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IDENTIFICATION OF POLICY GUIDELINES AND ALTERNATIVES FOR CDIE'S DEVELOPMENT INFORMATION SERVICES

FINAL REPORT

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IDENTIFICATION OF POLICY GUIDELINES AND ALTERNATIVES FOR CDIE'S DEVELOPMENT INFORMATION SERVICES

FINAL REPORT

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Submitted to:

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EXECUTIVE SUMMARY

The purpose of this project is to provide a preliminary review and analysis of selected current development information services and clientele of AID's Center for Development Information and Evaluation (CDIE) and to develop a framework for AID management to use in its development of policy guidelines for information service. CDIE is part of the Bureau for Program and Policy Coordination (PPC). The development information services are provided under the management of the Development Information Division (PPC/CDIE/DI). Two other divisions within CDIE are the Program and Policy Evaluation Division (PPC/CDIE/PPE) and the Evaluation Applications and Statistical Analysis Division (PPC/CDIE/EASA).

This study of CDIE/DI's current development information services includes analyses of its user clientele during FY 84, their respective information needs as expressed by services requested, the volume and types of services provided by the various DI information service points, and current and projected manpower needs and costs for providing these services to the various user groups (Section 2). Issues which affect the development and implementation of CDIE information service policies are identified and discussed within a generalized policy framework (Sections 3 and 5). Organizational alternatives for providing development information services are identified and analyzed (Sections 4 and 6).

Various AID documents supplied background information on the development information service operations of DI and of other related information service activities within AID. This information was supplemented by interviews with DI direct hire staff and with staff of its contract and RSSA (Resources Support Services Agreement) operations. Statistical correlations were obtained from DI's REQUEST database, which provides numerous elements of management information on the users and uses of DI's various development information services. Monthly and annual reports and other sources of data supplemented the computer-generated tables. Current budget data were obtained from the individual service groups.

The seven information service groups under the administration of DI which provide different types and different levels of service are listed below:

- AID Library (RSSA operation);
- Research Service (RSSA operation);
- Utilization Service (RSSA operation);
- Technical Inquiries Service (TIS) (RSSA operation);
- AID Document and Information Handling Facility (DIHF) (contract operation);
- AID Branch Library at New State (DI direct hire); and
- DI System Services Staff (direct hire).

As a result of our short-term study of the various DI information service points, our preliminary analyses of the data on estimated expenditure of DI's resources on services to the public* and other requester groups and our identification of the various elements in a framework for development of policy guidelines for information service, we have reached the following conclusions:

- An estimated 13 percent ($60,000) of DI's manpower costs are expended for service to the public. However, we cannot at this point make recommendations to DI concerning selection of specific policy options for providing service to the public since more detailed data is required on both specific request processing costs and the nature of requests from users.
- Approximately 1.7 FTE are required to support information services to the public; this service currently is divided among 19 positions. Further investigation of the nature of these requests is required before recommendations can be made concerning the levels of skills that are required to support the various aspects of service to the public.

*i.e., secondary users, defined as those organizations and individuals having no stated current relationship with AID.

- A substantial proportion (more than 38 percent) of all requests for DI's information services are requests, primarily from AID/Washington and the AID missions, for document-related services. An estimated 74 percent of these document requests are for non-AID documents, 84 percent of which are obtained by the AID Library via interlibrary loan (ILL). This suggests not only that AID/Washington and mission staff require information beyond AID's own experience, but that ILL services provide a viable alternative to direct purchase and physical storage and maintenance of publications by the AID Library or by other AID offices and staff.

- More than 2,600 external database searches were performed by DI in FY 84 as part of the process in responding to research and reference requests from AID/Washington and mission staff; these data again support the observation that AID staff require access to experience and information resources beyond those existing within the Agency itself. In the event that cost sharing of these services with other AID offices is contemplated, we recommend that DI adapt its current procedures to provide for more detailed recording and analysis of use of these services by various AID offices and missions.

- Examination of average costs per transaction of document-related services (other than ILLs) and of certain research and reference services provided to public users suggests that further study is needed to determine the appropriate skill levels required for processing these requests. It may be more cost-effective to place limits on grade levels of staff who handle these requests, and/or on the amount of time which may be spent processing such requests. However, we also recommend, that before attempting further analyses of manpower costs (which are based on estimates of time to complete requests), that adjustments be made in REQUEST database procedures which would allow DI staff to report processing times of less than one hour. Current cost estimates which are derived from REQUEST database data may, in a few cases, be artificially high, particularly for document-related services which may take less than one hour to complete.

- The data presented in this report are preliminary data on manpower costs and cannot be used as a basis for determining charges for cost recovery for services.

- The REQUEST database could become an even more useful tool for providing management information if all statistics on information service provided by the various DI service points were included in that database and if quality control measures for validating the data were strengthened and performed more frequently. Another improvement to the database would be the re-structuring of selected data elements to provide more specific data on DI-sponsored services/products and more explicit time estimates, as noted above.

- Policy guidelines exist within AID to support charging specific requester groups for AID publications in order to effect recovery of specified costs associated with production of these documents.

- Policy guidelines from OMB and precedents set by information services in other representative government agencies support charging to recover certain direct and indirect costs associated with sale, lease, copying and/or searching of government-developed databases, searching external databases, providing photocopies or access to photocopying facilities, and supplying government-sponsored products/services (e.g., documents, interlibrary loan services). No known precedents have been set to date for charging for either provision of general reference service or for searching online library catalogs, but at least one Federal library (NAL) is actively exploring options in this area.

- DI information service points and other government information services have both formal and informal (i.e., undocumented) policy guidelines related to provision of services/products to non-Agency requesters; most of the libraries and other information services which were contacted during this study provide limited and lower priority service to non-Agency requesters.

- Several existing DI policy statements and operational guidelines require review in terms of (1) compliance with the new AID policy guidelines on charging for AID publications or (2) compatibility with other DI policy statements.

We recommend that DI initiate:

1. A full-scale cost and usage study of services provided by its individual service points in order to obtain more complete data on the nature of the services/products supplied and to identify the specific direct and indirect costs which may be recovered by charging for selected services; we support the DIHF's recommendation that a study of its costs and charges for document/fiche preparation and delivery to requesters is required;

2. A specific study on the nature of requests from the public to determine which types of service could validly be provided by contract or other less costly personnel;

3. A study of the nature of requests for document identification and delivery services and the associated skills that are required for fulfilling these requests;

4. Consideration of the cost-effectiveness of direct international telephone contact with mission requesters in order to resolve questions which may arise related to their service requests; the coordination procedures associated with sending cables appear to involve considerable staff time and also involve time delays in obtaining responses from the mission requesters;

5. Regular input to the REQUEST database of all appropriate service statistics from the various DI service points; appropriate manually-tallied data should be input to the database in batch mode on a monthly basis;

6. An examination of possible minor modifications to the REQUEST database and its data input procedures so that a more complete identification of service requested, product(s) provided and request processing time may be achieved;

7. Review of its existing policy statements for conformity with AID guidelines on charging specific requesters for AID publications/documents and for conformity/compatibility among the policy statements of the various DI service points;

8. Review of its options and determination of its policies related to provision of services/products to the various DI requester groups and to distribution of portions of the Development Information System (DIS); all established policies should be documented in a form which may be made available to non-Agency requesters.

development information services. Monthly and annual reports and other sources of data supplemented the computer-generated tables. Current budget data were obtained from the individual service groups.

1.2 Overview of CDIE/DI's Development Information Services

The seven information service groups under the administration of DI which provide different types and different levels of service are listed below:

- AID Library (RSSA operation);
- Research Service (RSSA operation);
- Utilization Service (RSSA operation);
- Technical Inquiries Service (TIS) (RSSA operation);
- AID Document and Information Handling Facility (DIHF) (contract operation);
- AID Branch Library at New State (DI direct hire); and
- DI System Services Staff (direct hire).

1.2.1 Staffing

During FY 84, the U.S. Department of Agriculture, Graduate School (USDA-GS) RSSA operated the AID Library, the Research Service and the Utilization Service; it was a year of transition, with responsibility for operation of the Library and Research Services changing from DI direct hire staff to new RSSA staff. The U.S. Department of Agriculture, Office of International Cooperation and Development (USDA-OICD) RSSA operated the TIS, as it had for nearly a decade. A primary contractor (Computer Data Systems, Inc.) with two subcontractors (Logical Technical Services, Inc. and Capital Systems Group) operated the DIHF, as these contractors had since 1981. During FY 85, the two RSSA groups continue to operate the respective information services and the same contractors are operating the DIHF, with Logical Technical Services, Inc. as the primary contractor. The

SECTION 1
BACKGROUND

1.1 Introduction

The purpose of this project is to provide a preliminary review and analysis of selected current development information services and clientele of AID's Center for Development Information and Evaluation (CDIE) and to develop a framework for AID management to use in its development of policy guidelines for information service. CDIE is part of the Bureau for Program and Policy Coordination (PPC). The development information services are provided under the management of the Development Information Division (PPC/CDIE/DI). Two other divisions within CDIE are the Program and Policy Evaluation Division (PPC/CDIE/PPE) and the Evaluation Applications and Statistical Analysis Division (PPC/CDIE/EASA).

This study of CDIE/DI's current development information services includes analyses of its user clientele during FY 84, their respective information needs as expressed by services requested, the volume and types of services provided by the various DI information service points, and current and projected manpower needs and costs for providing these services to the various user groups (Section 2). Issues which affect the development and implementation of CDIE information service policies are identified and discussed within a generalized policy framework (Sections 3 and 5). Organizational alternatives for providing development information services are identified and analyzed (Sections 4 and 6).

Various AID documents supplied background information on the development information service operations of DI and of other related information service activities within AID. This information was supplemented by interviews with DI direct hire staff and with staff of its contract and RSSA (Resources Support Services Agreement) operations. Statistical correlations were obtained from DI's REQUEST database, which provides numerous elements of management information on the users and uses of DI's various

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U.S. Department of Agriculture. This service groups also acquires non-AID publications in response to mission requests for current documentation, consults with subject experts, as required, and prepares information analysis packages for the missions on requested topics. The TIS provides a limited amount of service to LDC institutions, to U.S. federal government agencies and to non-AID-related requesters.

The AID Document and Information Handling Facility (DIHF) supports three major activities: (1) the operation and expansion of the online Development Information System (DIS), (2) a document delivery program to supply on-demand and subscription copies of certain classes of AID documents and (3) technical operation of the AID records management archive programs. The DIS provides bibliographic access to over 36,000 AID-generated project documents and technical reports, as well as providing management information on DIHF activities which include document processing, microfiche production and duplication, document production and distribution, systems development, warehousing, etc. The DIHF also provides technical processing support to the AID Library with acquisition of monographs and serials, cataloging and development of an online catalog. The User Services staff of the DIHF provides direct service to AID staff and to other types of requesters by processing ad hoc and subscription requests for AID project and technical documents.

The AID Branch Library (also known as the Development Information Center) at New State provides service primarily to AID staff located in that building. Currently, a single staff person performs online bibliographic searching of the DIS and external databases, provides access to fiche collections of AID and World Bank documents and, as required, refers requests to other DI information services for further processing. Plans are underway to enlarge the functions and staff of this Center to include outreach and training activities for AID staff.

The DI System Services staff perform a variety of administrative functions which include providing direct technical assistance to missions and other AID-related groups, coordinating systems development within the various DI service groups, developing programs to obtain improved control of acquisition of AID's project and technical documents, formulating

AID Branch Library staff person at New State and the System Services staff are DI direct hire positions. The service provisions of each of the information service groups are described in the following paragraphs.

1.2.2 Services

The AID Library in Rosslyn provides ready reference service, document identification and ordering (manual and online), reference use of its collection (95% AID-generated or AID-sponsored materials), interlibrary loan and assistance to both walk-in and remote clientele. Library staff monitor copy quality and delivery of requested AID documents to missions and other high priority requesters. Many of the Library's services are currently provided to all types of requesters, both AID- and non-AID-related requesters.

The Research Service conducts in-depth research on requested topics, performs complex searches on DI's online Development Information System (DIS) and on other AID and non-AID databases, consults with subject experts and prepares, as required, syntheses and information analysis packages on requested topics. Many of the research services are currently provided to all types of requesters following priority guidelines established by DI. This service group processes all requests for information service which are received in written form, except for written requests for AID project and technical documents which are processed by the AID Library.

The Utilization Service staff person, under the direction of DI direct hire staff, supports information service for DI staff and RSSA management by inputting and maintaining request data in DI's REQUEST database, a management information system which is part of the DIS. Other duties of this staff person include support services associated with other CDIE databases. The Utilization staff does not provide direct information service to DI's external user community.

The Technical Inquiries Service (TIS) provides AID project personnel with technical information in the agricultural and food production/nutrition fields and conducts in-depth research, using primarily non-AID databases and publications and the technical resources and expertise of the

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TABLE 1-1

Overview of DI's Development Information Activities

	Contract/RSSA operations					AID Staff	
	Library	Research	Utili-zation	TIS	DIHF	Branch Library (New State)	DI Staff
Processing Activities							
Selection	I	I		x		I	x
Acquisitions				x*	x*		x
Serial check-in	x						
Cataloging					x		
Indexing/abstracting					x		
Microfiche filming					x		
Document storage	x				x	x	
Inventory control					x		
Collection maintenance	x					x	
Collection management	I				I	I	x
Thesaurus development	I	I			x	I	x
DIS input/update (online)	U	U	x	U	x	U	x
DIS input/update (manual)	x	x		U		x	x
Information systems development	I	I	I	I	x	I	x
Service Activities							
Circulation	x						
Interlibrary loan	x						
Serial routing	x						
Information need determination	x	x		x**	x	x	
Ready reference	x	x				x	
Citation/document number verification	x	x			x	x	
DIS searching	x	x	x		x	x	
External database searching	x	x		x		x	
Preparation of extensive bibliographies		x					
Information analysis and research		x		x			

*mainly non-AID documents
**mainly by phone
I=Have opportunity for input/activity, as requested
U=Under consideration

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policies for information processing and service, marketing DI's information services and planning programs to support transfer of selected information activities and technologies to various missions and counterpart LDC organizations. DI System Services staff fulfill a limited number of requests for general information service, mainly in the areas relating to DI's administrative functions.

A detailed overview of the activities of the various information service points is presented in Table 1-1.

1.3 Overview of Other AID Information Services

Other information services within AID fall into four major groups:

- information offices designated to work primarily with specified external user groups: the Bureau for External Affairs (XA) and the Office of Legislative Affairs (LEG)

- information and publications offices within various AID offices;

- satellite libraries/collections; and

- specialized online databases developed and maintained by various AID offices.

The services which DI will provide in the future will be influenced by the services provided by each of the above-listed groups. Further investigation is needed to identify the mission objectives and service offerings of these groups and potentials for future collaboration with DI.

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TABLE 1-1

Overview of DI's Development Information Activities (continued)

	Contract/RSSA operations					AID Staff	
	Library	Research	Utili-zation	TIS	DIHF	Branch Library (New State)	DI Staff
Service Activities (cont'd.)							
SDI service				U	U		
Publication of ARDA					x		
Document copying	x	x		x	x	x	
Dissemination of documents	x	x		x*	x	x	
Letter/cable preparation	x	x		x	x		
User referral to other offices (AID/non-AID)	x	x				x	
Request referral to other AID offices/ operations	x	x		x		x	
Outreach Activities							
Technical assistance	x	x		x	x		x
Briefing presentation	x	x		x	x		x
Consulting	x	x		x	x		x
Training (external)							x
Publications/product development	I	I		I	x	I	x
Marketing/PR	x	x		x			x
Library/DIC development	I	I		I	I	I	x
Document collection transfer					x		x
Database transfer					x		x
Cooperative program development	I	I		I	I	I	x
Database exchange					x		x
Administrative Activities							
General	x	x	x	x	x	x	x
Management report preparation from DIS	I	I	x	I	x	I	x

*mainly non-AID documents
I=Have opportunity for input/activity, as requested
U=Under consideration

services provided by the TIS. Statistics for interlibrary loan requests transmitted via the OCLC (Online Computer Library Center) network and for external database use may be generated from the FEDLINK (Federal Library and Information Network) account records. Currently, TIS activities are manually tallied on a monthly basis, but plans are underway to incorporate these data in the REQUEST database.

DIHF information services are tracked and controlled using other MINISIS databases which are part of the DIS. One service provided by the DIHF is distribution of selected AID documents by subscription and on demand through its User Services Division. Monthly, annual and on-demand User Services reports are generated to indicate the volume of requests received and processed and the nature of the requesters. The data captured for this database are less detailed concerning the nature of the request than those data included in the REQUEST database. Statistics on DIHF services were not studied as part of this report since all DIHF services were formally evaluated by CDIE in FY 84.

2.2 Methodology

Statistical correlations generated from the REQUEST database supplied the basic data for this project for analyses of the information services provided during FY 84 by the AID Library, the AID Branch Library at New State, the Research Service and the System Services Staff. Other manually-tallied data on AID Library and TIS Services and on selected technical assistance activities were obtained from annual, monthly and/or special reports submitted to DI by the respective service points.

Difficulties were encountered in combining the manually-tallied data with the computer-generated data since the methods of categorizing the data often differed considerably. DI management and other appropriate RSSA/contract staff have reviewed the data used as the bases for our analyses in order to ensure that the results of the analyses would present an accurate description of DI-sponsored information service activities during FY 84.

SECTION 2

ANALYSIS OF DI'S DEVELOPMENT INFORMATION SERVICES & ITS CLIENTELE

2.1 Introduction

In late FY 83, DI worked with contract staff to develop the REQUEST database as one of the files in its Development Information System (DIS), which operates using MINISIS software. The REQUEST database was designed ultimately to be both a tracking system for information service requests received by all CDIE divisions and a management information system on the volume and nature of the requests received. During the period of this study, the database included only those requests handled by the Library, Research and System Services staff of DI. Data on information service requests are recorded on a service request form which is then input into the REQUEST database by the Utilization Services data entry technician on the USDA-GS RSSA staff. These requests for information may be received in written form (memoranda, letters, cables, or on the actual DI service request forms), by telephone or in person from walk-in traffic at DI. The requests for information service are processed by the AID Library, the Research Service or DI's Systems Staff.

The REQUEST database contains detailed information on the requesters, the nature of the requests and on the type of service provided in response to each request. Request data were input into the system starting at the beginning of FY 84; the system became fully operational by the end of January 1984 when all requests which required a substantive amount of processing were input into the database. Monthly, annual and on-demand management reports are generated from the REQUEST database.

