. This information is made available most often to project managers and host country officials and is usually reported to senior management and the public on an ad hoc basis.

Information on project inputs, outputs, and impacts are needed by regional and central bureaus, but the need varies greatly. Some bureaus are becoming more involved in tracking the performance indicators for mission programs. (See, Section C. - Information Users, for further discussion.)

There was little agreement among A.I.D. bureau staff on what additional kinds of information should be collected at the project level and made available to headquarters. Headquarters staff are reluctant to ask Missions to fill out more forms and write more reports. With the increased emphasis on evaluation, there is likely to be increased attention to project level data, particularly on outputs and impacts, but no formal plans now exist for requiring all projects to collect and provide more of this kind of information. This may become, in the future, an area for ENRIC to address in cooperation with CDIE.

None of the staff who were interviewed by the team mentioned the need for information to prepare environmental impact assessments or statements for A.I.D. projects, nor did they indicate that they used these reports as part of their normal job function.

3. A.I.D. policy and strategic planning. Information about priority needs of countries and regions, the performance of A.I.D. programs, and information about what other donors are doing are used to establish the Agency's and regional bureaus' environmental and development policies and strategies. Much of this information is taken from A.I.D.-supported studies such as Environmental Profiles and Action Plans, CDSS annexes, etc. Country level indicators of environmental status and trends are taken from reports such as World Resources and various reports by UNEP, FAO, WCMC, the World Bank, OECD, and other similar organizations. Policy studies carried out by A.I.D. staff and contractors, the World Bank, WRI, OTA, and others are used to help staff develop policy options and strategies for developing countries as well as the Agency itself.

People we interviewed would expect ENRIC to help in locating and accessing this kind of information, but not in conducting studies and analyses to generate the information in-house.

By and large the uses outlined in both 2 and 3 above, do not fully take into account the new directions suggested in the Agency's Environmental Initiative. The Environmental Initiative requires that all aspects of A.I.D. activities - projects, programs, policies - incorporate environmental values. This means, for example, that A.I.D.-assisted economic policy reform in developing countries should assess both positive and negative economic impacts on the environment, such as soil conservation, types and rates of deforestation, pesticide use, etc., as well as

macroeconomic conditions such as employment, income, and balance of payments. This vision of how environmental and economic policy dialogues should operate suggests the need for and use of new types of environmental information at the country level and ways to convey that information to regional and central bureaus, and vice versa.

4. Analysis and Research. Various forms of analysis and research are a major activity within headquarters which makes use of a considerable diversity of environmental information and sources. A.I.D. funded research on irrigation management during the 1980s, for example, drew largely on in-house documentation generated by A.I.D. projects and yielded generic lessons that have helped to transform the way in which irrigation projects are carried out by all donors. Analysis and research efforts are currently underway in the fields of sustainable agriculture, natural forest management, fragile land management, biodiversity, and environmental policy.

Researchers can usually make use of the same information generated through routine project management, and supplement this with detailed studies of the particular problem, whether it be the impact of herding on soil erosion or the role of NGOs in policy reform. The recent growth in policy research within A.I.D. will put new demands on A.I.D. information sources.

Staff interviews provided mixed signals on the role of ENRIC in support of analysis and research. Some would like ENRIC to take on major research functions, particularly those related to summarizing A.I.D.'s experience in the field; others strongly objected, saying research was the function of S&T and specific research projects.

5. Reporting to Congress and the public. Each year information on A.I.D.'s environmental activities (both financial and project status, as well as impacts) is needed to prepare Congressional reports and other public queries. For example, the following Congressional reports were among those mandated for FY 1990 or FY 1991:

- o Integrated Pest Management Sector Review Report
- o Wetlands Protection
- o Pesticides and Chemical Weapons Proliferation
- o Integrated Pest Management (Building Institutional Capacity)
- o Global Climate Change
- o Project Noah (Genetic Conservation)
- o Rice Husk Electric Power
- o Conservation of Tropical Forests and Biodiversity

For FY 1991, A.I.D. is taking the first steps toward a future plan to submit a "unified" report to Congress that will address the specific topics cited above, and will also include additional information not required by Congress, but deemed important by the Agency for conveying a sense of its environmental portfolio. The information required for the Report includes descriptions of A.I.D. activities (inputs and outputs), the results of those activities (impacts), and the overall environmental setting at country and regional levels.

A.I.D. staff support the notion that ENRIC should take on the bulk of the workload for this reporting function. A recurrent suggestion was that the reporting function should be given more attention when plans are set for gathering project and program data.

6. Responding to information summary requirements and to ad hoc queries. A ready set of pertinent environmental facts and figures is needed for generating efficient regular activity summaries and responses to ad hoc queries. A common situation is a request from higher management for particular information (e.g., the status of global warming projects being carried out in key countries) that may or may not be closely related to an Agency activity. Both summary data (e.g., the global rate of tropical deforestation) and high impact-value facts and figures (e.g., one hectare of tropical forest is destroyed every 2 seconds) are required.

ENRIC would be expected to help develop the information systems to gather and monitor such information.

C. Users of Environmental Information

Much of the demand for information can be traced to Congressional mandates and related interest groups. The WRI team encountered little interest in management-feedback information beyond that already provided through the normal evaluation process. Regional bureaus indicated that this kind of information is adequately addressed either at the Mission level (in terms of particular project monitoring and impact analysis) or by CDIE's evaluation function. Missions and the contractors they employ do make use of environmental information (e.g., number of trees planted or hectares reforested), but this information is not routinely transferred to program managers at the bureau level.

From an information perspective, A.I.D. can be divided into four categories of information users: (1) Regional Bureaus, (2) Central Bureaus (S&T and PPC), (3) Missions, and (4) Contractors and NGOs.

1. Regional Bureaus. Tracking regional expenditures against the budget and against Congressional earmarks appears to be the dominant informational concern of the LAC and APRE bureaus. Project-level information on expenditures, status, and impact is a responsibility of the missions (see below); interest at the bureau level is limited to the information supplied in the semi-annual reports (SARs) and project implementation reviews (PIRs). Regional staff interviewed expressed satisfaction with the existing project reporting system, while noting (in one instance) that the considerable information that goes into mission cables could be put to better use if computerized for access and retrieval.

The priority concern of the LAC and APRE bureaus is on inputs, with project-level outputs and impacts an issue left for the missions to monitor and evaluate. Country-level summary indicators are a priority for program planning and as ready reference for ad hoc requests, including Congressional testimony and reports. More detailed information about environmental status is not a priority, although knowing where such information can be acquired, if needed, is important.

Both the AFR and ENE bureaus place a much higher value on tracking statistical indicators of environmental status, and are involved in efforts either in-house (ENE) or through contractors (AFR) to maintain up-to-date databases. For both bureaus, such information will be used in planning new programs and re-shaping the project portfolio. The difference in emphasis between these two groups can be traced in part to the greater oversight required by the AFR bureau through the terms of the Development Fund for Africa (DFA) assistance program, and recent Congressional interest and related mandates relating to Eastern Europe.

2. Central Bureaus. The units of A.I.D. that are involved routinely in analysis and research on environmental and natural resources issues include CDIE, PDPR, and WID (all within the PPC bureau), and to varying degrees, all offices of the S&T bureau. The direct research role of S&T has diminished in recent years. With a trend towards contracting out the research function, S&T staff have become research managers. However, S&T offices have some similarities to Missions in that they design and implement projects and they often have staff performing analyses of environmental problems and trends as a part of office and broader Agency program planning. The project design and management function of S&T offices implies a need for detailed environmental information. In practice, however, much of this work (e.g.,

preparation of project identification documents and project papers) is handled by contractors, rather than done in-house.

Financial tracking to comply with Congressional earmarks is also a high priority for S&T, as several earmarks having to do with biodiversity and energy, in particular, fall within the domain of this bureau. For the same reason, the responsibility for writing many Congressional reports frequently falls to S&T.

The environmental information needs of senior management within the Central Bureaus focus on financial tracking and Congressional reporting. From our limited interviews with management, it appears that qualitative information on the status of A.I.D. programs is more useful than are quantitative details. For example, senior management is more likely to ask a general question such as, "Where is our energy program headed?", than to raise a specific question about the feasibility of gas-fired turbines in Bangladesh. Thus, senior management is apt to benefit from ENRIC as (1) a secondary user of environmental information that has already been digested by the technical staff, or (2) asking for special reports on particular environmental topics.

