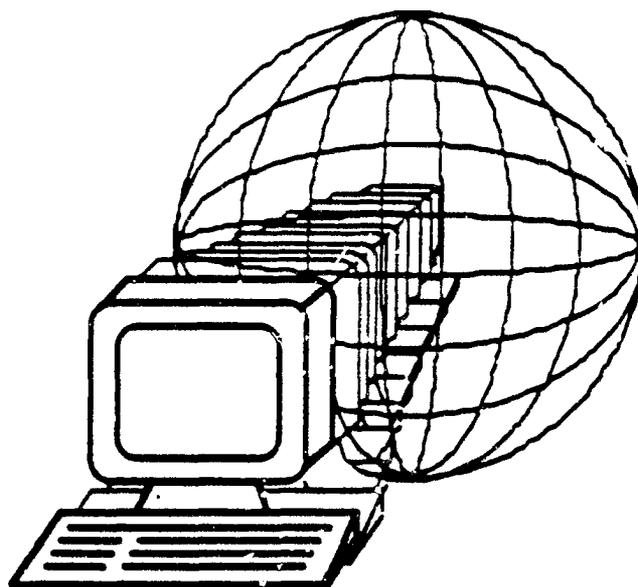

A. I. D. Strategic Information Resources
Management Plan
1991-1996:

Using Information Technology to Build
and Serve a Better World



Agency for International Development
Office of Information Resources Management

September 1990

UNITED STATES AGENCY FOR INTERNATIONAL DEVELOPMENT
STRATEGIC INFORMATION RESOURCES MANAGEMENT PLAN
FISCAL YEARS 1991 - 1996

SEPTEMBER 1990

PREPARED BY: DELOITTE & TOUCHE
CONTRACT NO: OTR-0000-C-00-6155-00
TASK NO: 084

UNITED STATES AGENCY FOR INTERNATIONAL DEVELOPMENT

STRATEGIC INFORMATION RESOURCES MANAGEMENT PLAN
FISCAL YEARS 1991 - 1996

TABLE OF CONTENTS

	<u>PAGE</u>
EXECUTIVE SUMMARY	v
1. Introduction	v
2. Agency Mission and Goals	v
3. Information Resources Management Goals	vi
4. Summary of Major Issues	vii
5. Summary of Major Initiatives	viii
6. Summary of Resource Impact	x
7. Measurements of Success	xii
8. Conclusion	xvii
1. INTRODUCTION	1
1.1 Scope of Document	1
1.2 Objectives of Plan	1
1.3 Approach and Methodology	1
2. AGENCY MISSION AND ORGANIZATIONAL OVERVIEW	3
2.1 Mission	3
2.2 Goals	3
2.3 Functions and Activities	5
2.4 Organizational Structure	5
2.4.1 A.I.D./Washington	5
2.4.2 Overseas Missions and Offices	6
3. CURRENT INFORMATION RESOURCES MANAGEMENT ENVIRONMENT	9
3.1 Current Assessment	10
3.1.1 Information Resources Management Program Management	10
3.1.2 Information Management	16
3.1.3 Hardware	18
3.1.4 Software	20
3.1.5 <u>Telecommunications</u>	21

UNITED STATES AGENCY FOR INTERNATIONAL DEVELOPMENT
STRATEGIC INFORMATION RESOURCES MANAGEMENT PLAN
FISCAL YEARS 1991 - 1996

TABLE OF CONTENTS (CONT.)

	<u>PAGE</u>
3.2 Recent Accomplishments	24
3.2.1 Information Resources Management Program Management	24
3.2.2 Information Management	26
3.2.3 Hardware	27
3.2.4 Software	29
3.2.5 Telecommunications	31
4. STRATEGIC INFORMATION RESOURCES MANAGEMENT PLAN	33
4.1 Planning Assumptions	33
4.1.1 Management Assumptions	33
4.1.2 Technology Assumptions	34
4.2 Governing Policies	35
4.2.1 Policy Development	36
4.2.2 Planning	37
4.2.3 Funding	37
4.2.4 Management and Use of Central Facilities	37
4.2.5 Telecommunications	38
4.2.6 End-User Computing	38
4.2.7 Data	38
4.3 Goals	38
4.4 Strategies	40
4.5 Activities	43
4.5.1 Information Resources Management Program Management	44
4.5.2 Information Management	47
4.5.3 Hardware	48
4.5.4 Software	52
4.5.5 <u>Telecommunications</u>	59
4.6 Funding Considerations	75
4.7 Plan Management	83

UNITED STATES AGENCY FOR INTERNATIONAL DEVELOPMENT
STRATEGIC INFORMATION RESOURCES MANAGEMENT PLAN
FISCAL YEARS 1991 - 1996

TABLE OF CONTENTS (CONT.)

	<u>PAGE</u>
APPENDICES	
A. Document Review List	A-1
B. A.I.D. Interview List	B-1
C. A.I.D. Functional Activities	C-1
D. A.I.D. Field Organization Listing	D-1
E. Information Resources Management Activity Sheets (FY 1991 - 1996)	E-1
Index of Information Resources Management Activities	E-3
1. Information Resources Management Program Management	E-5
2. Information Management	E-39
3. Hardware	E-51
4. Software	E-71
5. Telecommunications	E-101

UNITED STATES AGENCY FOR INTERNATIONAL DEVELOPMENT
STRATEGIC INFORMATION RESOURCES MANAGEMENT PLAN
FISCAL YEARS 1991 - 1996

LIST OF EXHIBITS

	<u>PAGE</u>
2-1 A.I.D./WASHINGTON ORGANIZATION CHART	7
4-1 IRM GOALS BY A.I.D. GOALS	30
4-2 IRM STRATEGIES BY A.I.D. GOALS	41
4-3 IRM ACTIVITIES BY A.I.D. GOALS	63
4-4 IRM ACTIVITIES BY IRM GOALS	67
4-5 IRM ACTIVITIES BY A.I.D. FUNCTIONS	71
4-6 SUMMARY OF FUNDING PROJECTIONS	79
4-7 SUMMARY OF FUNDING PROJECTIONS FOR BASE OPERATIONS	80
4-8 SUMMARY OF FUNDING PROJECTIONS FOR INITIATIVES	81
4-9 FUNDING PROJECTIONS BY INITIATIVE	82

EXECUTIVE SUMMARY

1. INTRODUCTION

The Agency for International Development (A.I.D.) Strategic Information Resources Management Plan is submitted for fiscal years 1991 through 1996. The Plan was prepared based on extensive reviews of A.I.D. documentation and detailed interviews with A.I.D. officials, both within the Washington headquarters organization and in the field. The Plan was reviewed and approved by information resources management senior personnel, by the Information Management Committee (IMC), and by Agency senior management.

The structure and organization of the Plan is based on the General Services Administration's (GSA) guideline for strategic information resources management planning - Strategic Information Resources Management Planning Handbook (Revised), October 1987. Modifications to the GSA format were based on A.I.D.-specific requirements.

2. AGENCY MISSION AND GOALS

A.I.D.'s overall mission and goals provide the direction for this Strategic Information Resources Management Plan. The mission of A.I.D. is stated below:

The Agency for International Development administers economic assistance programs that combine an American tradition of international concern and generosity with the active promotion of America's national interests. A.I.D. assists developing countries to realize their full national potential through the development of open and democratic societies and the dynamism of free markets and individual initiative. A.I.D. assists nations throughout the world to improve the quality of human life and to expand the range of individual opportunities by reducing poverty, ignorance, and malnutrition.

A.I.D. meets these objectives through a worldwide network of country missions which develop and implement programs guided by six principles:

- . Support for free markets and broad-based economic growth
- . Concern for individuals and the development of their economic and social well-being
- . Support for democracy
- . Responsible environmental policies and prudent management of natural resources
- . Support for lasting solutions to transnational problems
- . Humanitarian assistance to those who suffer from natural or man-made disasters.

A.I.D.'s mission as a foreign affairs agency of the United States Government is to translate into action the conviction of our nation that continued American economic and moral leadership is vital to a peaceful and prosperous world.

The goals of A.I.D. are as follows:

- . To emphasize the measurement of goals through the assessment of performance and impact, in order to realize:
 - .. Broad-based, market-oriented, sustainable growth
 - .. Democratic pluralism
 - .. Population balance
 - .. Economic balance
 - .. Ecological balance
 - .. Human resources development
- . To focus on integrated views of development problems; to emphasize program over project management; to emphasize integration with donors, the private sector, and foreign entities to maximize growth
- . To strengthen the trend to decentralized, country-based assistance; to streamline operations and focus resources in Washington to support/maximize country-specific assistance objectives.

3. INFORMATION RESOURCES MANAGEMENT GOALS

The goals of A.I.D.'s information resources management program are based on the Agency's mission and goals. These goals were also validated through the interview process.

The information resources management goals are as follows:

- . To develop an infrastructure which will assure that A.I.D. information resources are prudently managed as key Agency resources, in support of Agency program and administrative goals and strategies
- . To provide an integrated network capability which will allow A.I.D. staff to exchange text and data within their working groups, as well as with other groups in A.I.D./Washington (A.I.D./W) and the overseas missions, in order to increase productivity and efficiency
- . To improve the capability of the Agency to develop and maintain key resource management information systems (financial, personnel, contractual, project), which in turn will allow management to assure accountability and the prudent investment of Agency resources
- . To provide secure and flexible information architectures (data, application, hardware), which will be responsive to rapid strategic and tactical changes of the Agency, in response to the pursuit of U.S. interests and A.I.D. goals
- . To position the information resources management program to ensure A.I.D.'s ability to incorporate new information management technologies and techniques that will be needed to address future Agency information management challenges.

4. SUMMARY OF MAJOR ISSUES

A.I.D. is an information-dependent organization. The Agency needs accurate and timely information to plan programs and projects, to manage its resources, to evaluate results, and to respond to questions from the White House, other Executive Branch organizations, the Congress, and the public. At the current time, A.I.D.'s information resources management program is not well prepared to deal with these information requirements. The major issues which impact the effective and efficient operation of the information resources management program are listed below.

Integration - Management of the information resources management program is spread across several organizational elements, with little or no integration from an organizational, policy, planning, budgeting, or control perspective. The technological capabilities associated with automation, data management, records management, and telecommunications are merging rapidly and need to be closely managed in an integrated manner in order to reap the potential benefits. The lack of clearly defined information resources management roles and responsibilities gives rise to confusion, uncertainty, lack of coordination, and less than optimal use of resources.

Infrastructure - The infrastructure required to effectively administer an information resources management program is not present at A.I.D. The Agency lacks the policies, standards, and procedures which are necessary in a modern, efficient information resources management organization. The major shortcomings in this area are the lack of:

- .. Information planning methodology, such as GSA's Information Systems Planning (ISP) methodology, which is used to identify user needs in a holistic manner; to develop high-level information frameworks for hardware, systems, telecommunications, and data; and to rationalize the development of supporting projects. Lacking such a methodology, information resources management initiatives are undertaken in response to "squeaky wheels" or the crisis of the instant, rather than as the result of a rational plan.
- .. Life cycle development methodology (LCDM), which defines how systems are developed or modified, from inception to implementation, with defined roles and responsibilities for both the technical and user participants, and with defined products. Lacking such a methodology, development cycles are often elongated, user participation is minimal, and systems are incomplete, unresponsive to requirements, and difficult to maintain.
- .. Project management approach, that assures appropriate project oversight by technical and functional management at critical points in the development process. Without such an approach, project problems may not be identified and resolved in a timely manner, resulting in lengthened development cycles.

Data - A.I.D. suffers from a common problem within the information industry, both public and private: the lack of an effective, mature data administration program (policies, procedures, standards, and tools), that permits the sharing of data and easy access to timely, accurate data.

Hardware - Current A.I.D. hardware provides little opportunity to move application software from one type of equipment to another and is heavily dependent on a single vendor.

Systems - Many of A.I.D.'s applications are outdated, some are poorly designed, few communicate with each other or share data, and significant duplication exists. There is no framework to facilitate the prioritization of development initiatives or to establish which business functions are to be supported by centrally developed systems and which are to be the responsibility of the user community.

Telecommunications - A.I.D. has historically relied on the Department of State (DOS) to provide telecommunications support, particularly for voice and cable systems, less so for electronic mail and data systems. This reliance on DOS has left A.I.D. without the planning, engineering, and management expertise required to take advantage of the opportunities presented by divestiture, increased competition, and growing communications products and facilities.