Other existing sources of data on DI's services supplement the REQUEST database. Data on requests for information received by telephone or from walk-in requesters at the AID Library to which staff can respond in approximately ten minutes or less are more cost-effectively tallied on a manual basis and summarized monthly. Other information services currently not included in the REQUEST database are the interlibrary loan and external database searching activities of the AID Library, and the information

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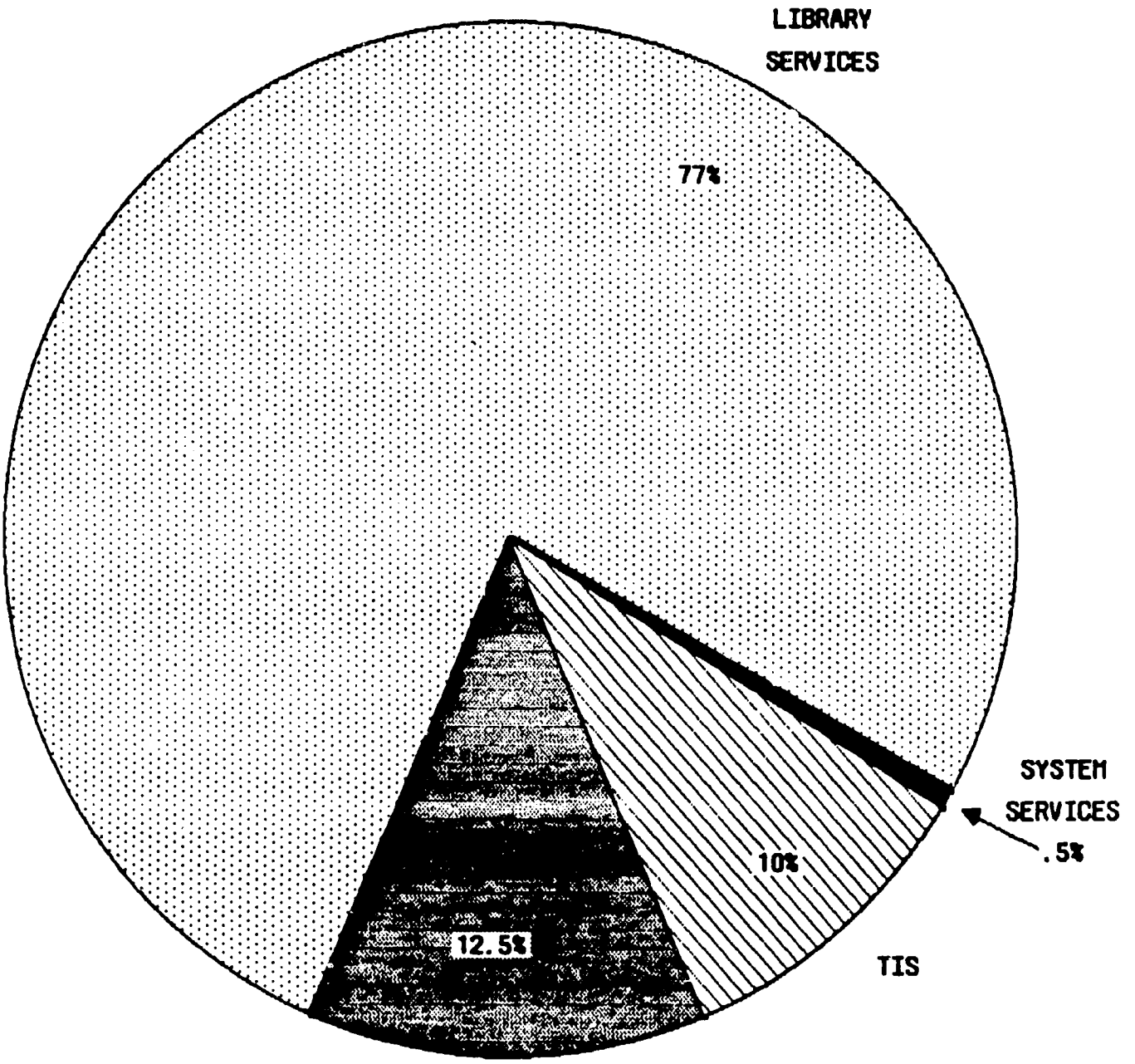
Figure 2-1

DISTRIBUTION OF REQUESTS COMPLETED BY

DI INFORMATION SERVICE POINTS; FY 84



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The data collected were organized to present an overview of the characteristics of the information services provided by the respective DI information service points. The following four categories represent the major concentrations of the analyses:

- numbers and types of requesters/users of the services;
- numbers and types of services requested;
- estimated staff time spent processing requests; and
- estimated manpower costs for DI's information services.

These latter two analyses will be presented in the text as subsets of the former two analyses.

2.3 Overview of Request Activity During FY 84

The study identified an estimated 11,203 requests received by DI information service points (excluding the DIHF) during FY 84; 99 percent of these requests (11,078 requests) were completed during that fiscal year. The remaining 1 percent of the received requests which were in process by the various DI service points represented a workable number of requests in the processing queue. Analysis of the number and source of requests in process should continue to be conducted by DI on a regular basis to ensure that large request processing backlogs, particularly of requests from high priority users, do not develop at some time in the future as either demand or staffing levels may change.

The distribution of numbers of requests completed in FY 84 by the various DI service points is represented in Figure 2-1. All statistics listed as "Library Services" statistics in this report include data on both the AID Library and the AID Branch Library at New State. It should be noted again that the DI System Services staff perform a limited amount of direct technical assistance and information service since they function primarily as an administrative group to coordinate the various existing and planned DI information service programs.

The volume of requests from missions and relating to mission projects is somewhat misleading since mission requests may be submitted to DI by the appropriate geobureau or by mission or host country contractors, rather than directly by mission personnel. Therefore, it is certain that the statistics on requests from missions represent only a portion of the overall support of information service to that group. The AID/Washington statistics, together with the mission statistics, indicate the support of these two high priority user groups by the DI information service points. Additional support of mission and AID/Washington programs is reflected in the statistics on service to AID contractors or grantees.

The volume of requests from AID-related groups often is difficult to categorize properly since requesters who submit written requests for information often do not disclose their relationships with AID. Therefore, within the group of secondary users which has been outlined, commercial firms, educational institutions and research institutions may actually include organizations which should be classified properly as primary users. Since AID has relationships with several thousand contractors and with numerous universities and research institutions, it would be a time-consuming task to check for possible requester affiliation with AID. Also, these commercial firms and educational and research institutions may be affiliated with host government agencies which would classify them as types of AID-related organizations.

In this current study, no adjustments were made in the data to estimate actual, as compared with reported, mission or AID-related group request activity. Recent changes in procedures for collecting and recording user statistics should improve the specificity with which end users can be identified. Future use of electronic mail systems to capture request and requester information online and to conduct interactive sessions with users holds promise for more accurate input of request/requester data.

The analyses of information service both requested by the various types of requesters and completed by the DI information service points

2.4 Requesters/Users of DI's Information Services

The REQUEST database identifies 15 types of requesters. For summary analysis, the requester data were grouped under "primary users" (higher priority) or "secondary users" (lower priority), according to the affiliation of requesters with AID. In the following outline of requesters of information services, the descriptive headings which appear in the REQUEST database are enclosed in quotation marks:

- Primary users (those organizations/individuals which have a current formal relationship with AID):

  AID Staff

  "AID/Washington"

  "USAIDs/missions"

  AID-related groups

  "AID contractors or grantees"

  Other AID-related groups ["host government agencies," "international" and "national development organizations," "private/voluntary organizations"]

  "U.S. federal government"

- Secondary users (organizations/individuals having no stated current formal relationship with AID; these users are considered as "public" requesters):

  "Commercial firms"

  "Educational institutions"

  "Individuals/general public"

  "Libraries or information centers"

  "Research institutions"

  "Students"

  "Other" secondary users

Two major areas of requester data are difficult to define clearly: requests from missions and requests from certain AID-related groups.

these analyses are listed below and are presented graphically in Figure 2-3:

Requester Type	Percentage of Total Staff Response Time; FY 84	
• AID/Washington	29%	Primary - 88%
• Missions	47%	
• AID contractors or grantees	4%	
• Other AID-related groups	4%	
• U.S. Federal government	3%	
• Non-AID-related requesters	12%	Secondary - 12%

These data clearly indicate that the distribution of number of requests by type of requesting organization (Figure 2-2) is not a useful indicator of the actual workload distribution; rather, distibution of time spent by DI direct hire staff and RSSA groups in processing requests for the various types of requesters (Figure 2-3) provides a more accurate view of level of effort and expenditure of manpower resources. The workload distribution indicated that processing AID/Washington and mission requests consumed 76 percent of the total manpower expended for processing only 63 percent of the total requests completed during FY 84; significant effort (10.3 FTE) was placed in responding to these high priority requesters. Conversely, requests from non-AID-related (i.e., "public") requesters represented 21 percent of the requests processed during the fiscal year, but lower levels of person-effort were expended to complete these requests (only 12 percent of the manpower expended, 1.7 FTE).

Time estimates of 13.5 FTE for processing all requests appear sufficiently accurate to provide usable data, with the possible exception of some "one hour" estimates included in the REQUEST database for requests which can be expected to be completed in fractions of an hour. Staff time actually available during FY 84 for providing services to requesters amounted to 14.3 FTE. During FY 84 orientation and training of the new USDA-GS RSSA also took place as they began to operate the AID Library and Research Service; this start-up period, plus time for administrative functions common to all positions account for the .8 FTE difference between time spent estimates and actual staffing devoted to provision of information service.

during FY 84 indicated the following identical distribution of request activity:

Requester Type	Percentage of Total Requests: FY 84	
• AID/Washington	50%	Primary - 79%
• Missions	13%	
• AID contractors or grantees	7%	
• Other AID-related groups	6%	
• U.S. federal government	3%	
• Non-AID-related requesters (i.e., secondary, "public", requesters)	21%	Secondary - 21%

This service activity is presented graphically in Figure 2-2.

2.5 Estimated Time Spent Processing Requests by Type of Requester

The time spent values for completing requests which are input into the REQUEST database represent all of the processes associated with providing the respective services. This includes receiving the request, determining the necessary activities which must be performed to complete the request, actually performing the required activities, preparing the information for presentation and delivery to the requester and recording data for input into the REQUEST database. The time spent values input into the database are best estimates of the total time spent processing the respective requests; these values range from one hour or less to more than one week. The actual number of hours expended for completing lengthy requests often is included in the "notes" field of REQUEST database records.

Data were collected to estimate the distribution of time spent processing requests for the various types of requesters. The results of

Figure 2-3

DISTRIBUTION OF TIME SPENT PROCESSING REQUESTS BY TYPE OF REQUESTER; FY 84

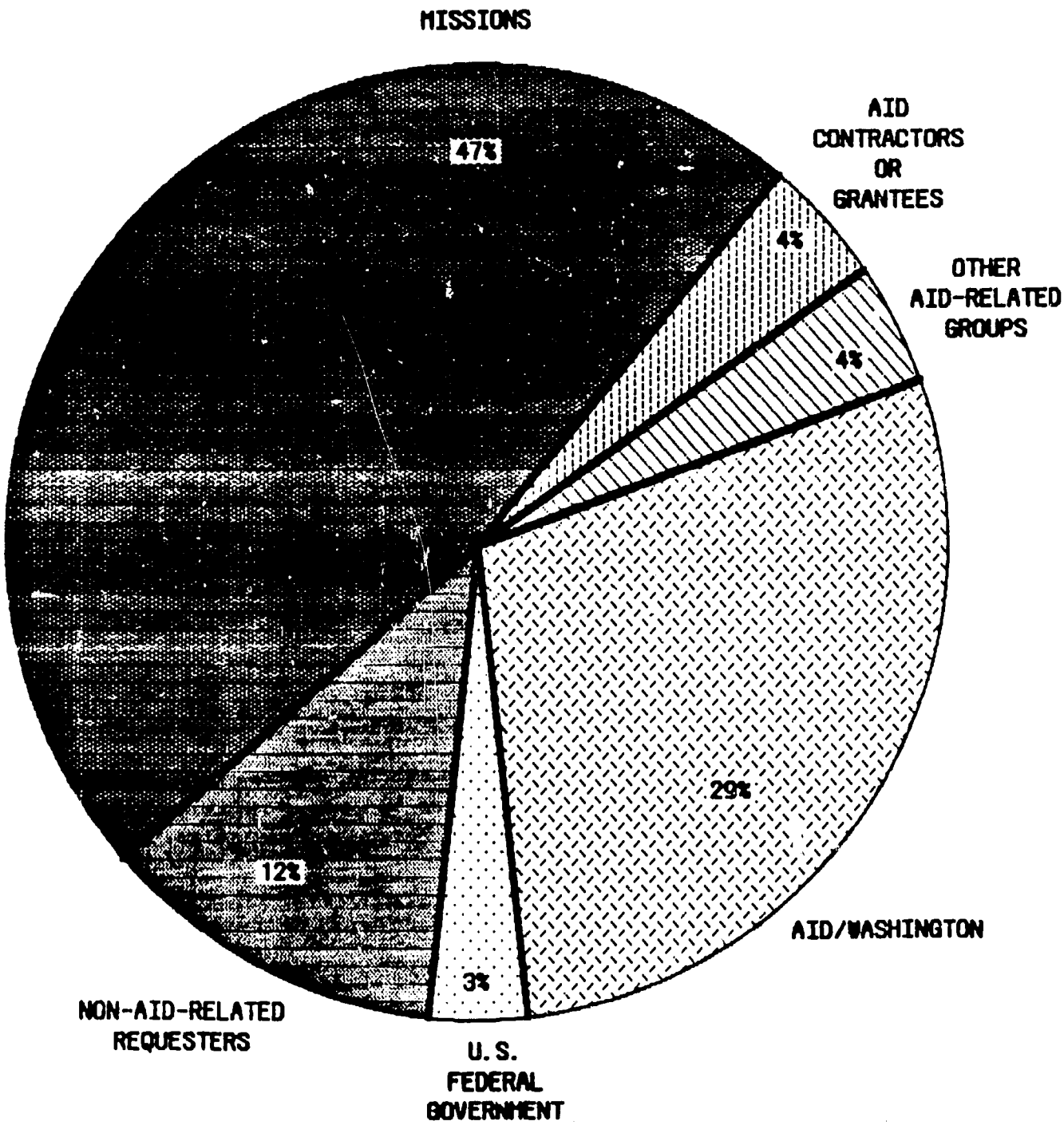

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Figure 2-2

DISTRIBUTION OF REQUESTS COMPLETED

BY TYPE OF REQUESTING ORGANIZATION; FY 84

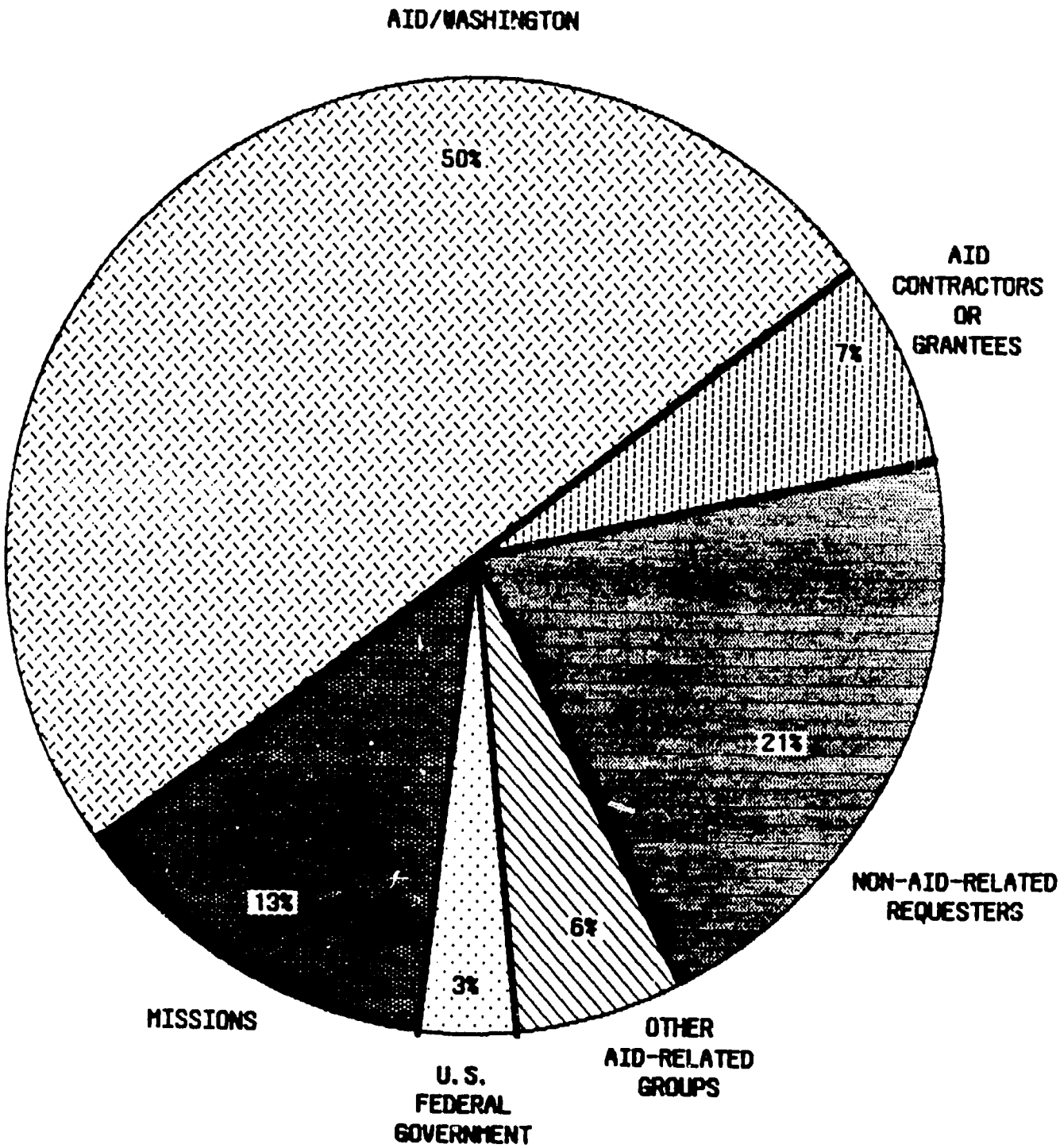

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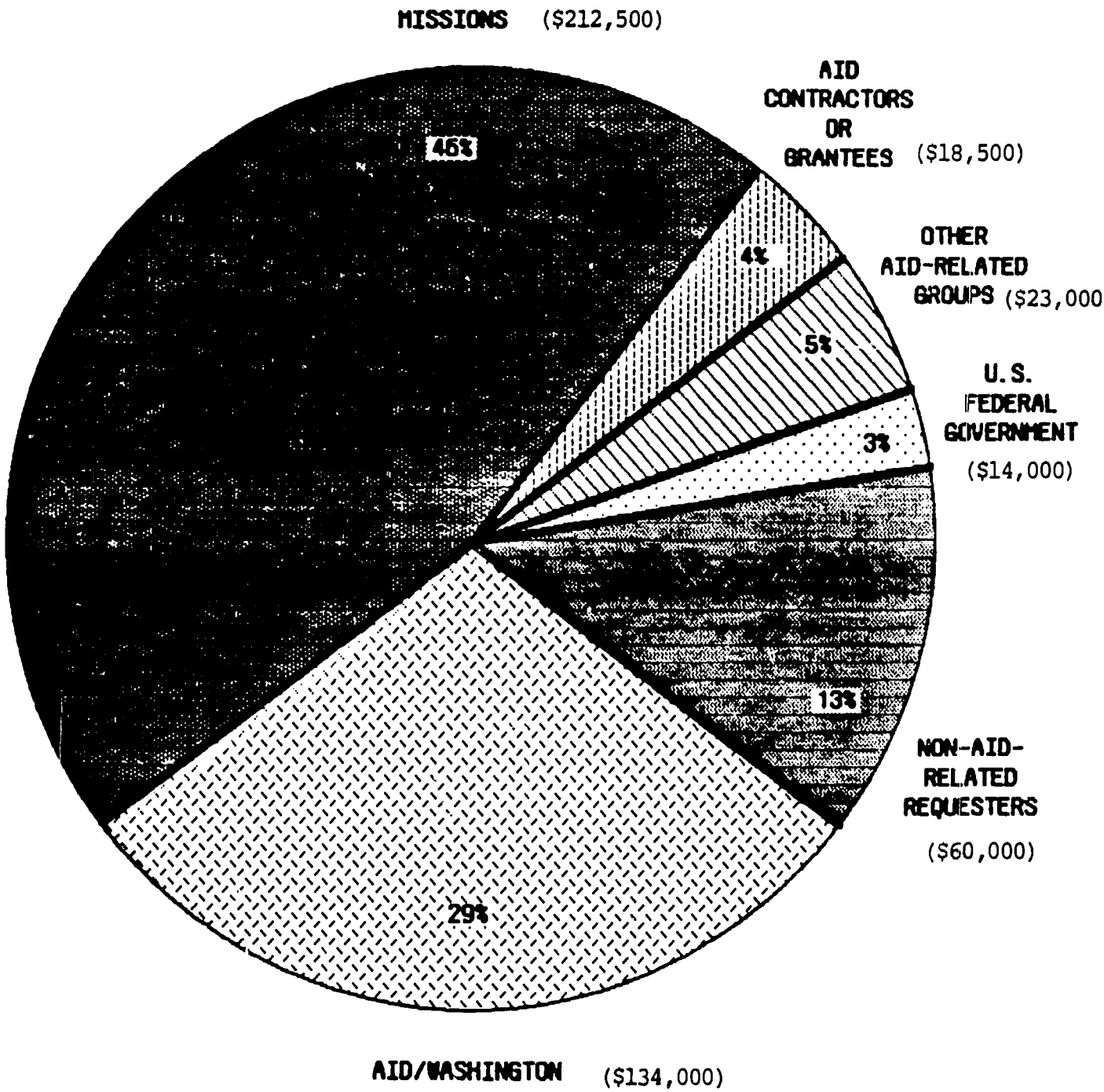
Figure 2-4

DISTRIBUTION OF ESTIMATED MANPOWER COSTS FOR DI'S INFORMATION SERVICES BY TYPE OF REQUESTER; FY 84



Total Estimated Manpower costs: $462,000 (rounded)

2.6 Estimated Manpower Costs for DI's Information Services by Type of Requester

Personnel cost data, including related overhead and fringe benefit rates, were identified based on staffing data from the various DI service points. The personnel costs were apportioned based on distribution of time expended for the general information services provided by each service to the various types of requesters. Additional personnel costs for clerical support of selected information services/products and for professional staff provision of special technical assistance were added as appropriate. These generalized personnel cost data plus the personnel costs associated with provision of special services/products provide reasonable estimates of the manpower costs for providing service to the various requester groups. Costs for management, administration, space, equipment, computer access, etc. are not included in the current estimates of costs for information services.

