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ANS 1010-1-1501

DRAFT

PN-AM-743

ISN-28145

DEVELOPMENT INFORMATION SERVICE SYSTEM

ADP FUNCTIONAL REQUIREMENTS

Prepared for:

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Washington, D.C.

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December 1, 1975

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SECTION ONE

INTRODUCTION

A. BACKGROUND

The PBAR (Planning, Budgeting, Accounting, Reporting) Report of October 4, 1974 recommended that "the procedure for storing, retrieving and disseminating basic documents reflecting past experience, and for abstracting information from such documents, needs to be strengthened." The implementation of this recommendation was assigned to the Senior Operations Group (SOG) Task Force on Library and Information Retrieval.

This Task Force, in its report of August 8, 1975, Establishing a Development Information Service, recommended the establishment of a Development Information Service (DIS), the principal purpose of which would be to support the project design efforts of the agency. The establishment of the proposed DIS has received general support, and details of its organization are being developed. Concurrently, the requirements for the automated elements of a DIS system have been established as part of the development of an integrated PBAR management information system.

B. PURPOSE

DIS is to provide information on development matters primarily for the use of AID project designers. DIS will become an in-

formation gathering, storing, processing, and retrieving system; it will provide information on AID's own experience in development as well as "state-of-the-art" technical information and evaluative/research findings from non-AID sources.

C. SCOPE

Information to be covered by the DIS system will include:

1. Information regarding experience with development projects, problems, and programs, initially covering AID's own projects.
2. Technical data, specifying the state-of-the-art in project-related technologies;
3. Context data describing social, anthropological, economic, and political variables bearing upon LDC problems/programs.

The DIS system will emphasize analytic, not descriptive, information. Rather than giving a user the full body of information related to specific projects, DIS will perform the analytic task of culling the literature and synthesizing an information package explicitly tailored to the user's needs.

The DIS will, to the extent possible, attain access to, but not necessarily permanent physical possession of, the data needed.

The Agency need not and should not commit itself to collecting and maintaining a comprehensive body of data, but should instead obtain the maximum possible data from sources external to AID in response to specific needs.

SECTION TWO

USERS AND USES

Primary users of the DIS will include development project designers, those reviewing proposed project designs, evaluation officers, and, to a lesser extent, personnel engaged in the implementation of projects. Users will include AID direct hire and contractor personnel, and to some extent, host countries and other donors.

The primary use of DIS will be for reference, guidance, and problem solving in relation to the design, implementation, and evaluation of development projects.

SECTION THREE

OUTPUT PRODUCTS

The purpose of the Development Information Service is to provide information to project designers that will enable them to design better projects. DIS will provide project designers with three types of information:

- Experiential/evaluative information on similar projects that have been conducted in the past;
- Information that describes the host country context within which these similar projects were conducted;
- Information with respect to the state-of-the-art, namely, information on the technology which has been used in the past or is currently available for consideration.

DIS will furnish information to the project designers in three modes:

- Automatic
- Semi-automatic
- On-request

Initially, the primary activity of DIS is expected to be to supply information to the project designer in the "semi-automatic" mode. This information will be triggered by the project designer's submission of a project document. (For practical reasons the principal triggering document will be the PID, which is the first official document sent by a Mission to AID/W describing the project and thereby initiating the procedure to get the project approved.)

Given that the procedure to generate the semi-automatic package of information will be initiated upon the submission of a PID, there are three alternative courses of action:

1. Upon receipt of the PID, the automated system will automatically generate a basic set of information for delivery to DIS. This trigger can be automatic since the receipt of a PID is known to the PBAR system through the Country Program Data Bank subsystem.
2. A copy of the PID (and face-sheet), which is received by the CPDB subsystem, is sent to DIS which will then initiate the retrieval from the automated PBAR system.
3. Both of the above actions are taken. The PID information is introduced into the PBAR subsystem (via CPDB), and an initial set of basic information, describing projects similar to the one being designed, is automatically generated by the PBAR system and sent to DIS. At this time DIS also will have received a copy of the PID and can review it along with the preliminary information on the initial set of similar projects retrieved by the system.

NOTE: A significant advantage of having the PBAR system automatically produce a set of basic information on similar projects is that this information could also be delivered to the project review team which will evaluate the PID for approval. This type of information could also be automatically triggered and sent to the project review team upon submission of the subsequent documents, namely, the PRP and the PP. This will assist the project review team by providing each member with a common set of data for all projects under consideration. Often people in the project review team do not have access to context data readily. More specifically, they may each retrieve context data which they believe is pertinent to the project being reviewed, and when they meet, find that they each have a different set of context data.

Similar information may also be useful for project evaluation. Project evaluators could receive a package at evaluation time, which describes not only the project as initially conceived and designed, but also the performance which the project achieved during its execution.

Focusing again on the primary function--to provide information on past projects with characteristics similar to the project being designed--we see the DIS information specialists requiring an initial set of information on all similar projects to enable selective penetration into the data available in the PBAR data base. It will probably require multiple retrievals into the PBAR system before all the information necessary and sufficient to reply to the specific semi-automated request is obtained. The key problems here are two:

1. Making sure that the DIS information specialist has indeed retrieved all of the projects that would be of interest to the project designer;
2. Making sure that, given the set of projects, that the DIS information specialist has deemed relevant to the one being designed, all of the pertinent information available in the PBAR system has been retrieved.

In answer to the first problem, we see that multiple retrievals will probably be necessary. This will certainly be true when DIS begins its operation and most likely will continue indefinitely, since the information specialist should perform redundant retrievals or overlapping retrievals to ensure that (a) he has covered fully the projects available in the system and (b) whatever projects he has singled out for further analysis appeared in more than one search using different retrieval criteria trying to reach the same target group.