Some of these issues are substantial and will require study and high-level decision making on the part of senior A.I.D. management. Other issues are not as severe and can be handled by the offices assigned information resources management responsibilities in the course of their day-to-day operations.

5. SUMMARY OF MAJOR INITIATIVES

A.I.D.'s objective is to develop an information resources management program that responds to the business needs of the Agency in a cost-effective, efficient, and technologically sound manner. However, due to the problems associated with the information resources management program at A.I.D., there are a number of initiatives which must be undertaken in order to reach this objective.

Information Resources Management Program Management-Related Initiatives - are intended, primarily, to develop the infrastructure necessary to manage the information resources management program more effectively. These initiatives address integration of the information disciplines, improved organizational structures, improved planning and control approaches, the development of frameworks to guide the evolution to an "open" systems architecture, and the development and use of standard methodologies.

Strategic Business Plan - This initiative is actually an Agency management, rather than an information resources management, activity. A business plan is intended to develop and promulgate Agency goals and strategies on a cyclic basis.

Information Systems Planning Study - This initiative will provide a business perspective to the development of the "road maps" or architectures for the information resources management program.

Information Resources Management Integration - This exercise will address the resolution of problems associated with disparate information resources management roles and responsibilities and internal Bureau of Management Services, Office of Information Resources Management (MS/IRM) functional duplication. This activity will also institutionalize a more effective method of conducting the planning and control process for the information resources management functions within A.I.D., in order to coordinate better the activities associated with this process.

- Systems Life Cycle Development Methodology - This activity will define the systems life cycle development methodology, and associated computer-aided software engineering (CASE) tools, required by A.I.D., and determine if the existing LCDM meets these requirements or if a new LCDM should be acquired.

Data-Related Initiatives - pertain to improvements in the way A.I.D. captures, stores, accesses, and reports information. These projects will result in data which is consistent, timely, and easily available to users. The major initiatives address:

- Institutionalization of the data administration function within A.I.D., including defining that function, determining data requirements and standards, acquiring a data modeling tool for use in systems development, and performing data modeling in the development of the data architecture.
- Acquisition of relational data base management systems for personal computers, local area networks, and the mainframe computer.

Hardware-Related Initiatives - center around the need to develop an "open" architecture at A.I.D., both at headquarters and overseas. The objectives of an "open" architecture are to minimize dependencies on any single hardware vendor and allow movement of applications and data across hardware platforms. The major initiatives in this area include:

- Replacement of outdated equipment with compatible hardware
- Acquisition and installation of local area networks
- Investigation of new technologies, such as compact disc read-only-memory (CD-ROM) and imaging.

Software-Related Initiatives - focus on the replacement and/or enhancement of mission-critical systems and the development of corporate information systems during the evolution to an "open" systems architecture. The primary software initiatives are:

- Replacement of the existing, obsolete headquarters accounting system with the A.I.D./W Accounting and Control System (AWACS)
- Enhancement of the Mission Accounting and Control System (MACS) and its ancillary information systems
- Replacement and/or development of payroll, personnel, project control, tracking, and other administrative and programmatic systems.

Telecommunications Initiatives - are primarily studies to position A.I.D. to develop a more effective telecommunications program. These studies will assist A.I.D. in making informed decisions about the Agency's options in the telecommunications field. The primary initiatives include:

- Development of A.I.D.'s telecommunications policies, covering the full range of communications

- . Development of a strategy and plan for the A.I.D. telecommunications network
- . Development of approaches for domestic and international connectivity.

6. SUMMARY OF RESOURCE IMPACT

The funding assumptions for the Strategic Information Resources Management Plan are as follows:

- . Fiscal Year 1991: Funding is constrained to the level identified in the FY 1991 Congressional Presentation
- . Fiscal Year 1992: Funding is constrained to the level approved by the A.I.D. Administrator in the August 1990 budget review of the FY 1992 budget
- . Fiscal Years 1993 - 1996
 - .. Base-level funding increases by a five percent per year inflation factor
 - .. Discretionary funding (above the base) is constrained to \$8 million per year at headquarters.

Should additional funding become available at any point in the life of the Plan, those funds could be effectively used to expedite the execution of the Plan.

Given these assumptions, the Plan's initiatives were prioritized according to the following strategies:

- . Fund base-level activities throughout the program years
- . In the first three years, fund those activities which will help rectify serious problems in the management of information resources - integration, infrastructure, and planning projects
- . Continue to give high priority to data initiatives throughout the program years, to rectify serious problems in managing and accessing data
- . Constrain new hardware and software initiatives to critical efforts that were initiated previously, such as the Excellence Through Automation (ETA), AWACS, and MACS projects, until an ISP is developed to provide a better road map and prioritization vehicle for the program
- . Constrain telecommunications initiatives to those which will better control costs, determine requirements, and plan new strategies, until the effect of the Department of State Telecommunications Network (DOSTN) project can be assessed.

While the program is severely constrained, the costs are significant due to the need to undertake a number of major information resources management initiatives. The projected financial resources required to implement the Strategic Information Resources Management Plan are summarized below, in thousands of dollars, for fiscal years (FY) 1991 and 1992. Projections for

both base-level operations and for initiatives, by information resources management program element, are shown. Projections for the out years (FY 1993 - 1996) are not displayed, since those projections are dependent on the results of the near-term initiatives and, thus, are too tentative to be of significant value to senior reviewers/users of this Plan.

<u>Information Resources Management Program Element</u>	<u>Fiscal Year</u>	
	<u>1991</u>	<u>1992</u>
<u>Base</u>		
MS/IRM	\$ 11,735	\$ 12,680
MS/Management Operations (MO) (Information Resources Management- Related Only)	6,489	6,831
Center for Development Information and Evaluation (CDIE) (Information Resources Management-Related Only)	235	250
Overseas Maintenance	3,122	3,064
Overseas Hardware/Software	<u>6,200</u>	<u>6,510</u>
Base TOTAL	\$ 27,781	\$ 29,335

<u>Information Resources Management Program Element</u>	<u>Fiscal Year</u>	
	<u>1991</u>	<u>1992</u>
<u>Initiatives</u>		
Information Resources Management Program Management	\$ 1,000	\$ 500
Information Management	50	650
Hardware	420	1,425
Software	5,657	5,642
Telecommunications	<u>573</u>	<u>857</u>
Initiatives TOTAL	\$ 7,700	\$ 8,484
GRAND TOTAL	\$ 35,481	\$ 37,819

While the dollar value associated with A.I.D.'s information resources management program is high, the benefits to be derived from these expenditures are also high. The initiatives represented by these dollars are expected to produce significant tangible benefits for the Agency. These benefits include: more efficient and rapid access to information; improved utilization of scarce resources; fewer duplicative development efforts; more accurate and timely information; and enhanced user productivity. Overall, these initiatives will assist A.I.D. in better meeting its mission and goals.

7. MEASUREMENTS OF SUCCESS

This plan reflects the substantial work that must be accomplished to develop the information resources management program needed by the Agency. This section sets forth a means to facilitate the measurement of success in this undertaking and to help in the prioritization of initiatives in light of available resources. This "benchmark" approach attempts to balance initiatives across the information resources management program and considers the building block relationships and dependencies among projects. These key outcomes should be reviewed at least annually, in light of prior year progress, and business and environmental changes.

Fiscal Year 1991

The major initiatives during FY 1991 will position A.I.D. to manage the information resources management program more effectively and carry on with prior year activities. The management initiatives will make the information resources management program more responsive to Agency direction and needs, through integrated planning and user management participation and oversight. The key initiative - an ISP study - will provide the holistic framework for the information resources management program for the next five to ten years.

Ongoing activities will improve access to new technologies, enhance communications within and among offices, and improve the quality and availability of data. The emphasis in FY 1991 is on building the infrastructure, which will result in few visible benefits for the user community in the near term, but is critical to the achievement of longer term results. Key indicators of success include:

- Integration of the Agency's information resources management-related disciplines (automation, telecommunications, data, records management) and functional units (including senior A.I.D. management, the IMC, the senior information resources management official, operational information resources management organizations, and users) through a comprehensive set of defined policies, roles, and responsibilities.
- Ongoing training program to educate senior A.I.D. management and the IMC on information resources management issues, concerns, and strategies, to enhance management oversight of the information resources management program.
- Initiation of an Agency-wide planning process that identifies and promulgates Agency goals and strategies on a cyclic basis (Agency benchmark).
- Completion of an ISP, which provides a holistic vision of Agency information needs and produces architectures that are the framework for future data, application, and hardware initiatives.

- . Acquisition of a modern LCDM and adaptation of it to the A.I.D. environment.
- . Institutionalization (through policies and procedures) of an information resources management strategic, tactical, and operational planning process that is closely linked to the Agency-wide planning process (strategic), budgeting process (tactical), and LCDM (operational), and that reflects greater Agency management and user involvement.
- . Institutionalization of data administration through the development of data policies, standards, organizations, and tools.
- . Acquisition of initial sets of "open" architecture hardware and telecommunications to be used in training technical staff in preparation for conversion to the new architecture.
- . Completion of the automation modernization of New State by the installation of local area networks (LANs).
- . Minimized/reduced acquisition of telecommunications and hardware capabilities that do not conform to the "open" architecture, exceptions being those necessary to support previous software fielding plans or justified increases in capacity.
- . Minimized/reduced development of new systems/applications until the ISP can produce a better road map, exceptions being AWACS, MACS, and a project manager system.
- . Completion of a study analyzing alternatives to in-house operation of personnel and payroll systems.
- . Completion of telecommunications positioning studies and acquisition of telecommunications engineering expertise.
- . Acquisition of an initial disaster recovery capability for A.I.D./W.
- . Development/revision of FY 1992-1997 Strategic Information Resources Management Plan based on the ISP, integrated functions, and revised planning process.

Fiscal Year 1992

The major initiatives during FY 1992 will assure that supporting policies and procedures are established for the management infrastructure initiatives undertaken during FY 1991. The ISP will become the basis for rationalizing, prioritizing, and fine tuning the information resources management program. Initiatives to develop high priority, cross-organizational applications and associated data models will be the first significant, visible results of this Plan. Agency personnel in the New State annexes will receive new technologies to parallel those in the New State building. Studies and analyses will define how support to the missions can be enhanced, define new telecommunications strategies, and define how "open" systems can best be employed in A.I.D. Key indicators of success include:

- . Stabilized, integrated information resources management organization(s) in place.
- . Institutionalization of the Agency-wide planning process.
- . Institutionalization and fine tuning of the life cycle development methodology.

- . Stabilized information resources management strategic, tactical, and operational planning process.
- . Stabilized information security program that is responsive to Federal security regulations including disaster recovery.
- . Initiation of data modeling for two critical subject area data bases (1 and 2).*
- . Initiation of the development of data dictionaries for existing key data bases and files.
- . Preparation of an acquisition and conversion strategy for an "open" architecture hardware and telecommunications environment.
- . Completion of the fielding of LANs to all New State annexes.
- . Reduction of the acquisition of telecommunications and hardware capabilities that do not conform to the "open" architecture, exceptions being those necessary to support previous software fielding plans or justified increases in capacity.
- . Development/acquisition of two major new applications/systems (A [AWACS] and B) based on the ISP road map, utilizing the new LCDM and in conjunction with the data modeling efforts.*
- . Development of a plan to transition operation of personnel and payroll systems to a new location.
- . Evaluation of telecommunications capabilities to be provided by the DOSTN against A.I.D. requirements.
- . Completion of a study on Regional Information Centers that addresses program funding for a consulting function.
- . Institutionalization and fine tuning of the strategic information resources management planning and control process.
- . Completion of an updated Strategic Information Resources Management Plan.