Analysis of the personnel cost data provided the following distribution of manpower costs by type of requester:

Requester Type	Percentage of Associated Staff Costs: FY 84	
• AID/Washington	29%	Primary - 87%
• Missions	46%	
• AID contractors or grantees	4%	
• Other AID-related groups	5%	
• U.S. Federal government	3%	
• Non-AID-related requesters	13%	Secondary - 13%

These manpower cost data are presented graphically and in more detail in Figures 2-4 and 2-5. The distribution of manpower costs presented in Figure 2-4 closely parallels the distribution of staff time expended in processing requests for the various types of requesters (Figure 2-3). The slight variations between these two distributions may be attributed to the GS levels of the staff handling/participating in processing the requests for the respective requester groups. Performance of request processing by lower or higher level staff may be based on the nature of the request, the nature of the requester, and/or the nature of the staffing of the service point which received and/or processed the request.

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Figure 2-5 illustrates the distribution of manpower costs by type of requesting organization and service point; these data may be summarized as follows:

Requester Type	Percentage of Associated Staff Costs by Service Point; FY 84			
	Library Services	Research Services	System Services	TIS
• Primary	79%	82%	98%	99.9%
• Secondary	21%	18%	2%	.1%

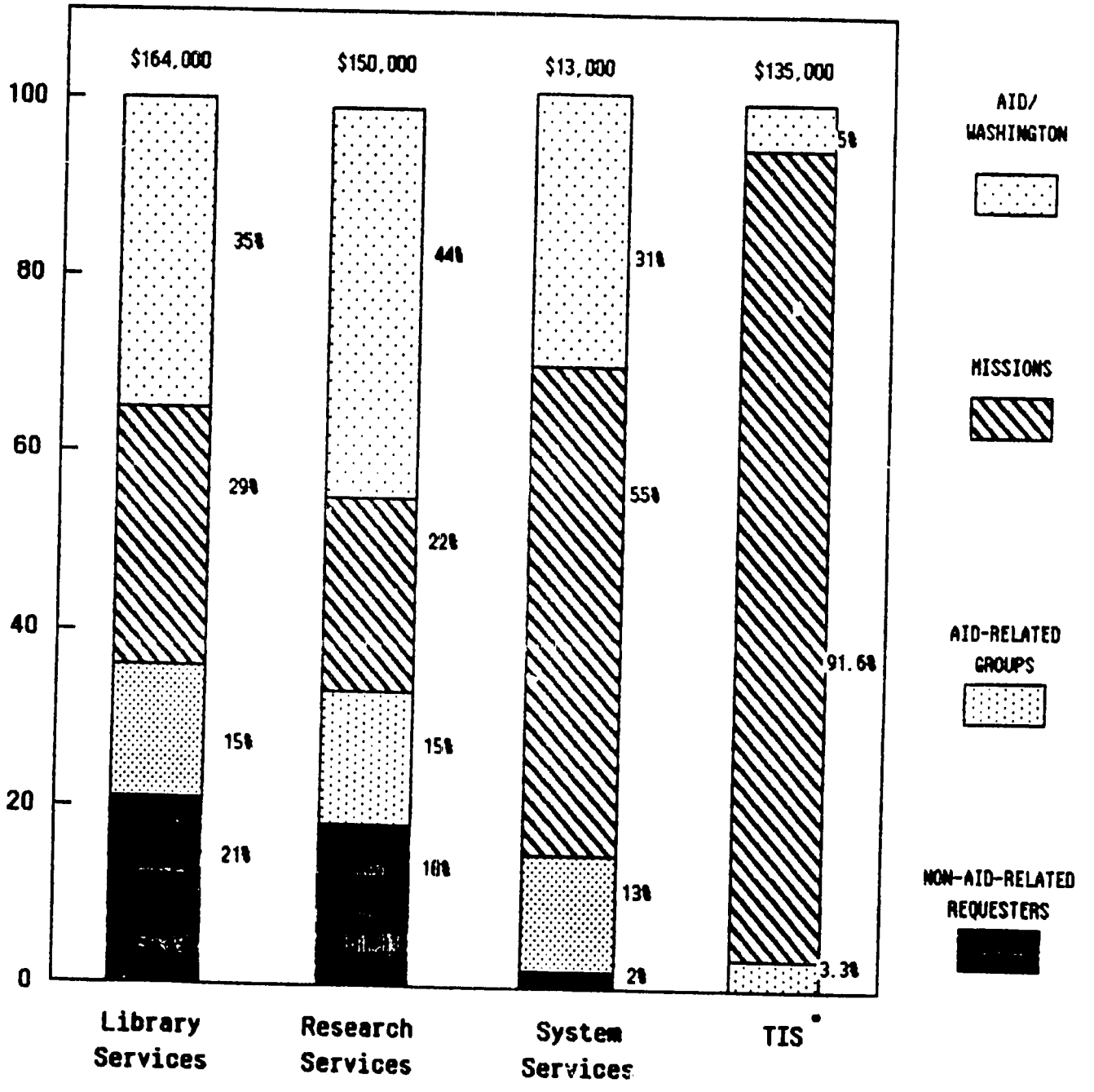
The data in Figure 2-5 indicate that the Library and Research Services groups expended the highest percentage of their manpower costs in providing service to AID/Washington staff, and that the System Services staff and the TIS expended most of their manpower costs for supporting the information needs of mission requesters.

These manpower cost data provide DI with a basis for beginning to evaluate the types of services that it may provide in the future to various types of requesters. However, this current study provides a very generalized overview of manpower costs associated with provision of information service by the various DI service points and, as such, cannot be used as a basis for establishing charges for users of the various services. These data will serve as useful baselines to measure contractor performance in terms of productivity and generalized processing costs.

Another factor in identifying guidelines for service is determination of the estimated average cost per transaction. Expensive transactions should be investigated further. High cost per transaction may be attributed to assignment of high level staff to process requests and/or to provision of too extensive levels of service. DI should examine any high costs per transaction when it reviews its operating procedures and policies. Opportunities for cost savings and more effective utilization of manpower could be realized if it were determined that certain categories of requesters should receive relatively low levels of staff effort (measured in both time and expertise) in responding to requests.

Figure 2-5

DISTRIBUTION OF MANPOWER COSTS FOR DI'S INFORMATION SERVICES BY TYPE OF REQUESTING ORGANIZATION AND SERVICE POINT; FY 84



Total estimated manpower costs: $462,000 (rounded)

1% NON-AID-RELATED REQUESTERS FOR TIS

The distribution of numbers of requests completed during FY 84 for the various types of information service follows:

- Document identification and delivery 38%

  AID documents 10%
  Other documents 28%

- Research/reference services 60%

  Information searches 45%
  Referrals 5%
  Other reference services 10%

- Technical Assistance 1%

- Other services 1%

These data are presented graphically in Figure 2-6.

Document identification and delivery actually accounted for more than 38% of the requests completed during FY 84 since the category "information searches" under research/reference services includes requests for AID documents and other documents for which the document number or complete bibliographic information were unknown. In this current study, no adjustments were made in these data to estimate more accurately the number of requests which related to the bibliographic services of document identification and delivery. It should be noted that during FY 84 a substantial proportion of document-related requests completed (74 percent) were for non-AID documents, 84 percent of which were obtained for requesters on interlibrary loan. Another characteristic of service requests was that research/reference services accounted for 60 percent of the overall services provided. Performance of these research/reference services included more than 2,600 searches of external (i.e., non-AID-developed) databases.

2.7 Information Services Requested

The REQUEST database provides a detailed listing of 19 different types of service requested. In order to summarize the data, the types of service were grouped as follows into four major categories; the descriptive headings which appear in the REQUEST database for type of service requested are enclosed in quotation marks:

- Document identification and delivery
  - AID documents
    - "AID publications"
    - "ARDA"
    - "Specific Projects"
  - Other (= non-AID materials)
    - "Acquisitions"
    - "Specific articles"
    - "Specific monographs"

- Research/reference services
  - "Information searches"
  - "Referrals"
  - Other
    - "Address lists"
    - "Facts/Short answers"
    - * Information packages

- Technical assistance
  - "Advising/consulting"
  - "Database transfer"
  - "Document collection transfer"
  - "Technical assistance"
  - "Training"

- Other services
  - "Briefing"
  - "Graphics"
  - "Statistical analysis"
  - "Other"

* Information packages are not specified in the REQUEST database and are included in statistics on information searches. However, since the TIS specifies the number of information packages prepared, they were included in this "Other" research/reference services category.

2.8 Estimated Time Spent Processing Requests by Type of Service Requested

Data were collected to estimate the distribution of time spent processing requests by type of service offered by DI. The results of these analyses are listed below and are presented graphically in Figure 2.7:

Type of Service	Percentage of Time Spent: FY 84
• Document identification and delivery	23%
• Research/reference services	65.5%
• Technical assistance	9%
• Other services	2.5%

The workload distribution indicated that both research/reference services and technical assistance required substantial manpower support to provide the requested services; (compare Figure 2-7 with Figure 2-6). Conversely, the distribution of manpower required to process requests for documents showed a decreased proportion of person-hours required to complete the requests. As might be expected, document-related requests require less processing time per request than requests for technical assistance and research/reference services which require more time-consuming efforts by staff.

2.9 Estimated Manpower Costs for DI's Information Services by Type of Service Requested

Manpower cost data by type of service requested are listed below and are presented graphically in Figure 2-8:

Type of Service	Percentage of Associated Staff Costs: FY 84
• Document identification and delivery	20%
• Research/reference services	66%
• Technical assistance	11%
• Other services	3%