The automated system needs only to generate a limited amount of data for this initial set of retrievals. This initial set of data can be defined as that which sufficiently describes the project to (a) allow the information specialist to determine whether it is a project of interest and (b) give him sufficient information to probe deeper into

the data base. Once the information specialist has retrieved all similar projects of interest, he then encounters the second problem--namely, what set of information should he retrieve from the data base and in turn selectively pass on to the user? To facilitate this task, the automated system should be able to produce outputs that the information specialist could pass directly to the user. The semi-automatic package that DIS will send to the project designers will not be limited to the information that the information specialist has retrieved from the automated data base. It will include other information, in hard copy form, necessary for the project designer to understand and effectively utilize the experience captured in the project documentation included in the semi-automatic package, e.g., the data describing the context in which the projects were designed and executed.

Based on the above, DIS will require four different classes of automated reports from the PBAR system. These reports will be delivered to DIS since the information specialists are essentially the primary users of the PBAR information system. DIS is a filter of these outputs and must ensure that they are indeed sufficient both in quantity and quality before including them in the package for the user (the project designer).

The four classes of outputs which the system must produce are:

1. Automatic
2. Semi-automatic
3. On-request
4. Maintenance

Initially the most important type of output will most likely be the semi-automatic. Regardless of how output is triggered in the semi-automatic mode from the PBAR system, by definition,

there will be semi-automatic outputs from the system only if they are triggered. At this point in time, the submission of a PID is considered the triggering mechanism. Given therefore that a PID has been submitted, and that either totally automatically from the PBAR system or as a specific initial triggering mechanism by the information specialist of DIS, the semi-automatic process begins. The issue here is for the system to identify all projects that are available in the PBAR data base that have characteristics similar to the project for which the PID has been submitted. In order to accomplish this, the information specialist will be able to retrieve the desired data in three modes:

1. Batch mode--where the retrieved parameters and display codes are entered into the system via parameter cards, and the desired outputs are printed off-line.
2. On-line mode--the retrieval parameters and display codes are entered via terminal and the desired data elements displayed on the terminal.
3. On-line request with batch output option--same as 2 above with the option of specifying outputs to be printed off-line.

In any mode, the information specialist must specify not only his own identification and identification of the project designer who has initiated the semi-automatic request, but he should clearly specify:

1. The retrieval parameters and the retrieval logic that will instruct the automated system how and which projects to retrieve. This retrieval should generate a set of projects, and the system should be able to display any and all data elements which currently describe the project in the PBAR system.
2. The display codes which indicate to the system which data element should be displayed. The importance of the display codes is that the information specialist can specify only those data elements sufficient to describe which projects should be the subject of further retrieval. On subsequent retrievals, he can obtain further information on the specific

projects of interest. In other words, it is envisioned that the information specialist, who is the requester for the semi-automatic reports, will go through multiple retrieval passes to (a) retrieve projects with similar characteristics and (b) build up the information which he desires from the system according to his degree of certainty that the projects he has retrieved are indeed of interest to the problem at hand.

To this end, we envision four types of reports in the semi-automatic mode which will be required of the PBAR system:

1. An output describing similar projects
2. An output describing the project history
3. An output describing the context of each project which is retrieved
4. An output giving further information regarding the references included in each of the retrieved projects

The first one, the major output, is called Similar Project Description Report and must be flexible to the extent that the requester--normally, the DIS information specialist--can specify both the retrieval parameters and the extent to which he wants data displayed.

The second report, the Project History Report, which describes the history of the Critical Performance Indicators for completed projects, will be requested from the PPT subsystem.

The third output--the Similar Project Context Information Report--has characteristics similar to the Similar Project Description Report. This output should optimally contain the entire set of information available in the PBAR subsystem regarding context information (ESDB subsystem). Clearly neither the project designer nor the information specialist need all the data elements which are available in the system. Con-

sequently, it is essential that this report offer the flexibility to the requester to specify which data elements he wants the system to include on this output. This "specialized formatting" feature can be simplified by specifying a basic set of data elements which should normally be displayed in this report. This basic set could be expressed in terms of a basic set of country profile data plus basic sets of data for each sector. The flexibility should exist, however, for the requester either to override this basic set and ask for specific data elements to be retrieved from the data base or to supplement the basic set with additional data elements.

The Similar Project Description Report will display for each project retrieved a list of references of relevant hard copy documents. It is envisioned that further description of these references will be stored in the system and the information specialist will have the option of retrieving additional bibliographic information on these references. This data will be displayed by the PBAR system in the Similar Project Bibliographic Information Report. For each reference that the requester has specified, this report will produce all the data elements which are available in the system (see Figure IV-1). This report can also be used to display any bibliographic information which the DIS information specialist (or the project designer) has selected to assist the design of the project under development.

In summary, as described by the characteristics of all four reports in the semi-automatic process, the DIS information specialist has the flexibility of requesting what information he wants for the retrieval that he has specified. The combination of these attributes--generalized retrieval, generalized report programming, and specialized formatting--will enable the information specialist to utilize the information in the data base in a manner to best accomplish his purpose of providing information to the project designer for better project design.

The on-request outputs, which the system must produce for DIS, have essentially the same characteristics as the semi-automatic ones. The major difference is that, whereas the semi-automatic reports are triggered by a project document submission, the on-request outputs are initiated directly by the user. The system attributes necessary for the semi-automatic outputs are even more vital in the case of on-request since what should be retrieved and how it should be displayed cannot be anticipated at this time. The information necessary to satisfy the user's on-request query will range from a simple output generated by the automated system to a package of information which will require multiple interface with the system, as well as additional information in hard copy.

To facilitate the user's utilization of the DIS automated system, it will be necessary to pass on to him certain information on a routine (periodic or episodic) basis. This will be done through the automatic reports which can be summarized in two categories:

1. Project Information
2. Reference Information

Project Information Reports will contain data on the projects in the PBAR system. DIS users (USAIDs) should receive an annual summary list of all projects, as well as a more frequent (quarterly) report signaling important changes in the period.