3. Missions. Environmental information at the country level is mostly acquired by Missions directly, through in-country sources, as well as through contractors, both local and expatriate. The consensus of those interviewed was that the detailed level of information required by Missions for managing projects could not be provided through a centralized ENRIC. Rather, the Missions would more likely acquire their own information from host country government and other sources and commissioned studies, and could thereby serve as suppliers of information that would feed into ENRIC. One respondent strongly recommended that A.I.D. missions support the establishment of Environmental Information Centers in each country, thus providing a ready supply of documents and data for A.I.D. missions, as well as for host country organizations.

4. Contractors and Cooperators. Whether consulting firms or NGOs, the organizations that work with and for A.I.D. conduct much of the actual work of the agency. Much of the environmental information needs they face in designing, implementing, monitoring, or evaluating projects involve details available only at the Mission or country level. For example, while information on national level environmental trends and recent A.I.D. projects could be made available through CDIE/DI, a myriad of necessary details such as institutional capacity, current legislation, specific environmental data, resource management practices, local attitudes, and the most recent activities of other donors can be learned only through a field presence. The information that could be provided by ENRIC would meet only a portion of contractors' needs.

III. CURRENT STATUS OF ENVIRONMENTAL INFORMATION RESOURCES

A surprisingly large amount of environmental information exists within the Agency. Not surprisingly, most of the Agency's information resources focus on A.I.D. projects and associated documents. Because of the long-standing emphasis of A.I.D. on research, most projects stimulate a good deal of special studies and a growing number concern natural resources and other environmental issues. This section provides an overview of the major sources of environmental information within the agency, and analyzes some of the problems with the current systems for developing, maintaining, and distributing environmental information.

A. Review of Information Resources

There are three broad categories of environmental information resources within the Agency: (1) the financial database maintained by PPC/PB, (2) the library and associated topical databases, bibliographies, and statistics maintained by PPC/CDIE, and (3) project-specific and other special interest databases developed and maintained through contracts or cooperative agreements. (See Figure 1 for a graphical representation of intra-Agency information sources). A fourth category covering information sources outside A.I.D. is also discussed briefly, and is shown in Figure 2.

1. AC/SI Database (PPC/PB/RPA). Financial information, principally annual obligations, are compiled twice a year, at the time of the Annual Budget Submission and the preparation of the Congressional Presentation, using the PPC AC/SI (Activity Code/Special Issues) system. Coding instructions are sent to all project officers in missions and headquarters. The primary task consists of matching known activities to the codes and allocating a percentage of obligations to the various activities.

Activity Codes are comprehensive, which means that the primary objectives of the project and all its components can be described and the obligations for the project will total 100%. Special Issues Codes are used to allocate obligations by cross-cutting themes, such as biodiversity, and in this case the components may total more or less than 100%. The SI codes enable A.I.D. to more accurately track certain areas of concern to Congress and to senior management. This dual accounting scheme gives the Agency considerable flexibility, but its implementation has sometimes been difficult and confusing.

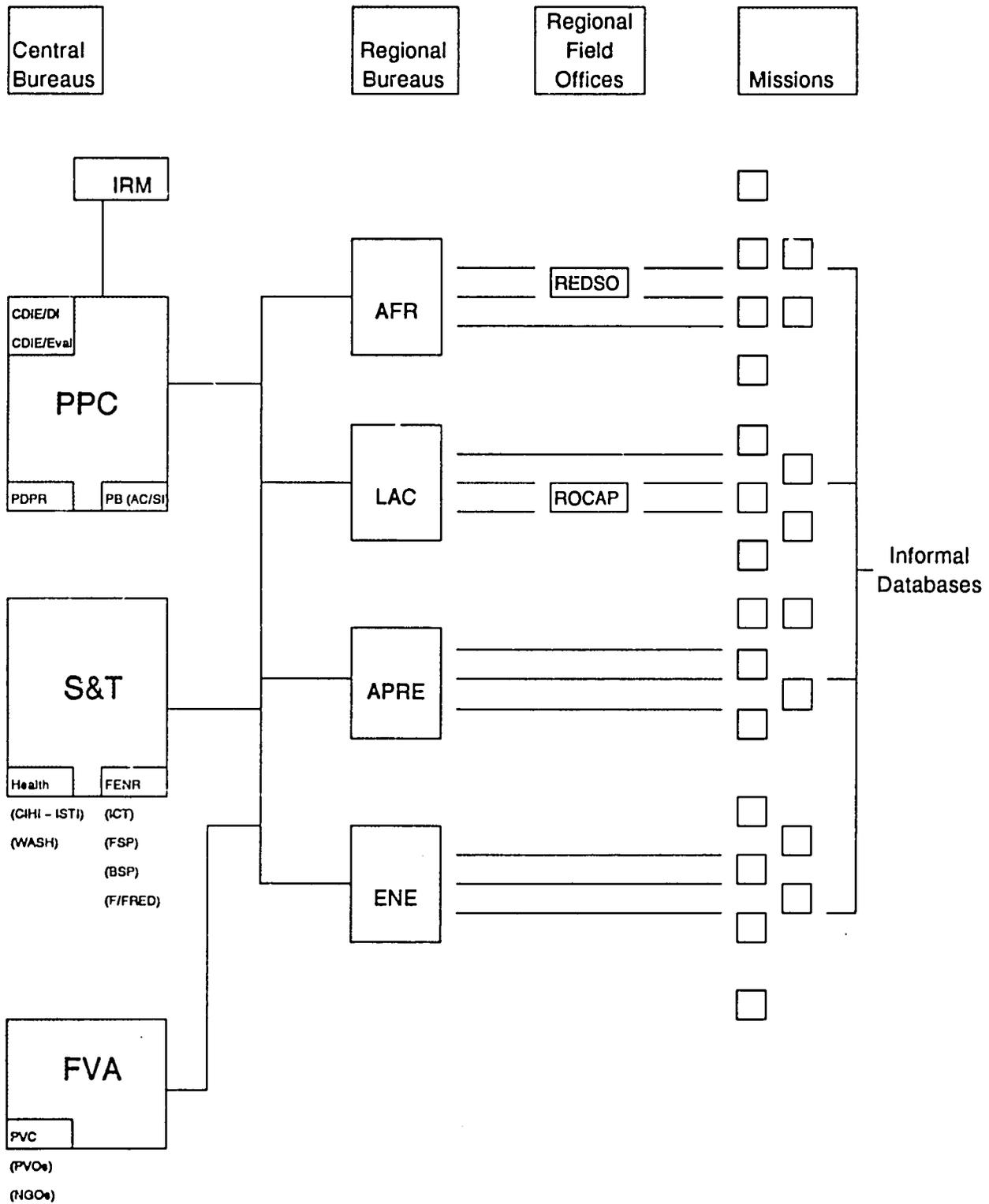


Figure 1. Selected intra-agency environmental information sources and interactions.

	Developing Countries	Regional Organizations	U.S. Agencies & Organizations	Bilaterals	International
Governmental	planning agencies other line agencies: - forestry - agric. - irrigation	ESCAP	EPA DOE USDA USFS NPS	CIDA SIDA GTZ NORAD IDRC ODA ODI AIDAB	UNEP OECD UNDP FAO World Bank IFAD WHO WMO Regional Banks CGIAR
Private/NGO	Freedom from Hunger (various countries) WALHI (Indonesia) Sarodaya (Sri Lanka) Haribon (Philippines) etc.	SEAsia Wetlands Network etc.	CARE WWF WRI NEC	ILFIA IIED	IUCN WWF

Figure 2. Selected environmental information sources outside A.I.D.

The AC/SI system maintains 59 Activity Codes of which at least 7 are designated environmental. There are 80 Special Issues Codes of which 12 have been officially designated energy and environment. (See Annex 2 for a complete listing).

Other important data fields in the AC/SI system include: project number and name, obligations for past, current, and future years, a spatial code, and importantly, codes for PVO participation, training including gender, and research.

A.I.D. staff can access the database via modem through terminals that can communicate with A.I.D.'s mainframe computer.

Comments. This system has been in place for only two years, and the system is still being perfected. Data for fiscal year 1989, for example, were not considered reliable by PB because the system was being tested when initially implemented. There is widespread criticism among regional and S&T staff regarding the accuracy of the activity codes, because of coding errors reflecting judgements made by individuals estimating the percentage of funds allocated to each. Those responsible for maintaining the database note that they rely on the missions and regional/central bureaus to provide reliable information.

Current efforts to improve the system include revisions of the codes and some interaction between PB staff and project technical staff to check and modify the coding attributions. The utilization of the databases for preparing the Annual Budget Submission and the Congressional Presentation is helping to speed its revision as discrepancies come to light.