Figure 2-6

DISTRIBUTION OF REQUESTS COMPLETED BY
TYPE OF SERVICE PROVIDED; FY 84

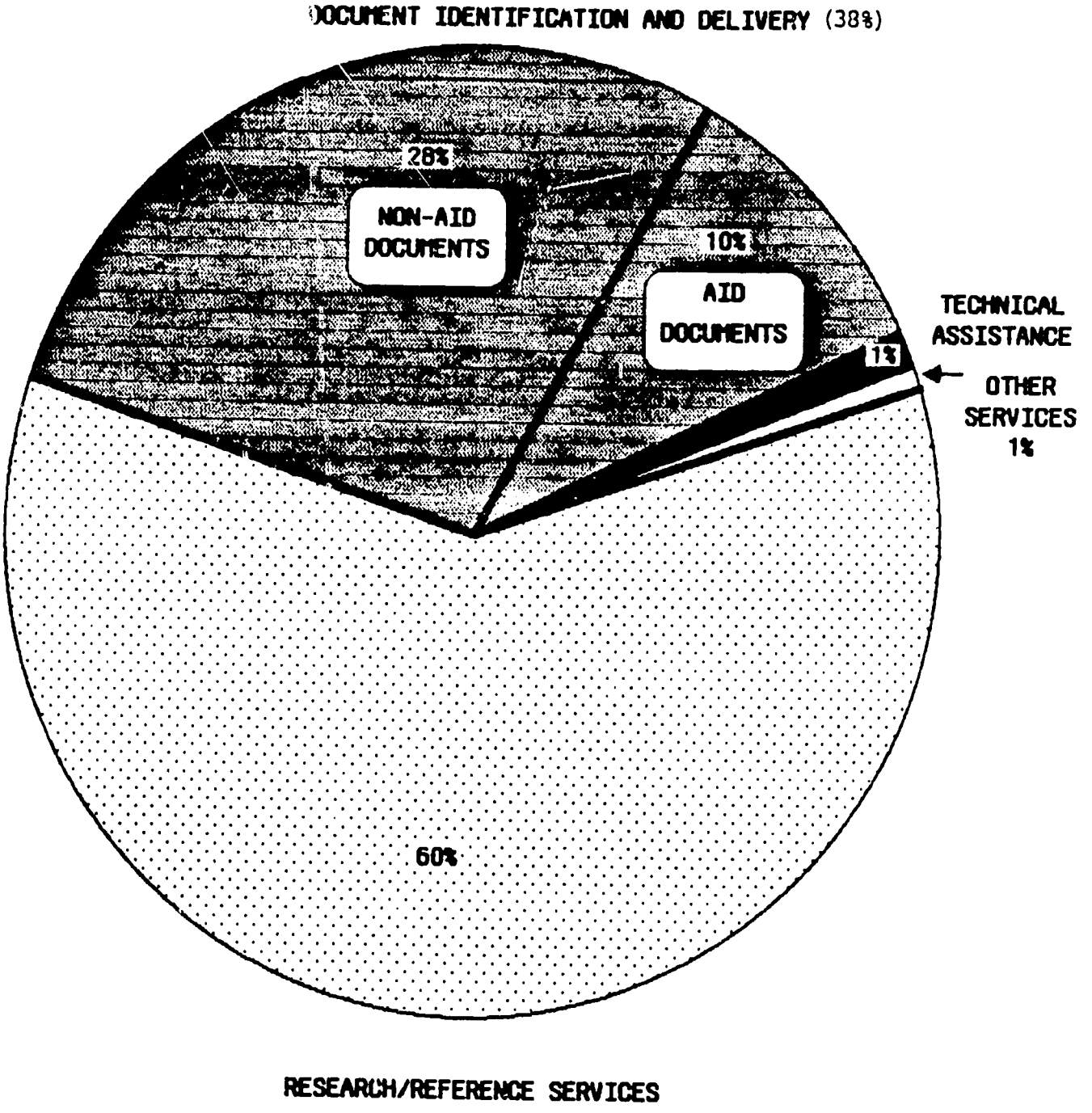


Figure 2-8

DISTRIBUTION OF ESTIMATED MANPOWER COSTS FOR DI'S INFORMATION SERVICES BY TYPE OF SERVICE PROVIDED; FY 84

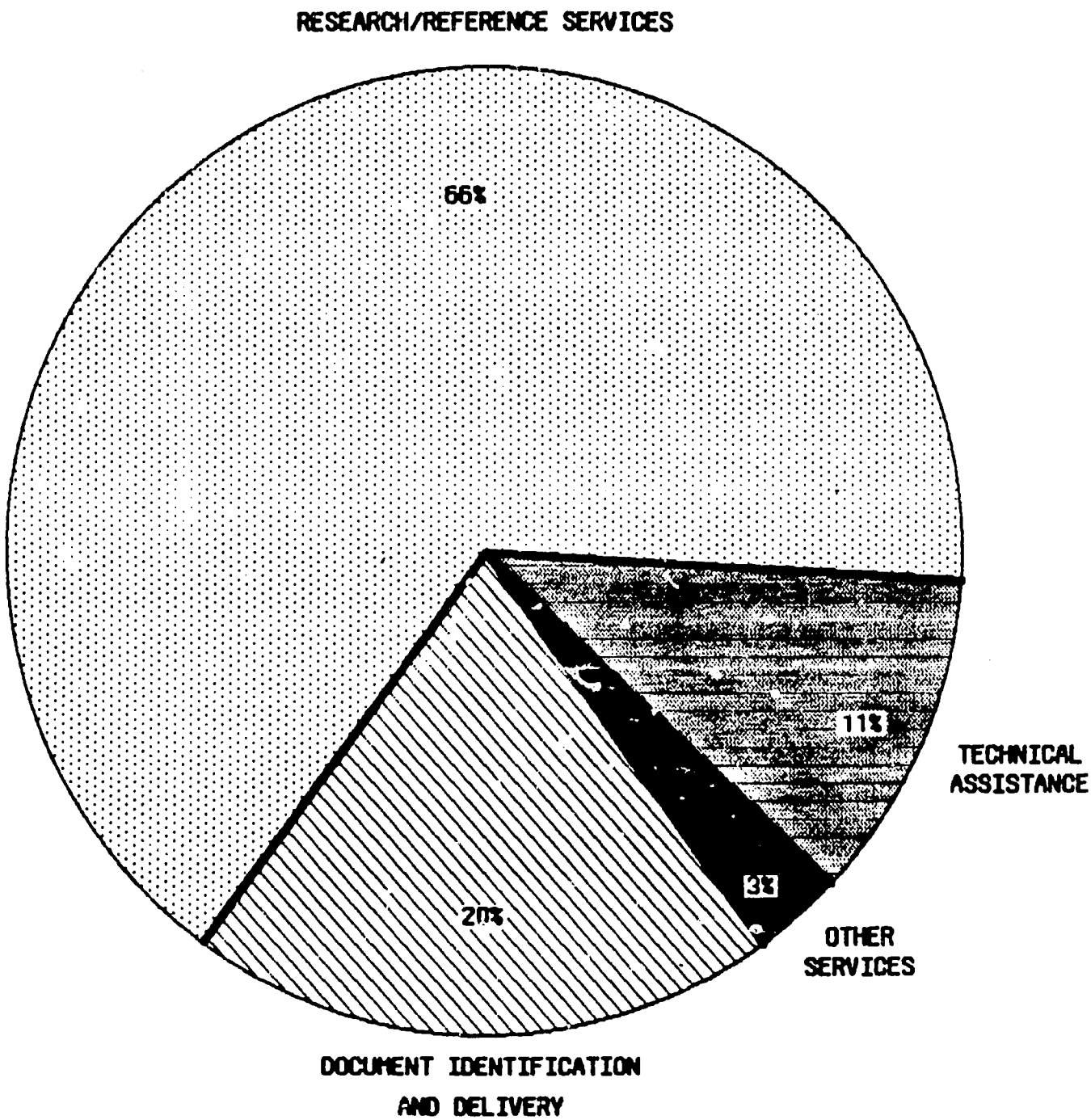


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Figure 2-7

DISTRIBUTION OF TIME SPENT PROCESSING
REQUESTS BY TYPE OF SERVICE PROVIDED; FY 84

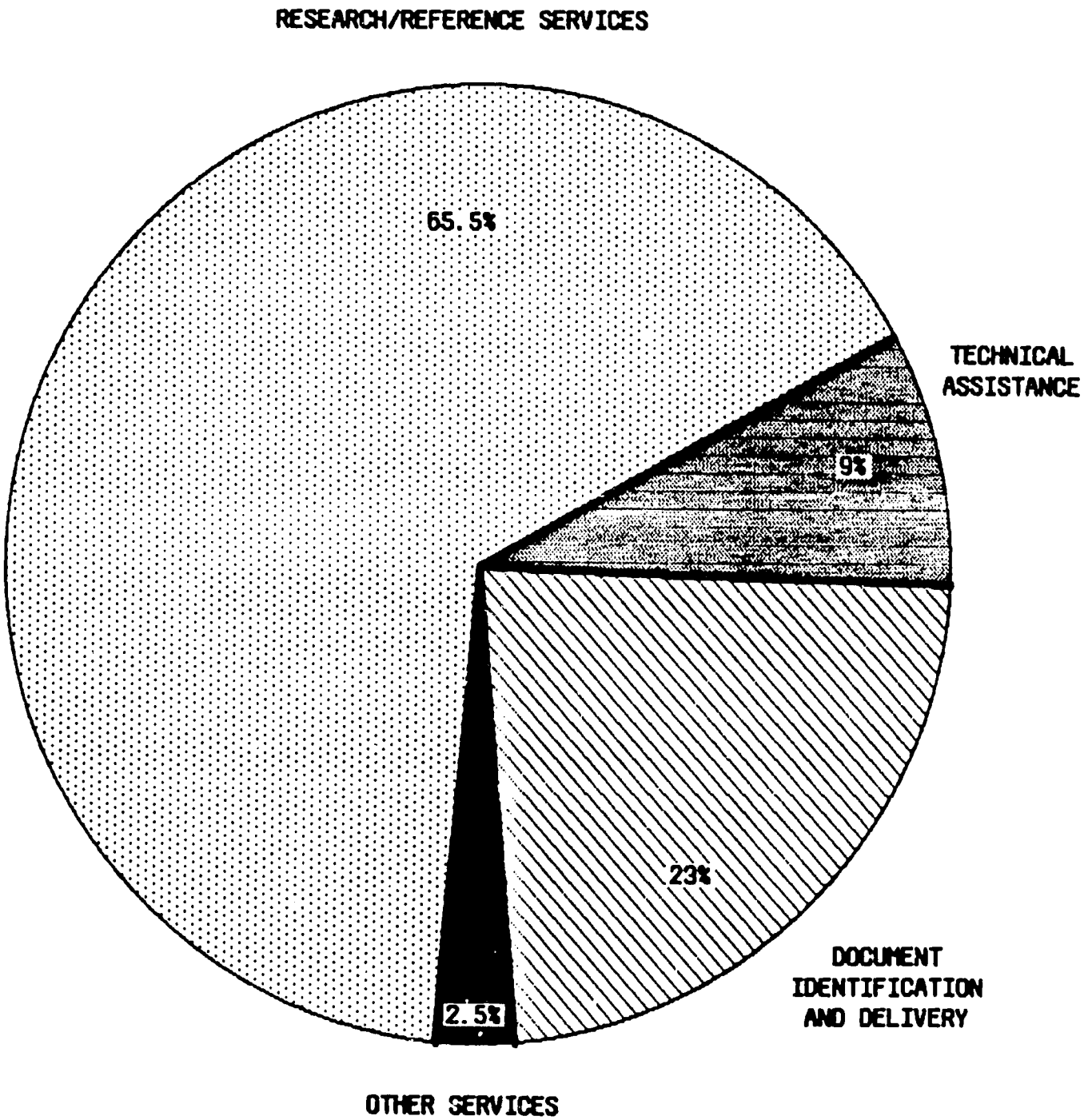

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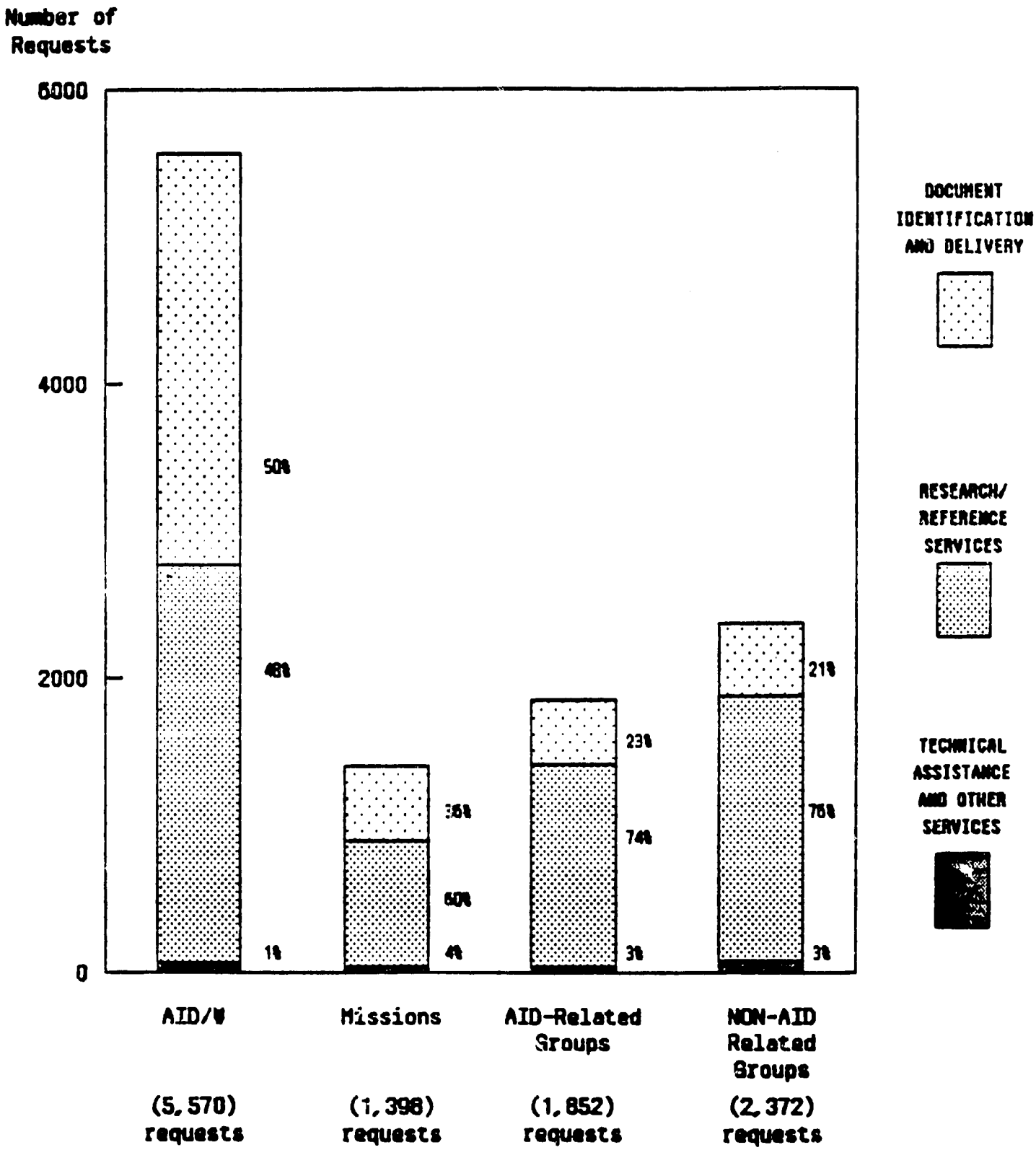
Figure 2-9

FREQUENCY AND DISTRIBUTION OF REQUESTS RECEIVED BY TYPE OF SERVICE REQUESTED AND TYPE OF REQUESTING ORGANIZATION; FY 84



Comparison of the distributions presented in Figures 2-6, 2-7 and 2-8 indicate that the distribution of number of requests by type of service provided (Figure 2-6) is not a useful indicator of the actual workload distribution; rather, distribution of staff time spent processing these requests (Figure 2-7) and the distribution of associated manpower costs (Figure 2-8) provide a more accurate view of level of effort and expenditure of manpower resources in providing the various types of information services. Research/reference services and technical assistance are tasks which may require substantial effort by highly skilled and experienced senior staff; data on requests for these services (61 percent of all requests) exhibited a gradual increase in the percentages of time (74.5 percent) and manpower costs (77 percent) required to provide the services. Document identification and delivery may be a fairly straightforward task which can be performed by lower level staff or it may require the efforts of higher level staff in obtaining documents which are not in the DIS and/or determining if specific documents may be supplied to certain non-AID requesters. Data on requests for document-related services (38 percent of all requests) exhibited an overall gradual decrease in the percentages of time (23 percent) and manpower costs (20 percent) associated with providing these servcies. Data on the various "other" services showed a slight increase in percentages: 1 percent of all requests; 2.5 percent of total time spent processing requests; and 3 percent of associated manpower costs.

Cost per transaction data for document identification and delivery services should be examined carefully since most of the processing steps to provide this service should be able to be performed successfully, in most cases, through the efforts of lower level staff. High costs per transaction for document-related services may indicate that document requests have been processed by too senior a staff person.

2.10 Services Requested by the Various Types of Requesters

Figure 2-9 illustrates the distribution of received requests by type of service requested and type of requesting organization. Interesting trends are evident in these data: the percentage of document-related requests decreased steadily across the requesting groups from AID/Washington through non-AID-related requesters, while the percentages of research/

reference requests increased steadily across the same requester groups; requests for technical assistance and other services remained fairly constant among the requester groups.

Other characteristics of request activity were that AID/Washington requests were split almost equally between document requests and requests for research/reference services; mission, AID-related and non-AID-related requesters requested primarily research/reference services.

The above characteristics suggest that the further removed users are from AID/Washington (either organizationally or physically), the more (on a percentage basis) they need generalized research and reference services from the various DI information service points. However, in terms of actual numbers of requests for research and reference assistance, AID/Washington is still the heaviest user; 40 percent of all research and reference services requested in FY 84 were provided to AID/Washington.

The data presented in this Section of the report have provided a fairly comprehensive overview of DI's information services. These data may serve as a baseline for on-going analyses of DI's services, manpower resources and its requester groups.

SECTION 3

ISSUES RELATING TO DEVELOPMENT OF POLICY FOR INFORMATION SERVICE

Discussions with DI, contract and RSSA staff provided the basis for identification of issues which have impact on the provision of current and future development information services by the various DI information service points. The primary issues of major concern to DI include:

- service to the public (i.e., non-AID affiliated organizations and individuals);
- external distribution of the DIS database or portions of it; and
- charging for information services and products (a subset of both of the above-listed issues).

Specific issues include:

- who should be served?
- what types of information should be provided to specific user groups?
- what information services/products should be provided to the respective user groups?
- who should provide the services/products for the respective user groups?
- should information services/products be provided free? if not, what should be the basis for charging?

In the following sections of the report, information is presented to identify:

- information service policies of selected government departments/agencies,
- a framework for the development of information service, and
- specific information service options for DI.

SECTION 4

IDENTIFICATION OF ALTERNATIVES FOR INFORMATION SERVICE

4.1 Introduction

In this section, we consider information service policies that have been developed, and are being used, by other federal government agencies and departments. In particular, we are concerned with which user groups are served, what information they are provided with, what information services and products are offered, who provides the services and products, and whether any charge is incurred for use of information services and products.

4.2 Information Service Policies of Other Government Departments and Agencies

In order to provide a comparative overview of the information policies of some other government departments and agencies, a brief telephone survey was conducted in early December 1984 among the following federal libraries:

Department of Agriculture
National Agricultural Library

Department of Commerce
National Oceanic and Atmospheric Administration,
Library and Information Services Division

Department of Education
National Institute of Education Library

Department of Energy
Library

Department of Health and Human Services
National Institutes of Health,
National Library of Medicine

Department of Labor
Library and Law Library Division

National Aeronautics and Space Administration
Goddard Space Flight Center,
Homer E. Newell Memorial Library

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In addition, for each of the above departments/agencies, those offices concerned with database generation and distribution, document distribution and public information were also contacted.

A summary of findings is presented in Figure 4-1, and a more detailed description of the information handling practices and policies of each department/agency contacted is provided below.

4.2.1 Department of Agriculture

4.2.1.1 Library services

The National Agricultural Library (NAL) produces a printed Guide to Services which states that: "The products and services of the National Agricultural Library are available to U.S. Department of Agriculture personnel, the worldwide agricultural community, other Federal Government agencies, land-grant universities, and others with an interest in NAL resources." However, there are also stated limitations and charges for some services in the Guide. Manually assisted reference service is available to any on-site or off-site user of the library, although priority is given to USDA employees. Document delivery (circulation) from the collection is only available to USDA employees directly; all other users are asked to borrow from the library's collection as a last resort, and then only through another library as an interlibrary loan or through a request for photoduplication of the item(s). There is a published list of prices for the latter. Online searching by the library is provided only to USDA personnel and employees of U.S. federal, state and county agencies on a regular basis. Requests for online searches from walk-in graduate students and faculty from universities outside the Washington metropolitan area are honored on a one-time basis only. All others must obtain online search services elsewhere. While there is no charge to those authorized to obtain online search services at present, the USDA Office of the Inspector General recently advised NAL to charge non-USDA users for any extensive service. Mechanisms are thus currently being developed for charging non-USDA users within those categories now served by NAL (as described above) for reference service exceeding one hour of staff time, and for online searches exceeding $25.00.

FIGURE 4-1. INFORMATION POLICIES OF SELECTED GOVERNMENT DEPARTMENTS AND AGENCIES

	DOE	DOL	NAL	NASA	NIE	NLM[1]	NOAA
Reference service							
Restricted							
Available to the public (but priority given to employees/contractors)	x	x	x	x	x	x[2]	x
Online searching (performed by Library)							
Available to employees	x	x[3]	x[4]	x	x	x[4]	x[3]
Available to contractors	x			x	x	x	x[3]
Available to other government employees			x			x	x[3]
Available to researchers						x	x[3]
Available to public						x	x[3]
Charges							
None	x			x	x		
For online searching							
to employees/contractors		x[3]					x[3]
to others						x	x[3]
For photoduplication							
to employees/contractors							
to others			x			x	

1 Unlike the other libraries, NLM is legislated to serve as a national library and thus serve both the international research community and other individuals/institutions who need biomedical information.

2 No priorities assigned

3 Externally-produced databases only

4 Both internal and external databases

FIGURE 4-1. INFORMATION POLICIES OF SELECTED DEPARTMENTS AND AGENCIES (Continued)

	DOE	DOL	NAL	NASA	NIE	NLM[1]	NOAA
Bibliographic database content							
No agency-developed database		X					X
Department/agency/contractor documents only							
Broad coverage of subject area	X		X	X	X	X	
Database distribution							
None		X					X
Commercially available							
Marketing & accounting through NTIS	X		X				
Accounting through NTIS						X	
Marketing & accounting through other				X	X		
Document distribution							
Through clearinghouse							
For employees/contractors	X			X	X		
For general public					X		
Through NTIS	X	X	X	X	X	X	X
Through GPO	X	X	X	X	X	X	X
Formal policy with Office of Public Affairs							
Yes							
No	X	X	?	?	X	?	X

[1] Unlike the other libraries, NLM is legislated to serve as a national library and thus serve both the international research community and other individuals/institutions who need biomedical information.

? Persons interviewed were uncertain of the existence of a formal policy.

4.2.1.2 Database development and distribution

The AGRICOLA bibliographic database is primarily an index to the collection of NAL but also contains several specialized sub-files relating to documents and research published or produced by particular agricultural programs. The general policy is to disseminate this database as widely as possible, but NAL has insufficient financial and human resources to do so in-house. Consequently NAL has decided to handle distribution and sale of AGRICOLA through NTIS. At present, there are ten subscribers to AGRICOLA and its monthly updates, including DIALOG and BRS in the U.S., and several foreign SDI services in Canada, Sweden, West Germany and Brazil. NTIS not only distributes the database but also determines charges in conjunction with NAL and the vendor or subscriber, and collects royalties earned. Monies received by NTIS in turn go into a special account to make training available on AGRICOLA. Documents cited in AGRICOLA are non-proprietary.

The CRIS — or Current Research Information Service — database provides an example of the handling of sensitive information prior to the release of the information online. This non-bibliographic database contains abstracts of current research in progress at state agricultural research institutions. While financial data are supplied on submission of the research reports, this information is expurgated from the report available online through DIALOG.

4.2.1.3 Document distribution

Apart from those documents which are required by law to be available through depository libraries, and a limited number of documents available on free distribution, USDA reports are available through NTIS, GPO or the published scientific literature.

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4.2.2 Department of Commerce, National Oceanic and Atmospheric Administration (NOAA)

4.2.2.1 Library services

The Library and Information Services Division (LISD) of NOAA's National Environmental Satellite, Data and Information Service (NESDIS) provides various services to NOAA personnel and any other interested user through a main library in Rockville, Maryland, and several branch and field libraries. While the library is open for use by and provides reference services to all interested users, priority service is given to NOAA employees; most non-NOAA users tend to be serious researchers or the general public looking for specific data. The library has developed an online catalog, which is available for use by anyone through several terminals in the main library. On an experimental basis, NOAA personnel can also access the online catalog through remote terminals in selected field libraries and NOAA offices. Non-NOAA personnel are not permitted to borrow materials from the collection, except through interlibrary loan or photocopying of materials for external use. There is no charge for photocopying up to 20 pages; requests to photocopy more than this amount are handled by allowing the patron to take the item(s) on short-term loan to a local commercial photocopy center for duplication.

LISD is among those libraries which have developed charges over the past few years, specifically for online searching, SDI service and packaged searches. NOAA employees are charged only on the basis of cost recovery for database access charges as displayed online at the end of each search. Non-NOAA personnel are charged for online searching according to rates listed in a series of five tables. Each table lists the charges according to three dimensions: per hour vendor charge for database access (e.g., up to $30, $60, $90, $120, and $150 per hour); the number of subject headings entered (e.g., 10, 20, 40, 80); and the number citations printed (e.g., up to 20, 100, 200, 1000). Thus, for example, on a database with an hourly access charge of $30, a search involving input of 10 subject headings and printing of 20 citations costs $17. On a database with an hourly access charge of $150, this same search would cost $37. For packaged or published searches there is a standard charge of $15.00. As a result of the

increasing availability of online search services in other government, academic and public libraries, LISD has found that the number of requests it receives from non-NOAA personnel willing to pay for online or packaged searches has dropped in recent years to less than five during 1984.

While LISD does have a general brochure explaining its services, the brochure is not intended to explain service policies in terms of different categories of users. LISD does, however, fall within the policy guidelines recently developed by NESDIS, "Information Services Policy on Data Exchange and Free Data." This policy briefly but specifically identifies criteria for provision of NESDIS Data/Information Products at no cost or on an exchange basis, and specified procedures for reporting on the provision of free or exchange data products/information. Seven instances in which NESDIS may provide free products and/or data include:

- To respond to members of the U.S. Congress, the Executive Office of the President, the Office of the Secretary of Commerce, and the Office of the Administrator of NOAA.
- To answer a general question about information products, services and/or data that are available from NESDIS.
- To answer questions from members of the news media and other public information media.
- As required by law, e.g., to authorized depository libraries.
- Where required by a federal agency using the NESDIS product or data for Government investigation of violation of laws, regulations, etc.
- As required by other NESDIS Centers and Offices in performance of their functions.
- To assist agency education and marketing efforts.

Charges for database searching also were developed and are applied in conformance with NESDIS' Assessment and Information Services Center methodology for computation of unit costs, which takes into account the full costs of direct labor, other direct costs (such as supplies, reproduction, postage and computer resources) and indirect costs (such as communications, equipment lease and maintenance). The instructions for computing unit costs also state that: "Services that confer a general benefit on the

public at large are governmental in nature and should be funded by general revenues.... Services that confer a specific benefit on one individual or one group of individuals, and not to the public as a whole, are reimbursable. The total cost of providing these services should be recovered through user charges."

4.2.2.2 Database development and distribution

There is no bibliographic database generated by NOAA of either NOAA-sponsored documents or the literature relating to NOAA's areas of work. LISD has developed an online catalog of its holdings, which includes most NOAA reports and is available for public access.

4.2.2.3 Document distribution

Within NOAA, data are provided free of charge or by exchange agreement in limited quantities to selected categories of users in compliance with the NESDIS "Policy on Data Exchange and Free Data." For documents or data not covered by this policy, users are requested to contact NTIS.

4.2.3 Department of Education, National Institute of Education (NIE)

4.2.3.1 Library services

The National Institute of Education (NIE) Library is, in practice if not in name, the library for the entire Department of Education, having taken over the education-related materials of the former Department of Health, Education, and Welfare Library. The NIE Library offers on-site use of library materials to anyone, and reference service to any user with priority given to department personnel and other federal agencies. Inasmuch as the NIE library is not located in the same building as the Department of Education headquarters, delivery services are provided to offsite personnel. Online search services are restricted to department employees or to contractors with the authorization of the project manager.

In special circumstances, searches are provided for other government agencies, or to foreign visitors on a demonstration basis. There are no charges or cost recovery mechanisms for these library services at present.

4.2.3.2 Database development and distribution

The ERIC database of literature in the field of education is produced through a number of private sector contracts. Both journal literature and "fugitive" literature are identified, indexed and abstracted by any of a group of several clearinghouses, each handling a special subject area. These bibliographic records are in turn forwarded to the contractor-operated ERIC Processing and Reference Facility which produces the ERIC database tapes and prepares the data for photocomposition and subsequent publishing in two hard-copy serial publications. This contractor also makes the ERIC tapes available to any interested vendor (including DIALOG, BRS and SDC) for the cost of duplicating the tapes only, in order to facilitate dissemination of the information as widely as possible. No further revenues are earned by the contractor from the sale of the tapes.

While reports published by the department are included in ERIC, they are not maintained as a separate database. A staff member of the NIE library is responsible for identifying appropriate department material to ensure that it is forwarded for processing and inclusion in the ERIC database.

4.2.3.3 Document distribution

All documents cited in the ERIC database are maintained in microfiche by yet another contractor who operates the ERIC Document Reproduction Service (EDRS) and provides fiche or hardcopy upon request. Paper copies are available at a cost of $2.15 for 1-25 pages, plus $.75 for each additional 25 pages. Microfiche copies are sold for $.97 for 1-9 fiche, plus $.20 for each additional fiche (each containing 96 pages). An additional charge is applied for shipping by first class mail (for microfiche) or UPS (for fiche or paper copy).