Reference Information Reports will contain bibliographic data available in the system. The user should receive an annual list of the DIS bibliography, as well as a monthly report showing additions and modifications.

Maintenance Reports are generated by the system for the use of the DIS information specialists. There are three basic types of information which must be provided:

1. List of executed and rejected modifications made by DIS on DIS information in the PBAR data base.
2. List of changes to the PBAR data base made by any of the other subsystems which affect the structure and content of the data base, the significance of a data element, or the source from which the information was obtained.
3. Statistics of utilization of PBAR data base system facilities.

An Output Description Form has been completed for all DIS reports that can be identified at this time.

OUTPUT DESCRIPTIONS

OUTPUT DESCRIPTION

III-10

SYSTEM Development Information Service (DIS) DATE 11/24/75

OUTPUT TITLE A1: Bibliography List

PURPOSE: To provide DIS users with a complete list of the DIS bibliography

FREQUENCY: Yearly

RESPONSE TIME: 4 weeks after calendar year-end

DISTRIBUTION: DIS, Bureaus and USAIDs

SEQUENCE: Alphabetically within type within subject field and subcategory

CONTENT:

DATA ELEMENTS

All bibliographic data elements as outlined in Figure IV-1

SUMMARY TOTALS

Total number of entries with subtotals at each control break
(Beginning and end of year)

SYSTEM Development Information Service (DIS) DATE 11/24/75

OUTPUT TITLE A2: Changes to Bibliography

PURPOSE: To inform DIS users of the changes made to the bibliographic information

FREQUENCY: Monthly

RESPONSE TIME: 48 Hours

DISTRIBUTION: DIS, Bureaus and USAIDs

SEQUENCE: Same as bibliography list

CONTENT:

DATA ELEMENTS

Transaction Code
Old Version
Modification
New Version

SUMMARY TOTALS

Number of entries printed by type of change

SYSTEM Development Information Service (DIS) DATE 11/24/75

OUTPUT TITLE A3: Summary Project List

PURPOSE: To provide DIS users with a list of all Agency projects active and completed during the year

FREQUENCY: Yearly

RESPONSE TIME: 4 weeks after fiscal year-end

DISTRIBUTION: DIS, Bureaus and USAIDs

SEQUENCE: By project within status within subject field and subcategory

CONTENT:

DATA ELEMENTS

- Subject Field
- Subcategory
- Project Status and Approval Date
- Project Number
- Bureau/Country
- Project Title
- Project Purpose
- Project Estimated/Actual Start Date
- Project Estimated/Actual Completion Date
- Project Estimated/Actual Costs

SUMMARY TOTALS

Number of Projects - Total, at PID stage, at PRP stage, at PP stage,
Active and Completed--at beginning and end of year

With subtotals at each control break

SYSTEM Development Information Service (DIS) DATE 11/24/75

OUTPUT TITLE A4: Project Development Status

PURPOSE: To keep DIS users informed of project activity

FREQUENCY: 3 times per year as of: end of August, February, and May

RESPONSE TIME: 2 weeks after end of period

DISTRIBUTION: DIS, Bureaus and USAIDs

SEQUENCE: Same as summary project list

CONTENT:

DATA ELEMENTS

Subject field
Subcategory
Status and Approval Date*
Project Number
Bureau/Country
Project Title

* Changes in Status are flagged

SUMMARY TOTALS

Number of projects with subtotals at each control break

SYSTEM Development Information Service (DIS) DATE 11/24/75

OUTPUT TITLE SA1: Similar Project Description

PURPOSE: To provide DIS with information (available in the PBAR data base) pertaining to projects with characteristics similar to the one being designed.

FREQUENCY: This output will be produced for each project retrieved. The frequency is determined by the submission of a Project Document (PID) from the field.

RESPONSE TIME: 24 Hours

DISTRIBUTION: DIS information specialist requesting this data

SEQUENCE: By project number within requester name within request specification

CONTENT:

DATA ELEMENTS

- Requester Name
- Request Specification
- Mission/AID/W Office
- Individual
- Project Number
- Retrieval Parameter(s)
- Similar Project Data*
- Project Number
- Project Title
- Bureau/Country
- Purpose Code (interpreted)
- Special Concern Code (interpreted)
- Technical Codes (interpreted)
- Problem Statement
- Sector/Subsector Goal
- Logical Framework Matrix
- Similar Project Data* (Continued)
- Critical Performance Indicators (Descriptions and Dates)
- Project Status
- Project Costs
- Ongoing Related Projects
- References
- Experts
- Technology
- Evaluation Reports
- Feasibility Studies
- Other Related Documents

SUMMARY TOTALS

Total number of projects retrieved and by requester (DIS information specialist)

* Any and all of the following data elements may be displayed in this output.

SYSTEM Development Information Service (DIS) DATE 11/24/75

OUTPUT TITLE SA2: Project History Report

PURPOSE: To describe the history of the critical performance indicators

FREQUENCY: Same as for "Similar Project Description" output

RESPONSE TIME: 24 hours

DISTRIBUTION: DIS Information Specialist

SEQUENCE: By project number within requester ID

CONTENT:

DATA ELEMENTS

As specified in the PPT subsystem

SUMMARY TOTALS

Total number of projects by requester

SYSTEM Development Information Service (DIS) DATE 11/24/75

OUTPUT TITLE SA3: Similar Project Context Information

PURPOSE: To provide DIS with context information pertinent to projects which have been retrieved

FREQUENCY: On-request by the DIS information specialist

RESPONSE TIME: 24 Hours

DISTRIBUTION: DIS information specialist

SEQUENCE: By project number within country within requester name

CONTENT:

DATA ELEMENTS

- Requester Name
- Country
- Any country-specific contextual data elements specified at request time
- Project number
- Any further contextual data elements of interest to the specific project

SUMMARY TOTALS

Total number data elements by country and project and by requester

SYSTEM Development Information Service (DIS) DATE 11/24/75

OUTPUT TITLE SA4: Similar Project Bibliographic Information

PURPOSE: To provide DIS with further information (available in the DIS bibliographic file) describing the references specified in the project retrieved

FREQUENCY: On-request by the DIS information specialist

RESPONSE TIME: 24 Hours

DISTRIBUTION: DIS information specialist

SEQUENCE: By project number within requester name

CONTENT:

DATA ELEMENTS

- Requester Name
- Project Number
- Project Title
- All data elements specific to each reference as outlined in Figure IV-1

SUMMARY TOTALS

Total number of references and by requester

SYSTEM Development Information Service (DIS) DATE 11/24/75

OUTPUT TITLE M1: Update Log of DIS Modifications

PURPOSE: To inform DIS of the results (successful or not) of changes made to the DIS data base

FREQUENCY: As changes occur

RESPONSE TIME: Update cycle

DISTRIBUTION: DIS

SEQUENCE: The order changes were introduced into the system

CONTENT:

DATA ELEMENTS

- Old Record
- Modification(s)
- New Record
- Error Code(s) (If Applicable)

SUMMARY TOTALS

- Number of changes (by type) introduced
- Number of changes (by type) accepted
- Number of changes (by type) not accepted
- Number of records affected

OUTPUT DESCRIPTION

III-19

SYSTEM Development Information Service (DIS) DATE 11/24/75

OUTPUT TITLE M2: Summary Listing of PBAR Modifications

PURPOSE: To inform DIS of data base structure or format modifications
originating from other subsystems

FREQUENCY: As changes occur

RESPONSE TIME: Update cycle

DISTRIBUTION: DIS

SEQUENCE: By logical order within PBAR subsystem

CONTENT:

DATA ELEMENTS

Subsystem Code
Old Record Format
Modification
New Record Format

SUMMARY TOTALS

Number of changes by type of subsystem

SYSTEM Development Information Service (DIS) DATE 11/24/75

OUTPUT TITLE M3: Utilization Statistics Report

PURPOSE: To maintain evaluative information related to the utilization of system facilities and data elements for potential system improvement

FREQUENCY: Monthly (cumulative year-to-date)

RESPONSE TIME: 48 hours

DISTRIBUTION: DIS

SEQUENCE: Displays (on-line or batch) within retrievals within inquiries within user

CONTENT:

DATA ELEMENTS

User Identification
Number of Inquiries by Data Category
Number of Retrievals by Data Category
Number of Displays by Data Category or by Standard Report

SUMMARY TOTALS

Subtotals of utilization by user for on-line and batch
Totals of inquiries, retrievals, displays by data category for on-line and batch
Totals for utilization by all users for on-line and batch

SECTION FOUR

DATA ELEMENTS

The DIS information requirements outline, which has been prepared and passed on to the other PBAR subsystems, needs a few words of clarification. The document is in two parts:

- DIS Information Requirements Outline and Form
- DIS - List of Automated Data Elements

The first part, DIS Information Requirements Outline and Form, describes the information requirements of the DIS subsystem. This list of information requirements is the result of multiple iterations and included:

- Interviews with various AID project designers,
- Analysis of information requirements necessary in order to comply with the specifications in the Project Assistance Handbook,
- Synthesis of findings, and
- Review with the DIS Advisory Group.

Subsequently, in conjunction with the DIS Advisory Group, each information set was evaluated to determine which should be automated initially and which should remain in hard copy form.

The major criterion used in the analysis to determine which information should be automated initially and which should remain in hard copy, was to define the minimum set of data necessary for preparing an information package in the semi-automatic mode. The information which has been labeled as hard copy initially is subject to further analysis, and as DIS evolves into a more sophisticated system, may prove desirable to automate.

The attributes of the DIS subsystem should allow for data base modifications (e.g., additional data elements and additional "specialized formatting" reports.) with minor modifications to the system and therefore minimum time between modification and production of the desired output.

Clearly the modifications should be limited to changing the reports that are produced by the system which will require the display of the added data elements. To this end, a generalized report generation program, which allows the flexibility of specifying which report to produce and also allows the parametrical specification of the information to be displayed, together with an effective data base structure with the software necessary to efficiently manipulate its data elements, will allow the system to respond quickly to future requirements intrinsic to system evolution and user needs.

The second part of this document is the List of Automated Data Elements. Included in the list are the information elements, which were labeled "A" (automated) in the first part, exploded into data elements showing their association to the PBAR subsystems. Those data elements associated only with DIS are further exploded into more basic data elements, and their full descriptions appear in the Data Element Description Forms.

DIS INFORMATION REQUIREMENTS OUTLINE AND FORM

DIS INFORMATION REQUIREMENTS OUTLINE AND FORM

MAJOR CATEGORIES

- I. Problem/Project Definition
- II. Disapproved and Not Yet Approved Project Information
- III. Abstracts of Evaluation Findings (AID & Non-AID)
- IV. Related On-Going Programs/Projects
- V. Project/Solution Specific (Design)
- VI. Other Information

FORM

A = Automated

HC = Hard Copy

FORM

I. Problem/Project Definition

A. Problem Statements

- A 1. Brief summary statement
- HC 2. Causal relationships of various problems--Primary
- HC 3. Cross-sectoral problem interrelationships