Fiscal Year 1993

During FY 1993, the user community will begin to see real benefits from the Plan, as new technical capabilities will be generally available throughout the Agency. Introduction of "open" systems architectures will facilitate movement of applications and data. Hardware decisions will be made on the operational location for AWACS and other key applications. Several data bases

* Projects to model subject area data bases and develop key applications will be undertaken. The choice of subject areas and applications will be driven by the ISP; therefore, subject areas data bases and applications have been identified notationally by numbers and letters, respectively.

will be documented in data dictionaries, thus facilitating the merging of some budget, financial, and programmatic data. User management will find the information resources management community to be more responsive. Key indicators of success include:

- . Completion of data models (1 and 2) and initiation of data modeling for the next two critical subject area data bases (3 and 4), as defined by the ISP.
- . Completion of data dictionaries for the remaining existing data bases and files.
- . Development of a capacity and acquisition plan to support the fielding of AWACS and other new systems and data bases.
- . Activation of the Regional Information Centers (1 and 2), specific centers to be identified in FY 1992 study.
- . Acquisition of an "open" architecture hardware and telecommunications environment.
- . Conversion of an initial set of applications to an "open" architecture hardware and telecommunications environment.
- . Completion of the fielding of personal computers (PCs) and associated user software to reach 100% support staff and 80% professional staff objectives in A.I.D./W.
- . Elimination of the acquisition of telecommunications and hardware capabilities that do not conform to the "open" architecture, possible exceptions being a few temporary increases in capacity.
- . Development of the next two major new systems/applications (C and D) based on the ISP road map, utilizing the new LCDM and in conjunction with the data modeling efforts.
- . Transition of the operation of personnel and payroll systems to a new location.
- . Development of a revised telecommunications strategy and plan to supplement or replace capabilities to be provided by DOSTN.
- . Completion of an updated Strategic Information Resources Management Plan.

Fiscal Year 1994

During FY 1994, AWACS will replace FACS, thus providing the Agency with better and more responsive financial data. Hardware, software, and data to support management and operational-level information needs will be widely available in the Agency. Key indicators of success include:

- . Completion of a new strategic information resources management planning effort.
- . Completion of data models (3 and 4) and initiation of data modeling for the next two critical subject area data bases (5 and 6), as defined by the ISP.
- . Maintained data dictionaries for existing data bases and files.

- . Activation of Regional Information Centers (3 and 4).
- . Installation of an "open" architecture hardware and telecommunications environment (compliant with Government Open Systems Interconnection Profile (GOSIP) and Portable Operating System Interface for Computer Environments (POSIX) standards) and initiation of the removal of obsolete hardware and telecommunications environments.
- . Elimination of the acquisition of hardware and telecommunications capabilities that do not conform to the "open" architecture; exceptions should be minimal.
- . Development of the next two major new systems/applications (E and F) based on the ISP road map, utilizing the new LCDM and in conjunction with the data modeling efforts.
- . Installation of AWACS.
- . Acquisition of telecommunications capabilities, as dictated by the new strategy and plan, to supplement or replace capabilities to be provided by DOSTN.

Fiscal Year 1995

In FY 1995, the management structure for information resources management will be stabilized. Systems for all major functions and data bases for most key data needs will be either developed or in process. Telecommunications capabilities to supplement DOSTN will be available to meet the Agency's unique needs. Key indicators of success include:

- . Completion of data models (5 and 6) and initiation of data modeling for the next two critical subject area data bases (7 and 8), as defined by the ISP.
- . Maintained data dictionaries for existing data bases and files.
- . Maintained "open" architecture hardware and telecommunications environment and completion of the removal of obsolete hardware and telecommunications environments.
- . Development of the next two major new systems/applications (G and H) based on the ISP road map, utilizing the new LCDM and in conjunction with the data modeling efforts.
- . Installation of new telecommunications capabilities to supplement or replace capabilities to be provided by DOSTN.
- . Completion of an updated Strategic Information Resources Management Plan.

Fiscal Year 1996

The major initiatives during FY 1996 will continue and enhance the information resources management program. Provided there are no major changes in the Agency mission or environment, the cumulative effect of the initiatives in this Strategic Information Resources Management Plan will be a mature information resources management program, providing a wide range of integrated services which are responsive to Agency needs. Agency management will be able to access budget, personnel, financial, and programmatic information, as required, to respond to management issues and external queries. Key indicators of success include:

- . An integrated information resources management environment, with pace-setting executive management oversight.
- . Data dictionaries and data bases that support known data access needs of the headquarters and field.
- . A flexible, vendor-independent hardware and telecommunications environment that is easily upgradable to meet user computing needs.
- . A continuing applications development program based on the ISP road map, utilizing a well-established LCDM and CASE tools and closely linked with data modeling efforts.
- . A telecommunications network capable of supporting known voice, data, and text requirements of A.I.D./Washington and the missions.
- . Ongoing capacity planning and modernization planning efforts.
- . Completion of an updated Strategic Information Resources Management Plan.

8. CONCLUSION

A.I.D. is an extremely information-dependent organization. The Agency needs accurate information to manage its resources, to help determine where those resources should be applied, and to assess the impact of the application of those resources on developing nations and U.S. foreign policy objectives. In this information-intensive environment, it is imperative that the Agency develop an appropriate technological base and judiciously apply its technical resources to satisfy its information needs.

While A.I.D. has made progress toward this end and is continuing its efforts to meet the growing information demands of its user community, the Agency lacks many of the basic information resources management capabilities which are essential to its work. Implementation and continuing management of this Strategic Information Resources Management Plan is a necessary step in acquiring those capabilities and, thus, satisfying the information needs of all A.I.D. personnel.

1. INTRODUCTION

1.1 Scope of Document

This document represents A.I.D.'s Strategic Information Resources Management Plan for fiscal years 1991 through 1996. It includes the plans for providing information management support in the interrelated disciplines of information resources management program management, information management, hardware, software, and telecommunications to both A.I.D./W and the missions.

1.2 Objectives of Plan

The objectives of the A.I.D. Strategic Information Resources Management Plan are to:

- . Forecast information needs and resources to meet Agency long-range goals
- . Improve service delivery and program management
- . Increase productivity
- . Reduce waste and fraud
- . Decrease the information processing burden for the Agency and for persons who provide information to the Agency.

The Plan will organize and coordinate the activities of A.I.D. in accomplishing the identified Agency mission and goals.

1.3 Approach and Methodology

The A.I.D. Strategic Information Resources Management Plan was developed following the concepts and structure of GSA's Strategic Information Resources Management Planning Handbook (Revised), October 1987. The study team reviewed a wide range of A.I.D. plans, studies, reports, budgets, and other supporting documents, to gain an understanding of the mission, goals, functions, activities, and environment of A.I.D. A representative list of the documents reviewed is provided as Appendix A. With this background information, the team then conducted approximately 100 interviews with A.I.D./W and mission managers and staff to confirm its understanding of the Agency environment and to obtain information concerning the Agency's information resources management capabilities and needs. The team also interviewed key information resources management managers in the Department of State to assure that this plan takes into account DOS plans. The list of interviewees is included as Appendix B.

From the document reviews and interviews, the team identified a number of information resources management issues, problems, and opportunities that needed to be addressed in the strategic information resources management planning horizon. The team verified these issues, problems, and opportunities through meetings with information resources management managers and the IMC. The team then confirmed or revised A.I.D. information resources management strategies to address those issues, problems, and opportunities. From the strategies, the team identified a series of initiatives or activities. The IMC validated the activity list and the team developed supporting activity sheets, to identify the resource requirements for each activity. Finally, information resources management senior management personnel and the IMC conducted a series of validation reviews before the team finalized the Plan.

This Plan is organized as follows:

- Section 2 - Agency Mission and Organizational Overview - provides a business overview of A.I.D.
- Section 3 - Current Information Resources Management Environment - provides an assessment of the program elements of information resources management program management, information management, hardware, software, and telecommunications, and a listing of fiscal year 1990 information resources management accomplishments by program element.
- Section 4 - Strategic Information Resources Management Plan - provides a discussion of information resources management governing policies, goals, strategies, planning assumptions, and the initiatives for fiscal years 1991 through 1996. Each initiative is further described on a supporting Information Resources Management Activity Sheet, which contains cross references to business needs, schedules, funding and personnel requirements, and benefit/cost information.

2. AGENCY MISSION AND ORGANIZATIONAL OVERVIEW

This section of the A.I.D. Strategic Information Resources Management Plan contains information on the Agency's mission, functions, activities, goals, and organizational structure, from both an overall and information resources management-specific point of view. While the mission and function statements listed below are not precisely those detailed in legislation and the A.I.D. Handbooks, they more accurately reflect the true nature of the work performed by A.I.D. personnel, as confirmed through the interview process.

2.1 Mission

The Agency for International Development administers economic assistance programs that combine an American tradition of international concern and generosity with the active promotion of America's national interests. A.I.D. assists developing countries to realize their full national potential through the development of open and democratic societies and the dynamism of free markets and individual initiative. A.I.D. assists nations throughout the world to improve the quality of human life and to expand the range of individual opportunities by reducing poverty, ignorance, and malnutrition.

A.I.D. meets these objectives through a worldwide network of country missions which develop and implement programs guided by six principles:

- . Support for free markets and broad-based economic growth
- . Concern for individuals and the development of their economic and social well-being
- . Support for democracy
- . Responsible environmental policies and prudent management of natural resources
- . Support for lasting solutions to transnational problems
- . Humanitarian assistance to those who suffer from natural or man-made disasters.

A.I.D.'s mission as a foreign affairs agency of the United States Government is to translate into action the conviction of our nation that continued American economic and moral leadership is vital to a peaceful and prosperous world.

2.2 Goals

The Agency's ultimate goal is a world in which economic growth and development are self-sustaining and the extremes of poverty have been eliminated. The Agency recognizes, however, that not all countries will be equally prepared to move forward along the same lines. Country and regional differences must be taken into account in designing assistance programs which will help meet this goal.

The Agency has identified the following problems on which to focus its efforts: inadequate income growth; hunger; health deficiencies, especially infant and child mortality; illiteracy and lack of education; unmanageable population pressures; and diminishing natural resources (environmental problems).

A.I.D. has oriented its approach to emphasize four basic programmatic components:

- . Policy Dialogue - When a country requests assistance, A.I.D. works with its leaders to design and implement policy reforms that permit development to succeed.
- . Democratic Pluralism - A.I.D. encourages and assists with the building of institutions that help the people directly concerned with the institutions and in which these people are active participants. This includes everything from local credit unions and school boards to the democratic selection of leadership.
- . Technology: Research, Development, and Transfer - Through both U.S. and host country institutions, A.I.D. promotes technology development directed at specific country problems. Special attention is given to the application of modern research tools, such as biotechnology, to removing major impediments to development.
- . Reliance on the Private Sector and Market Forces - A.I.D. encourages governments to place greater reliance on free market forces and the indigenous private sector as the principal engines of sustainable development.

Based on the problems and approaches identified above, A.I.D. has established the following goals for the Agency:

- AG1** Emphasize the measurement of goals through the assessment of performance and impact, in order to realize:
 - . Broad-based, market-oriented, sustainable growth
 - . Democratic pluralism
 - . Population balance
 - . Economic balance
 - . Ecological balance
 - . Human resources development.
- AG2** Focus on integrated views of development problems; emphasize program over project management; emphasize integration with donors, the private sector, and foreign entities to maximize growth.
- AG3** Strengthen the trend to decentralized, country-based assistance; streamline operations and focus resources in Washington to support/maximize country-specific assistance objectives.

These goals can only be achieved through the sound management and control of the limited resources made available to the Agency. Therefore, A.I.D. will strengthen its capacity to acquire, accumulate, and distribute information on development programs, projects, and experiences, as well as information necessary to manage and control A.I.D. resources.

2.3 Functions and Activities

The functions which support the accomplishment of A.I.D.'s mission are as follows:

- E1** Provide development and economic support and assistance to recipient countries in the areas of: agriculture, rural development, and nutrition; health; population planning, education, and human resource development; energy; natural resources and the environment; and private enterprise
- E2** Administer U.S. government commodities programs to recipient countries
- E3** Plan and implement overseas disaster relief, rehabilitation, preparedness, early warning, and mitigation in countries stricken or threatened by natural or man-made disasters
- E4** Support research to explore potential uses of emerging technologies for development, and projects to strengthen the capacity of recipient countries to broaden the range of technologies in use and take advantage of new technologies
- E5** Conduct personnel management activities in support of other A.I.D. functions
- E6** Conduct financial management activities in support of other A.I.D. functions
- E7** Conduct contract and commodity management activities in support of other A.I.D. functions
- E8** Conduct information resources management activities in support of other A.I.D. functions
- E9** Integrate and manage all A.I.D. functions.

A detailed list of the activities which support each of the above functions is provided as Appendix C.

2.4 Organizational Structure

The Agency for International Development is composed of two units: the headquarters organization (A.I.D./Washington); and the field organization (overseas missions (U.S.A.I.D.s) and offices).