There is a clear need to set up an ongoing mechanism for verifying and confirming or correcting codes and to properly assist with interpretations of the codes to answer specific technical or sectoral questions. An ENRIC unit might be well positioned to provide this service.

2. Development Information (PPC/CDIE/DI). Four types of information services are available to A.I.D. staff, contractors, and in some cases the public at large: (1) Research and Reference Services (R&RS), (2) the Development Library (Development Information Center) which contains books, journals, and published A.I.D. reports, keeps abstracts of most recent and ongoing A.I.D. projects, has cooperative agreements with other libraries (e.g., World Bank, IDRC), and has access to on-line bibliographic databases, (3) Economic and Social Data Services providing macro-level statistics derived from the World Bank, IMF, and UN, and (4) the USDA Technical Inquiries Group providing technical literature on agriculture and rural development. The DI also maintains the Development Information System (DIS), a computerized system containing several databases which provide project descriptions and references to research and technical

documents. (Annex 3 contains a one-page description of each service including the DIS.)

Of these services, the two most frequently used for environmental information are the R&RS and the library. R&RS staff conduct bibliographic searches upon request, which can yield valuable sources if published or if in the A.I.D. collection. Turnaround time is about three days. In the library, users can conduct their own searches via terminals connected to two on-line A.I.D. databases: one for A.I.D. projects (including some end of tour reports and other "grey" project documents) and the other for A.I.D. documents and special studies. Bibliographies thus generated, including abstracts if available, can be ordered on-line and are mailed to the user. Turnaround time is also about three days. Paper copies of documents in either database can be ordered through the Document Information Services Clearinghouse (DISC). This service costs \$0.13/page and takes about two weeks. Costs for services are charged to projects whenever possible.

Comments. Very few of those interviewed use the DIC routinely, and some had never used its services. Within the past few months, a new cadre of DI "outreach" staff have been assigned to three of the four regional bureaus to encourage and facilitate use of DI databases and usage has increased substantially. Plans call for making the databases accessible through office terminals, but at the moment, access can be made only by using one of the two terminals in the library. A.I.D. project paper abstracts appear to be entered into the system within 6 months, and the full text of these papers is available on microfiche in the same library. The A.I.D. document database is less timely, and far less inclusive. It is not known what proportion of targeted documents actually enter the database, but it is clear that many documents have not been entered. For example, one of the first tasks of the DI outreach staff assigned to regional bureaus was to compile a full set of project-related documents.

The Economic and Social Data Service provides up-to-date statistical information from the World Bank, IMF, OECD, and others to A.I.D. staff in missions and headquarters. Most statistics are about economic conditions, trade, debt, demography, and social conditions. Very few of these data services are directly useful for monitoring change in environmental conditions. This is a major gap. This service has the potential of providing missions, headquarters, LDC governments and NGOs with the best available country-level, environmental statistics and indicators.

3. Project/contractor databases. A number of A.I.D. projects include a large information-gathering and database management component, and in a few cases, project activities are focused exclusively on information.

The most important environmental financial database maintained through an A.I.D. contract that is now in its second year is the Environment and Natural Resources database of International Computers and Telecommunications (ICT), under contract with S&T/FENR. The ICT staff takes information for environmental projects from the AC/SI database and maintains the information together with additional descriptive data fields on d-BASE IV. The ICT database also includes textual summaries of most projects, which are derived from the CDIE/DI database (discussed above) or from other sources (PP, CP, etc). In addition, the ICT staff confirm and examine the accuracy of the AC/SI percentage allocations based on discussions with regional bureau staff or through cross-checking with other sources. The ICT staff produced a summary report in Sept. 1990, and also makes the d-BASE files available on diskette. Special reports can be generated on request. The ICT contract is now (FY 1991) in its second year with a budget of ca. \$250,000.

The Africa Bureau has requested the World Resources Institute (WRI) to compile country-level environmental indicators to help track changing conditions in Sub-Saharan Africa in the areas of soils, vegetative cover, and biodiversity. Initial data sets will be taken from the WRI database and a diskette version prepared for use in headquarters and missions. The ENE Bureau is considering compiling a similar database of environmental trends. A number of A.I.D. Missions have contracted with Management Systems International (MSI) to identify indicators suitable for tracking program performance, but in this case the Missions themselves would maintain the actual data once the system is put in place.

Other projects in S&T/FENR and S&T/Health containing an environmental information component include the following:

1. The Forestry Support Project (FSP): maintains a registry of 2500 forestry and natural resources experts.
2. The Forestry, Fuelwood Research & Development Project (F/FRED) maintains a research database on research trial performance characteristics of multipurpose tree species.
3. The Biodiversity Support Project (BSP) contracts with WRI to maintain a database on efforts in LDCs to conserve biodiversity.

4. The Water and Sanitation for Health Project (WASH) maintains a database on the extent of sanitation coverage, tracking of donor projects, and expenditure of A.I.D. activities for LAC and AFR regions.
5. The Center for International Health Information (CIHI) acquires information each year on A.I.D.'s child survival and health projects. The Center also maintains a health statistics database and prepares A.I.D.'s Annual Report to Congress on Child Survival. In many respects, the ISTI managed CIHI is a strong model for the proposed ENRIC.

Comments. Inadequate marketing of information resources appears to be a problem common to many of the databases financed through A.I.D. projects. Some projects (including FSP, BSP, and F/FRED) publish newsletters announcing their databases and information services, but there is no central pathway by which their services can be tapped.

The ICT database could become a valuable resource for A.I.D. management at all levels. One of the primary purposes served by the ICT work last year was to verify and confirm all funding and project information included in the 1988/1989 Report to Congress on Tropical Forests and Biological Diversity (tf/bd). But because it was also the first formal attempt to confirm and validate a complete list of all A.I.D. environmental projects beyond tf/bd, only very few of those interviewed were aware of its existence. Only 10 copies of the Sept. 1990 summary report prepared by ICT were produced and distributed to a very restricted internal audience.

The current ICT Project is aimed principally at improving financial accounting of projects in the sector starting with forestry and biodiversity. But areas of environment, natural resources, and energy beyond tropical forests and biodiversity are only now beginning to receive attention. ICT also has plans in FY 1991 to expand its coverage of PL-480 and NGO activities.

At this point, the ICT data fields contain only project financial and descriptive information and do not attempt to collect any additional information on such things as project documentation and subactivities such as policy research, tree planting, etc.

A more formalized mechanism is also needed for data feedback to the AC/SI. There is presently no mechanism for transferring the revised, improved ICT coding figures on environmental projects back to the PPC AC/SI database. Such a mechanism will require additional internal effort within A.I.D., since staff time will be required in Regional Bureaus, in particular, to interact with field missions to adjust AC/SI codes.

To this list of S&T/FENR and S&T/H project information sources must be added several similar projects in S&T/AGR and S&T/RD. Clearly, ENRIC might play a useful role in helping to identify all operational and archived databases and information services within projects and in assisting A.I.D. staff and contractors to access these resources.

4. Outside Databases. There are many databases outside the agency that A.I.D. staff can access because of cooperative agreements or other institutional relationships. Foremost among these are the World Bank document and database system, and the various databases of the 14 member organizations of the Consultative Group on International Agricultural Research (CGIAR). Other important sources of environmental conditions and trends information include government agencies (NOAA, USFS, USDA, NPS), private institutes (WRI, IUCN, WEC), universities, as well as the UN system. A sample listing of important environment and natural resource data and sources is given in Annex 4.

Comments. Much of the environmental conditions and trends data that would be of potential use to A.I.D. already exist in outside databases. The fact that these information resources are rarely utilized by A.I.D. may have more to do with the lack of knowledge about the existence of these databases than with a lack of demand by environmental staff. Donor coordination efforts can be assisted by DI access to many donor and U.N. project databases, but this service is not often used by A.I.D. environmental staff at the present time.

B. Constraints to More Effective Information Use

Several constraints limit the use of environmental information within the Agency. First of all there are numerous information gaps that limit serious inquiry. A.I.D. staff report severe frustration when using the DIS because they "know" that many important documents may not be in the system. As a result they do without, use the phone to call contractors, or cable missions. Secondly, and of greater short-term significance, is the lack of communication about information sources. Projects that have actively acquired data sets have for the most part shown little interest in marketing their information to the rest of the Agency. Third, is training and informed (sectoral) assistance with access and interpretation. Many A.I.D. staff are interested in using computers to access information or in making use of the information, but lack the technical support and training to master specific applications with individual databases that might be most useful to them, or information use assistance services that could perform data manipulation services more efficiently for them.