B. Project/Program Strategies

- A 1. Project Identification/Status
- A 2. Sector/Sub-Sector Goal
- A 3. Project Strategy
- A 4. Logical Framework Matrix
- HC 5. Networks of intermediate causalities for output-purpose and purpose-goal link
- HC 6. Anticipated spread effects of various strategies
- 7. Implementation
 - A - CPI description
 - HC - PPT network
 - A - Project history
 - HC - Contractor work plan
 - HC - Implementation agents
 - HC - Implementation plan
- 8. Project Costs
 - A - Projected (total and AID)
 - HC - Projected by principal elements
 - A - Actual

FORM

C. Host Country Characteristics

1. Government Policy and Structure

- A - Government Structure
- HC - Organization and institutions
- HC - Administrative capability and capacity
- HC - Regulations/legal parameters
- HC - Equity
- HC - Infrastructure
- A* - AID financed trainees

2. Natural Resources

A

3. Human Resources

A

4. Transportation

A

D. Host Country Economic Profile

A

1. Production Data

2. Gross National Product

3. Domestic Financial Data

4. Foreign Trade

5. Payments & Reserves

HC

E. Data Collection & Analysis Techniques to Support Project Design

II. Disapproved and Not Yet Approved Project Information

A

A. Approved PIDs/PRPs

A

B. Disapproved Projects

* Obtained directly from Participant Training Data Base

FORMIII. Evaluation Findings (AID & Non-AID)A. Strategies and substance of design decisions

1. Results

- A - Evaluation Abstract (Impact on Problem)
- HC - Equity Dimension
- HC - Unanticipated Results

HC 2. Causative Factors

- Strategy
- Failed Assumptions
- Implementation
- Technology Used

HC 3. Evaluation Techniques Used

HC B. Assessment of Groups of Similar Projects (Abstracts)A C. Evaluation ReportsIV. Host Government Procedures & Related On-Going Programs/ProjectsHC A. Host Government Procedures--planning, resources allocation, etc.HC B. Host Country Development Plans & Sector AssessmentsA C. On-Going Programs/Projects

1. Host Country
2. AID
3. Other (other donors, foundations, private voluntary organizations, U.S. government, agencies, etc.)

V. Project/Solution Specific (Design)A A. Technical Approaches

1. "Standard" approaches
2. LDC-specific technology
3. New or untested technology

A B. "Experts" in Field

1. Individuals--AID and other
2. Institutions--universities, other contractors, donors, etc.

FORM

- C. Feasibility Studies (similar projects in same and other countries)
 - 1. List
 - 2. Report
- A
HC

VI. Other Information

- A. Selective Bibliographies (for deeper retrieval)
 - B. Selected AID Project Files
 - C. Selective Non-AID Literature
- A
HC
HC

LIST OF AUTOMATED DATA ELEMENTS

DIS - LIST OF AUTOMATED DATA ELEMENTS

REFERENCE TO INFORMATION REQUIREMENTS OUTLINE	DATA ELEMENT	DESCRIPTION	SOURCE																	
			PBAR SUBSYSTEM	ORIGIN (FOR DIS ONLY)																
I.A.1	Problem Statement	Summary statement of key problems (maximum of 5) [including magnitude of problem(s)]	DIS	PP																
I.B.1	<u>PROJECT IDENTIFICATION/STATUS</u> - Project Number - Project Title - Purpose Code - Special Concerns Codes - Technical Codes - Status	Project/Activity Number Title of Project Code for Project Purpose Special Policy Concerns Addressed by the Project Technical Components of Project Development Project Development Status and Approval Date	CPDB																	
I.B.2	Sector/Sub-Sector Goal	Sector and/or sub-sector goal statement from AID's sectoral or inter-sectoral strategy	CPDB																	
I.B.3	Project Strategy	Brief Description of Basic Strategy for accomplishing Project Purpose	DIS	PP																
I.B.4	Logical Framework Matrix (Original & Latest Revision)	<table border="1"> <tr> <td>Narrative Statement of Goal</td> <td>Indicators of Project Impact on Goal Achievement</td> <td>Means of Verification</td> <td>Goal-Level Assumptions</td> </tr> <tr> <td>Narrative Statement of Purpose</td> <td>End of Project Status</td> <td>Means of Verification</td> <td>Purpose-Level Assumptions</td> </tr> <tr> <td>Narrative Statement of Outputs</td> <td>Objectively Verifiable Indicators</td> <td>Means of Verification</td> <td>Output-Level Assumptions</td> </tr> <tr> <td>Narrative Statement of Inputs</td> <td>Quantity & Quality of Resources</td> <td>Means of Verification</td> <td>Input-Level Assumptions</td> </tr> </table>	Narrative Statement of Goal	Indicators of Project Impact on Goal Achievement	Means of Verification	Goal-Level Assumptions	Narrative Statement of Purpose	End of Project Status	Means of Verification	Purpose-Level Assumptions	Narrative Statement of Outputs	Objectively Verifiable Indicators	Means of Verification	Output-Level Assumptions	Narrative Statement of Inputs	Quantity & Quality of Resources	Means of Verification	Input-Level Assumptions	DIS	PP
Narrative Statement of Goal	Indicators of Project Impact on Goal Achievement	Means of Verification	Goal-Level Assumptions																	
Narrative Statement of Purpose	End of Project Status	Means of Verification	Purpose-Level Assumptions																	
Narrative Statement of Outputs	Objectively Verifiable Indicators	Means of Verification	Output-Level Assumptions																	
Narrative Statement of Inputs	Quantity & Quality of Resources	Means of Verification	Input-Level Assumptions																	