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4.2.4 Department of Energy (DOE)

4.2.4.1 Library services

The Department of Energy Library is operated by a private sector contractor at two locations in the Washington, D.C., area. Its policies for service are similar to those of the NIE Library described above, with priority reference service given to DOE employees and authorized contractors in the Washington, D.C., area and service to other DOE field offices, federal agencies, and the public as time permits. Circulation to non-DOE employees is available through interlibrary loan only. Online searching is restricted to DOE personnel and authorized contractors at no cost. While free photocopying of up to 20 pages from library materials used to be routinely available, outsiders are now asked to have an interlibrary loan form to obtain this free service.

Another information service center specifically developed to handle public requirements for energy data is the National Energy Information Center of the Energy Information Administration (EIA). While a small reference collection is available in this center, its primary purpose is to make available to the public the statistical data and publications produced by EIA. These publications are available to federal, state and local government offices and to libraries at no charge. All others must pay a document production cost recovery charge, ranging from $1.50 to $20.00 depending upon the length of the publication.

4.2.4.2 Database development and distribution

DOE's Office of Scientific and Technical Information (OSTI) is mandated by departmental order to collect, abstract, and index energy-related literature (including journal articles, DOE reports and non-DOE reports), and to develop the Energy Database. OSTI also develops a number of information tools which provide access to and synthesis of energy information including abstract journals, bulletins, biblographies and current awareness publications. OSTI serves DOE employees or contractors only, at no charge, providing access to the DOE/RECON information retrieval system

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and responding to specialized requests concerning classified information, database development, scientific advice, etc. The Energy Database is made available commercially through NTIS - for an annual lease fee of $2,000 per year, $950 for tape copying, $8.00 per connect hour and $.10 per full citation and abstract displayed or printed.

4.2.4.3 Document distribution

There are a number of means for obtaining published DOE-sponsored reports and documents. In addition to the published material available through the National Energy Information Center, a private sector contractor operates a document handling facility associated with OSTI operations for distribution to DOE personnel and contractors of information access tools energy related materials such as those identified in the Energy Database and retained in microfiche format. Numerous DOE documents and journals are available to the public through NTIS at NTIS standard rates of $4.50 per microfiche, and $7.00 for 1-25 pages in paper copy (plus $1.50 for each additional 25-page increment or portion thereof). Some documents are also available through GPO.

4.2.5 Department of Health and Human Services, National Institutes of Health, National Library of Medicine

4.2.5.1 Library services

The National Library of Medicine (NLM) is legislated to serve as the national library for the collection and dissemination of health-related information to all interested individuals and institutions. Its policies are established by a Board of Regents composed of individuals from the private sector, academia and ex-officio members from government. A major feature of NLM products and services is the MEDLARS online database system containing some 16 individual databases (developed by NLM and other database producers) and a total of six million references to journal articles and books in the health sciences published since 1965. Online searching of the MEDLARS system is available through more than 1,900 authorized universities, medical schools, hospitals, government agencies and commercial

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organizations. MEDLARS services to these centers are in turn coordinated by seven Regional Medical Libraries. Articles and books identified through a locally performed search but not available at that institution or agency may be routed through the Regional Medical Library network and finally to NLM itself if copies are not available elsewhere. NLM will provide searches to any interested user directly, but preferably only if they are not affiliated with an institution which can do the search for them. Non-computer based reference services are also available to anyone.

NLM has undertaken a number of cost studies in order to develop standardized rates for photoduplication of ILL journal material and search charges for each database rather than charging the exact cost of each search or ILL transaction. For example, NLM charges $5.00/filled inter-library loan, $7.00 for foreign ILL photocopies. For online searching of MEDLARS databases by NLM, there are three basic sets of charges: for MEDLINE files; for databases for which there is no royalty; and for databases such as TOXLINE and CHEMLINE for which a royalty is charged by the original database producer. The basic charge for a search of MEDLINE from 1977 to the present is $10.00; a search of backfiles (1966-1976) is $6.00. Up to 25 citations without abstracts are printed free of charge; the off-line print charge for printing either more citations or any number of citations with abstracts is $.18 per page. Non-royalty databases are searched for $10.00 per file and $.18 per page printed offline. A search of the TOXLINE database costs $28.00 for files from 1979 to the present, and $11.00 for a search of the backfiles (1965-1978); the offline print charge is $.41 per page (of which $.23 covers royalty charges). These charges are based on average costs of machine time, but do not include the costs of personnel or overhead. Local authorized online centers are charged for access to NLM's online services according to an online pricing algorithm. They may choose to absorb all costs of performing MEDLARS searches, or recover all or part of the costs (including labor and other direct and indirect costs).

4.2.5.2 Database development and distribution

The MEDLARS system of bibliographic and non-bibliographic databases is both developed and disseminated by NLM. In addition to access through authorized users, NLM also makes all MEDLARS databases available through a leasing agreement. At present only two databases are leased in this country — MEDLINE and HEALTH PLANNING AND ADMIN — by DIALOG, BRS and Beth Israel Hospital. The standard minimum cost of leasing the MEDLINE database tapes is $20,000 per year. A charge of $4.00 per connect hour and $.01 per citation printed offline is applied against this minimum; vendors exceeding $20,000 in connect time and citations printed by their users then pay beyond the minimum for each additional connect hour and citation printed. All billing and collection of fees are handled by NTIS. NTIS also handles the sale of a number of reference tools for those using NLM online files (e.g., online searching manuals, medical subject headings, indexing manuals and an indexed list of serials). Prices range from $1.25 to $21.00.

4.2.5.3 Document distribution

Most documents cited in the MEDLARS databases are available through interlibrary loan as described above. Documents published by the National Library of Medicine are available to the public through GPO or NTIS.

4.2.6 Department of Labor (DOL)

4.2.6.1 Library services

The Department of Labor Library and Law Library Division in its Guide to Resources and Services states that while the library's "primary responsibility" is to serve DOL employees working on official business, "employees of other government agencies, researchers, students and the general public may use the Library also." Circulation to non-DOL employees is, however, only available through interlibrary loan. Online searching is restricted to DOL employees, whose offices are charged for the online database costs displayed online at the end of a search. Approximately 35 percent of the reference requests tallied by the library are from non-DOL and non-federal government employees or institutions.

4.2.6.2 Database development and distribution

There is no centralized bibliographic database of Department of Labor reports or documents.

4.2.6.3 Document distribution

DOL-produced documents are to a limited extent available free of charge from individual bureaus. Public access to documents and reports is generally through NTIS and GPO.

4.2.7 National Aeronautics and Space Administration (NASA)

4.2.7.1 Library services

Services to specified user groups of the Goddard Space Flight Center's Homer E. Newell Memorial Library are clearly described and defined in the guide, "Using the Goddard Library." As indicated in Figure 4-2, the library identifies eight user groups defined by location and affiliation with Goddard or other federal agencies: Goddard civil service personnel; National Academy of Sciences personnel and other research associates; on-site contractors; offsite contractors; other federal personnel, onsite; other federal personnel, offsite; visitors (U.S. citizens); and visitors (foreign). Each of the library's ten major services are variously available to these user groups: research and reference; photocopy service by library; photocopy self-service by user; book borrowing; document ordering; interlibrary loans obtained by GSFC; translations; literature search by library staff; selective mailings; and project assistance. Of the user groups, only Goddard staff receive full support in all service areas. There is no charge for any library services at present (except self-service photocopying).

FIGURE 4-2

GODDARD LIBRARY USER/SERVICE MATRIX

USERS	RESEARCH AND REFERENCE	PHOTOCOPY SERVICE BY LIBRARY	PHOTOCOPY SELF-SERVICE BY USER	BOOK BORROWING	DOCUMENT ORDERING	INTERLIBRARY LOANS OBTAINED BY GSFC	TRANSLATIONS OBTAINED	LITERATURE SEARCH BY LIBRARY STAFF	SELECTIVE MAILINGS	PROJECT ASSISTANCE
Goddard civil-service personnel	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
National Academy of Sciences personnel - and other research associates	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Onsite contractors	✓		✓	✓	with o.k. by GSFC T.O.			with o.k. by GSFC T.O.		
Offsite contractors	✓									
Other federal personnel, onsite	✓	✓	✓	✓		✓		✓		
Other federal personnel, offsite	✓	via inter library loan		via inter library loan						
Visitors (U.S. citizens)	✓		✓							
Visitors (foreign)	Visits by foreign citizens require advance approval by International Coordinator									

4.2.7.2 Database development and distribution

The Aerospace Database, containing worldwide coverage of published aerospace literature, is jointly produced and owned by NASA and the American Institute of Aeronautics and Astronautics (AIAA). However, in order to make the database available as widely as possible, NASA has licensed AIAA to handle the marketing of the jointly owned database. At present, the database is commercially available on DIALOG and through Mead Data Central; negotiations are underway with other potential vendors. Charges to commercial vendors for the database include an annual license fee, an hourly rate for connect time and a per citation printed cost. Both AIAA and the vendors have agreed to shared marketing responsibilities. AIAA's marketing efforts to date have required one full-time position.

4.2.7.3 Document distribution

NASA's Scientific and Technical Information Facility (STIF) is designed "to provide its services to NASA Centers and contractors primarily; it is also available to other government agencies, their contractors and universities having aerospace programs." Services include access to the RECON database system and provision of document copies in fiche or hard copy, for which contractors and non-NASA employees are charged at NTIS rates. All others wishing NASA documents are referred to NTIS. Documents are provided outside the U.S. on an exchange basis only.

4.3 General observations

Of the seven federal government departments and agencies contacted for this survey, none offers a situation precisely comparable with that of CDIE/DI, where library, database development, document distribution and research services are centrally coordinated and administered. Nor has any department or agency developed a tracking system devoted to its own projects and documents comparable to that of DI's Development Information System. The libraries, database development/distribution and document distribution offices contacted do illustrate, however, a variety of policies and practices for providing federal information services.

The question of whom to serve and with what particular products and services is generally answered by a statement specifying that priority will be given to department or agency personnel (with the exception of NLM) and usually also to authorized contractors; all others are also provided reference service and use of library facilities, but the extent of service is on an "as time available" basis. More specific services are variously offered to specific user groups. NASA's Goddard Library provides an interesting example of how a matrix of users/services can be developed and published to alert new and potential users to the services available to them. The Department of Energy has developed an information center specifically devoted to serving public inquiries for specific types of information. NLM's network of online search centers and Regional Medical Libraries serves to meet information needs locally if possible, filtering through to NLM only those requests which cannot be handled elsewhere. All refer the public to NTIS and/or GPO for copies of selected documents or agency publications.

In several instances, the department- or agency-wide office of public affairs was also contacted to find out if any formal or informal policies exist which distinguish between the user groups served and information provided by that office and by the library. In no case is such a policy formalized. Offices of public affairs tend to have standard descriptive literature available for distribution, and handle inquiries from a variety of sources including the media, the general public and members of Congress. Specific inquiries are refered to the appropriate office, or to the library in the case of research questions.

Whether a library charges for its services largely depends upon mechanisms for doing so as authorized by its department or agency. A sliding scale of charges has been developed by NOAA to recover the costs of labor and overhead from non-NOAA employees, while NLM has conducted its own cost surveys to develop flat rates for specific services. In some agencies the cost of online searching for employees is absorbed by the library's budget, in other cases it is charged back to the requesting office.

Commercial availability of federally produced databases is also handled variously — through NTIS, through a licensing agreement, and through a contractor, for example. All of these means are used, however, in order to make the database available as widely as possible and at no commercial advantage to any vendor. Publicly available databases may contain only a subset of the entire database developed by the database producer (e.g., NTIS databases usually only contain citations to those documents which NTIS makes available to the public). Distribution to the public of the documents cited in a commercially available bibliographic database may be handled by the marketing or accounting agent (e.g., NTIS), or by a contractor (e.g., EDRS).

Statistics on all library and database use are routinely kept, but generally little use is being made of such statistics to learn more about the patterns of use by particular user groups or of specific products and services.

In sum, it appears from these seven examples that while there is much to be learned from the experiences of other departments or agencies, the information policies and practices of each have been specifically developed to meet individual departmental or agency regulations and requirements, which in turn are guided by very broad federal information handling regulations. A forthcoming OMB Circular on federal information management may have implications for individual departmental or agency information policies in the future.

SECTION 5

FRAMEWORK FOR THE DEVELOPMENT OF POLICY GUIDELINES FOR INFORMATION SERVICE

5.1 Introduction

All policy statements/guidelines developed by CDIE, or by any other organization, are influenced primarily by the policies and principles developed by higher organization levels. In the case of CDIE and its role as part of the U.S. government, it must consider the policies and principles developed by PPC, AID, the Department of State, OMB, GAO, the White House and legislation passed by the Congress. Specific policy statements/guidelines which may be developed for an individual organization such as CDIE, consist of three basic types of policies which are discussed in detail in the following paragraphs:

- general policies of the individual organization;
- planning policies; and
- operational policies.

We consider CDIE's information policies as being general terms and conditions under which its development information services operate. These terms and conditions can be subdivided into three distinct but interrelated sets of policy statements which should be reflected in any policy guidelines developed by CDIE.

- The first set relates to a broad mission statement such as, "the mission of CDIE is to improve the quality of AID and LDC development programs."

- The second set of policy statements includes the goals of the development information services in supporting the mission of CDIE. Such goals might include broad statements about desired ends such as which development communities should be served, what information should be provided, which information functions should be performed, which information services and products should be offered, who should peform the functions, and which strategies should be developed and implemented to achieve these goals.

- The third set of policy statements deals with those external policies and principles developed by higher organization levels that should be considered throughout planning and in operations. Such principles might include funding levels, governance, pricing (or cost recovery), use of Federal and non-Federal resources, and adherence to Federal regulations and laws.

A second group of policy issues (not the focus of this study, but outlined to complete the framework) relates to CDIE information system planning. Within each of the development information service goals referred to above should be a set of objectives, stated in measurable terms. For example, an objective might be that all AID missions receive certain information products annually and have access to certain services. One should be able to measure the missions' awareness of such products and services, the availability of these products and services, and the uses of them. Planning then involves setting forth the strategies for achieving the objectives in the future. Issues relating to planning include the use of research, new technologies and marketing. Planning issues also concern the development and application of new products and services, participation in cooperative arrangements, and organizational structure. Finally, planning must also take into account the principles such as pricing, funding, governance, and so on.

A third set of policy issues relates to CDIE operations; these operational considerations include the specific implementation of plans and operational specifications. These issues can be directed toward contract monitoring, adherence to budgets, achievement of specified objectives, determination of productivity or performance, quality control, etc. These issues can be subdivided by functions, activities performed, services and products offered, users served, etc. Implementation and operations should also take into consideration the CDIE information policies, i.e., mission, goals and principles.

This multipart framework for the development of policy guidelines for CDIE's information services is displayed graphically in Figure 5-1. In the following sub-sections, we discuss selected policy issues both in general terms and in terms of the implications of selecting specific information service options. We find that these implications (or trade-

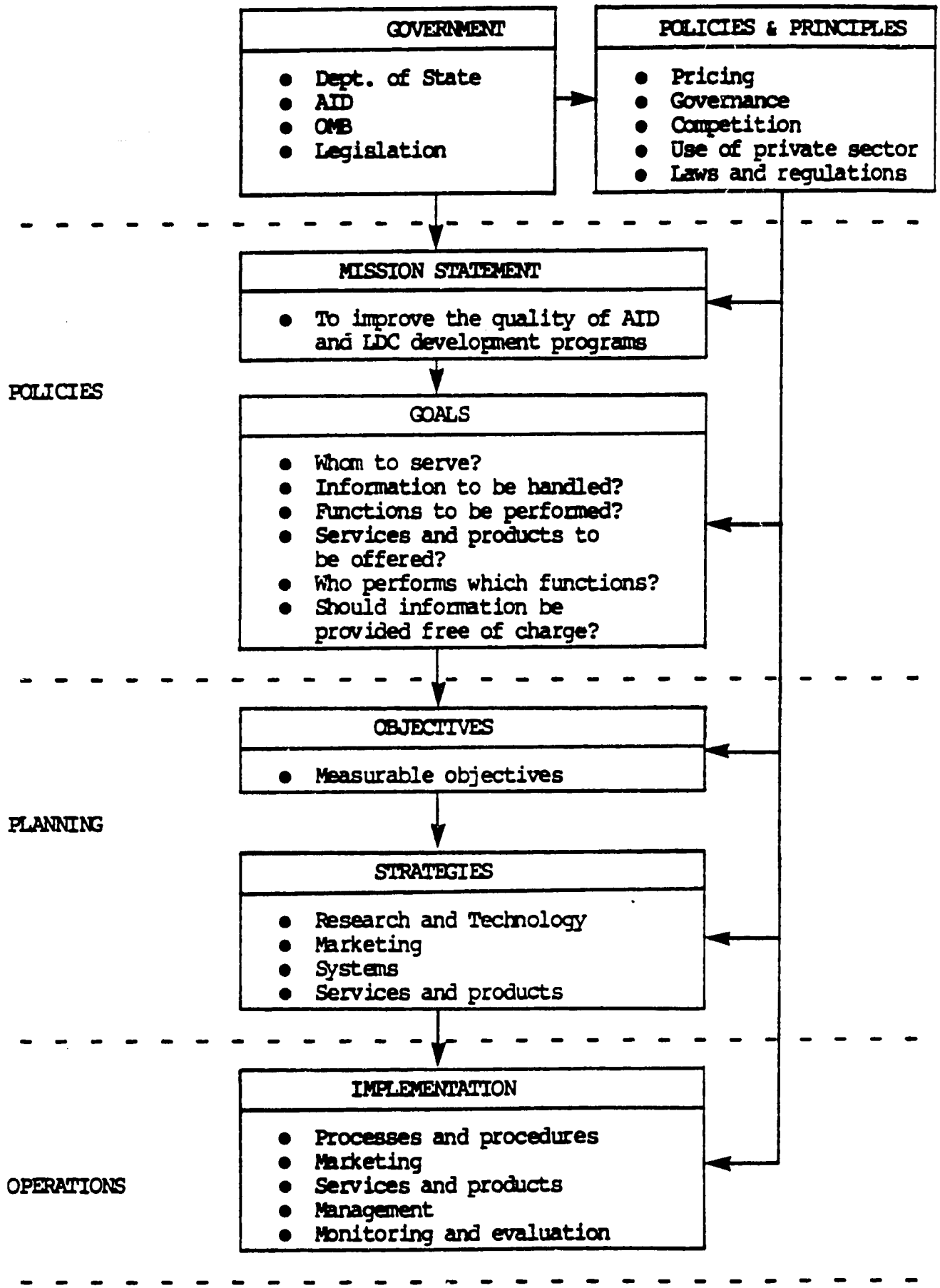


FIGURE 5-1. FRAMEWORK FOR DEVELOPMENT OF POLICY GUIDELINES FOR INFORMATION SERVICES

offs) frequently vary by type of information service or product (i.e., primary, secondary, tertiary), function or activity performed and participant performing them, and the users served. Finally, we present some methods for utilizing cost and/or usage data/models to assist in addressing the policy issues.

Based on the general discussion of policy issues presented in this section of this report, the next section (Section 6) outlines specific advantages and disadvantages of the various options which DI has for providing service to the public and for distributing its database.

5.2 CDIE Information Service Policy Issues

5.2.1 What is the mission of CDIE?

A large portion of information organizations have stated missions that fall into the following three general categories:

- Some information organizations are primarily concerned with handling scientific and technical information that is produced through Federal funding support. The National Technical Information Service is an example of such an organization. NTIS, however, relies on other agencies for the production of the technical reports it disseminates.

- Other information organizations serve organizations and individuals who are funded by an agency. Examples include the information facility supported by NASA and the Defense Technical Information Center.

- The third group serves specified constituencies, usually a professional community associated with a subject area (e.g., education, health, etc.); organizations in this group provide their constituencies with a broad range of information services and products, regardless of how the information is generated. Examples are NIE and NLM.

Currently CDIE's Development Information Division (DI) provides service based on all three of the above-listed categories of service.

The mission of CDIE is directly related to the mission of AID and is to improve the quality of AID and LDC development programs by:

- acquiring, assimilating and transforming information on development experience into meaningful program planning guidance;
- promoting the application of lessons learned in program planning and management and in policy formulation;
- increasing AID staff awareness and use of development information resources;
- extending development information and evaluation experience and methods to the LDC's and other AID donors.