2.4.1 A.I.D./Washington

The Agency's headquarters organization is composed of staff offices, functional bureaus, and regional bureaus. The purpose of this organization is to:

- Provide policy, procedure, and standards guidance
- Assist in the development of programs and projects for the field organization
- Pursue technological and scientific initiatives to further specific A.I.D. goals

- . Provide information to Congress, the public, and other interested parties concerning A.I.D. work
- . Provide staff support to headquarters and field personnel in terms of finance, personnel, contracting, and information resources management.

The information resources management structure for A.I.D./W is complex and includes the following elements:

- . Assistant to the Administrator for Management Services - senior information resources management official responsible for MS/MO and MS/IRM
- . Information Management Committee - composed of representatives, generally at the Deputy Assistant Administrator level, of the major A.I.D./W offices and bureaus
- . Director of Office of Information Resources Management - supervises seven division-level organizations providing automation services, primarily in the administrative support area
- . Development Information and Evaluation Division - within the Bureau for Program and Policy Coordination (PPC), provides automation services/support and "institutional memory," primarily in the program support area
- . Director of Office of Management Operations - supervises offices responsible for records management, telecommunications, mail and distribution, and publications
- . Data Administration Coordination Unit (DACU) - within the Bureau for Program and Policy Coordination - responsible for establishing an Agency-wide data administration program
- . Systems Administrators - within various offices/bureaus - responsible for day-to-day operations of distributed systems
- . User Offices - any office or bureau which has a need for information resources.

The Agency's proposed headquarters organization is depicted in the chart provided as Exhibit 2-1.

2.4.2 Overseas Missions and Offices

The A.I.D. field organization consists of the following types of A.I.D. units:

- . A.I.D. Country Organizations - located in countries where A.I.D. is carrying out bilateral economic assistance programs. The three types of A.I.D. country organizations are:
 - .. A.I.D. Missions
 - .. A.I.D. Offices
 - .. A.I.D. Sections of Embassy.

The different types of organizations are determined by the nature of the program being provided and the level of assistance being offered to the individual country.

AGENCY FOR INTERNATIONAL DEVELOPMENT

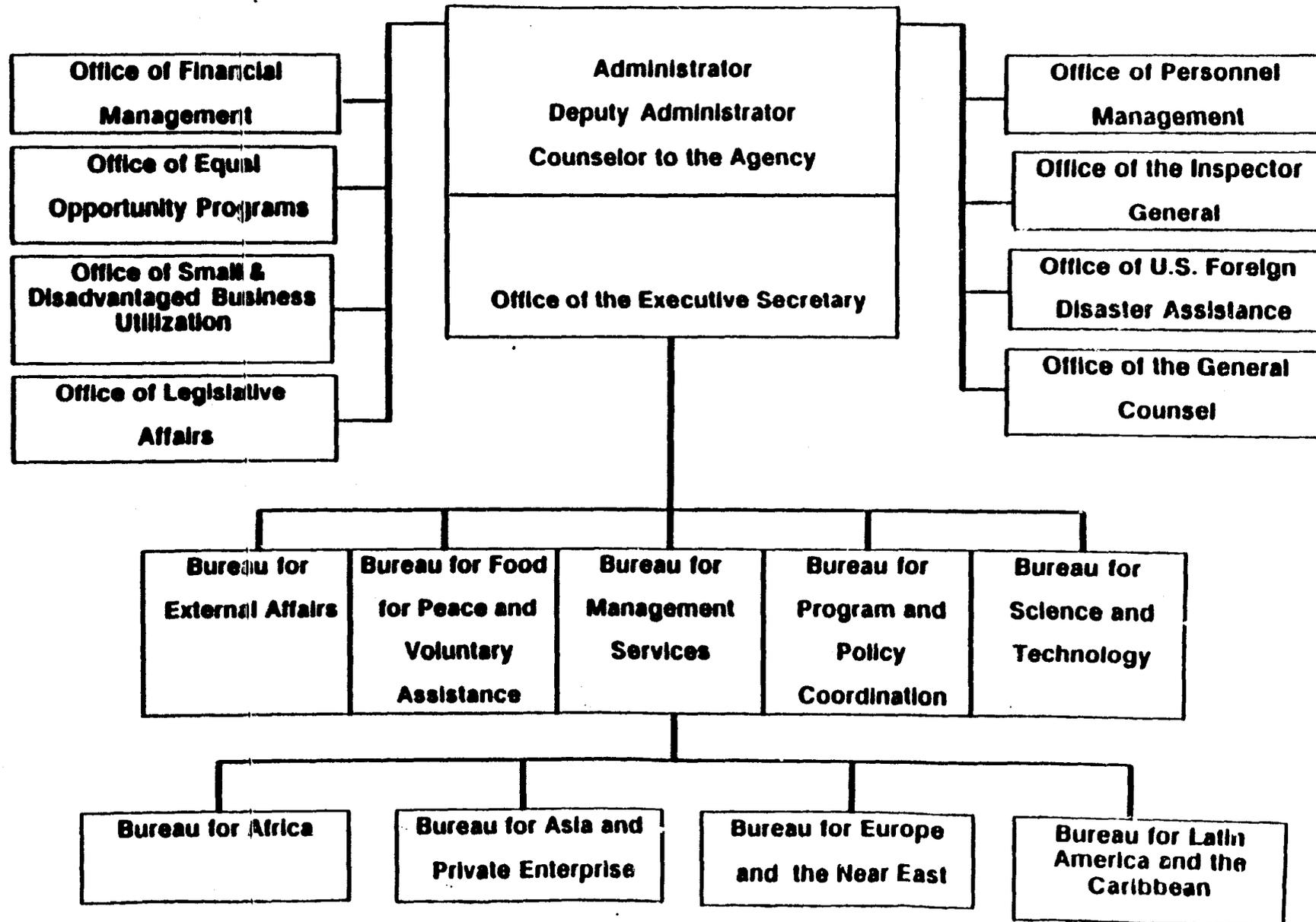


Exhibit 2-1

- . **Offices for Multicountry Programs** - established to administer A.I.D. overseas program activities which involve more than one country.
- . **Offices for Multicountry Services** - established at overseas locations to provide service to other A.I.D. overseas organizations.
- . **Development Assistance Coordination and Representation Offices** - established to maintain liaison with various international organizations and to represent U.S. and A.I.D. interests in development assistance matters.

The information resources management structure for the field organization is based on the particular needs of the individual mission or office. In most cases, the organizational unit responsible for computer operations is the Executive Office, while in others, it is the Controller's Office. Similar to the headquarters organization, however, the various disciplines which comprise information resources management, e.g., computer operations, telecommunications, records management, etc., are usually not managed by one office.

A listing of the units which comprise the A.I.D. field organization is provided by geographic region as Appendix D.

3. CURRENT INFORMATION RESOURCES MANAGEMENT ENVIRONMENT

The current information resources management environment is described in two parts: an assessment of A.I.D.'s information resources management program and a description of A.I.D.'s information resources management program accomplishments during fiscal year 1990. Each of these parts is described in terms of information resources management program element, which is GSA's basic framework for an agency's information resources management program and the planning effort associated with that program. A definition of each of the five information resources management program elements is provided below.

Information Resources Management Program Management (IPM)

Activities related to the overall management and control of the information resources management program, including information resources management organization(s); development and implementation of policies, procedures, and standards; planning; budgeting; security; and training activities.

Information Management (IM)

The overall management and control of the investment in information, including the identification and sharing of management information needs; ensuring the standardization, control, security, and integrity of data stored or manipulated; statistical and records management activities; and the privacy of records and freedom of information.

Hardware (H)

Activities which relate to the ongoing operation, enhancement, modification, addition, removal, or maintenance of equipment supporting information systems.

Software (S)

Activities which relate to the acquisition, development, ongoing operation, enhancement, modification, conversion, or maintenance of computer programs.

Telecommunications (T)

The specification, design, implementation, and ongoing management of equipment and services used to provide data and voice communications.

While the five information resources management program elements have discrete definitions, there are areas in each which overlap similar areas in others. Accordingly, the discussion of one information resources management program element often references another, in order to provide full information on the impact that a particular item may have on the entire program.

The inventories for A.I.D.'s hardware and software are contained in documents cited in Appendix A, Document Review List. Due to their size, a listing of these inventories is not included in the Strategic Information Resources Management Plan.

3.1 Current Assessment

This section provides a broad assessment of A.I.D.'s information resources management program by program element. Many of the identified issues, problems, and opportunities cross program elements and are discussed under the program element which appears to be impacted most significantly.

From an overall perspective, A.I.D. has an ongoing ambitious agenda of activities in all of the technology programs; however, the Agency lacks the infrastructure (organization, defined roles and responsibilities, policies and procedures, architectures, etc.) to assure that the agenda is well-rationalized, manageable, and implementable. The infrastructure issues and problems are significant and need to be addressed expeditiously; however, none is so severe as to require the curtailment of the ongoing technology-related initiatives.

3.1.1 Information Resources Management Program Management

This section covers broad issues, problems, and opportunities in the information resources management areas of integration; organization; roles and responsibilities; planning; budgeting; security; training; and policies and procedures.

Roles and Responsibilities

The major problem in this program element relates to the lack of integration of the information resources management disciplines and lack of definition of roles, responsibilities, and relationships of the major information resources management organizational entities. Examples of this problem are listed below by each major entity.

Senior A.I.D. Information Resources Management Official - The role this individual is to play in integrating the information resources management functions and disciplines not within his direct line authority, i.e., programmatic automation and data administration, is unclear.

Information Management Committee - This committee is relatively new and is trying to define its role beyond approving and prioritizing budgetary initiatives for MS/IRM. It is unclear whether the scope of the IMC's charter includes all of the information resources management disciplines, such as telecommunications and programmatic automated data processing (ADP). It is also unclear if this Committee has decision-making authority or only advisory responsibility relative to information resources management policies, procedures, and standards. Further, it is unclear whether the IMC adequately represents the interests of the missions and smaller A.I.D./W offices.

Office of Information Resources Management - The most ambiguous sets of roles and responsibilities in this organization are those of the Director, the "client analysts," and software development.

The Director's role, responsibilities, and relationships with the other automation managers, i.e., CDIE and DACU, are unclear.

- .. The "client analysts" have been assigned a wide range of responsibilities, from systems analysis to "trouble shooting" software and hardware problems. So wide-ranging are these responsibilities that, in some cases, understanding between the clients and client analysts concerning roles and responsibilities is not accurate. The fact that the client analysts are assigned to MS/IRM, but are expected to represent the interests of their clients, exacerbates this lack of clarity of responsibilities and often places the client analysts in a difficult position.
- .. Software development responsibilities are shared by several offices within A.I.D. This has led to inconsistent development and application of standards and procedures, and inefficiencies in the development and maintenance of applications.

Center for Development Information and Evaluation - While this organization's primary function is to provide "institutional memory" and research and library services, it also provides ADP operations to support its Development Information Program. As an ADP operator, this office performs facilities and operations management functions that parallel those performed by MS/IRM. This arrangement does not take advantage of possible economies of scale in facilities and operations management. In addition, the organization is not subject to functional oversight by the IMC and, thus, can make autonomous budget decisions. A positive aspect of this independence has been the introduction of a form of chargeback for services, that raises the visibility of the cost of information services and makes these services a subject of functional management concern.

Office of Management Operations - This office is nominally in charge of all telecommunications services in A.I.D.; however, it has delegated data communications responsibility to the automation offices. Further, this office essentially has no planning or engineering capability, since the Department of State is responsible for much of the telecommunications service. There are ongoing discussions regarding the utility of integrating the telecommunications element of MS/MO with MS/IRM. A.I.D. should complete this action soon; addressing the integration of the other information resources management disciplines (records management, mail and distribution, and publications, which are also MS/MO responsibilities) is being deferred.

Data Administration Coordination Unit - The relationship between this new function and the other information resources management organizations is tentative at best. Illustrative of this situation is the fact that MS/IRM has initiated an action to procure a relational database management system (RDBMS) and had not planned to coordinate that action with the newly created DACU. This could have resulted in the acquisition of an RDBMS that did not address the data dictionary needs of data administration and, potentially, in the need to acquire another DBMS.

Systems Administrators - A.I.D. needs to clarify the relationships among the systems administrators, technical support staff, and client analysts, since all have trouble-shooting and support responsibilities.