DIS - LIST OF AUTOMATED DATA ELEMENTS

REFERENCE TO INFORMATION REQUIREMENTS OUTLINE	DATA ELEMENT	DESCRIPTION	SOURCE	
			PBAR SUBSYSTEM	ORIGIN (FOR DIS ONLY)
I.C.3 (Cont'd)	- Labor Force		ESDB	
	◦ Percent of total population	Total country		
	◦ Female component of labor force	Total country		
	◦ Wage & salary earner component of labor force	Total country		
	◦ Distribution of labor force	For specific industries of interest see I.D.1	ESDB	
	- Education			
	◦ Student enrollment	Pre-primary, primary, secondary (general, vocational, teacher-training) higher education		
	◦ Primary students	Percentage of 5-14 age group		
	◦ Secondary students	Percentage of 15-19 age group		
	◦ Primary & Secondary	Percentage of 5-19 age group		
	◦ Literacy	Age 15 and over		
	◦ Teachers	Total for elementary & secondary schools & student-teacher ratio for both	ESDB	
	◦ Schools	Total & percentage primary, secondary		
	- Health			
	◦ Physicians	Number of persons per doctor		
◦ Diet	Caloric intake per capita and staple food(s)			
◦ Hospitals & Clinics	Number of hospitals and clinics			
◦ Birth control status				
◦ Potable water	Standards; mineral & bacteria composition			
◦ Incidence of malnutrition related diseases	Specific diseases and number of cases			
◦ Incidence of specific diseases	Specific diseases and number of cases			

REFERENCE TO INFORMATION REQUIREMENTS OUTLINE	DATA ELEMENT	DESCRIPTION	SOURCE	
			PBAR SUBSYSTEM	ORIGIN (FOR DIS ONLY)
I.C.3 (Cont'd)	<ul style="list-style-type: none"> - Demography <ul style="list-style-type: none"> o Population by age and sex o Births & Deaths o Life Expectancy o Urbanization 	<p>Total, less than 5 years, 5-14 years, 15-19 years, 20-39 years, 40-59 years, 60 years and over</p> <p>Birth rate (live births per 1,000 population), death rate (per 1,000 population), and Infant mortality (under 1 year per 1,000 live births)</p> <p>At birth</p> <p>Urban population as % of total population</p>	ESDB	
I.C.4	<p><u>Transportation</u></p> <ul style="list-style-type: none"> - Railroads - Roads - Merchant Shipping - Harbors - Waterways - Aviation 	<p>Status of railways, including miles of track and areas of population</p> <p>Status of road conditions, including miles of roads</p> <p>Status of merchant shipping fleet, including gross registered tons increase for specific period</p> <p>Port conditions and accommodation data</p> <p>Names of specific rivers that carry large amounts of traffic</p> <p>Status of air transportation</p>	ESDB	
I.D.1	<p><u>Production Data</u></p> <ul style="list-style-type: none"> - Total production (index) - Per Capita Production (Index) - Production to Specific Items of Interest 	<p>Production data for specific sectors/industries of interest (e.g., Agriculture, Mining, Forestry, Electricity)</p>	ESDB	

DIS - LIST OF AUTOMATED DATA ELEMENTS

REFERENCE TO INFORMATION REQUIREMENTS OUTLINE	DATA ELEMENT	DESCRIPTION	SOURCE	
			PBAR SUBSYSTEM	ORIGIN (FOR DIS ONLY)
I.D.2	<u>Gross National Product</u> - Total GNP & Annual Change - Per Capita GNP & Annual Change - Net Foreign Balance - Total Available Resources - Consumption - Total Investment - Sector Distribution		ESDB	
I.D.3	<u>Domestic Financial Data</u> - Consumer Price Index ◦ All items ◦ Food - Money Supply Index - Central Government Finances ◦ Revenues ◦ Expenditures ◦ Deficit/Surplus - External Public Debt ◦ Current total outstanding ◦ Annual Payments ◦ Amortization	Including percentage of change in 12 months Including percentage of change in 12 months Domestic (including tax portion) & foreign grants Current (including Defense portion) & Capital deficit or surplus	ESDB	

DIS - LIST OF AUTOMATED DATA ELEMENTS

REFERENCE TO INFORMATION REQUIREMENTS OUTLINE	DATA ELEMENT	DESCRIPTION	SOURCE	
			PBAR SUBSYSTEM	ORIGIN (FOR DIS ONLY)
I.D.4	<u>Foreign Trade</u> - Commodity Trade ◦ Exports, f.o.b. ◦ Import, c.i.f. - Selected Trading Partners ◦ Exports to (f.o.b.) ◦ Imports from (c.i.f.) - Major Exports (f.o.b.) - Major Imports (c.i.f.) - Export Prices	Applies to selected countries, e.g., U.S., Japan, Communist Bloc, etc. Applies to selected countries, e.g., U.S., Japan, Communist Bloc, etc. Items of interest, such as, coconut products, sugar, wood, etc. Items of interest, such as, machinery & transportation equipment, petroleum & products, etc. Items of interest, such as, Copra, sugar, etc.	ESDB	
I.D.5	<u>Payments & Reserves</u> - Balance of Payments - Gross Official Reserves - Other Gross Official Foreign Assets - Gross Commercial Bank Foreign Assets - Central Bank Liabilities - Commercial Bank Liabilities - Monetary Authorities-- Other Assets - Exchange Rates	For selected items (including balance on goods & services, private direct investment, official grants, official loan receipts, private transfers, government grants, etc.) Gold, SDRs, Reserve position in the IMF, and Foreign Exchange Trade conversion factor, Market/par or central rate, trade conversion rate.	ESDB	