5.2.2 Whom should CDIE's Development Information Service serve?

There are several distinct development information user groups that currently are and can continue to be served by CDIE. There are several reasons why these user groups/communities might/should be served by CDIE, including:

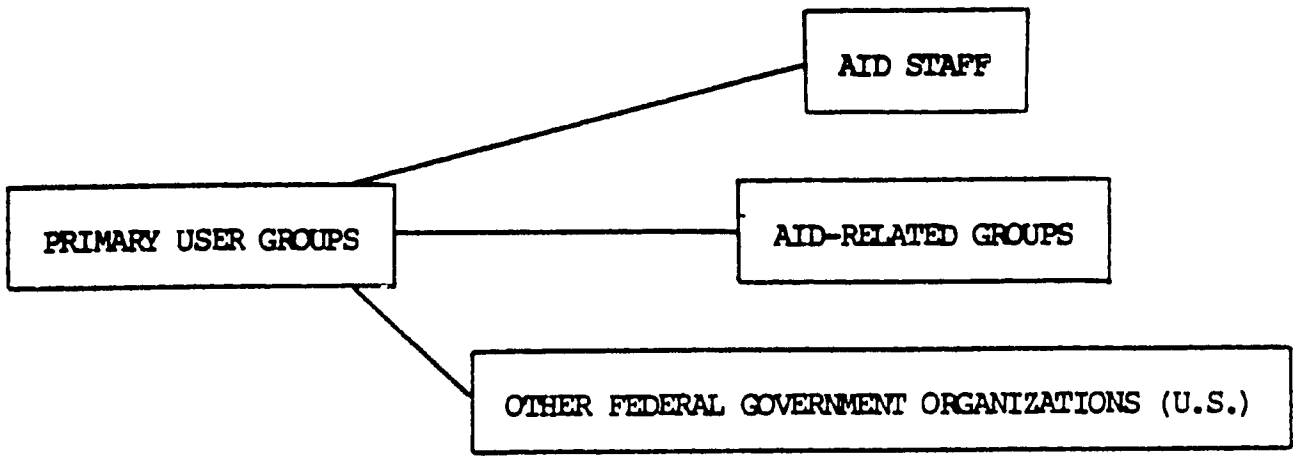
- a new user group is developing which has limited resources and lead time to create its own development information resources (e.g., companies which are new contractors for AID; the minority college network);
- the value of information to a user group is exceptionally high because the group comprises a large number of users (e.g., general public, PVOs, AID contractors), or because the functions they perform are especially valuable (e.g., development and/or use of cutting edge technologies such as oral rehydration, biotechnology, etc.);
- the cost to certain user groups of providing their own information is exceptionally burdensome (e.g., PVOs, LDC counterpart organizations); and
- the cost of disseminating information is exceptionally high for some reason such as dispersion of the community or its lack of information resources (e.g., missions and LDC host counterpart organizations in more than 70 countries).

The present study has been directed at gathering data and establishing a framework to develop general guiding principles governing which development information user communities are to be served by CDIE. Our survey of the

usage of information services and products has identified current user communities in terms of their information needs and provided preliminary data on the costs of serving these various groups.

In reviewing users of CDIE information services and products, we have identified three primary user groups and six secondary user groups, as displayed in Figure 5-2. This listing of the various user groups is much more detailed than the listing of users presented on page 2-5 of this report which represents the specific user group names used in the REQUEST database and our categorization of them for purposes of statistical analysis. The listing of user groups presented in Figure 5-2 and amplified in Figure 5-3 illustrates that current data in the REQUEST database on type of requesting organization is generalized and does not indicate in all instances whether or not an organization has a current formal relationship with AID. It must be noted that user affiliation data often is unavailable for input to the database if mailed-in requests for information do not specify the organizations'/individuals' relationships with AID.

The three primary user groups displayed in Figure 5-2 are those groups that comprise the primary users of any federally-funded information organization: the staff of the funding agency, organizations and individuals having a current, formal relationship with the agency, and other Federal government organizations. In the context of AID, the Agency staff include headquarters (AID - Washington) staff, AID mission staff, AID field staff, and individuals on loan from AID to other agencies and vice versa. AID-related groups include other organizations within the U.S. International Development Cooperation Agency (IDCA), such as the Overseas Private Investment Corporation, Trade and Development Program; AID contractors and grantees; host governments; other national and international development organizations; private or voluntary non-profit organizations, universities and colleges, development interns, etc. The third primary user group, other U.S. federal government organizations, includes both the legislative and executive branches of the Federal government, and quasi-governmental organizations such as the National Academy of Sciences.



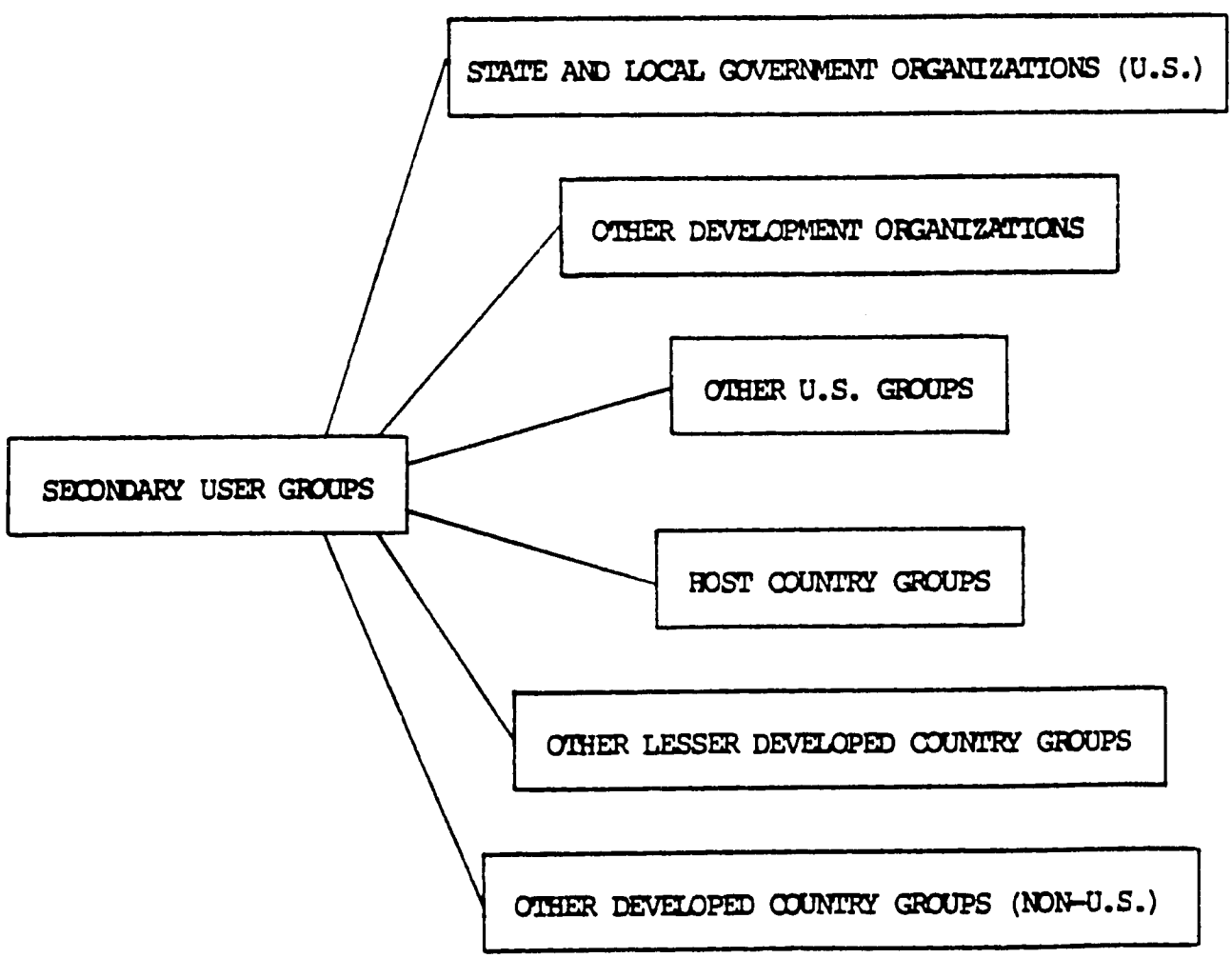


FIGURE 5-2. PRIMARY AND SECONDARY USERS OF CDIE'S INFORMATION SERVICES AND PRODUCTS

The six secondary user groups, i.e., those organizations/individuals having no current, formal relationship with AID, include U.S. state and local government organizations, other development organizations, other U.S. groups, host country groups, other lesser developed country groups and other non-U.S. developed country groups. Other development organizations operate at the national and international levels. Other U.S. groups and host country groups include non-profit organizations, for-profit organizations, press and media representatives, libraries and information centers and individuals. Other non-U.S. groups also include the same groups as the previous two categories but also include non-host governments. A complete list of all the user groups is displayed in Figure 5-3.

Another aspect of the question of who should be served is the issue of assignment of priorities for providing service to each of the respective user groups. Each of DI's information service points provides top priority service to mission requesters and high priority service to AID/Washington requesters. Requests from other requester groups are handled on lower priority bases. Questions of service priority often are difficult to handle, particularly in the AID Library where public requesters may have difficulty in understanding the librarians' commitment to responding to requests from non-present AID staff before responding to these requests for service from the public. If the Agency continues to provide public access to the AID Library in Rosslyn, a written policy statement of the Library's priorities for service to its respective user groups should be prepared and publicized so that public requesters may well understand their relative position in the service queue.

5.2.3 What information should be provided by CDIE to appropriate user groups/communities?

There are four basic ways in which the type of information handled by information organizations may be characterized. Each of these characteristics, or dimensions of information is listed below:

- The first dimension relates to the subject matter covered by the information. In CDIE's case, the subject coverage is "development information", which encompasses program and

PRIMARY USER GROUPS

1. **AGENCY STAFF**
   - Headquarters
   - Mission
   - Field
   - On loan
     - from AID
     - to AID

2. **AID-RELATED GROUPS** (U.S. and foreign organizations/individuals having a current formal relationship with AID)
   - State Department
   - Other organizations within the U.S. International Development Cooperation Agency (IDCA)
   - Other U.S. federal development agencies (e.g., Peace Corps, USIA)
   - Contractors
   - Grantees
   - Host governments
   - Other development organizations
     - National
     - International
   - Private or voluntary organizations (non-profit)
   - Press and Media Representatives
   - Universities and colleges
   - Development interns
   - Other

3. **OTHER FEDERAL GOVERNMENT ORGANIZATIONS (U.S.)**
   - Legislative
   - Executive
   - Quasi-governmental (e.g., NAS)

SECONDARY USER GROUPS
(Organizations/individuals having no current formal relationship with AID)

1. **STATE AND LOCAL GOVERNMENT ORGANIZATIONS (U.S.)**

2. **OTHER DEVELOPMENT ORGANIZATIONS**
   - National
   - International

3. **OTHER U.S. GROUPS**

4. **HOST COUNTRY GROUPS**

5. **OTHER LESSER DEVELOPED COUNTRY GROUPS**

6. **OTHER DEVELOPED COUNTRY GROUPS (NON-U.S.)**

NON-HOST GOVERNMENTS

OTHER

- Non-Profit Organizations
  - Private or voluntary organizations
  - Universities and colleges
  - Former contractors
  - Former grantees
  - Other
- For-Profit Organizations
  - Former contractors
  - Former grantees
  - Other
- Press & Media Representatives
- Libraries/Information Centers
- Individuals
  - Former AID staff
  - Former contractors
  - Former grantees
  - Other

Figure 5-3. Detailed Listing of Primary and Secondary Users of CDIE's Information Services and Products

development experience and pertinent statistical, scientific and technical information in subject areas which support or are related to AID's ongoing projects and programs and its development activities with LDCs.

- The second dimension concerns the "level" of information (i.e., "primary" or source information, "secondary" or directional information guiding users to other information sources, and "tertiary" or analytical information), and the source of information (i.e., internally-generated or externally-generated).

- The third dimension relates to the type of information (e.g. project-related, program-related, etc.).

- The fourth dimension relates to whether the information is restricted or not, and the nature of the restriction (e.g., security classifications of top secret, secret, restricted, politically sensitive, etc.).

Implications of the handling of different types of information will depend on the user groups served, the economic value of the information, the services and products offered, cost, and so on. The decision as to whether or not to provide access to information of various types also depends to some degree on the existing availability of the information through other services/sources (e.g., microfiche project files, commercial databases, information brokers). Duplication of coverage (by subject, primary information, secondary information, etc.) can be a concern. For example, there are instances when an AID- sponsored or related report could be handled and made available by a contractor or grantee, by AID through its DIHF, and by NTIS or GPO. A counter argument is that each of these participants in information transfer has a unique relationship with a certain segment of the overall user community, and that segment would not be served otherwise.

There are other implications of handling information derived from different sources. It has been stated that one responsibility of government-sponsored programs, in addition to the generation of primary information relating to its activities, is the reproduction and distribution or publication of that information. Whether information generated from other sources should be handled depends on the stated mission, user community served, value of the information to that community, and cost. The value of information to that community also depends on the quality of the information and of the information services and products.

The types of development information currently handled by CDIE/DI in the provision of information services include all three levels of information (primary, secondary, and tertiary) and information generated by both internal (i.e., AID) and external sources. These levels and sources of development information are described below:

- Internally-generated primary information includes project-related documents (contractor proposal, project design documents, project identification documents, etc.), program documents and technical reports (annual budget submissions, country development strategy statements, congressional presentations, AID technical reports, AID serials/newsletters, numeric and general informational databases, audiovisuals, etc. Externally-generated primary information includes monographs, serials/newsletters, government documents, technical reports, numeric and general informational databases and audiovisuals.

- Secondary information includes abstracting and indexing tools, bibliographies, publications lists and databases containing secondary-level information. Internally-generated secondary information includes ARDA (AID Research and Development Abstracts), Directory of Development Resources, Current Technical Services Contracts and Grants, Directory of AID Indefinite Quantity Contracts, Development Information System (DIS), Contract Online Reporting Systems (COORS), etc. Examples of externally-generated secondary information include AGRICOLA, OCLC and MEDLARS.

- Internally-generated tertiary information includes area handbooks, audits, impact and other evaluations, state-of-the-art and analytical reviews, and databases containing analytical information, such as the Economic and Social Data Bank System (ESDB). Externally-generated information includes handbooks and other reference compilations, reviews, databases such as Dun and Bradstreet, etc.

A detailed listing of the types of development information currently handled by CDIE's Development Information Services are displayed in Figure 5-4.

Currently, the DIHF and the Library and Research Services have written guidelines on distribution of different categories of AID documents to the various requester groups; these internal documents contain very specific guidelines on distribution of AID materials to non-AID requesters.

Figure 5-4. Types of Information Currently Handled By CDIE's Development Information Services

PRIMARY INFORMATION

Internal
- Project-related documents
  - Classified documents
  - +Contractor proposals
  - +Project design documents
    - Project papers (PP)
    - Proposals
    - Other project design documents
  - Other project documents
    - Project implementation documents (PIDs)
    - Project implementation letters (PILs)
    - Project implementation orders (PIO's)
    - Project assistance approval documents (PAADs)
    - Project authorizations and requests for allotment of funds (PAFs)
  - +PPC/CDIE project-related documents (excluding evaluations)
- Program documents and technical reports
  - Classified documents
  - +Annual budget submissions (ABSs)-unclassified
    - current
    - past
  - +Country development strategy statements (CDSSs)-unclassified
    - current
    - past
  - +Congressional presentations (CPs)-unclassified
    - current
    - past
  - +AID technical reports
    - proprietary
    - non-proprietary
- Other AID-generated information
  - +PDPR policy papers
  - AID serials/newsletters, including:
    - AID Resources Report
    - Development Issues
    - Front Lines
    - Horizons
  - Other publications
  - Numeric and general informational databases, e.g., PVO Information System
  - Audiovisuals
  - Other

External
- Monographs
- Serials/newsletters
- Government documents
  - classified
  - unclassified
- Reports
  - restricted
  - unrestricted
- Numeric and general informational databases, e.g., CA's Chemical Registry
- Audiovisuals
- Other

SECONDARY INFORMATION

Internal
- Abstracting and indexing tools
  - +A.I.D. Research and Development Abstracts (RDA)
- Directories
  - Current Technical Service Contracts and Grants
  - Directory of AID Indefinite Quantity Contracts
  - Directory of Development Resources
- Publications lists
- Databases containing secondary level information:
  - Development Information System (DIS)
  - Other AID databases [e.g., Contract On Line Reporting System (COORS)]
- Other

External
- Abstracting and indexing tools
- Directories
- Bibliographies
- Databases containing secondary level information, e.g.:
  - AGRICOLA
  - OCLC
  - MEDLARS
- Other

TERTIARY INFORMATION

Internal
- Classified documents
- Area handbooks
- Audits
  - +Contractor
  - +Project
  - +General
- Evaluations
  - +Contractor
  - +PPC/CDIE published evaluations
  - +Project
- Reviews (state-of-the-art and analytical)
- Databases containing analytical information, e.g., Economic and Social Data Bank (ESDB)
- Other

External
- Handbooks and other reference compilations
- Reviews (state-of-the-art and analytical)
- Databases containing analytical information, e.g., Dun and Bradstreet
- Other

+ = Available from the DIHP

In general, AID techical reports may be distributed to all requesters, while AID project documents and other classes of internal AID documents are restricted in their distribution. All requests which the DIHF receives for documents which are restricted are referred to DI for action. The majority of these requests are handled by the AID Library staff, who consult with DI direct hire staff as required. Some requests require formal Freedom of Information Act (FOIA) request procedures which are coordinated through the Bureau for External Affairs (XA). This current study did not examine the characteristics of the non-AID requesters of restricted materials, the categories of documents requested, nor the responses given to the various groups of requesters for respective categories of documents. However, as part of the review of the printed guidelines (i.e., matrices) on document distribution, several differences were noted between the DIHF distribution guidelines and the guidelines used by the Library and Research Services groups. These two current policy guidelines should be reviewed and the differences resolved.

5.2.4 What functions should be performed?

There are seven major information functions and numerous subfunctions to be performed in providing a variety of development information services and products; all major functions currently are undertaken at some level by CDIE/DI. These functions include information collection, information organization, information control, information dissemination, information development, outreach, and administration and management.

Each of the major categories of functions has associated with it a set of subfunctions as displayed in Figure 5-5. Information collection subfunctions include selection, acquisitions, and data collection. Information organization involves cataloging, serials check-in, abstracting and indexing, thesaurus development and update, information systems development, and data entry and update. Included under information control are binding, microforming, inventory control, weeding, warehousing, archival records management, security classification assignment and review, property identification, and user registration and categorization. Information dissemination subfunctions include reference, circulation, serials routing, interlibrary loan, document copying, document distribution and database

INFORMATION COLLECTION

- Selection
- Acquisitions
- Data collection

INFORMATION ORGANIZATION

- Cataloging
- Serials check-in
- Abstracting & Indexing
- Thesaurus Development & Update
- Information Systems Development
- Data Entry & Update

INFORMATION CONTROL

- Binding
- Microforming
- Inventory Control
- Weeding
- Warehousing
- Archival Records Management
- Security Classification Assignment & Review
- Property Identification
- User registration and categorization

INFORMATION DISSEMINATION

- Reference
- Circulation
- Serials Routing
- Interlibrary loan
- Document copying
- Document distribution
- Database distribution

INFORMATION DEVELOPMENT

- Information Analysis and Evaluation
- Information Repackaging
- Publication/ Product Development

OUTREACH

- Marketing
- Training
- User Support
- Cooperative Program Development

ADMINISTRATION & MANAGEMENT

- Personnel Management
- Operations Management
- Financial Management
- Facilities Management
- Contracts Management
- Support Services Management
- Management Analysis

FIGURE 5-5. CDIE/DI Information Functions

distribution. Information development comprises information analysis and evaluation, information repackaging, and publications and product development. The outreach function includes marketing, training, user support, and cooperative program development. Finally, administration and management includes management of personnel, operations, finances, facilities, contracts, support services, and management analysis.

As before these functions can be related to specific groups of users, and specific types of information.

5.2.5 What information services and products should be provided?

Once policies are developed concerning which user communities to serve, what kind of information to provide them with and which functions to perform, a question remains as to what information services and products should be provided. Generally information services and products can be offered as a result of performing various information functions. Figure 5-6 identifies current and potential information services and products that could be offered or improved by performing the information functions outlined in the previous subsection of this report.