Current constraints to availability and use of environmental information in A.I.D. include:

1. Lack of concentration of analytical capacity. The ability of A.I.D. to undertake in-house analysis of environmental issues is limited by a shortage of staff and by the dispersion of the staff and their responsibilities into different bureaus and offices. The data on environmental obligations, for example, are compiled by one unit, reviewed by regional bureaus, revised by another contractor, are seldom analyzed, and are summarized in reports to Congress with the help of still other contractors. If the Agency is going to compile, analyze, and report on the extent of its environmental and natural resource program, certain information functions should be integrated and responsibilities clarified.

2. Increased monitoring and analysis is indicated. Aside from financial accounting, monitoring of environmental activities that A.I.D. projects and programs support is only now beginning to expand. Neither outputs (e.g., number of hectares of forest planted), nor impacts (e.g., increase in mean annual income from afforestation activities), nor analysis of project methods is now being carried beyond the normal evaluation cycle at the individual project level. Better monitoring of projects will then allow data to be captured for aggregation at the regional and global levels. The Africa Bureau's NRMS framework and indicator project is an important attempt to relate project outputs to long term sustainable use of natural resources and PPC/CDIE's plans for expansion of evaluation efforts are a step in the right direction.

3. Difficulty of Access. Accessing the relevant information that is available is cumbersome and time-consuming. Important environmental information is scattered across the Agency in separate databases, reports, and file cabinets. Much of it is in the offices of contractors spread across the United States and in A.I.D.-assisted countries. It is not essential that this information be centralized, but it is essential that a central office knows where the information is located and how to get it. And, it is essential that all the projects and offices make their reports and information available to others. The Agency needs to assign responsibilities of offices, missions, and contractors concerning the sharing of information about the Agency's environmental program.

4. Lack of communication and training: The information that is already available is substantially underutilized because the potential users don't know about it, or because utilization is viewed as too laborious a process. Thus, part of the problem is knowing where to go -- a directory to information already available was cited by several informants as their highest information priority in the short-term -- but another part of the

problem is the provision of informed help in accessing and utilizing the information. The process of getting the right information in the right form has to be made less difficult if overburdened staff are to be induced into more intensive and effective information use. For example, computer printouts of bibliographic references are not useful to most mid-level staff; they need information that is already digested and summarized, as is frequently done by CDIE/DI research staff for A.I.D. requesters. The ICT staff have also had most success when they do special studies for A.I.D.'s staff and not rely on staff to use the ICT database.

5. Insufficient information policies, management, and accountability: Information is a valuable, and expensive asset, but it is often treated as an afterthought by projects and as a free good or a nuisance by headquarters. The proposed establishment of ENRIC is in part a response to the failure of the existing dispersed information systems to meet the rapidly growing needs of the Agency's environmental activities. ENRIC should help coordinate appropriate use and application of exiting information and provide information products and services within A.I.D. and for public communication.

IV. ESTABLISHING AN ENVIRONMENTAL INFORMATION CENTER

All staff interviewed by WRI demonstrated a consensus that greater attention should be given to environmental information, and the need for establishing a center was widely recognized. The questions that are very much alive are, "What should ENRIC do?" and "Who should do it?" There was considerable diversity of opinion as to the priority functions of ENRIC, as well as the phasing and magnitude of the endeavor.

A. Guiding Principles for ENRIC

There are four basic principles that should guide efforts to strengthen environmental information resources within A.I.D. and to establish ENRIC.

1. Integrate functions of data access, aggregation, analysis, and reporting: One unit should have principal responsibility for ensuring that environmental and natural resource information is efficiently and easily accessed. This office should also have responsibility for ensuring dissemination of information within the Agency. Finally, this same unit should undertake analysis of this information, including the initial drafting of Congressional reports on the Agency's environmental activities.

2. Adopt a strategic management approach: Information about the project portfolio and future directions is key to engendering a sense of organizational culture in-house as well as an external corporate identity. A.I.D. management should use its environmental information and reports as a tool for cultivating a stronger image, both internally and externally, one that more accurately reflects the Agency's role in global environmental issues. A.I.D. is the leader among donors in addressing environmental and development issues and should develop the information systems to get that message out.

3. Strengthen existing capacity and functions: Much can be gained through better management of the individual information resources already in place, while ensuring better access and use of these resources and activities by linking them to the new Center.

4. Ensure institutional continuity: Establishing ENRIC is a strong statement by the Agency about the importance of environmental issues and establishing ENRIC with a long-term funding and staffing commitment will help ensure information accuracy and quality through continuity over time.

B. Proposed Functions for ENRIC

Four functions have been proposed for ENRIC. Within each function primary and secondary responsibilities have been identified. A fifth function is important but can be initiated later.

The core functions and responsibilities for ENRIC are:

Function 1. Supporting existing information gathering activities (through validation, aggregation, interpretation, and communication). There is already substantial effort being made throughout the Agency to gather environment and natural resource information relating to A.I.D. programs. ENRIC would improve Agency use of these efforts by serving as a single unit for accessing, aggregating, and helping to interpret and communicate financial, social, and biophysical information about A.I.D.'s environmental program while serving to encourage strengthening of some existing functions, especially PPC/CDIE.

Priority responsibilities should include:

- a) Upgrade AC/SI database. Work as an intermediary between PPC/PB and Bureaus/Missions to check and revise codes as needed, help track allocations of obligations to specific codes, and combine project description with

financial information. Mechanism: ENRIC staff. The current ICT effort would be absorbed by ENRIC and made more useful with better feedback to A.I.D.

- b) Strengthen CDIE/DI's collection and access of environmental information. Serve as intermediary between Missions and Bureaus to ensure that CDIE expands the collection of environmental information from A.I.D.-supported projects. Mechanism: Expanded PPC/CDIE staff to work on environmental information, one to be posted in CDIE/DI and the other to be seconded to ENRIC.

A secondary responsibility could include monitoring of environmental activities of other donors, including simple tracking of who is doing what and where in A.I.D. countries; Mechanism: ENRIC staff in consultation with CDIE, missions, OECD/DAC, CIDIE, and other donors.

Function 2. Strengthening communication and reporting activities. Current reporting is handled by A.I.D. offices and contractors on a dispersed basis. ENRIC would take over this function, upgrade quality and expand coverage, and help A.I.D. to aggressively promote the distribution and use of its reports within the Agency and to the Congress and the public.

Primary responsibilities would include:

- a) Prepare annual "unified" environmental report to Congress. Mechanism: ENRIC core staff, based on AC/SI database and other information sources.
- b) Assist A.I.D. staff in preparing internal summaries, program status reports, responses for testimony and similar requests. Mechanism: ENRIC cores staff with cooperation from CDIE.
- c) Prepare a newsletter, principally about A.I.D.'s environmental activities; Mechanism: ENRIC staff in cooperation with CDIE and the Environmental Working Group.

Function 3. Expanding analysis services. ENRIC would have a comparative advantage in conducting in-house studies useful for Agency-wide program planning and management. An added benefit of

such in-house studies would be to test the utility of ENRIC's and the Agency's information systems and identify necessary improvements. Responsibilities would include:

- a) Conduct special studies, summaries, and analyses based on analysis of existing databases and other information collected for Congressional Reports. Mechanism: ENRIC core staff, based on AC/SI database and other information.
- b) Prepare special reports at the request of A.I.D. bureaus and missions (e.g., on environmental trends at the country, regional, or global levels). Mechanism: ENRIC staff, based AC/SI data, environmental indicators, plus outside data, with most efforts conducted through buy-ins.

Function 4. Expanding clearinghouse services. Knowing what information is already available, where it can be found, and how to access it is a high priority. Responsibilities would include:

- a) Produce "road map" to existing sources of environmental information both within and outside A.I.D. Mechanism: to be compiled by ENRIC core staff in cooperation with CDIE staff.
- b) Provide rapid responses to "information please" queries from A.I.D. staff. Responses could be direct (providing immediate information) or indirect (referring client to another information source). Mechanism: ENRIC staff in cooperation with CDIE staff.

A last function is important for the overall development of ENRIC, but can be implemented after the Center has become established and a clear demand for such services is identified.

Function 5. Conduct pro-active analysis and interpretation of ENR trends and A.I.D. environmental activities; Mechanism: ENRIC staff in consultation with S&T/FENR, CDIE/Eval, and PPC/PDPR.