DIS - LIST OF AUTOMATED DATA ELEMENTS

REFERENCE TO INFORMATION REQUIREMENTS OUTLINE	DATA ELEMENT	DESCRIPTION	SOURCE	
			PBAR SUBSYSTEM	ORIGIN (FOR DIS ONLY)
II.A.	<u>Approved PIDs/PRPs</u>	List of approved PIDs/PRPs (not yet converted to approved PPs) with similar project characteristics	CPDB	
II.B.	<u>Disapproved Projects</u>	List of disapproved projects (at the PID, PRP, or PP stage) with similar characteristics, including the reason for disapproval, action message reference, and date	CPDB	
III.A.1	<u>EVALUATION RESULTS</u>			
	Evaluation Abstract	Summary Statement of impact on problem and degree of success achieved	PPT/DIS	Evaluation Report
III.C.	<u>Evaluation Reports</u>	Annotated list of evaluation reports	DIS	Evaluation Reports
IV.C.1	<u>RELATED HOST COUNTRY PROGRAMS/PROJECTS</u>		DIS	PP
	- Project Title	Title of Project		
IV.C.2	<u>RELATED AID PROGRAMS/PROJECTS</u>		DIS	PP
	- Project Number	Project/Activity Number		
IV.C.3	<u>RELATED OTHER DONOR PROGRAMS/PROJECTS</u>		DIS	PP
	- Donor Code	Donor Sponsoring the Project		
	- Host Country Code	Country for which Project is Executed		
	- Donor Project Number	Project Number Assigned by Donor		
	- Project Title	Title of Project		
V.A.1	<u>Standard Approaches</u>	Annotated list of standard technical approaches	DIS	Project Documentation TAB Data Base PARIS
V.A.2	<u>LDC-Specific Technology</u>	Annotated list of technical approaches available in host country	DIS	Host Country Project Documentation

DIS - LIST OF AUTOMATED DATA ELEMENTS

REFERENCE TO INFORMATION REQUIREMENTS OUTLINE	DATA ELEMENT	DESCRIPTION	SOURCE	
			PBAR SUBSYSTEM	ORIGIN (FOR DIS ONLY)
V.A.3	<u>New Technology</u>	Annotated list of applicable new or untested technology	DIS	TAB Data Base PARIS Trade Literature Scientific Journals
V.B.1	<u>Experts-Individuals</u>	Identification of experts (AID and other)	DIS	PP (Design Team) AID/W Proj. Review Com Contracts/211D Grants Other
V.B.2	<u>Experts-Institutions</u>	Universities, other contractors, donors, etc	DIS	Contracts/211D Grants Other
V.C.1	<u>Feasibility Studies</u>	Annotated list of feasibility studies of projects in same or other countries	DIS	TAB Data Base ARC
VI.A.	<u>Bibliographic Data</u>	Annotated bibliography of DIS reference sources	DIS	ARC TAB Data Base Literature

BIBLIOGRAPHIC DATA ELEMENTS

NOTES ON ANNOTATED BIBLIOGRAPHY DATA ELEMENTS

Figure IV-1 is not intended to be all-inclusive but to provide some examples based on a review of a few actual documents. More specifically, only four of the "Other" bibliographic records (VI.A of the "Information Requirements Outline) are included.

As other types of records are identified, their content will be defined and their Record Type value assigned. Examples of these might be:

- Chapter in an Edited Book;
- Conference Proceedings, Annual Meetings;
- Speeches;
- Monographs;
- Military Reports;
- U.S. Government Reports;
- Secondary Journals;
- Unpublished Documents; and
- Dissertations (Published and Unpublished).

It can be concluded therefore, since all the possible types of documents that may be stored in the DIS data base have not been reviewed, that all the possible bibliographic data elements and their related validation criteria have not been identified.

Figure IV-1: DATA ELEMENTS FOR ANNOTATED BIBLIOGRAPHY

DATA ELEMENTS NAME	Evaluation Reports III.C	Technology V.A.1,2,3	Expert Individual AID V.B.1	Expert Individual Non-AID V.B.1	Expert Institution V.B.2	Feasibility Study V.C.1	OTHER VI.A			
							Book	Journal Article	Patent	Biblio.
CODES:										
*Record Type Code	X	X	X	X	X	X	X	X	X	X
*Primary Purpose Code	X		X	X	X	X				
*Secondary Purpose Code	X		X	X	X	X				
*Technical Codes	X	X	X	X	X	X	X	X	X	X
*Special Concerns Codes							X	X		X
*ARC Number	X	X					X	X	X	X
*TAB Data Base Classification Codes (AGRIS Subject Coding)		X								
Names (Authors, Experts Inventors, etc.)	Name(s)	Name(s)	Name	Name	Name of Expert Instl.	Name	Name(s)	Name(s)	Name(s)	Name(s)
Organization (Contractor, Author Affiliation, etc.)	Organization	Sponsoring Organization	Bureau, Title, etc.	Organization Title	Expert Institution	Organization	Organization (if applicable)		Sponsoring Organization	
*Address of Organization	Street, City, State, Country	Street, City, State, Country	Street, City, State, Country	Street, City, State, Country	Street, City, State, Country	Street, City, State, Country	Street, City, State, Country		Street, City, State, Country	
*Type of Organization Code	X	X	X	X	X	X			X	
Title & Subtitle (English)	Title of Report	Title				Title of Study	Title of Book	Title of Journal Article	Title of Patent	Title of Biblio.
Title (Original Language Transliterated if Necessary)	Title (if applicable)					Title (if applicable)	Title (if applicable)	Title (if applicable)	Title (if applicable)	
Abstract	Abstract	Abstract	Narrative Description of Field Expertise & Years Exper. etc.	Narrative Description of Field Expertise & Years Exper. etc.	Narrative Description of Type of Expertise etc.	Abstract	Abstract	Abstract	Abstract	Abstract
Publication										
*Journal Title								Title of Journal		
*Publisher	Name of Publisher or AID Issuing Office	Name of Publisher				AID Issuing Office or Recipient of Study	Name of Publisher	Name of Publisher (if applicable)	Name of Publisher	Name of Publisher
*Place of Publication	City, State, Country	City, State, Country					City, State, Country	City, State, Country	City, State, Country	City, State, Country
*Date of Publication	Day, Month, Year	Day, Month, Year				Day, Month, Year	Day, Month, Year	Day, Month, Year	Day, Month, Year	Day, Month, Year
Internal ID										
*Volume #						Volume #	Volume #	Volume #		Volume #
*Issue #								Issue #		
*AID Contract #	Contract #	Contract #		Contract #	Contract #	Contract #				
*Other ID #		Report #						Part #		
*Patent #									Patent #	
*AID Project #	Project #	Project #	Project #(s)	Project #(s)	Project #	Project #				
*Pagination	# pages	# pages				# pages	# pages	# pages		# pages
*Price		\$ amount					\$ amount			
Date on File	Day, Month, Year	Day, Month, Year	Day, Month, Year	Day, Month, Year	Day, Month, Year	Day, Month, Year	Day, Month, Year	Day, Month, Year	Day, Month, Year	Day, Month, Year
Date of Last Update	Day, Month, Year	Day, Month, Year	Day, Month, Year	Day, Month, Year	Day, Month, Year	Day, Month, Year	Day, Month, Year	Day, Month, Year	Day, Month, Year	Day, Month, Year
Date of Last Retrieval	Day, Month, Year	Day, Month, Year	Day, Month, Year	Day, Month, Year	Day, Month, Year	Day, Month, Year	Day, Month, Year	Day, Month, Year	Day, Month, Year	Day, Month, Year