User Offices - The relationship between user offices and client analysts is not clear. Several user personnel indicated that they did not understand what the client analysts' roles and responsibilities were. The users generally would like the client analysts to be more knowledgeable of the office/bureau functions and act in a proactive manner in identifying and providing increased information support. They would like the client analysts to have more freedom to assist them in obtaining support, as opposed to what they perceive as performing a control function.

The IMC and many user offices have expressed a desire to have systems analysts assigned to the bureaus and offices. MS/IRM is currently considering this possibility.

The role of the user offices in the development cycle is also unclear, partly because of the deficiencies identified below regarding the life cycle development methodology. User participation in the cycle after the requirements definition phase is generally passive until the test phase. This passivity has proven to elongate the development process, since system changes identified during the test phase are more costly and time consuming than they would be earlier in the cycle.

Missions - There are similar information resources management organizational issues in the field. Often, the roles and responsibilities of personnel assigned to an information resources management function are unclear, inappropriate, or too narrowly construed to foster or allow proactive, comprehensive information resources management assistance.

The issues and concerns cited above illustrate the need for a general redefinition and clarification of roles and responsibilities and, possibly, the need to integrate and reorganize the information resources management functions of A.I.D.

Agency Planning

A.I.D. does not have an identifiable strategic or business planning process in place; consequently, there is no consistent vehicle for providing clear business goals from which a support function, such as information resources management, can derive its strategic and tactical direction. One of the first actions the new Administrator took was to begin to develop a consensus document outlining the mission of A.I.D. and some high-level objectives.

A.I.D. needs to continue with the Administrator's initiative by finalizing the consensus document and developing an Agency-wide strategic plan.

Information Resources Management Planning

A.I.D. does not have a strategic or tactical information resources management planning process in place. This Strategic Information Resources Management Plan is the latest in a series of ad hoc efforts to develop a strategic information resources management plan as a project. Most information resources management planning efforts have been undertaken as a part of the budget cycle and have been essentially tactical in nature, that is, they have addressed funding needs for the next two to three years. There is no process that defines business processes, organizational responsibilities and critical success factors, information flows, and other key elements of information needs as a basis for formulating and maintaining a strategic information resources management plan. Further, A.I.D. has not developed information, data, application, hardware, and telecommunications architectures as a basis for formulating, prioritizing, and maintaining a tactical plan.

The word "architecture" in this document refers to a high-level framework or blueprint which shows how various information system components fit together. Establishing information, applications, data, and delivery systems architectures will:

Provide visibility to business processes, data flows, and relationships and permit the identification and bounding of application systems and data bases (information architecture)

Provide boundaries for applications, reduce application duplication, and facilitate prioritization of development efforts, including identification of core systems to be under central control and support systems that are in the user domain (application architecture)

Provide boundaries for logical data bases, reduce data duplication, and facilitate prioritization of data base development efforts, including identification of core data to be under central control and support data that are in the user domain (data architecture)

Provide identification of locations of similar types of agency organizations, and identification of data and processing needs by location, which becomes a means to rationalize hardware and telecommunications configurations and distribution (delivery system architecture).

A.I.D. needs to undertake an effort to educate the staff on the value of an information systems plan and conduct an ISP in FY 1991, to develop the information architectures which would be the underpinnings for the next iteration of this Strategic Information Resources Management Plan. The Agency also needs to develop and institutionalize an information resources management planning process that contains strategic, tactical, and operational components.

Budgeting

Funding for the information resources management program comes under two separate budget programs - operating expenses and program funds. The majority of information resources management expenses fall under operating expense budgets. Exceptions include CDIE and projects that are part of development initiatives in support of recipient countries. Operating expense funds are very limited. Funding a major information resources management initiative, such as upgrading a minicomputer or installing local area networks, is not generally possible within the mission or office's funding capability.

This type of initiative should be centrally justified and programmed. A.I.D. should explore a strategy wherein MS/IRM is responsible for centrally funding infrastructure activities (capability to develop strategies, plans, architectures, standards, policies, and procedures) and user bureaus/offices/missions fund local initiatives consistent with the infrastructure.

Additionally, although MS/IRM is charged with certain responsibilities in the programmatic area, there is no direct funding for these activities in the MS/IRM budget.

A.I.D. needs to include program funds for information resources management-related activities in the MS/IRM budget.

Prioritization and Resource Allocation

The 1989 Deobligation/Reobligation action was the first significant effort on the part of the user community, as represented by the IMC, to participate actively in the allocation of resources related to applications development. However, approximately \$12 million are programmed each year for operations and maintenance contract support (primarily non-discretionary items), and essentially all of these funds are used without oversight outside of MS/IRM.

A.I.D. needs to institutionalize a similar participatory process for the allocation of resources to information resources management software maintenance efforts.

Policies, Procedures, and Standards

A number of information resources management policies, procedures, and standards are either nonexistent or unclear. MS/IRM has undertaken a project to review and index existing automation policies, procedures, and standards.

MS/IRM needs to expand the review and indexing project to include all information resources management disciplines (automation, data, and telecommunications), as well as to align information resources management policies and procedures with current and evolving strategies. Standards will be discussed under the appropriate information resources management program element.

In the policy area key items include:

- A.I.D. needs to undertake redefinition of the relationships and management of the information resources management disciplines (automation, communication, data, records management, printing and publications, graphics), to integrate more closely these disciplines, whose distinctive technological characteristics are blurring. This redefinition relates to the discussion of organization and roles and responsibilities above.
- Existing policies and controls make using DOS's cable system for unclassified text and data traffic very time consuming and cumbersome. The technology exists to facilitate exchange of project planning and control information to improve coordination of projects and programs, but the policies under which the "cable system" works reflect procedures necessary in the diplomatic environment but not equally applicable to the development environment.
- Hardware and software procured with program funds are not currently part of the information resources management inventory. Including hardware and software in the inventory will reflect the "real world" and facilitate the planning process.

Controlling, Including Project Management

A.I.D. has not defined an overall control process for its information resources management projects nor a project management system, although the Bureau for Management Services has instituted a management by objectives (MBO) process that covers many key MS/IRM and MS/MO projects.

A.I.D. should closely link the definition of an information resources management control process to the correction of the deficiency regarding the LCDM, discussed below, and user participation, discussed under Software, since most information resources management projects involve the development cycle. Introduction of a project management process should increase visibility of project status, permit early identification of potential problems and corrective actions, and result in more timely delivery of new capabilities. Implicit in the definition of a control process is the need to define roles, responsibilities, and authority in the process.

Life Cycle Development Methodology/Tools

The current A.I.D. LCDM was developed in the mid-1970s and has not been updated to reflect new techniques and concerns in the development cycle, such as prototyping, data modeling, off-the-shelf software selection, and differences between major and minor development efforts. Further, the LCDM has not been modified to reflect clearly the roles and responsibilities of the various offices sharing development responsibilities, nor to define clearly the decision points and decision makers during the development cycle. The lack of a viable LCDM has resulted in increased cost and unnecessary delays in the development of mission-critical systems. This problem is exacerbated by the fact that A.I.D. relies substantially on contractors to develop and maintain its systems. Contractors are limited in that they normally experience a higher turnover rate than in-house personnel, and they do not normally have the "corporate" memory, which allows an organization to pass on informal institutional practices.

A.I.D. needs to initiate a project to define LCDM requirements and characteristics in the A.I.D. environment; compare and evaluate characteristics and requirements to current and commercially available LCDM methodologies and tools; acquire a new or modify the current LCDM; and acquire appropriate supporting CASE tools. The methodology and tools should also accommodate the needs of end users in the development and maintenance of minor, non-core systems and applications.

Centralization vs. Decentralization

Centralization vs. decentralization is a key issue at A.I.D. The MS/IRM functions and the telecommunications function are highly centralized, in an agency that espouses a philosophy of increasingly decentralized authority. The user community perceives MS/IRM and the telecommunications organization as primarily "gate keepers," as opposed to active facilitators of providing information capabilities.

These organizations need to change their operating philosophies to balance better the two roles. Several changes are necessary to permit a more balanced approach, the most critical of which are the establishment of architectures and standards, and the active participation of the user community through the IMC in policy-making decisions.

The lack of these architectures has resulted in duplication of effort in the development cycle (overlapping and duplicate systems and data bases/files), increased data entry and inconsistent data, difficulty in rationalizing/justifying delivery system configurations and their distribution, and difficulty in prioritizing and assigning responsibility for development and acquisition efforts.

Once architectures are in place, MS/IRM can better rationalize standards (software, data, hardware, and telecommunications) and become facilitators of increasing information availability and exchange as opposed to controllers. A.I.D. is struggling with standards issues, such as "open" vs. proprietary hardware architectures, standard vs. uncontrolled off-the-shelf software, and data base management systems. These issues can be best resolved through an architecture approach. Their resolution will greatly facilitate the development of policies regarding decentralized control within the boundaries of the architectures and standards.

Architectures and standards have both business and technical ramifications that require active participation of the user community (IMC) and the information resources management community in their development and institutionalization. They permit the rational development of policy for centralized or decentralized functions.

Among the policy issues that need to be addressed in terms of centralization vs. decentralization are:

- . Operation and trouble-shooting of decentralized equipment
- . Performance of feasibility studies and requirements analysis
- . Development and maintenance of single-user systems
- . Allocation of funding for decentralized functions.

Security

A.I.D. has undertaken an ambitious program to rectify several security problems identified by the National Security Agency (NSA). Included in that program have been training sessions, changes in procedures and access rules, and an analysis of disaster recovery alternatives.

These initiatives need to be continued.

Training

Training was the most frequently mentioned area of concern during the A.I.D.-wide fact-finding effort. While A.I.D. has a substantial information resources management training program and has made significant progress in training in recent years, it is still a problem area. Information resources management training/education is required at all levels of the organization. Executives through the IMC level need training to understand better their roles in providing direction and oversight to information resources management. Users need training on the tools available to them, both commercial and custom built, and on the potential uses of automation to assist them in performing their work. Systems managers need in-depth training in all the systems for which they are responsible. (This problem is particularly acute in overseas missions, where local nationals generally fill these critical positions, and language and cultural barriers may impede A.I.D.'s ability to provide appropriate training.)

Information resources management staff need to keep abreast of current technology to provide assistance and to act in advisory roles.

3.1.2 Information Management

This section covers broad issues, problems, and opportunities in the information resources management areas of data, data administration, and records management.

Data Administration

A.I.D. has only recently recognized data administration as a critical function within A.I.D. The data administration function has not yet established an environment that is supportive of the objectives of data standardization, data sharing, and data stewardship. Efforts are underway to:

- . Identify and document the requirements for an A.I.D.-wide data dictionary system
- . Develop policies and procedures for initiating a data administration program
- . Develop a data standards program.

A.I.D. is formulating follow-on initiatives to:

- . Institutionalize the programs
- . Document key data currently existing in data files in a data dictionary to facilitate data access
- . Develop data models in parallel with major applications development efforts, e.g., a financial data model for AWACS.

Continuation of data administration initiatives in this area is necessary to increase the accuracy and accessibility of data and to reduce the duplication characteristic of current data files and systems.

Data Architecture

A.I.D. has no data architecture. See the discussion of architectures under Section 3.1.1., above.

Data Base Administration

MS/IRM recognizes this function as a requirement; however, no Data Base Administrator (DBA) exists. Four systems have been or are being developed for the Integrated Data Management System (IDMS) environment. While they are not major or core systems, their effective operation will require the designation of a DBA.

MS/IRM needs to revalidate and fill this key position.

Data Base Management System

A.I.D. has several data base management systems - IDMS and Inquire (IBM mainframe environment), PACE (Wang VS environment), and various micro-based DBMSs, including dBASE III PLUS. As mentioned above in the discussion of roles and responsibilities under information resources management program management, MS/IRM has initiated an action to procure an RDBMS that will operate on any of the four platforms projected to be in its hardware delivery system (IBM-compatible mainframes, POSIX-based minicomputers, LAN-based microcomputers, or stand-alone microcomputers).

The coordination of this procurement with data administration should assure the acquisition of a DBMS which meets the data administration needs for a data dictionary. However, A.I.D. is taking a calculated risk that the RDBMS acquired will be able to satisfy the needs of its largest potential user - AWACS - for which a functional requirements document has not yet been developed.

Modeling Methodologies/Tools

A.I.D. has not identified the need for data modeling methodologies and tools.

The ongoing task to develop policies and procedures for the data administration function should identify this need.