C. Proposed Institutional Structure for ENRIC

The environmental and natural resource information needs outlined in the preceding sections can be addressed only in a limited way within the Agency's existing institutional structure. While creating a special unit should not be done lightly under any circumstances, and particularly during a time when A.I.D. is in the throes of a streamlining process, it is the view of the WRI team that such a unit is required to meet the Agency's current and anticipated environmental information needs. There

is a range of options for establishing such a unit, and the institutional structure suggested below is guided by the set of principles and core functions outlined in the previous section.

1. Organization and staffing.

Supporting existing information activities (Function #1). A fundamental issue is the need for effective aggregation of some key environmental information now being gathered by several dispersed units within the Agency, including PPC/PB, CDIE, S&T/FENR contract work, and PPC/PDPR. The institutional structure that this function implies is a de-centralized ENRIC that could be characterized as an "ENRIC without walls". One model to draw from is found within CDIE/DI which is in the process of posting "outreach staff" in the regional bureaus. These staff are employed by CDIE/DI (through the pre-existing contract with Academy for Educational Development which operates the Research and Reference Service), but do much of their own work (and indeed, in this case are physically housed) in the regional bureaus where their activities focus.

An option for ENRIC could be to accept one or more outreach staff from the CDIE/DI office to work in ENRIC, while CDIE simultaneously increases its staff dedicated to environmental information functions. Other ENRIC staff could focus most of their efforts in working closely with PPC/PB on the AC/SI database, and with PPC/PDPR, S&T/FENR, and Regional Bureaus on information summaries and interpretation that would contribute to program development and planning.

Scopes of Work. The scopes of work for environmental staff assigned to and/or supported by CDIE/DI would include information gathering tasks (ensuring that relevant data and documents are acquired and entered into the system) and information processing tasks of a largely technical nature, requiring a thorough knowledge of environmental and resource issues and appropriate software and hardware. Because of the different kinds of tasks, as well as the magnitude of the job, at least two full-time staff would be required, having complementary skills. These staff would work in or more closely with CDIE than would other ENRIC staff, and it would seem logical that they be funded by and under the direct supervision of CDIE/DI, perhaps through an add-on to the existing AED contract for library and documentation services. Part of the time they would work directly with ENRIC on major reports. Staffing: Two full-time staff or the equivalent at the B.S. or Master's level, GS-11 equivalent.

The tasks of refining the AC/SI database and working with PPC/PDPR would be best handled by ENRIC "core" staff, since this information would feed into the analysis and reporting tasks (see below). ENRIC staff would thus work closely with the relevant PPC, S&T, or Regional Bureau staff, but would be supervised by the ENRIC director. The level of effort required is estimated to be one FTE. This person should have broad experience, good analytical skills, written communication and presentation skills, in-depth skills in use/manipulation of data bases, and possess one or more technical specialties in the environment. Staffing: One full-time staff at the B.S. or Master's level, GS-13 equivalent.

Communication and Reporting (Function #2). This function implies centralizing a number of related activities that are currently done in a more dispersed manner. The value of an ENRIC would be in bringing these activities under one institutional roof, where a small core staff could coordinate efforts and provide continuity over time. While some work could be subcontracted, the real benefit of ENRIC would be in institutionalizing the capacity for communication and reporting within the Agency. These staff would work very closely with the regional and S&T bureaus, but would maintain a separate institutional identity as a part of ENRIC.

Scopes of Work. ENRIC staff would be responsible for preparing a unified annual environmental report to Congress, as well as the regular newsletter communicating information about AID's environmental program. The staff person working with PPC/PB on the AC/SI database and with PPC/PDPR would make key contributions to the reporting work. The qualifications for the reporting staff would be similar to those of the database staff with substantial development experience, written communication skills, and a technical specialty in environment. But while the database person would have to have computer and systems skills and experience, the reporting staff would have to possess exceptional writing and communications skills. Staffing: One FTE at the Master's level, ca. GS-13 equivalent.

Expanding analysis services (Function #3). The analysis function would benefit the Agency's internal ability to better use the environmental information already collected, and would comprise an extension of Functions #1 and #2.

Scopes of Work. ENRIC staff (buy-in funded) would respond to requests for special analysis, interpretations, studies and reports and would direct and supervise the work of consultants involved in analysis work. These studies could be undertaken as a core activity of ENRIC, or through subcontracts to carry out specific analytical work.

Staffing: One FTE (environmental information analyst) at the Master's level, ca. GS 14. In depth environmental knowledge and development experience, together with excellent written communication and analytical skills would be required.

Providing clearinghouse services (Function #4). The set of tasks subsumed under this function includes compiling a "road map" to environmental information, guiding users to information sources, and responding to a variety of "information please" requests. These tasks require a highly pro-active approach to provide an effective link between ENRIC and its A.I.D. clients. Although listed as the last of four major functions, the manner in which its clearinghouse services are carried out will comprise a key test of ENRIC's value. The clearinghouse function will provide an opportunity for ENRIC to meld the separate function of information gathering and aggregation (Function #1) and information reporting and analysis (Functions #2 and #3) into a dynamic hybrid function that will involve A.I.D. staff in using environmental information. These tasks might best be handled in a cooperative way by all ENRIC core staff and ENRIC-associated CDIE staff, with the primary responsibilities resting with the CDIE person seconded to ENRIC.

The major tasks could be phased sequentially, with the first priority to produce a "road map", which could be published through the Newsletter. Once the road map is completed, more attention could be devoted to responding to "information please" requests. Adequate performance of this function will require some "marketing" skills by all those involved.

Administration. The institutional home for ENRIC should be in a central bureau (either PPC or S&T) where the staff would benefit from close interaction with other A.I.D. staff working directly on environmental issues. Assuming the existing Agency structure, it would be logical to link the Center with S&T/FENR. A full-time ENRIC director would be needed in the ENRIC unit to provide clear leadership. He or she should anticipate devoting at least half time to administrative activities and half time to the Center's substantive tasks (e.g., information gathering and aggregation, report writing, information analysis, marketing, etc.). The Director's efforts should be additive to the staffing levels already cited, to ensure that the Director has time to "direct". A full-time administrative assistant would help in both administrative duties and secretarial services to all ENRIC staff.

Scopes of Work: The Director would be responsible for supervising ENRIC staff, for establishing close working relationships with relevant units of the Agency (including not only A.I.D./Washington, but field Missions), and, in consultation with CDIE, S&T/FENR, and PPC/PDPR, for coordination with other USG agencies, international

environmental organizations, bilateral donors, and multinational aid agencies on environmental information. Qualifications for the position would include 10 years development experience with a mix of information management and technical or project-level work. Staffing: One full-time position at the senior level, GS-15 equivalent.

An administrative Assistant would work closely with the Director, and would also provide secretarial support to all ENRIC staff. Qualifications would include administrative experience, secretarial and computer skills, and interest in development and environment issues. Staffing: One full-time position, GS-9 equivalent.

2. Size.

It is important for the Center to start small and expand in response to clearly defined demands for its services. However, the functions cited above suggest a minimal threshold size below which the Center would lose the benefits of staff interaction that only a central core of people can provide. The staffing levels proposed include 4 FTEs professional core staff, plus 2.0 FTEs seconded, one from PPC/CDIE to ENRIC and the other dedicated to environmental information work within CDIE. In order to build-in flexibility to contract as well as expand, the small core staff of 4 to 5, supplemented by 1.5 FTE of consulting time, and additional consulting effort (3.0 FTEs per year to start) for buy-ins from other units of the Agency are recommended. The staffing proposal can be summarized as follows:

	Staff	ENRIC Core Staff	Core Consult- ants	Buy-ins Analysis Services
CDIE	1.0 (env sp.)	1.0 (seconded)	--	--
Databases	--	1.0	.5	1.5
Reporting/Comm.	--	1.0	1.0	1.5
Analyses	--	1.0	--	--
Director	--	1.0	--	--
Assistant	--	1.0	--	--

TOTAL	1.0	6.0	1.5	3.0

3. Contracting Mechanism

Given hiring and budget limitations, the most effective pathway to establishing ENRIC is to contract with a suitable firm, NGO or university consortium. Because of the close interaction required with A.I.D. staff, the contractor should be housed within an A.I.D. office building, albeit in commercial space, preferably in the same building as the contracting office. A model of such an arrangement is the ISTI contract on health, which is located a few floors up from S&T/Health.