The types of services and products that can be offered to various user groups can be categorized by the types of information they relate to, e.g., primary, secondary, tertiary. Primary information services and products relate to primary information such as monographs, serials, numeric databases, audiovisuals. Secondary information services and products relate to information that is used to identify or locate primary information, such as abstracts, indexes, catalogs, online and manual bibliographic searches and SDI, etc. Tertiary information services and products result from original analysis or correlation of primary information and include reviews, analyses, evaluation, etc. Provision of each of these three types of information services/products requires different levels of knowledge and skills on the part of staff and different amounts of processing time. These two factors are important for DI to consider in determining which of its resources will be made available to provide services and products to its respective requester groups.

FIGURE 5-6

Current and Potential CDIE/DI Information Functions, Services and Products

Functions	Services	Products	Performed/ Produced Currently	Not Performed/ Produced Currently
1. Information collection				
Selection	Preparation of lists of appropriate materials for acquisition	Desiderata lists (comprehensive/ selective)	X	
Acquistions	Acquisition of requested materials for office or joint use	Acquisitions lists of newly acquired materials (comprehensive/selective)	X	
Data collection	Collection of statistics/ information on specific topics	Compilations of data/information	X	
2. Information Organization				
Cataloging	Description and classification of materials Provision of subject access Preparation of holdings information	Printed/COM/online catalogs Union catalogs Specialized catalogs	X X X	
Serials check-in	Preparation of holdings records	Serials holdings lists		X
Abstracting and indexing	Preparation of abstracts Title translation Provision of subject access	Abstracting and indexing tools (comprehensive/specialized) Online databases (comprehensive/ specialized)	X X	
Thesaurus development and update	Retrieval vocabulary control	Thesauri (comprehensive/specialized)	X	
Information systems development	Development of methods for better information access	New databases New products	X X	
Data entry and update	Data input and maintenance	Databases which are current	X	

FIGURE 5-6 (continued)

Current and Potential CDIE/DI Information Functions, Services and Products

Functions	Services	Products	Performed/ Produced Currently	Not Performed/ Produced Currently
3. Information control				
Binding	Preservation of materials	Bound volumes		X
Microforming	Archival control	Microfiche	X	
	Preservation of fragile/ out of print materials	Compact duplicate collections	X	
	Efficient document storage			
Inventory control	Identification of missing materials	Lists of missing materials	X	
	Maintenance of up-to-date holdings records	Updated catalog	X	
Weeding	Removal of outdated materials		X	
Warehousing	Control of little-used materials		X	
	Efficient utilization of space		X	
Archival records management	Preservation of institutional memory	Specialized records and/ or microfiche copies of holdings	X	
Security classification assignment/review	Proper control of access to classified materials	Listings of declassified materials		X
Property identification	Control of the organization's resources		X	
User registration and categorization	Identification of the user community and its characteristics	Listings of users by user type/location	X	
		SDI products		X
	User notification when materials become available or when new materials are received		X	

FIGURE 5-6 (continued)

Current and Potential CDIE/DI Information Functions, Services and Products

Functions	Services	Products	Performed/ Produced Currently	Not Performed/ Produced Currently
4. Information dissemination				
Reference	Referral	Information packages	X	
	Ready reference	Specialized biblio-graphies	X	
	Manual searching			
	Online searching	Comprehensive reports	X	
	In-depth research		X	
	Information analysis		X	
	SDI			X
Circulation	Indefinite term loan	Office collections		X
Serial routing	Simplified SDI	Routing lists	X	
	Delivery of selected journals or tables of contents for personal review	Compilations of tables of contents		X
Interlibrary loan	Lending/borrowing	Documents/other materials	X	
Document copying	Hardcopy and fiche production	Hardcopies/fiche	X	
Document distribution	On-demand document delivery	Documents/fiche/data-bases	X	
	Subscription services	Requester lists (ADDs)	X	
		Subscriber lists	X	
Database distribution	Database duplication	Database copies	X	
	Database customization	Specialized databases		X
5. Information development				
Information analysis and evaluation	Information analysis and evaluation	Information packages	X	
		Comprehensive reports	X	
Information repackaging	Document preparation	Information packages (print)	X	
	Audiovisuals production			
	Database customization	Information packages (non-print)		X
		Specialized databases		X
Publications/product development	Production of new/ specialized products	New publications/ products	X	

FIGURE 5-6 (continued)

Current and Potential CDIE/DI Information Functions, Services and Products

Functions	Services	Products	Performed/ Produced Currently	Not Performed/ Produced currently
6. Outreach				
Marketing	Briefings	Briefing handouts	X	
	Production of promotional materials/packages	Promotional materials		X
		Information brochures	X	
		Articles for in-house publications	X	
Training	Development of training materials and strategies	Training classes	X	
		Training materials	X	
	Training sessions	Self-training packages		X
User support	Technical assistance	Information packages; TDY	X	
	User needs analysis	User studies	X	
Cooperative program development	Reciprocal access to databases, information and services	Databases	X	
		Documents	X	
		Reference services		X*
7. Administration and management				
Personnel management			X	
Operations management			X	
Financial management			X	
Facilities management			X	
Contracts management			X	
Support services operation			X	
Management analysis	Production of management reports	Management reports (online and special)	X	
		Cost studies	X	

* Reference services are provided on an ad hoc basis since current formal cooperative agreements do not specify quid pro quo provision of reference services. With reciprocal access to databases and documents, the respective organizations can provide reference services to appropriate users within their own user communities; selected reference requests may require service from the organization which produced/sponsored the information.

5.2.6 Who should perform the functions?

The major issue here is to what extent non-Federal organizations should be used to handle AID-generated information. Some directions are provided through OMB Circular A-76. This circular implies that the Federal government should not compete with non-Federal organizations. Furthermore, it is suggested that non-Federal organizations should be employed for processing information if they are less costly than performing the work in-house. Again there is some difficulty in determining whether one information service or product is in direct competition with another one. For example, is a microform product in direct competition with a paperform product? Is a published bibiliography in competition with a current title product?

DI has responded to the guidelines presented in OMB Circular A-76 by currently operating most of its information service points as contract or RSSA operations. This transition from higher-priced direct hire staff to lower-priced contract/RSSA staff provides for less costly operations and supports commercial sector provision of selected information services (e.g., the DIHF).

The question of possible competition between DI's services to the public and those of commercial database distributers requires further investigation into (1) the specific nature of DI's service to the public, particularly its use of the DIS to support response to public requests, and (2) the nature of development information that is available or is planned to be made available through commercial sources.

5.2.7 Should information be provided free? If not, what should be the basis for charging?

Some directives have been set forth in OMB Circular A-25, "User Charges", although a GAO report (1979) indicates that the overall Federal policy is unclear and open to a variety of interpretations. Generally, the circular states that information products and services should be priced to recover their costs. There is a question as to which costs should be included, such as generation, reproduction, distribution, development, set-

up, overhead, or direct. There are several other broader bases for user charges including objectives of pricing, type of information handled, who the purchasers are, and which users are served.

The Federal government spends billions of dollars each year on research and on the collection of information to use in accomplishing its missions. Such research results and information used to govern our society also have potential use in other parts of the public sector and in the private sector. They can be of enormous value to state and local agencies, universities, companies, non-profit organizations, and the general public. The problem is that substantial resources may be required by the Federal government to make the information available and to distribute it widely both internally and to outside organizations and individuals. The questions are who should pay and how much should be paid for this special processing and distribution: the taxpayers, the direct recipients of the information or other beneficiaries of the information?

Based on the results of a Federal survey (1980), the answers to these questions seem influenced by several factors. First, each agency treats user charges differently, and the overall objective in processing and distributing information has a bearing on whether to charge and how much to charge. In late December, 1984, AID issued a new addition to the AID Handbook 18, Part III entitled "User Charges for AID Publications." It is now a formal policy of AID to recover direct costs for production and distribution of Agency publications from certain groups of non-Government recipients. At present, the DIFH recovers some costs related to distributing AID documents/microfiche, but a detailed cost study would be required to determine if the facility is currently recovering all allowable costs. The DIFH's charging policies for specific requester groups differ somewhat from the guidelines presented in the new AID policy, so review of the charging policies will be required. Currently the DIHF is the only DI information service point which levies charges for services/products.

Other factors are who is operating the information organization (i.e, Federal agency, commercial entity, university, or non-profit organization), the size of the organization, economic considerations, operational considerations and enabling authority.

The Federal government appears to have three general objectives in providing information. The first objective is to provide a means of distributing government-sponsored research or government-collected information that might not otherwise be provided. The second objective is to specifically serve an agency and its grantees and contractors with information needed to accomplish their mission. The third objective is to provide information to a special constituency (e.g., the health or educational community) regardless of where the information originates or whether the constituency is funded by the Federal government. AID's current development information services support all three of the above-listed objectives.

Arguments concerning these objectives partially deal with the economic trade-off of serving a user community through a single source where economies of scale can be achieved and where the community can rely on gaining access to information. One can argue that serving contractors and grantees or the development community will yield greater value than the costs incurred, if the costs are minimized through such scale economies. On the other hand, some contend that the value of information is best assessed by users, and therefore some charge should be levied to let the marketplace economics determine whether specific information products and services should be provided. The information industry strongly supports the latter approach because, in certain information product and service areas, some organizations must compete against other information organizations that are funded by the Federal government. Yet, if libraries (or individuals) must buy some information products, such as government sponsored technical reports, other information products are competing with these products for a part of limited library (or individual) budgets, even though the industry's product may be entirely different. Some of these economic trade-offs are discussed below.

5.2.7.1 Economic Considerations in Charging Users

There appear to be three considerations affecting decisions to charge users for Federally-generated or funded information. First, different user charges are imposed for different kinds of information.

Second, pricing policies depend somewhat on individual operational considerations. Finally, an agency's enabling authority, or its interpretation of it, partially determines its policy concerning user charges. These considerations are discussed briefly below.

5.2.7.1.1 User Charges Determined by Type of Information and Information Services and Products

The distribution of information products and services varies with different types of information. Three generic types of information are generated, processed and distributed by Federally-funded information organizations: (1) primary information (books, journals, technical reports, numeric data, and so on); (2) secondary information which describes the primary information in order to provide access to it (references, referrals, announcements and search systems); and (3) tertiary information (e.g., state-of-the-art reviews and technical consulting).

Secondary information products and services also differ from primary products and services because the ultimate social benefit is derived not from direct use, but rather from use of the primary information to which it leads. For example, the principal benefit gained from referring an organization to a technical report is not in the referral but in the use of the technical report's information. In searching, value may also be gained in the knowledge that primary information is not available. However, for the most part, the value of secondary information products and services is their ability to point to primary information at low cost. It has been argued that the price of secondary information should be less than its cost because of its contribution in creating demand for primary information. Increased demand for the primary information lowers average cost which, coupled with additional use, may yield greater net social value. Here again, a set of economic principles can be set forth for deciding how to price secondary information. Tertiary information products and services require a still different pricing consideration because they entail relatively high generating costs.

5.2.7.1.2 User Charges Determined by Operational Considerations

One example of an operational consideration is the crucial question of whether information products and services compiled by the Federal government should be distributed by the public or private sector. There is a precedent for every combination of distribution arrangements: (1) all government, (2) both private and public sectors independently, (3) both private and public sectors together, and (4) entirely private. The prices charged by government are likely to be entirely different from prices established by a profit-making firm since their objectives are different and not necessarily compatible. Optimizing profit will normally not achieve maximum net social value because higher prices decrease use. On the other hand, commercial organizations may already serve a user community and, therefore, some economies may be achieved through shared marketing channels or through established (and superior) marketing capabilities.

Another operational consideration is providing incentives to all participants to achieve optimum distribution. For example, if an information organization is given a fixed budget to distribute information, it is not likely to exceed that budget regardless of demand. In a sense, this also occurs in government when funds received for information go directly to the Treasury rather than to the information organization to offset its distribution costs. Another consideration is deriving alternative information products or services from a common source. For example, a product may be distributed both in paperform and microform or a bibliographic database may be used for printed announcements and computer searches. Choosing a pricing strategy that will optimize the trade-off between, say, the paperform and microform products is very complex.

5.2.7.1.3 User Charges Determined by Enabling Authority

The enabling authority for pricing will dictate an agency's pricing policy, although most legislation, directives or regulations leave a fair degree of flexibility in interpretation of rough guidelines.

An information organization is primarily concerned with the cost, net income and net social benefit of its information products and services, and these factors will influence its appropriations and operating budget. The factors result theoretically from three relationships: price and demand, price and social value, and cost and demand. Pricing strategies observed in the survey of Federally-funded information organizations are discussed below.

5.2.7.2 Alternative Pricing Policies

For the most part, Federal government pricing policies depend on the amount of distribution costs that information organizations would like to recover and, perhaps, on the net social value achieved. The nature of these influences depends partially on the mission of the information organization and the social benefit derived from its information. Conceivably, some information products and services are of such high social benefit that they should be given away free in order to encourage their use. Free products and services might also be offered if the market is such that charging for the information would only create additional, unwarranted costs for accounting, billing and the like. However, these circumstances rarely occur.

Information organizations usually decide to charge some amount to recover the costs; the question is which of the various costs are recovered: (1) distribution costs involved with handling requests or fulfilling subsriptions; (2) reproduction costs associated with printing or searching, etc.; (3) fixed costs which are incurred whether any products are reproduced or distributed or services provided; (4) costs in designing, developing or implementing information products or services; and (5) costs involved in generating information or collecting data. Various combinations of these costs may be recovered. The following groupings are considered likely possibilities:

- Recovering cost (1)
- Recovering costs (1) and (2) — marginal cost pricing
- Recovering costs (1), (2), and (3) — average cost pricing (full cost recovery)
- Recovering costs (1), (2), (3), and (4)

We are unaware of serious discussions of recovering information generation or data collection costs (5).

Each of the pricing policies listed above is examined in the following sections, after a discussion of providing information free of charge. In addition, the following other pricing policies are discussed: pricing to make a profit, price discrimination to certain user communities, charging what is considered a fair market value, pricing to accomplish a desired objective and pricing when more than a single product is produced from a common source.

5.2.7.2.1 No Charge

The question arises as to why organizations do not give information away free of charge and derive the entire potential social value of it. This would also reduce the cost to information organizations of handling the funds received from users as well as eliminate some cost of responding to inquiries which could be answered by free brochure or reference. The principal argument against this is that it might encourage frivolous requests for information. However, users incur costs when obtaining free information in terms of their time to identify, locate, order, receive, use and store the information. As the net social value is the total social value less costs to the supplier and the users, the optimum net social value very likely will be achieved not with no charge but with some carefully established price.

5.2.7.2.2 Marginal Cost Pricing

Marginal cost pricing involves charging to recover only the variable cost of reproducing, handling requests and distributing each additional item. Typically, the marginal costs of information products and services are quite low so that very little value is lost to society by charging this amount. Since the marginal cost reflects the actual resources used to produce one additional unit, marginal cost pricing policy is usually considered by economists to be the policy that maximizes net social

benefit, with one exception. When there are scale economies and high fixed costs, it is often preferable (in terms of net social benefit) to set prices slightly above marginal costs so that all costs are recovered.

Most marginal costs are computed by the costs attributed to reproduction, distribution and request handling. However, some fixed costs may not always be distinguished. For example, on a printing press run, costs associated with setting up and shutting down the presses are fixed. Also, an agency tries to anticipate demand and print an appropriate number of copies with a fixed storage cost, but often too many copies are made. This apparently is a problem with reproduction and distribution of published products. In addition, in some instances indirect costs such as rent, utilities and so on can be allocated on a unit cost basis.

5.2.7.2.3 Average Cost Pricing (Full Cost Recovery)

Average cost pricing involves an information organization attempting to recover all of the costs associated with processing and distribution. (Here, we do not include the cost of generating the information.) Average cost pricing yields less value to society than marginal cost pricing since the price is always greater.

One real problem with average cost pricing is that it is very difficult to establish the breakeven point with no knowledge of the price/demand curve. This is particularly true for an information product or service with a high fixed cost, such as one requiring database compilation and development. The risk may be very great and an excessive loss is incurred or profit made (either of which achieves less net value for society). With low fixed costs or with marginal cost pricing, the risk is not as great because the prices can be chosen from relatively small range of prices.

5.2.7.2.4 Pricing to Achieve a Profit

Most commercial firms attempt to establish a price that will optimize profits. According to economic theory, the optimium profit is achieved at the price at which marginal costs and marginal revenue are equal. However, in this case, this is a moot point because Federal agen-

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cies do not intend to maximize profit. Furthermore, the price at which optimum profit is achieved will yield less social value than free distribution, marginal cost pricing or average cost pricing.

5.2.7.2.5 Other Pricing Policies and Considerations

One pricing policy is to charge what is considered to be a fair market value. That is, a price may be set by considering the worth of the information and what others charge for similar information products and services. The problem with this pricing policy is that, without substantial marketplace experience, the unknowns and risks are very great. In these cases, it becomes difficult for most agencies to budget for either excessive or inadequate demand at fair market value price.

Price discrimination, in which some user groups are charged differently from others, is used by a few information organizations. It appears that the principal criterion for price discrimination is the perceived user's contribution to social benefit or whether there is a quid pro quo arrangement. When price discrimination occurs, government agencies may be charged less, with universities and non-profit organizations charged more and private industry charged the greatest amount. Sometimes an information organization will charge an organization less if it provides data or some other such service in return. However, many information organizations indicate that the effort of imposing differential prices is greater than the value gained. Other reasons for price discrimination are to develop user loyalty, to take advantage of favorable price elasticity for some groups, to serve large buyers and so on. Also, sometimes an information organization many charge a premium for special quality of a product or speeded service. One danger of giving one customer a lower price than the others is that they may in turn sell the information at a higher price. This practice is referred to as arbitrage.

Sometimes prices are established to accomplish an objective. For example, a price may be purposely set low to encourage use of an information product or service that might not otherwise be used. Another example is when there is more than one product produced from a common source such as a database. In this instance, an agency may prefer to sell one product

over another. For example, the National Technical Information Service sells technical reports in paperform and microform. In the early 1970s, NTIS substantially increased the price of paperform and maintained a low price in microform. As a result, the proportion of requests for reports shifted dramatically from paperform to microform. One caveat concerning this situation is that the price should be set so that sufficient income is received under all alternative forms. At NTIS, for example, it turned out that the prerun cost and request processing cost were such that the total costs of paperform and microform were not as different as might be expected. As a consequence, the microform prices were quadrupled to help cover prerun and request processing costs. The average price for on-demand requests is now about the same as before the price changes, even though most of the sales are in microform. Finally, an agency may decide that the price for announcement products, search services and the like should be kept below cost if these services create an increased demand for primary information which in turn will increase income to the agency as well as yield greater social value. This is particularly important if demand for the primary product or service is elastic or in the elastic portion of the price/demand curve. Thus, increased awareness of the information may provide higher net value than, say, a reduction in price. This is even more true if a secondary product or service produces a reduction in the cost to a user, since the effective price is reduced. Also, if the net revenue generated by increased awareness is positive, an information organization may feel the price trade-off of secondary product or service prices is worthwhile in order to achieve greater revenue from the primary products.

SECTION 6

SPECIFIC INFORMATION SERVICE OPTIONS FOR DI

This section of the report outlines advantages and disadvantages of various options which DI has for providing service to the public and for distributing its database. The following listings of the options for providing service are very generalized. In formulating its specific operating policies for providing service to various groups, DI may select different options for serving the various user groups.

All references to charging for services mentioned in this subsection are based on regulations presented in OMB Circular No. A-25, "User Charges," and in a related OMB Circular, "Cost Accounting, Cost Recovery and Inter-Agency Sharing of Data Processing Facilities," No. A-121.

6.1 Options for Providing Service to the Public

The following options are available to DI in developing policies for providing information service to the public:

- Do not provide service to organizations/individuals which do not have current, direct affiliation with AID;
- Continue to provide service to the public as is provided at present; (current situation);
- Provide service to any organization/individual and charge for all services so that costs for providing service may be recovered;
- Provide service to any organization/individual and charge for selected services; (current situation for AID document distribution);
- Contract out the provision of services to the public; (current situation with the DIHF supplying selected AID documents which have unrestricted distribution);
- Transfer all responsibilities for service to the public to the Bureau for External Affairs.

Each of these options with related advantages and disadvantages is outlined on the following pages. It should be noted that the advantages/disadvantages relate both to the provision of services and to any charging for services.

1. Do not provide service to any organizations/individuals which do not have current, direct affiliation with AID.

Advantages

- Staff at the various DI service points would experience increases in time available to support development of new information products/services for the Agency's primary user groups; an estimated 1.7 FTE, distributed among all service staff, would be available.