Records Management/Privacy/Freedom Of Information Act

A.I.D. has an active records management program in MS/MO. One of its major initiatives is to seek out new technologies to improve this function, including micrographics and CD-ROM. MS/MO is performing much of this work in conjunction with CDIE, which is concerned with accessing program records.

The increasing availability of electronic mail (E-Mail), facsimile (FAX), and other electronic media exchanges has become a "two-edged sword." The user community has found these tools to be effective in expediting actions and communications. However, many DOS and some A.I.D. managers view them as major problems from cultural, control, and record keeping standpoints. MS/MO is participating in an intra-departmental working group considering these and other issues in developing a framework for the use of electronic media.

This issue underlines the need for increased coordination of the information resources management disciplines. A.I.D. should recognize the utility of these evolving technologies and develop appropriate policies and procedures as part of the electronic media framework which the intra-agency working group is developing.

3.1.3 Hardware

This section covers broad issues, problems, and opportunities in the information resources management areas of hardware, hardware acquisition, executive software, and facilities management.

Delivery System Architecture

A.I.D. has a "de facto" three-tier delivery system architecture and is evolving to an interim four-tier architecture that includes LANs and LAN servers. The three-tier architecture consists of an IBM MVS mainframe, Wang VS minicomputers, and a variety of IBM-compatible MS-DOS PCs. The four-tier architecture toward which A.I.D. is evolving is not based on a structured analysis; consequently, A.I.D. is struggling to rationalize the architecture and establish standards to move toward a more "open" environment.

The ultimate objective is an "open" architecture conforming to GOSIP and POSIX standards, eliminating the minicomputer tier as the capacity of file servers grows to accommodate the departmental or mission-wide application and data base needs. GOSIP is a Federal standard whose objectives include achieving interconnection and interoperability of computers and systems that are acquired from different manufacturers and reducing costs of computer network systems by increasing alternative sources of supply. POSIX is a Federal standard whose objectives include promoting portability of computer application programs across computers and reducing training and conversion costs for applications development personnel.

The evolving or intermediate architecture strategy is as follows:

A.I.D./W

- . IBM-compatible/MVS mainframe to support centralized systems, shared data bases/files, and some electronic mail functions
- . Departmental or shared departmental minicomputers (Wang) to support departmental applications (currently operating under Wang VS, but with an objective to move to a POSIX-based operating system)
- . Office and departmental LANs to support office automation requirements (word processing, spreadsheet, graphics, E-Mail, calendaring, a wide area network (WAN), including connectivity to the central computer
- . Intelligent MS-DOS work stations for each employee requiring such a capability. These work stations will be connected to a LAN, if necessary.

Missions (large to mid-sized)

- . Minicomputers to support mission-wide applications (currently operating under Wang VS, but with an objective to move to a POSIX-based operating system)
- . Mission-wide or departmental LANs to support office automation requirements (word processing, spreadsheet, graphics, E-Mail, calendaring, etc.). Gateways will be provided to connect LANs into a WAN, including connectivity to the mission minicomputer or A.I.D./W central computer
- . Intelligent MS-DOS work stations for each employee requiring such a capability. These work stations will be connected to a LAN, if necessary.

Missions (mid-sized to small)

- . Mission-wide LANs to support applications and office automation requirements (word processing, spreadsheet, graphics, E-Mail, calendaring, etc.). Gateways will be provided to connect LAN to the A.I.D./W central computer
- . Intelligent MS-DOS work stations for each employee requiring such a capability. These work stations will be connected to the LAN, if necessary.

This interim four-tier architecture will likely remain in place for several years because of several factors, including the capital investment in Wang minicomputers, the time and funding needed to convert from a minicomputer to a PC environment, and the time and funding needed to acquire and install the replacement LANs.

Since the "open" systems standards are evolving with technology and A.I.D. will retain the interim architecture for several years, it is difficult to define the objective architecture beyond a conceptual level. Conceptually, the objective architecture will be composed of:

- Components that comply with the Federal "open" systems standards
- Distributed computers sized to meet centralized and decentralized computing and storage needs
- A wide area network connecting A.I.D./W with the missions and local area networks within bureaus, offices, and missions.

Capacity Planning

This function appears to be marginally adequate in the IBM mainframe environment, although discussions with the AWACS project manager indicated that coordination had not been opened with MS/IRM to facilitate planning for this major system. This also reflects the need for a LCDM, which identifies this coordination requirement.

This function is inadequate in the minicomputer environment as reflected by the fact that several minicomputer-based systems are now, or soon will be, available to support mission requirements, but minimal effort has been made to identify and program funds to support additional capacity to permit the installation and operation of these needed tools.

Replacement Strategy

The above hardware strategy implies a replacement strategy for minicomputers, from Wang VS to LAN servers. At the work station level, the strategy dictates the replacement of aging PCs with LAN compatibles.

Procurement

A.I.D. has historically used DOS requirements contracts as the vehicle for obtaining PCs and minicomputers. DOS is currently in the acquisition process for a new generation of PCs and LANs.

To the extent that the DOS contract, when awarded, satisfies A.I.D.'s delivery system strategy, it will be used; otherwise, A.I.D. should initiate new procurements.

3.1.4 Software

This section covers broad issues, problems, and opportunities in the information resources management areas of applications and applications development.

Application Architecture

A.I.D. has no application architecture. See the discussion of architectures under Section 3.1.1., above.

Application Portfolio Analysis

A.I.D. has no program to perform portfolio analysis, that is, the analysis of the effectiveness, both functionally and technically, of its current applications portfolio; the effect of aging on the portfolio; and the identification of potential new applications. The planned ISP study should provide the first cut at such an analysis; however, this process should be institutionalized after that initial effort.

Lacking this mechanism for identifying application needs, A.I.D. relies on functional managers to identify system needs and deficiencies in an ad hoc manner. Among the identified needs are:

- . Replacement for the Financial Accounting and Control System (FACS)
- . Program Officers' control system for missions
- . Mission administrative management system for Executive Officers
- . Socio-economic system to assist in establishing base lines for mission economists and program and project managers
- . Replacement for the Revised Automated Manpower and Personnel System (RAMPS)
- . An A.I.D.-wide correspondence tracking system.

A.I.D. needs to validate these requirements through the systems development process.

Applications

A.I.D. personnel develop applications in many different environments, including COBOL, IDMS, and INQUIRE on the mainframe; COBOL and PACE on the VS machines; and a wide variety of commercial software (dBASE III PI.US, Lotus 1-2-3, etc.) on the PCs. Essentially all of the divisions of MS/IRM, CDIE, and frequently users share responsibility for the development of applications. Generally, contractors develop applications without the benefit of A.I.D. standards or a consistent quality assurance approach.

A.I.D. needs to stabilize its development environment in terms of languages, tools, organizational responsibilities, and quality assurance procedures.

Conversion

The adoption of the hardware strategy, described under Section 3.1.3, above, will require the initiation of a conversion program to move from a Wang VS environment to a POSIX environment, and from a minicomputer-based environment for major applications to a file server environment. Additionally, systems managers will have to initiate a conversion program to move word processing from the Wang environment to the LAN environment.

3.1.5 Telecommunications

This section covers broad issues, problems, and opportunities in the information resources management areas of voice/data/text communications.

Network Architecture

The last formal evaluation of the Agency's telecommunications requirements was conducted in 1984 and is very much out of date. A reevaluation of these needs is required. However, the reevaluation should not be a readjustment of the current network; rather it should be a redesign effort undertaken in concert with A.I.D.'s strategic initiatives. See the discussion of architectures under Section 3.1.1., above.

"Open" Systems Architecture

As of August 15, 1990, Federal agencies acquiring data communications products will be required to follow GOSIP standards, defined in Federal Information Processing Standards (FIPS) Publication 146. Through GOSIP, a common set of data communications protocols and applications will allow systems developed by different vendors to inter-operate. Implementing GOSIP-certified products is expected not only to allow Federal agencies to "mix and match" products from different vendors, but also to increase competition, make technical specifications easier to write and understand, reduce system and network development time, shorten system checkout and installation by providing a defined performance base, and enhance maintainability.

Voice and Data Communications

Separate organizations within A.I.D. - MS/MO and MS/IRM - manage voice and data communications, respectively. (MS/IRM, however, does not have the planning, budgetary, and implementation responsibility for the transmission media that support data communications.) Because of the increasingly integrated nature of all forms of communications, many organizations have merged communications services into a single operating unit. The rationale for such a merger includes:

- . Voice and data communications services are increasingly delivered via the same physical media, e.g., a T-1 facility
- . Certain types of communications-related problems are not easily discernible between equipment and lines and, to the extent that the two are managed separately, trouble shooting problems can be cumbersome
- . Development of Agency-wide communications strategic and tactical plans will necessarily require a high degree of coordination between voice and data communications services
- . Resources to plan, design/engineer, and oversee implementation of communications plans are in short supply, and A.I.D. should fully and effectively utilize these scarce skills.

Department of State Relationship

National security directives currently mandate that DOS be the provider for international telecommunications support for the U.S. Government. A.I.D./W uses the DOS System 85 PBX to control on-site calls and as a gateway for all local, domestic, and international calls. A.I.D. is completely dependent on DOS to resolve all management issues - operational, financial, and technical - relating to the System 85 PBX network. A.I.D. has become increasingly concerned with the rising cost of and difficulty in controlling this capability. Several factors contribute to this lack of control:

- . Dependence on a third party (DOS) for resolution of virtually all telephone system-related issues
- . Lack of specificity relating to telephone system budgets and financial reports
- . Lack of well-defined operational and budgeting procedures, as well as sufficient staff and resources to manage voice communications.

A.I.D. needs to participate actively in defining telecommunications requirements that should be incorporated as part of the follow-up contract for support of the System 85 network.

Due largely to its dependence on DOS and its lack of engineering skills, A.I.D. has been unable to budget effectively for or obtain consistent actual expense data for its voice communications. Additionally, certain expense categories appear to have associated unit costs that are substantially higher than services available from the private sector. For example, the FTS 2000 estimated unit cost is 40 cents per minute domestic long distance versus the competitive market, which ranges between 15-25 cents per minute or lower for moderate to heavy users. There appear to be significant opportunities for A.I.D. to enhance its control over its voice communications services.

Cable System

One of the communications areas of greatest concern voiced by the functional user community is the DOS "cable system." Users view this system as unnecessarily encumbered by bureaucratic procedures that act as impediments to administrative, technical, and managerial communications that could facilitate and enhance the delivery of development support.

The "cable system" is essentially a paper-based communications system developed by DOS to handle communications that may be sensitive from a national security or political standpoint. It also is the vehicle for controlling record traffic. Users perceive the same release and control procedures used to control policy and decision communications as being enforced on administrative, technical, and managerial communications, negating the potential efficiencies that are available from current technology, e.g., work station to cable direct connectivity.

An inter-agency working group is currently reviewing policies on the use of the "cable system" and other electronic media exchanges. This issue needs to be addressed objectively, or users will continue to seek ways to circumvent the system in order to accomplish their missions.

Cable Distribution

A corollary issue in the "cable" area is the concern with the timeliness and accuracy of the cable distribution system. MS/MO has developed an Automated Message and Distribution System (AMADS) to address this issue and currently is pilot testing it.

The volume of traffic into A.I.D./W, approximately 1300 cables per day, dictates that additional emphasis be placed on resolving this problem.

Local/Wide Area Networks

A.I.D./W is currently in the process of installing several Banyan VINES local area networks. Additionally, it maintains two WangNets and several Novell LANs. A.I.D. currently has a WAN in place in Washington for routing of IBM Systems Network Architecture (SNA) traffic, Wang Systems Networking traffic, Banyan VINES server-to-server connections, and Soft-Switch electronic mail exchange and document translation services. The WAN, as initially designed, will be completed with the upcoming installation of high-speed lines and required multiplexing equipment for the WAN network node that will be resident in the Main State building.

A.I.D. visualizes the integration of these various LANs into a wide area network, to facilitate correspondence tracking, E-Mail, data exchange, and other administrative support functions. Preliminary in-house testing of interconnecting POSIX-based hosts with existing equipment indicates the probable use of Transmission Control Protocol/Internet Protocol (TCP/IP) to meet this requirement. This connectivity requirement will also be routed over the existing WAN.

A.I.D. needs to define fully the LAN and WAN requirements and develop conceptual designs for them.