4. Advisory Committee

To ensure that the ENRIC mandate of cooperating with and influencing the information services of the Regional and other Central Bureaus is pursued, we recommend that senior management at A.I.D. appoint an ENRIC Advisory Committee. The Committee could include individuals from other Bureaus and possibly contractors, such as BSP, FSP, and other interested programs. The main function of the Committee should be to review ENRIC activities and help maintain positive links between information users and providers.

ANNEX 1. LIST OF INTERVIEW RESPONDENTS

APRE Bureau

Molly Kux
Jeff Campbell
Mike Unger (APRE/SPEE)

ENE Bureau

Robert Ichord
Robert Archer

Latin America and the Caribbean Bureau

Jim Hester
Jeff Brokaw
Scott Lampman

Africa Bureau

Ben Stoner
Dwight Walker
Tim Resch

PPC/PB

Peter Thiel

PPC/CDIE

John Erickson
Siew Tuan Chew
Maury Brown
Lee White

S&T

Larry Hausman
Ray van Raalte
Jeff Schweitzer

S&T/FENR

Dan Deely
Carl Gallegos
Twig Johnson
Mike Philley
Sy Sohmer
John Swallow
Jack Vanderyn

S&T/AGR

Jim Bonner

S&T/RD

Bill Douglass
Dan Dworkin

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S&T/ED

Matt Doyle
Tony Meyer

Academy for Educational Development

Judy Brace
Linda Leonard

WINROCK International

Ruis Tabora

Development Alternatives Inc.

Bob Otto

World Wildlife Fund/Biodiversity Support Project

Meg Symington

Chemonics

Katie McCord

TRD

Dennis Johnson

IRG

Joy Hecht

InterAmerican Development Bank

Peter Freeman

Consultant

Jim Beverly

USFS/Forest Support Program

Sam Foster

International Computers and Telecommunications

Tim Stewart (Project Manager)
Scott Wilber (Research Analyst)

Center for International Health Information

Roy Miller (Director)
Barton Burkhalter (former Director)

ANNEX 2. ACTIVITY CODES FOR THE AC/SI DATABASE

ACTIVITY CODES AS OF APRIL 1, 1990

AGAB Agribusiness			Captured by Other Acs)
AGCR Agricultural Credit		INPO	Power (excl. Rural Electrification)
AGED Agricultural Education		INRE	Rural Electrification
* AGIR Irrigation		INRD	Rural Roads
* AGLS Agricultural Land Use & Settlement		INRR	Railroads
AGMK Agricultural Marketing		MNFG	Manufacturing (Not Agriculturally Related)
* AGMP Agricultural Mgt, Planning and Policy			
* AGPM Pest Management		* NRFR	Forestry
* AGTD Agricultural Tech Development & Diffusion		* NRHW	Hazardous Waste
		* NRLD	Agricultural Land Development
		* NRMP	Environmental Mgt, Planning & Policy
AJCA Courts Administration		* NRSL	Soils
AJIT Investigative		* NRWQ	Water Quality Improvement
		* NRWR	Water Resources Management
EDEA Basic Education for Adolescents & Adults			
EDEC Basic Education for Children		NUBF	Breastfeeding
EDEI Human Resource Dvpt for Educational Inst.		NUGM	Growth Monitoring and Weaning Foods
EDID Human Resource Dvpt for Individuals		NUMP	Nutrition Management, Planning and Policy
EDPE General Public Education & Extension		NUVA	Vitamin A
* EYMP Energy Mgt, Planning, Policy & Production		NUWO	Nutrition of Women
HECS Child Spacing/High Risk Births		PEBD	Business Development Promotion
HEDD Diarrheal Disease Control/Oral Rehydration Therapy		PEFM	Financial Markets
HEHA HIV/AIDS		PETI	Trade and Investment Promotion
HEIM Immunization			
HEMA Malaria		PDAS	Project Development & Support
HEMH Women's Health			
HERI Acute Respiratory Infection (ARI)		PNCN	Family Planning Contraceptives
HESD Health Systems Development		PNPD	Family Planning Program Development
* HEVC Vector Control		PNSD	Family Planning Service Delivery
* HEWH Water Quality Health		PRNS	Policy Reform, Nonsectoral (Policy Reform Activities Not Captured by Other ACs)
		PSMG	Administration and Management
HRTE Technical Electoral Assistance			
HRDI Democratic Institution Building			
HRSL Strengthening Legal Systems			
INCO Communications			
INMR Main Roads			
INOC Construction (excl. Construction Activities			

SPECIAL ISSUE CODES AS OF APRIL 1, 1990

A. Spatial/Geographic (must assign one to each AC entry)

CIT Small and Large Urban OR
 TWN Towns OR
 RUR Rural OR
 NSP Non-Spatially Related

B. Institutional Mechanisms

PBL Public Entity OR
 PRT Private Entity
 PVU PVO/NGOs, U.S. OR
 PVL PVO/NGOs, Local OR
 PVO PVO/NGOs, Other than U.S. or local

PNP Non-Profit Organizations (excl. PVO/NGOs)
 COP Cooperatives
 MDB Multilateral Development Banks
 ARC International Ag Research Centers
 INO International Organizations (excl. Orgs coded under MDB or INO)
 FAC Faculties of Agriculture
 PCV Peace Corps
 HBC Historically Black Colleges & Univs
 XII Title XII Univs (those that are not HBCs)
 UNV Universities (excl. historically black colleges & univs & Title XII univs)

C. Process Mechanisms for Achieving Change

INS Institution Building
 DCO Development Communications
 DED Development Education
 CIP Commodity Import Programs
 PSD Private Sector Development

D. Policy Reforms

FEX Foreign Exchange/Trade Policy Reform
 MON Monetary Policy Reform
 FSC Fiscal Policy Reform

SPR Sectoral Policy Reform

E. Research Efforts

Applied Research
 RBM Biomedical Research OR
 * REN Environ. Bio. Research (non-biomedical) OR
 RBT Biotechnology Research OR
 * RAG Agricultural Research OR
 RBE Education Research OR
 RPS Physical Science Research OR
 REC Economic Research OR
 RSS Social Sciences Research OR
 RDC Demographic Data Collection OR
 ROR Operational Research
 RBS Basic Research (if not applied or devel.)
 RDV Developmental Res. (not any of above)

F. Training

TMA Training, Male OR
 TFE Training, Female
 TAC Training, Academic OR
 TTE Training, Technical
 TUS Training, U.S.-based OR
 TTH Training, Third Country-based OR
 TIC Training, In-country
 TPU Training, Public OR
 TPV Training, Private

G. Special Targets

WDP Women in Development: Specific
 WDI Women in Development: Integrated
 RFG Refugee Relief and Disaster Assistance
 NAE Narcotics Education and Awareness
 NAA Narcotics: Alternative Development Programs
 EXP Export Production OR

DOM Domestic Production
CHS Child Survival
DEC Decentralization
CON Construction
PVZ Privatization
SFI Social Sector Financing
DRG Deregulation
PVX FVO Institutional Development

H. Food, Agriculture and Rural Development

NFC Nutrition & Food Consumption
* FSE Food & Nut. Surveillance & Early Warning
AEX Agricultural Extension
* ALI Livestock
* AFI Fisheries

I. Energy/Environment

* EEF Energy Efficiency & Conservation
* EFW Fuelwood
* ERN Renewable Energy (excluding fuelwood)
* EFU Fossil Fuels
* CLZ Coastal Zones & Islands
* WTL Wetlands
* GCC Global Climate Change
* BDV Biological Diversity
* NRM Natural Resources Management

* REF Reforestration OR
* TRF Tropical Forestry OR
* FOR Forestry (excl. reforest. & trop. forestry)

ANNEX 3. DEVELOPMENT INFORMATION SERVICES

THE RESEARCH & REFERENCE SERVICES

PPC/CDIE's Research and Reference Services (R&RS) is committed to providing timely, accurate, and complete information services and products to Agency for International Development staff and current contractors. Using worldwide information resources, R&RS will provide selected information in a format which meets the user's requirements.

RESEARCH SERVICES

Through in-depth information analysis, R&RS helps the Agency apply its own experience and the work of other organizations and individuals to development efforts. R&RS research analysts identify, analyze, and select publications, prepare customized bibliographies, and make expert referrals, always tailored to individual needs. R&RS includes with each Tailored Information Package an information memorandum summarizing the contents of the package, including referrals to other organizations or experts when appropriate.