- Public demand for information about the Agency's development information would decrease if all requests for information involved compliance with formal FOIA request procedures.

- Careful monitoring of restricted materials which should not be released to the public would not be required.

Disadvantages

- This option would not comply with the Agency's stated policy that "information about its objectives and operations be freely available to the public." (AID Handbook 18, Part III, May 30, 1975, p. 10-1.)

- Processing requests for information under FOIA procedures imposes strict time schedules and in-house coordination requirements for processing these requests.

- Processing time for each request from the public would take more time for DI staff and its RSSA/contract staff; it also would involve processing and coordination time by staff of the Bureau for External Affairs (XA) which is not incurred under present operating policies.

- Members of the public may request that their congressional representatives obtain the desired development information for them, rather than going through FOIA request procedures. Congressional reaction to increased requests for development information from constituents would not be favorable.

2. Continue to provide service to the public as is provided at present.

Advantages

- No changes to be made in current operating procedures.
- All DI information service points currently have established formal or informal policies for handling Agency-related requests before public requests.
- Some costs are recovered through the DIHF's charging non-AID requesters for AID documents.
- Requests which may be more appropriately handled by other AID information services (e.g., the Bureau for External Affairs) or by non-AID organizations may be referred to the respective offices/organizations for processing.
- AID/DI develops a good image with Congress, with various academic and commercial organizations and with the general public by providing them with information service as requested.
- The Agency can restrict public access to sensitive materials/information.
- The Agency can monitor public interest in its services/information.

Disadvantages

- The current Administration encourages support of OMB Circular A-25, "User Charges," which states that information products and services should be priced to recover their costs. A recently issued section of the AID Handbook 18, Part III, addresses user charges for AID publications to implement OMB Circular A-25, as amended.
- Current DIHF charges for AID documents/microfiche do not recover all costs which may be recovered according to the new AID regulation on charging for AID publications. A detailed cost study will be required to identify the actual direct and indirect costs associated with supplying documents to non-AID requesters.
- Requires continued support of staffing levels to process requests from the public; at present 1.7 FTE support DI's information services to the public.
- Pressure to serve the public, even at low priority, precludes using available staff resources to improve and expand services to primary users.
- Demand for service from the public may increase based on the current free availability of reference and research services. During FY 84 the public demand remained quite stable; however, these data were not compared with previous years as part of this study.

Disadvantages (cont'd)

- Requires clear determination of priorities for providing service to the public concurrent with supporting Agency information requirements.

- Requires DI staff to work with bureaus/offices which provide other AID information services in order to identify which categories of requests may be referred to those services for processing.

- Requires Agency identification of categories of materials not to be released to non-Agency users because of the restricted/sensitive/proprietary data included in some materials.

- Requires either action by staff to reserve access to restricted materials by non-Agency requesters or development of other security measures to reserve access to restricted materials based on type of requester.

3. Provide service to any organization/individual and charge for all services so that costs for providing service may be recovered.

Advantages

- The Agency can recover additional costs for service to all or selected external users. During FY 84, an estimated $61,700 (13% of DI's manpower costs) was expended in providing service to the public. An in-depth cost study of the individual services would be required to determine the direct and indirect costs which could be recovered validly.

- Demand for information from the public may decrease because of charging for services.

- The Agency can restrict public access to sensitive materials/information.

- The Agency can monitor both public interest in its services/information and the implied value of the services/information as reflected by the requesters' willingness to pay for them.

Disadvantages

- Requires careful monitoring of costs associated with providing various types of information service to non-Agency users so that costs can be recovered.

- Requires development of procedures to support collection of user charges.

- May require additional staff to process user charges.

- Requires monitoring of collection procedures to ensure that costs are assessed properly and that no clear possibilities for theft exist.

- Requires reporting of funds collected for service and related audits.

- Requires identification of categories of materials/information not to be released to non-Agency users.

- Requires either action by staff to reserve access to restricted materials by non-Agency requesters or development of security measures to reserve access to restricted materials based on type of requester.

- Requires careful monitoring of service to Agency users so that their information needs are met first, even though the non-Agency users are paying for service.

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4. Provide service to any organization/individual and charge for selected services; (current situation for AID document distribution*).

Advantages

- The Agency can recover costs for provision of some of its services to external users.
- Public demand for these selected services may diminish because of charging.
- The Agency can restrict public access to sensitive materials/information.
- The Agency can monitor both public interest in its services/information and the implied value of certain services/information as reflected by the requesters' willingness to pay for them.

Disadvantages

- Requires identification of services for which costs should be recovered.
- Requires careful monitoring of costs associated with providing these selected services so that costs can be recovered.
- Requires development of procedures to support collection of user charges.
- May require additional staff to process user charges.
- Requires monitoring of collection procedures to ensure that costs are assessed properly and that no clear possibilities exist for theft.
- Requires reporting of funds collected for service and related audits.
- Requires identification of categories of materials/information not to be released to non-Agency users.
- Requires either action by staff to reserve access to restricted materials by non-Agency requesters or development of security measures to reserve access to restricted materials based on type of requester.
- Requires careful monitoring of service to Agency users so that their information needs are met first even though the non-Agency users are paying for service.

*Refer to Option #2 for discussion of the current situation.

5. Contract out the provision of services to the public*; (current situation with the DIHF supplying selected AID documents which have unrestricted distribution**);

Advantages

- The Agency can use its well-trained Library and Research Services (RSSA) and DI direct hire staff to support the Agency's information needs; services to the public often may not require such extensive knowledge of the Agency's programs and of its development information resources.

- Service to public requesters may be achieved off-site, so that the limited space resources for use of materials in the AID Library may be more readily available to Agency staff.

- The contractor can handle most of the procedural requirements related to collecting charges for service.

- The contractor may be able to provide the services at a lower cost than the Agency or RSSA operations could.

- The contractor is permitted to make a reasonable profit on its service provisions.

- The contractor can limit public access to restricted materials/information, if required.

- The Agency can monitor public interst in its services/information products.

Disadvantages

- The Agency must identify reasonable costs that the contractor may charge for services/products.

- The Agency must train contractors about AID programs and use of the DIS and other information resources.

- The Agency must monitor contract operations and charging mechanisms so that adequate levels and quality of service are maintained and profit-making falls within established limits.

- The Agency must identify services/products which may not be handled by the contractor because of their nature (restricted, etc.).

- The contractor must develop and maintain a collection of reference materials and obtain suitable equipment (terminals, modems, reader-printer(s), etc.) to support provision of information services; these materials/equipment would duplicate resources in use at the Library and Research Services.

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* It must be noted that currently, most of DI's information services are provided by RSSA/contract operations. Option #5 presents advantages/disadvantages of having another group handle public requests for reference and research services.

** Refer to Option #2 for discussion of the current situation.

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6. Transfer all responsibilities for service to the public to the Bureau for External Affairs.

Advantages

- The public could go to the office most visible to non-Agency requesters in order to meet its information needs.

- AID Library and Research Services staff would be free to support Agency information needs with 100 percent of their resources.

Disadvantages

- The Bureau for External Affairs (XA) probably does not have the trained technical expertise nor the staffing to handle a heavy volume of specific requests for development information.

- XA must develop a reference collection and obtain suitable equipment to support provision of reference services; these materials/equipment would duplicate resources in use at the Library and Research Services.

- DI RSSA and direct hire staff must train designated XA staff to provide reference/research services in development information.

- The Agency would still be funding service to the public at a level which may be higher than contract provision of services.

6.2 Options for Distributing a Government-Developed Database

The following options are available for distributing DI's Development Information System (DIS) or portions of it to non-AID organizations:

- Make database available for searching by Agency staff and external users on the Agency's computer;
- Make database available to Agency staff and external users under a facilities management contract; (somewhat the current situation*);
- Make database (or specialized portions of it) available to other development organizations on a quid pro quo basis; (current situation with IDRC; negotiations in process with the World Bank);
- Make database (or specialized portions of it) available through NTIS to external users (including vendors) for cost of the storage medium and of writing out the data;
- Make database available to multiple external vendors and license them to make the database available to the public;
- Do not make the database directly available to the public through in-house or external sources; have Agency staff search the database for the public on demand; (current situation);
- Do not make the database available to the public in any form since it contains some data which are restricted/sensitive/proprietary.

Each of the options with related advantages and disadvantages is outlined on the following pages. DI may select several of these options in order to support the development information needs of both AID-related and non-AID related user groups.

*The database is available online at the DIHF to Agency staff only.

1. <u>Make database available for searching by Agency staff and external users on the Agency's computer</u>.

<u>Advantages</u>

- Agency can charge external users for service and recover costs.
- Database will remain up-to-date as a by-product of supporting the normal operations of the Agency.
- Access to portions of the database can be restricted to non-Agency users.
- Non-Agency users can perform their own searches of the database.
- Agency can monitor public interest in its data.

<u>Disadvantages</u>

- Most agencies are not technically set up to support large amounts of external use of its computer facilities.
- Requires agency support of user training, telecommunications linkages, and troubleshooting.
- Requires careful monitoring to ensure that Agency access to the database receives top priority.
- Requires careful monitoring of costs associated with providing computer access and appropriate support to non-Agency users so that costs can be recovered.
- Requires Agency identification of categories of data not to be released to non-Agency users.
- Requires Agency development of software security measures to reserve access to restricted data.
- Software security measures may be by-passsed by very sophisticated system users in order to gain access to restricted data.

2. Make database available to Agency staff and external users under a facilities management contract; (somewhat the current situation*).

Advantages

- Contractor can charge external users for service and recover costs.
- Database will remain up-to-date as a by-product of supporting the normal operations of the Agency.
- Access to portions of the database can be restricted to non-Agency users.
- Agency can monitor public interest in its data.

Disadvantages

- Requires careful contract monitoring and negotiation to ensure that the contractor is not selling data which were obtained free and that charges for service and cost recovery are appropriate.
- Requires contractor support of user training, telecommunications linkages, and troubleshooting.
- Requires careful monitoring to ensure that Agency access to the database receives top priority.
- Requires careful monitoring of costs associated with providing computer access and appropriate support to non-Agency users.
- Requires Agency identification of categories of data not to be released to non-Agency users.
- Requires development of software security measures to reserve access to restricted data.
- Software security measures may be by-passsed by very sophisticated system users in order to gain access to restricted data.

*The database is available online at the DIHF to Agency staff only.

3. Make database (or specialized portions of it) available to other development organizations on a quid pro quo basis; (current situation with IDRC; negotiations in process with the World Bank).

Advantages

- Agency can obtain access to databases and/or other products of the respective development organizations.
- Promotes cooperation among development organizations.
- Reduces problems which the Agency may experience in obtaining important development information which potentially would have impact on Agency program/project planning.
- Restricted data can be eliminated from data released to other organizations.
- The Agency can release specialized versions of the database (e.g., data relating to a specific geographic area).

Disadvantages

- Requires placing a value on the Agency's data as well as on the other agency's data.
- Requires Agency development of policies on the extent to which specialized versions of the database may be offered and related development of procedures to support processing of the various specialized versions.
- Requires Agency negotiation of what data/products are to be exchanged.
- Requires monitoring of the on-going agreement and related performance of the exchange partner.
- May involve awkward situations in which the Agency is giving more than it is getting and therefore determines to end the cooperative arrangement.
- Requires Agency support of user training and development of training materials.
- Requires Agency identification of data not to be released to non-Agency users.
- Requires the Agency to absorb costs associated with providing copies of (portions of) its database to selected exchange partners.

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4. <u>Make database (or specialized portions of it) available through NTIS to external users (including vendors) for cost of the storage medium and of writing out the data</u>.

<u>Advantages</u>

- Agency can recover costs associated with production and delivery of copies of the database.
- Promotes fairness; data are available to all who ask and therefore the government remains impartial.
- Database potentially gets broadest dissemination.
- It is the purchaser's responsibility to convert the data to a format that is compatible with its computer system.
- Different database users/vendors can offer different services and premium software and can appeal to different segments of the user population.
- Restricted data can be eliminated from data released for sale.
- If purchasers can process the data conveniently, this may be the cheapest method for them.
- The Agency can release specialized versions of the database (e.g., data relating to a specific geographic area), which may be more economical for certain purchasers.

<u>Disadvantages</u>

- Some database users/vendors may allow the database to get out of date by not obtaining/loading updates to the database.
- Initially requires considerable time expenditures by Agency staff to complete plans and negotiate details related to the preparation and sale of copies of the database.
- Requires Agency identification of categories of data not to be released to non-Agency users.
- Requires Agency development of procedures to restrict copying of portions of the database which are not to be released for sale.
- Requires Agency development of policies on the extent to which specialized versions of the database may be offered and related development of procedures to support processing of the various specialized versions.

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5. <u>Make database available to multiple external vendors and license them to make the database available to the public</u>.

<u>Advantages</u>

- Agency can recover costs associated with the production and delivery of copies of the database.
- Promotes fairness; data are available to all who ask and therefore the government remains impartial.
- Database potentially gets broadest dissemination.
- Different database vendors can offer different services and premium software and can appeal to different segments of the user population.
- Restricted data can be eliminated from data released for sale.
- The Agency may negotiate to receive a percentage "royalty" on connect time and on output costs charged to users.
- The Agency may select to market the database through NTIS or may deal directly with commercial vendors through procedures approved by the Agency's contracts office.

<u>Disadvantages</u>

- Initially requires considerable time expenditures by Agency staff to complete plans and negotiate details related to the preparation and sale of copies of the database.
- Some vendors may allow the database to get out of date by not obtaining/loading updates to the database.
- Requires Agency identification of categories of data not to be released to non-Agency users.
- Requires Agency development of procedures to restrict copying of portions of the database which are not to be released for sale.
- Prices charged to purchasers of the database may vary depending on who (the Agency, NTIS or the purchaser) processes the data into the format that is compatible with the purchaser's hardware and software.

6. <u>Do not make the database directly available to the public through in-house or external sources; have Agency staff search the database for the public on demand</u>; (current situation).

<u>Advantages</u>

- Agency can charge for searching its database; however, at present no charges are assessed to any user group for access to DIS data.
- Database will remain up-to-date as a by-product of supporting the normal operations of the Agency.
- Agency can monitor public interest in its data.

<u>Disadvantages</u>

- Requires adequate staffing to process ad hoc requests from the public.
- Requires determination of priorities for providing service to the public concurrent with supporting Agency information requirements.
- Requires Agency identification of categories of data not to be released to non-Agency users.
- Requires either action by staff to reserve access to restricted data by non-Agency requesters or development of software security measures to reserve access to restricted data based on type of requester.

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7. <u>Do not make the database available to the public in any form since it contains some data which are restricted/sensitive/proprietary</u>.

<u>Advantages</u>

- Public demand for information about the Agency's projects and research would decrease, if all requests involving searching the DIS required compliance with formal FOIA request procedures.

- Staff at the various DI service points would experience increases in time available (1.7 FTE) to support development of new information products/services for the Agency's primary user groups.

<u>Disadvantages</u>

- This option would not comply with the Agency's stated policy that "information about its objectives and operations be freely available to the public." (AID Handbook 18, Part III, May 30, 1975, p. 10-1.).

- Processing requests for information under FOIA procedures imposes strict time schedules and in-house coordination requirements for processing these requests.

- Processing time for each request from the public would take more time for DI staff and its RSSA/contract staff, and it also would involve additional processing time by staff of the Bureau for External Affairs (XA).

- Members of the public may request that their congressional representatives obtain the desired development information for them, rather than going through FOIA request procedures. Congressional reaction to increased requests for development information from constituents would not be favorable.

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SECTION 7

CONCLUSIONS AND RECOMMENDATIONS

As a result of our short-term study of the various DI information service points, our preliminary analyses of the data on estimated expenditure of DI's resources on services to the public* and other requester groups and our identification of the various elements in a framework for development of policy guidelines for information service, we have reached the following conclusions:

- An estimated 13 percent ($60,000) of DI's manpower costs are expended for service to the public. However, we cannot at this point make recommendations to DI concerning selection of specific policy options for providing service to the public since more detailed data is required on both specific request processing costs and the nature of requests from users.

- Approximately 1.7 FTE are required to support information services to the public; this service currently is divided among 19 positions. Further investigation of the nature of these requests is required before recommendations can be made concerning the levels of skills that are required to support the various aspects of service to the public.

- A substantial proportion (more than 38 percent) of all requests for DI's information services are requests, primarily from AID/Washington and the AID missions, for document-related services. An estimated 74 percent of these document requests are for non-AID documents, 84 percent of which are obtained by the AID Library via interlibrary loan (ILL). This suggests not only that AID/Washington and mission staff require information beyond AID's own experience, but that ILL services provide a viable alternative to direct purchase and physical storage and maintenance of publications by the AID Library or by other AID offices and staff.

- More than 2,600 external database searches were performed by DI in FY 84 as part of the process in responding to research and reference requests from AID/Washington and mission staff; these data again support the observation that AID staff require access to experience and information resources beyond those existing within the Agency itself. In the event that cost sharing of these services with other AID offices is contemplated, we recommend that DI adapt its current procedures to provide for more detailed recording and analysis of use of these services by various AID offices and missions.

*i.e., secondary users, defined as those organizations and individuals having no stated current relationship with AID.

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- Examination of average costs per transaction of document-related services (other than ILLs) and of certain research and reference services provided to public users suggests that further study is needed to determine the appropriate skill levels required for processing these requests. It may be more cost-effective to place limits on grade levels of staff who handle these requests, and/or on the amount of time which may be spent processing such requests. However, we also recommend, that before attempting further analyses of manpower costs (which are based on estimates of time to complete requests), that adjustments be made in REQUEST database procedures which would allow DI staff to report processing times of less than one hour. Current cost estimates which are derived from REQUEST database data may, in a few cases, be artificially high, particularly for document-related services which may take less than one hour to complete.

- The data presented in this report are preliminary data on manpower costs and cannot be used as a basis for determining charges for cost recovery for services.

- The REQUEST database could become an even more useful tool for providing management information if all statistics on information service provided by the various DI service points were included in that database and if quality control measures for validating the data were strengthened and performed more frequently. Another improvement to the database would be the re-structuring of selected data elements to provide more specific data on DI-sponsored services/products and more explicit time estimates, as noted above.

- Policy guidelines exist within AID to support charging specific requester groups for AID publications in order to effect recovery of specified costs associated with production of these documents.

- Policy guidelines from OMB and precedents set by information services in other representative government agencies support charging to recover certain direct and indirect costs associated with sale, lease, copying and/or searching of government-developed databases, searching external databases, providing photocopies or access to photocopying facilities, and supplying government-sponsored products/services (e.g., documents, interlibrary loan services). No known precedents have been set to date for charging for either provision of general reference service or for searching online library catalogs, but at least one Federal library (NAL) is actively exploring options in this area.

- DI information service points and other government information services have both formal and informal (i.e., undocumented) policy guidelines related to provision of services/products to non-Agency requesters; most of the libraries and other information services which were contacted during this study provide limited and lower priority service to non-Agency requesters.

- Several existing DI policy statements and operational guidelines require review in terms of (1) compliance with the new AID policy guidelines on charging for AID publications or (2) compatibility with other DI policy statements.

We recommend that DI initiate:

1. A full-scale cost and usage study of services provided by its individual service points in order to obtain more complete data on the nature of the services/products supplied and to identify the specific direct and indirect costs which may be recovered by charging for selected services; we support the DIHF's recommendation that a study of its costs and charges for document/fiche preparation and delivery to requesters is required;

2. A specific study on the nature of requests from the public to determine which types of service could validly be provided by contract or other less costly personnel;

3. A study of the nature of requests for document identification and delivery services and the associated skills that are required for fulfilling these requests;

4. Consideration of the cost-effectiveness of direct international telephone contact with mission requesters in order to resolve questions which may arise related to their service requests; the coordination procedures associated with sending cables appear to involve considerable staff time and also involve time delays in obtaining responses from the mission requesters;

5. Regular input to the REQUEST database of all appropriate service statistics from the various DI service points; appropriate manually-tallied data should be input to the database in batch mode on a monthly basis;

6. An examination of possible minor modifications to the REQUEST database and its data input procedures so that a more complete identification of service requested, product(s) provided and request processing time may be achieved;

7. Review of its existing policy statements for conformity with AID guidelines on charging specific requesters for AID publications/documents and for conformity/compatibility among the policy statements of the various DI service points;

8. Review of its options and determination of its policies related to provision of services/products to the various DI requester groups and to distribution of portions of the Development Information System (DIS); all established policies should be documented in a form which may be made available to non-Agency requesters.

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