International Communications

As described above, A.I.D. is very dependent on DOS for telephone support. The Agency has also tried to capitalize on DOS international communications capabilities for data traffic, by providing connectivity through its International Communications System (ICS). The missions, for a variety of reasons, have essentially abandoned ICS in favor of alternative communications with A.I.D./W, i.e., FAX.

DOS is currently evaluating vendor proposals for a new DOS Telecommunications Network. DOSTN is scheduled for worldwide implementation during fiscal years 1991-1993. This capability should resolve A.I.D.'s international communications problems in the strategic planning time frame; however, during the interim period, A.I.D. needs to examine other solutions to resolve near-term problems in a cost-effective manner.

Additionally, DOS has indicated that it intends to continue moving toward a cost reimbursement services environment for the foreign affairs community. This behooves A.I.D. to develop an enhanced capability to perform requirements analysis; to design and cost alternative delivery systems; and to measure the use and cost of DOS-provided services.

External Data Base Access

A.I.D. has experienced recent growth with respect to the requirement for access to external data bases. Such access is coordinated through both MS/IRM and CDIE channels. There may be an opportunity to consolidate requirements, publicize existing capabilities, and provide more cost-effective support.

3.2 Recent Accomplishments

This section of the Strategic IRM Plan provides short descriptions of major information resources management program initiatives that were completed or underway during FY 1990, by information resources management program element.

3.2.1 Information Resources Management Program Management

Organizational elements within A.I.D. accomplished the following activities under this program element during the 1990 fiscal year:

Established Technical Support Center in New State.

As part of the ETA Project, a technical support center was established in New State to provide in-the-building technical assistance to end-users and systems administrators, facilitate equipment moves, provide training, and provide a "help desk" capability, primarily in support of the new LAN environment.

Conducted study/assessment of information resources management planning process and developed recommendations to improve and institutionalize the process.

Concurrent with the development of this Strategic Information Resources Management Plan, the information resources management planning process has been assessed and a series of recommendations have been provided to improve the process from organizational, scope, policy, and procedures perspectives. The IMC will review the recommendations and make implementation decisions.

Conducted an information resources management security study/assessment, in conjunction with NSA, and initiated a security improvement program.

The National Security Agency conducted a diagnostic review of A.I.D.'s automation security posture and identified 28 priority recommendations for corrective action. The top four priority recommendations dealing with personnel security (contractors), password and access policy, user training, and disaster recovery contingency planning have been addressed. A detailed action plan has been developed to address the remaining priority recommendations.

Expanded and enhanced training facilities with PC-based technology and increased availability of training to both A.I.D./W and overseas staff.

Conducted three overseas information technology workshops.

Conducted an Information Resource Life Cycle Management Study and streamlined the process of information resource acquisition.

Conducted eight mission information resources management assessments.

Provided a research analyst to the Africa and Latin America and the Caribbean Bureaus, to provide technical assistance, on-site research reference, and acquisition support for development information needs.

Participated in two inter-donor organization Informal Study Group on Exchange of Development Information meetings, which have established an informal network of over 90 organizations and completed a survey of development activity data bases.

Established the IMC Technical Advisory Committee.

Conducted a study of the A.I.D. handbooks and directives management activities to determine areas for improving and streamlining the process.

The study focused on ways to improve the accuracy of the handbooks' contents and ensure consistency and uniformity of action in a decentralized environment. The central recommendations included support for delegation of authority for local procedures and policy approval at the Administrator and Assistant Administrator levels. Plans for implementing these recommendations are currently in process.

Conducted a study of the A.I.D. telephone management system to determine means of organizational improvement.

This study was conducted jointly by MS/IRM and MS/MO to determine means to improve inter-organizational coordination and resource savings. The findings of this study have served as preliminary input to a larger, newly initiated study of A.I.D. telecommunications systems, management, and future technologies.

3.2.2 Information Management

Organizational elements within A.I.D. accomplished the following activities under this program element during the 1990 fiscal year:

The IMC charter, dated January 10, 1989, established the data administration function in the DACU. The new unit was tasked with implementing data administration aspects of the Agency's data management strategy, e.g., determining what data the Agency generates, how it is defined, where and how it is stored in systems, and how it can be accessed for operational, analytical, and decision-making purposes. During fiscal year 1990, the DACU accomplished the following:

- .. Reviewed the Bureau for Africa's Automated Annual Budget Submission (ABS) System and participated in its redesign and distribution for use worldwide
- .. Established an initial set of system review standards
- .. Reviewed A.I.D.'s existing data dictionary systems in order to establish one as the central system.

In March 1990, the DACU requested the assistance of a contractor to help refine the data administration function, through the definition of functions and requirements for a data dictionary and data standards. Due to procurement problems, this project was delayed and will not begin until September 1990.

In the second quarter of fiscal year 1990, MS/IRM prepared a Request for Proposal (RFP) for the procurement of a relational data base management system. The purpose of the RDBMS is to ensure the placement of a multi-platform, vendor-independent computing environment to house existing mission-critical applications, off-the-shelf software, and future custom-developed applications. This request was reviewed internally in MS/IRM during the third and fourth quarters of FY 1990. The RFP is scheduled to be reviewed by the IMC during the fourth quarter of FY 1990, issued during the first quarter of FY 1991, and awarded in the second quarter of FY 1991.

The Center for Development Information and Evaluation converted three mission Development Information Center (DIC) electronic catalogs into MicroDIS format, and downloaded four subsets of the Development Information System (DIS) data base into MicroDIS for transferring Agency institutional memory to developing countries.

CDIE established on-line access agreements, in order to access external development information resources, with the following five international systems:

- .. International Labour Organization Integrated Library Information System
- .. U.N. Dag Hammerskjold Library System
- .. U.N. International Computing Centre
- .. Foreign Agricultural Office's food and agricultural statistical data bases
- .. On-line data base of economic, business, social, cultural, and political information gleaned from major Latin American journals and newspapers.

CDIE concluded an agreement with the Foreign Agricultural Office (FAO) to obtain five major statistical data bases on magnetic tape, for Agency use in Washington and for dissemination to the missions.

3.2.3. Hardware

Organizational elements within A.I.D. accomplished the following activities under this program element during the 1990 fiscal year:

Approximately 100 industry standard PCs and three to five PC-LANs were installed as part of the ETA initiative for A.I.D./W organizational units. Loaded on each PC are operating system, memory manager, and other utility software. PCs and LAN file servers in a PC-LAN and/or WAN are installed with LAN and - in some cases WAN - cards and telecommunications software (Banyan VINES, etc.). Commercial off-the-shelf (COTS) software packages are installed on each LAN file server. The COTS software portfolio typically includes software for spreadsheet applications (Lotus 1-2-3), PC-based data base management system applications (dBASE III PLUS), and word processing (WordPerfect).

ETA is designed to upgrade the A.I.D./W automation base and move A.I.D./W from a proprietary vendor environment (Wang) to an industry standard "open" systems architecture. The goals of ETA are to provide:

- .. professional and support staff with the capability to produce better looking documents more quickly
- .. more users with access to spreadsheet and graphics applications
- .. users with the ability to exchange E-Mail messages and data files across the LAN
- .. users with access to the mainframe and eventually a wider variety of information sources such as CD-ROM, commercial, and the CDIE data bases.

ETA's objective is to provide work stations for 80% of the professional staff and 100% of the support staff. The enhanced automation base will improve staff productivity in the performance of A.I.D./W functions and activities which support the pursuit of A.I.D. goals.

Installations-to-date have been: the pilot sites in New State (offices of the General Counsel [GC], the Bureau for Food for Peace and Voluntary Assistance [FVA], and the Office of U.S. Foreign Disaster Assistance [OFDA]); the training rooms; and the technical support centers. In addition, some stand-alone PCs have been installed in PPC.

By fiscal year end, over 200 additional PCs and five to seven PC-LANs are targeted for installation at Phase 1 sites in New State (Office of the Administrator [A/A.I.D.], Office of the Executive Secretary [ES], Bureau for Africa [AFR], Office of Legislative Affairs [LEG], Telecommunications Branch of the Communications and Program Management Division of the Office of Management Operations [MS/MO/CPM/T], Bureau for Asia and Private Enterprise [APRE], and Bureau for External Affairs [XA]). A to-be-determined number of PCs and PC-LANs are similarly targeted for installation at Phase 1 sites outside New State (annexes and offices in Washington and Rosslyn). This schedule, however, is endangered due to a delay in the necessary acquisitions. The delay has been caused by the current dispute involving the requirements contract for PC procurements.

The IBM 3083BX mainframe was replaced with the IBM 3083J model. The direct access storage device (DASD) and tape drive devices peripheral to the mainframe at the central computer facility in Beltsville were upgraded to maintain pace with increased user requirements. The operating systems and utility software were also upgraded.

The new model has provided additional computing power for the user community. The eight additional channels have enhanced the performance of existing tape and DASD units and will provide options in the attachment of future peripheral devices. The system replacement and peripherals upgrade have improved the performance of A.I.D. functions and activities supported by the mainframe.

The replacement/upgrade of old and ineffective printers on the Wang OIS and VS systems was initiated and will be completed by fiscal year end. 6581W and DW/OS55 daisy printers and Wang OIS/VS matrix printers will be replaced by network laser printers. This project will result in improved productivity for A.I.D. professional and support staff, decreased downtime of printers, and reduced printer maintenance costs.

An RFP was developed for a new maintenance contract for user automation equipment in A.I.D./W, which will result in:

- .. the consolidation of seven existing and six potential maintenance contracts into a single source
- .. the provision of maintenance for equipment not previously covered.

This action will improve management of maintenance activities and potentially reduce the financial and administrative costs of maintenance.

The HP 3000 minicomputer system and peripheral devices were upgraded.

The upgrades satisfied the need for more access to the systems and data bases (for development information) supported by the minicomputer, and improved user productivity.

CD-ROM products were acquired/developed for publishing and disseminating information within A.I.D. The exploration and development of this technology will facilitate the capture and dissemination of information within A.I.D., which will support and/or enhance the execution of operational, management, and programmatic activities.

- .. A Meridian Compact Disc Publisher was acquired for producing pre-masters and simulating optical CD-ROM disk products for publishing and disseminating A.I.D. development information resources.
- .. A beta-test CD-ROM version of the Development Information System product (CD-DIS) was developed.
- .. A prototype full-text CD-ROM product containing four A.I.D. Handbooks is expected by fiscal year end.

The Xerox 970 microfiche-to-paper reproduction equipment was upgraded with TDC ImageScan microfiche-to-paper and microfiche-to-electronic disc reproduction equipment. This acquisition will enhance the capability of A.I.D. to perform the records management and institutional memory functions.

Current mission hardware was upgraded/acquired. These upgrades/acquisitions support current and near-term information processing requirements for the overseas missions. These upgrades/acquisitions were purchased either centrally from MS/IRM or independently by the missions.

The performance of mission activities is supported and/or enhanced by the centrally and locally developed applications and commercial software packages which are or will be installed on this hardware.

A.I.D. built and occupied a state-of-the-art computer facility in Beltsville, Maryland.

3.2.4. Software

Organizational elements within A.I.D. accomplished the following activities under this program element during the 1990 fiscal year:

- .. Functional and technical deficiencies in the Financial Accounting and Control System currently used by the Office of Financial Management (FM) were addressed by initiating the process to replace FACS with AWACS.

AWACS will correct the deficiencies in FACS, reduce the maintenance costs for A.I.D.'s primary accounting system, and reduce the lead time for future system improvements.

- .. Several projects in support of A.I.D./W organizational elements were initiated and/or completed. These projects were (are) generally intended to develop and implement systems which will support the management and/or operational activities of these elements.

- .. The file conversion project to integrate the Vendor Profile Database (VPD) with the A.I.D. Consultant Registry Information System (ACRIS) was continued.

- .. The development and implementation of the Project Management Information System (PMIS) were continued. This system is being designed to support Bureau for Science and Technology (S&T) project management information requirements, but will also be accessible to all A.I.D./W organizational elements.

- .. The redesigned Participants Payments System (PPS), for tracking detailed expenditures, credit transfers, and payments for U.S. training financed under A.I.D. projects, was developed and implemented for FM.