R&RS has three research teams, each serving the information needs of one of the three regional bureaus of the Agency: Asia, Near East, and Europe; Latin America and the Caribbean; and Africa. To ensure well-rounded information expertise, research analysts also have sectoral specialties in such areas as health, population, and education; economics and private enterprise; agriculture and rural development; and natural resources and the environment.

Drawing on a vast network of information resources (including the A.I.D. Development Information Center), R&RS research analysts go beyond providing the Agency with "lessons learned" to identifying, analyzing, and obtaining the latest, most relevant development information from all sources.

REFERENCE SERVICES

R&RS provides complete reference and referral services, primarily through the A.I.D. Development Information Center (D.I.C.). The D.I.C.'s own collections and its access to worldwide information resources through online databases enable it to find and verify facts, track down documents, organizations or business firms, and generally identify almost any piece of information the Agency needs.

The D.I.C. provides ready reference services on A.I.D. information by telephone or in person. Walk-in patrons are encouraged to search independently for A.I.D. projects and documents information through MenuDIS, an easy-to-use, menu-driven version of the Development Information System (see Resources). Through the D.I.C.'s Interlibrary Loan service, R&RS can borrow books and obtain photocopies of almost any article in almost any journal from libraries across the United States.

CURRENT AWARENESS SERVICES

R&RS responds not only to individual research and reference requests, but also to the general demand for current information. R&RS meets this demand by distributing the following:

Topical Updates are bibliographies citing recently published journal articles, dissertations, papers and other materials on fast-moving topics. R&RS distributes monthly updates on such topics as AIDS, Food Security, and Women in Development.

Current Contents Bulletins keep Agency staff aware of the latest contents of development journals on hand in the A.I.D. Development Information Center.

Requests & Responses newsletter highlights recent R&RS research and reference work, and guides Agency staff in the use of R&RS services.

New This Month informs Agency staff about the latest books, journals, and other resources added to the A.I.D. Development Information Center.

RESOURCES

Through a wide array of resources, R&RS can access worldwide development information. R&RS identifies A.I.D. project and program documentation directly through the Development Information System (DIS), a comprehensive family of bibliographic and project databases that serve as the institutional memory for the Agency.

When a requester asks us to select information not available in the Development Information System or in A.I.D. Development Information Center collections, R&RS turns to hundreds of online databases that index and often abstract journal and news articles, books, and even unpublished papers. These databases cover recent research in economics, health, education, medicine, agriculture, computer and information technology, and natural resources to name a few.

In addition to these electronic resources, R&RS draws on individual experts from government, other donor agencies, and business and non-profit organizations to select and assemble needed information.

A.I.D. DEVELOPMENT INFORMATION CENTER (D.I.C.)

The A.I.D. D.I.C. is managed by the Research & Reference Services. Its collections and resources provide both current information on development as relevant to the current programs of both A.I.D. and other donor organizations, and research information on A.I.D. and earlier U.S. foreign assistance agencies and programs.

A.I.D. SPECIAL COLLECTIONS

The A.I.D. Special Collections include pre-1974 project documents and technical reports produced by A.I.D., the Development Loan Fund (DLF), International Cooperation Administration (ICA), and earlier foreign assistance agencies dating back to the Economic Cooperation Administration (1948 - 1951).

The D.I.C. also has complete reference collections of major annual program and financial reporting documents:

- **Congressional Presentations** since 1948; **Annual Budget Submissions, Country Development Strategy Statements**, and earlier **Mission program annuals** since 1961;
- **U.S. Overseas Loans and Grants** ("green book"), since 1945;
- **Current Technical Services Contracts and Grants** ("yellow book"), since 1960;
- **Completed Projects and Activities** ("blue book"), since 1960.

MICROFICHE COLLECTIONS

Four major collections of documents and reports are kept on microfiche for reference use: **World Bank, Food and Agriculture Organization (FAO), and A.I.D.'s Development Information System (DIS)**. Readers can print a few pages onsite or purchase paper or microfiche copies from the A.I.D. DIHF.

PERIODICALS COLLECTION

The D.I.C. is a repository for complete runs of all A.I.D.-funded journals and newsletters. It also subscribes to many current development-related quarterly and monthly journals, which are kept for five years. A.I.D./W staff can request routing service for newsletters, and a table-of-contents service for journals and magazines.

REFERENCE COLLECTION

Reference Collection concentrates on international directories, yearbooks, and statistical compilations. Geopolitical reference materials also include up-to-date editions of the **Area Handbooks, Country Profiles, State Background Notes**, as well as atlases and encyclopedias. A.I.D. materials include an updated **A.I.D. Handbook** and a complete set of **CDIE publications** for reference use. U.S. Government materials include **Congressional and Federal directories**. Business materials include **corporate, export, and banking directories, supplies catalogs, and economics handbooks**.

CIRCULATING COLLECTION

A collection development policy adopted in 1987 commits the D.I.C. to acquiring important materials from outside sources which are relevant to A.I.D.'s current programs and projects. Books and reports from commercial publishers, other international development agencies, and development research are now included in the circulating collection. A.I.D. staff can borrow for a period of one month.

OBTAINING DOCUMENTS

A.I.D. or A.I.D.-funded documents are supplied by the User Services of the Document and Information Handling Facility (DIHF). Documents may either be requested directly from the DIHF or through the A.I.D. Development Information Center. The D.I.C. staff goes to great lengths to locate and obtain whatever non-A.I.D. documents or publications are needed by A.I.D. staff or contractors, either from its own collections or through interlibrary loan. The D.I.C. also works closely with A.I.D./W offices to identify and acquire books which will be of wide interest in A.I.D., so that those seeking current development information will find it immediately on the D.I.C.'s shelves. And the D.I.C. assists USAID information centers with their collection development by sending bulletins, reviews, alerts, and ordering information for relevant publications.

ECONOMIC AND SOCIAL DATA SERVICES

Economic, financial, trade, and social data on an extensive range of topics is available from CDIE. Using the Economic and Social Data Bank (ESDB), an automated computer system for the storage, analysis, and dissemination of economic and social statistical data, CDIE staff can analyze data and provide statistical reports in response to specific information requests. Data included in the ESDB are obtained from a variety of international sources including the World Bank, the IMF, the USDA, the WHO, the UN, and the FAO. Data is currently available from the databases shown on the ESDB microcomputer diskette order form.

MICROCOMPUTER DISKETTE SERVICES

CDIE distributes data from the ESDB to USAID Missions on microcomputer diskettes. Data is downloaded onto diskettes and sent to users four times per year. Diskettes are suitable for use with IBM-compatible personal computers and are available in several file formats, all of which can be used with popular spreadsheet and analytic computer software. For example, International Financial Statistics (IFS) files are provided in worksheet format for direct retrieval by LOTUS 1-2-3.

The files are master files which should be used to build smaller functional worksheets related to particular indicators. Only three steps are required to build such a functional worksheet: (1) retrieving the master file provided by CDIE; (2) deleting the unwanted rows by checking the codes and descriptors provided on the worksheet; and (3) saving the file under a new worksheet name.

To request Economic and Social Data Bank (ESDB) and/or data collection and analysis services, contact:

Agency for International Development
PPC/CDIE/DI
Economic and Social Data Services
Room 208, SA-18
Washington, DC 20523-1802

Telephone: (703) 875-4816

AGRICULTURAL TECHNICAL INQUIRY SERVICE

The USDA/USAID Technical Inquiries Group is a service-oriented staff that researches and provides technical literature needed by A.I.D. personnel in the design and implementation of agricultural and rural development projects. Core funding for the service is provided by PPC/CDIE and is supplemented by LAC/DR/RD and ANE/TR/ARD for provision of technical, agricultural materials to Missions. The information sent to requesters:

- Is individually tailored to meet the needs of Mission projects and host-government cooperators,
- Reports on the state of the art,
- Helps solve specific agricultural problems, and
- Links A.I.D. Project Officers with worldwide research results in the agricultural sciences, agricultural economics, and natural resources management.

In responding to inquiries, Technical Information Specialists systematically research publications, data, and the worldwide literature at USDA and the National Agricultural Library to locate documents that are most relevant to the requester's stated needs. They also confer with USDA and university experts in the exact field of research to obtain technical advice and recommendations on additional, pertinent literature. When the consultations and search are completed, the staff sends the requester a selection of documents (e.g., reprints, books, and technical reports) and a cover letter that explains the scope and results of the search. Literature in Spanish and French, from commercial publishers and institutes in Latin America, Spain, France, Canada, and Francophone Africa, is also reviewed and forwarded to requesters. Major subject areas for which Missions have requested information include:

- All aspects of production of tropical fruits and vegetables, spices, grains, and specialty crops,
- Agricultural policy analysis, agribusiness, marketing, and world trade in agricultural commodities,
- Natural resources management and forestry,
- Livestock production, and
- Food processing and preservation.