SECTION SEVEN

DATA BANK ACCESS LIMITATIONS

Control must be exercised over who can access the several files, what he can access, and what he can modify. This control must be enforced whether operating in the batch mode or the on-line mode. In the batch mode, the control is straightforward since all transactions (input or output requests) are to be screened manually by the data-audit control group.

In the on-line mode the procedure is more complex since the system must monitor and instantly establish for both current and historical files:

- Who can access--the system accommodates user identification codes,
- What can be accessed--the user identification code includes data restriction codes,
- What can be modified--this is the most sensitive aspect. The obvious dangers of indiscriminate modifications must be avoided by proper filtering and verification. The user identification code includes data-modification authorization codes.

Accordingly, access limitations in the on-line mode are a responsibility of the system. Facilities are required for readily adding, deleting, and changing the user identification codes and their associated data-restriction and modification attributes.

SECTION EIGHT

INTERFACE REQUIREMENTS

Interface requirements for the DIS subsystem fall into three broad categories:

- Direct interface with other PBAR data bases,
- Direct interface with external data bases,
- Interface with external data bases via PBAR.

A. DIRECT INTERFACE WITH OTHER PBAR DATA BASES

1. The basic interface points of DIS to the automated portion of the PBAR MIS (in both batch and on-line modes) are the existing and proposed subsystems, namely, PAIS, CPDB, PPT, and ESDB, which individually and collectively are the repositories of the pertinent informational structures. The purpose of this interface is basically for retrieval of information pertaining to prior and current project activities in their proper context. Although some periodic accessing of the several data bases is likely, the interface for this purpose will be essentially on an as-needed or on-request basis.
2. A second direct interface with other PBAR subsystems is the requirement to notify DIS when any change is made in the structure, format, significance, or source of information contained in the other PBAR data bases. The information provided via this interface is used to prepare the Summary Listing of PBAR Modifications Report (see Section III). The purpose of this interface is to alert DIS to factors which may possibly affect the interpretation and reliability of retrieved information or the specific data elements which are available for retrieval.

B. DIRECT INTERFACE WITH EXTERNAL DATA BASES

DIS may require access of information contained in data bases external to the PBAR system. DIS's direct interface with these information sources will not levy any ADP requirements on the PBAR system.

Practical Concepts Incorporated

Currently, direct interface with only one external system is planned, namely, the Participant Training Data Base as soon as it is operational.

In analyzing the desirability of accessing information from other external information systems, DIS will evaluate whether the interface should be direct or via the PBAR system. In the latter case, interface requirements must be specified and are discussed below.

C. INTERFACE WITH EXTERNAL DATA BASE VIA PBAR

The need to access information maintained in the TAB Data Base and PARIS establishes an initial requirement to acquire, via PBAR, data which is available in machine-readable form (e.g., magnetic tape) from other ADP systems.

Moreover, further potential requirements for such interfaces are envisioned. For example, one possible further application is the acceptance of information concerning AID projects which has been captured on magnetic tape by FSIS (or a modified version of that system). Another potential application, as the number of bibliographic references in the DIS data base increases, is computer-aided scanning of bibliographic tapes developed by other systems to locate those entries which are not already present in the DIS data base.

The specific sources for machine-readable data which may prove valuable in the future cannot be predicted. It is clear, however, that there may well be a number of such sources and that they may

reasonably be expected to differ in data format and representation. For this reason, an automated conversion mechanism (or possibly mechanisms) adaptable to a variety of formats is desirable to extract informational units for display or for selective absorption into DIS-specific files.

SECTION NINE

DATA RETENTION CRITERIA

The principal basis for retention criteria is active utilization of the subject data bank, whether it is considered "current" or "historical." Therefore, provided that the informational elements captured and maintained are valid and pertinent, it is prudent to assign to both the current and historical data banks an indefinite retention period.

Periodic "purging" of the active (valid and pertinent) data bases will be required to make room for current information. Selection of records for purging should be based, not solely on the length of time the information has been in the system, but also on the frequency and recency with which the information has been referenced. This information is available as part of the statistics maintained by the system. (See Section VI.B: OPERATIONAL PROCESSES.)

SECTION TEN

CONVERSION REQUIREMENTS

At the present time, it is not planned to convert any existing manual files or existing computer data bases specifically for use by DIS. No conversion requirements, other than those established for the other PBAR subsystems, are applicable to DIS.

NOTE: To the extent that DIS will find it desirable to incorporate in its own data base, information from automated systems external to PBAR (c.g., TAB Data Base, PARIS), it will be able to do so via the interface capability which the PBAR system will provide in order to access data from these external systems. This interface capability has been discussed in Section VIII.