The Technical Inquiries Group welcomes requests for literature research from A.I.D. project managers and implementers and will be glad to furnish assistance in whatever subject areas information is needed. The staff also provides on-site, consultative services to Missions in enhancing agricultural information transfer to host-government institutions and Mission projects. For assistance, please write to Patricia Wetmore, USDA/OICD, Room 3059 South Building, Washington, D.C. 20250-4300 or fax your request to 475-3433/6, specifying Wetmore, Room 3059.

**A.I.D.'s ECONOMIC AND SOCIAL DATA SERVICE (ESDS)
MICROCOMPUTER DISKETTES**

REQUEST FOR SERVICE

Name/Title:

Office/Address:

Please send ESDS diskettes (checked below) for the following countries:

International Monetary Fund

- International Financial Statistics (IFS)
- Government Finance Statistics (GFS)
- Direction of Trade (DOT)
- Balance of Payments (BOP)

World Bank

- Social Indicators (SIDF)
- World Tables (WTAB)
- World Debt Tables

Food and Agricultural Organization

- Trade
- Production
- Food Commodities
- Fertilizer

Central Intelligence Agency

- CIA Factbook

**Organization for Economic Co-Operation
and Development**

- Geographic Distribution of Financial
Flows
- External Debt of Developing Countries

U.S. Agency for International Development

- PPC/PB Green Book

United Nations

- UN Population Projections

Send Request To:

ESDS Diskette Service
PPC/CDIE,
Rm. 208, SA-18
Agency for International Development
Washington, DC 20523-1802

DEVELOPMENT INFORMATION SYSTEM

DEVELOPMENT OF THE DIS

The Development Information System (DIS) was designed by the U.S. Agency for International Development (A.I.D.), Center for Development Information and Evaluation (CDIE) to support Agency needs for ready access to information and documentation on A.I.D. projects, programs, policies, and research.

The DIS comprises several computerized databases which provide this information in the form of descriptions of A.I.D. projects, and references to associated project, research, and technical documents. These databases have been created using the MINISIS database management software produced by the International Development Research Centre of Canada (IDRC) and are maintained by the A.I.D. Document and Information Handling Facility (DIHF).

DIS DATABASES

The DOCUMENT database contains references to over 65,000 A.I.D.-sponsored documents issued since 1974. Two-thirds of these documents relate to various phases of specific A.I.D. projects, with a focus on project design and evaluation of "lessons learned." One-third are A.I.D.-supported research studies and technical reports. Each database record includes a bibliographic description (author, title, project number, sponsoring bureaus/agencies, document type, date, etc.), a document identification number, and assigned subject keywords. Abstracts are included for key project and research documents. Copies of documents cited in the database may be obtained in paper or microfiche format through CDIE or directly by contacting the DIHF.

The PROJECTS database complements the DOCUMENT database, providing descriptions of over 9,000 A.I.D. projects initiated since 1974. Each record includes the project title, name of the sponsoring bureau, host country name, project status, and funding information. A project description provides a "snapshot" view of the project at the time of design, as well as a summary of any major modifications introduced through amendment to the design.

A number of other databases are part of the DIS, including indexes to the microfiched central project files of the Africa Bureau, the Latin American and Caribbean Bureau (LAC), the Asia/Near East Bureau (ANE), and the Contracts Office; and a CATALOG database of 4,500 non-A.I.D. monographs, publications, and reports added to the A.I.D. Library collection since April 1984. The comprehensive A.I.D. Thesaurus is also maintained online, providing complete geographic and subject access to DIS database records.

MenuDIS ... MAKING IT EASY TO SEARCH THE DIS

CDIE has developed an enhancement to the MINISIS software which makes it possible for anyone to search DIS databases without extensive training. MenuDIS is a menu-based interface to MINISIS, providing users with a menu or list of numbered options at each step in the search process. Online help messages provide additional explanation of each option if desired.

MenuDIS can be used much like a library card catalog to locate database records by author, title, or subject/geographic area. Unlike a card catalog, however, users also have the option of finding records by project number, date, project status, or document type (e.g., project paper, evaluation, research report). Any of these categories can be combined during a search, such as subject and date (e.g., to find documents on irrigation published since 1985), or geographic area and project status

(e.g., to find all active A.I.D. projects in Indonesia). In addition to menu-based retrieval of DIS database records, MenuDIS also allows for display of the full text of certain types of information. For example, at the main menu, users can elect to view online the full text of special CDIE analyses and publications lists, as well as news and descriptions of other CDIE information services. A.I.D. offices can also use an optional text display feature to append data to DIS records which is specific to their own information management needs (e.g., names of key contact personnel, detailed financial data).

As part of the worldwide MINISIS user community, CDIE has designed MenuDIS to be a flexible software package that can be installed by any MINISIS user and linked to their local databases. Installation of MenuDIS requires specification of local database information and creation of locally defined help messages and text files as desired. MenuDIS screens are available in either English or French.

DIS AND MenuDIS AVAILABILITY

DIS searches are available upon request from CDIE's Research and Reference Service:

Agency for International Development
PPC/CDIE/DI
Research and Reference Service
Room 209, SA-18
Washington, DC 20523-1802

Telephone: (703) 875-4807 or (703) 875-4818

Individuals who wish to search DIS databases directly can do so using MenuDIS on the public access terminal in the A.I.D. Library (Room 105, SA-18). A.I.D. personnel in Washington with a microcomputer and modem in their office can also access MenuDIS directly. To schedule MenuDIS assistance and training, contact:

DIS Training Coordinator

Telephone: (301) 951-7191

CDIE has also completed several agreements with other development agencies for the exchange of subsets of the DOCUMENT database. MenuDIS has been installed by the World Bank, and is available to other MINISIS users upon request to CDIE or through IDRC's MINISIS User Group Program Library. Any agencies wishing information on DIS databases or the MenuDIS program may contact:

Agency for International Development
PPC/CDIE/DI
Washington, DC 20523-1802

Telephone: (703) 875-4904

**ANNEX 4. LIST OF KEY ENVIRONMENTAL AND NATURAL RESOURCE DATA
AND SOURCES**

ENERGY

United Nations Statistical Office
o Energy Production and Consumption

World Energy Conference
o Energy Reserves

International Atomic Energy Agency
o Nuclear Power and Waste

MATERIALS

U.S. Bureau of Mines
o Minerals Production and Consumption
o Mineral Reserves

Organization for Economic Co-operation and Development
(OECD)
o Waste Generation

FRESHWATER

Institute of Geography, National Academy of Sciences,
U.S.S.R
o Water withdrawal and sectoral use

U.S. Geological Survey
o Water withdrawal and sectoral use

Bureau of Geological and Mining Research, National
Geological Survey, France
o Water withdrawal and sectoral use

Global Environmental Monitoring System
o Water quality

OCEANS AND COASTS

National Oceanic and Atmospheric Administration
o U.S. coastal and fisheries resources

United Nations Office for Ocean Affairs and the Law of the
Sea
o Coastal area

Food and Agriculture Organization of the United Nations
o Marine and Freshwater Catch
o Fishery Commodities, Trade and Production

ATMOSPHERE AND CLIMATE

Carbon Dioxide Analysis Center
o Greenhouse gas emissions and sources

Global Environment Monitoring System
o Air Quality in Selected Cities
o Emissions of Pollutants

POPULATION

United Nations Population Division

- o Population
- o Population Growth
- o Life Expectancy
- o Fertility and Birth Rates

International Labor Organization

- o Structure of Labor Force
- o Growth of Labor Force

HEALTH

World Health Organization

- o Causes of Death
- o Water and Sanitation
- o Number of Trained Medical Personnel

United Nations Children's Fund

- o Child Health

LAND

Food and Agriculture Organization of the United Nations

- o Land use

FOOD AND AGRICULTURE

Food and Agriculture Organization of the United Nations

- o Agricultural Production
- o Agricultural Inputs
- o Food and Agricultural Trade and Aid
- o Land Tenure

FOREST

Food and Agricultural Organization of the United Nations

- o Forest Area and Management
- o Wood Production and Trade

WILDLIFE AND HABITAT

World Conservation Monitoring Centre

- o National and International Protected Areas
- o Threatened Species
- o Trade in Wildlife and Wildlife Products

World Conservation Union

- o Habitat Loss and Biodiversity