- .. Projects for FM were initiated to convert certain mainframe systems to use budget plan codes (BPCs) instead of allotment codes, beginning with the Country Financial Reporting (CFR) System and the U101 System. The conversion effort will bring these systems into compliance with this financial management requirement.
- .. The Congressional Notification System was developed and is currently in test for LEG. This system tracks Congressional and technical notifications from project officer to Congressional approval.
- .. The Project Tracking System was developed and implemented for the Office of Project Development, Bureau for Europe and the Near East (ENE/PD).
- .. The Locator System for locating A.I.D. personnel was developed and implemented for the Office of Personnel Management (PM). It provides personnel and location listings to the A.I.D. telephone book.
- .. The development and implementation of the International Development Intern (IDI) Training Tracking System was completed for MS/MO.
- .. Projects to develop management information systems (MIS) for A.I.D./W organizational elements were initiated, beginning with the Disaster Management System for OFDA and the Food For Peace (FFP) MIS for FVA. These systems will satisfy the MIS requirements of and improve the program coordination and implementation within the client bureaus.
- .. The project for the IMC to test the Logical Unit (LU) 6.2 product was continued. The LU 6.2 product will allow implementation of cooperative processing between the Wang VS and IBM mainframe in an IBM SNA environment, including real time data retrieval across platforms within an application. If successful, this product will enhance the utility of the current hardware architecture. Results-to-date are currently being evaluated.

The new Automated ABS System for the Bureau for Program and Policy Coordination, Office of Planning and Budgeting (PPC/PB) was released. The Automated ABS System will be used by the missions to enter and maintain data related to their annual budget submissions to A.I.D./W. This data is required to fulfill Congressional and A.I.D. reporting requirements. These efforts have improved the execution of the financial management function.

Installation and enhancement of MACS were continued. MACS is the primary administrative system for the missions, handling the budgeting and accounting for operating expense and project funds. It is the unified, approved accounting system for the missions, and is a major source of data for the management of the missions and their development programs/projects.

Projects to satisfy the need for a mission program/project officer MIS were initiated. This system will facilitate the management and implementation of development programs/projects worldwide by mission program/project officers and directors.

- .. The analysis and design of the Mission Information Decision/Action System (MIDAS) were initiated. MIDAS is intended to serve as a prototype project management system and provide missions with the ability to take better actions through improved decisions, based on integrated, timely, accurate, and complete information. MIDAS takes advantage of existing hardware investments and data resources, such as MACS, to provide more useful information, focused on the specific needs of the various mission

offices and functions. MIDAS will extract data from MACS (by reformatting a copy of the MACS data base), generate program/project management information reports for mission directors and program/project officers, and download data into Lotus 1-2-3 spreadsheets for use by program/project officers.

- .. The analysis and design of a mission MIS were initiated by U.S.A.I.D. San Salvador (El Salvador Mission). The system is being designed to satisfy the information needs of mission program/project officers and directors.

The Contract Information Management System (CIMS) was developed and installed to support A.I.D. contracting and contract management activities. CIMS was developed using PACE and operates on the Wang VS. Modules are designed and developed for specific organizational elements and functional areas within A.I.D.

Installation and maintenance of other primary A.I.D. applications were continued. These applications consist mainly of various centrally developed and supported cost tracking and management systems for the overseas missions. Three major systems are highlighted below.

- .. The Vehicle Management System (VMS) was developed and implemented. Thirty-one deliveries to date for installation of VMS are expected by fiscal year end.
- .. New releases of the Non-Expendable Property Management System (NXP) for both bar-coded and non-bar-coded environments were developed and implemented. Fifty deliveries to date for installation of these NXP releases are expected by fiscal year end.
- .. The Participant Training Management System (PTMS) was developed and implemented. Thirty-one deliveries to date for installation of PTMS are expected by fiscal year end.

The Mission Systems Center in San Jose, Costa Rica initiated two major systems development efforts. These systems will support the performance of mission activities.

- .. The analysis and design of an integrated administrative MIS were initiated for mission executive officers. The system will satisfy mission administrative management information needs and integrate other mission administrative systems to run from a single menu.
- .. The design and development of a Procurement Tracking System were initiated. The system is being developed using PACE and will satisfy procurement information requirements of the missions.

Twenty-five installations of the PC-based Development Information System (MicroDIS) will be completed by fiscal year end. MicroDIS is designed as an integrated library management system for development information stored on PCs. It supports the programmatic activities of the missions by providing development information to mission program/project officers and directors.

3.2.5 Telecommunications

Organizational elements within A.I.D. accomplished the following activities under this program element during the 1990 fiscal year:

- .. Review and assessment of the telephone system in A.I.D./W, including effectiveness of operations, budgeting, and overall management, along with recommendations for improvement.

- . Initiation of the installation of Banyan VINES LAN in the New State building.
Accomplishments include:
 - .. Installation of two fiber risers in New State
 - .. Access for over 100 users to date
 - .. Performance of application and hardware requirements analysis for selected users.
- . Redesign of AMADS, to allow for automated distribution of cables based on encoding scheme.
- . Development and issuance of an RFP by the Department of State for a new international communications system - DOSTN.
- . Establishment of the infrastructure for worldwide E-Mail.
- . Installation of two Novell LANs (40 users) to support CDIE staff. Novell LAN also includes 12 CD-ROM drive OPTINET multi-CD-ROM access systems for network users.
- . Development of building-wide backbone design and implementation plans for the Main State building, which will facilitate the migration to FDDI high-speed communications standards.
- . Implementation of domestic T-1 data network.

4. STRATEGIC INFORMATION RESOURCES MANAGEMENT PLAN

4.1 Planning Assumptions

The Strategic Information Resources Management Plan is based on several management and technical assumptions. These assumptions deal with the A.I.D. environment, as well as the general technical environment in which the information resources management elements must operate.

4.1.1 Management Assumptions

These management assumptions relate to the budgeting, technical, and management environment in which the Agency projects it will operate during the planning horizon of this Plan.

- . The Agency will continue to place emphasis on developing common administrative systems centrally and promoting the use of shared data.
- . A.I.D. will continue to develop in-house ADP procurement expertise and acquire ADP hardware, software, and services through full and open competition and utilization of Small and Disadvantaged Business concerns.
- . Due to Federal budgetary constraints, total funding and personnel resources will be limited to current or lower levels.
- . End users will continue to demand more information and information tools.
- . End users will continue to grow more computer and information literate.
- . A.I.D. will continue to evolve to an "open" architecture that includes mainframes at the headquarters, and LANs within bureaus and missions that include intelligent work stations; the Agency will move away from departmental or mission minicomputers as file server technology evolves to provide equivalent functionality and capacity.
- . Conversion to the evolving LAN and "open" systems architectures will receive priority over routine changes to current applications.
- . Communications with overseas missions will be increasingly important as responsibilities are decentralized to the missions and the headquarters organization moves to perform facilitator and support functions.
- . Department of State will continue to provide contracting vehicles for hardware and software that may be used by the Agency if the vehicles are responsive to Agency needs.
- . Department of State will continue to place emphasis on recovering operating expenses for services provided to supported agencies, such as cable and telephone, through the Foreign Assistance Administrative System (FAAS).
- . Central bureaus and missions will continue to convert staff to perform systems management functions and take advantage of local in-house systems expertise.

Costs of computing power and off-the-shelf software will continue to decline, while costs of custom software and contractor staff will grow faster than inflation rates.

4.1.2 Technology Assumptions

These technology assumptions relate to the general technical environment in which the Agency projects it will operate during the planning horizon of this Plan.

Hardware Technology

The combining of computer and telecommunications technologies will continue to be the major area of emphasis in the industry. Mainframes will primarily be used for repositories of widely shared corporate data and systems, and for systems requiring significant computational capacity and speed. Price/performance ratios will continue to decline, making increased capabilities less expensive. Minicomputer technology will be replaced by high-end microcomputer technology. Microcomputer technology will provide an ever-expanding range of options and capabilities that will make this technology as ubiquitous as the telephone.

Most organizations with significant coordinating functions and responsibilities will evolve to tightly integrated networks, with gateways to a wide range of local computational facilities and peripherals, and access to remote sites and client, vendor, and related organizations' facilities. Although peripherals, such as printers and storage devices, will continue to drop in price, an ever-expanding list of devices and technologies will dictate that they be shared on the network.

The industry will continue to move to "open" architectures such as GOSIP, but will be constrained by the rapidity of technological innovation and the vendors' desires to maintain a competitive edge through their unique technologies.

Software Technology

The cost of applications development and the ever-growing portfolio of existing systems to be maintained will continue to be a major area of concern for all organizations. A combination of increased use of off-the-shelf software and introduction of Fourth Generation Languages (4GL) and CASE tools will be the major solutions to the software staffing dilemma. The 4GL and CASE tools will be closely integrated with data base management systems and provide improved documentation for the entire systems life cycle. More importantly, within the next five years the CASE tools will provide near full function code generation capabilities that will enhance productivity in both the new development and maintenance arenas.

Systems portability will continue to be a management objective, in order to force competition in the hardware environment. In response to this situation, the PCSDX standard will become a true standard for most multi-user environments.

End-user tools (e.g., spreadsheets, graphics, word processing, languages) will continue to grow in availability, functionality, and value. Management will be faced with a growing dilemma regarding how it can capitalize on the widespread use of these tools without constraining users' creativity. One vehicle for addressing this issue may be more widespread use of bulletin boards to support clearinghouse functions.

Telecommunications Technology

The Department of State Telecommunications Network will be procured in 1991 and fielded worldwide during 1992-1993. A.I.D. will use this new and improved communications system to the maximum extent possible, provided it meets the Agency's operational needs.

The telecommunications industry will produce a number of reasonable alternatives to the DOS cable system. However, the Department will continue to use cables - its historic means of communication - to conduct its business. Consequently, the A.I.D. user community which, by policy, is obliged to use the cable system, will continue to acquire the state-of-the-art tools, such as FAX, required to conduct its business.

There is a need to monitor constantly telecommunications technologies that may impact all aspects of A.I.D.'s telecommunications requirements, e.g., increasing availability of public data networks and the decreasing costs for satellite technology.

Data Management Technology

The promises made by data administration and data base administration proponents over the last several years will begin to be realized over the next five years as a full range of functioning DBMS and CASE tools are placed in operation. Data modeling will become prevalent in both the logical and physical domains, and will lead to increased data sharing and overall operational efficiencies. The opportunity to capitalize on data sharing will result in increased emphasis on data/systems stewardship and participation by the user community.

4.2 Governing Policies

The policies which govern information resources management within A.I.D. are contained in a number of documents, as itemized below:

- . Office of Management and Budget (OMB) Circulars
- . Federal Information Resources Management Regulations
- . The Information Resources Management Review Handbook
- . Federal Information Processing Standards (FIPS)
- . A.I.D. Handbook 18, Information Services, Part V, Information Technology Services
- . A.I.D. Handbook 17, A.I.D. Organization
- . A.I.D. Handbook 20, Chapter 7D3, Office Services
- . A.I.D. Computer Center User's Guide
- . Information Processing Standards Manual
- . Systems Development Standards

- . Manager's Guide to the A.I.D. Overseas Automation Program
- . Guidelines for Managing Automation Assistance in A.I.D. Development Projects
- . Memoranda from information resources management senior officials.

Information resources management centralized policy guidance attempts to respond to such issues as:

- . Consistent and realistic information resources management planning, budgeting, management, and expenditures
- . Integration of Agency information systems and data requirements
- . Compatibility of computer hardware and software
- . Capacity to respond to external (Congress, OMB, GSA, and the public) interest and/or oversight requirements
- . Coordination of programs with policies of other government agencies.

The majority of the policies discussed below are excerpts from Handbook 18.

4.2.1 Policy Development

Several external government organizations affect the development of information resources management policy within A.I.D. These organizations are the Office of Management and Budget, the General Services Administration, and the National Institute for Science and Technology (NIST). OMB provides overall policy guidance in the area of information resources management requirements and reporting, as implemented in OMB Circulars. GSA's Federal Information Resources Management Regulations (FIRMR) provide comprehensive information resources management guidance and regulations, consistent with OMB policy guidance. NIST is responsible for directing the information resources management standards program through the FIPS publications.

The overall information resources management policy within A.I.D. is to support the rapid but orderly introduction of appropriate information technologies, promote that introduction where it makes sense and is cost-effective, and provide centralized direction and decentralized operation. Information technology resources are intended to assist with increased productivity and improve the quality of information management.

The basic information resources management policies relate to information resources management goals, standardization, systems development, data availability, resource utilization and security, budgeting and reporting, and inter-agency cooperation. All policies are intended to respond to several key programmatic needs: faster communication; ability to manipulate rapidly changing data; and the provision of detailed information to support Agency managers' decision making.

4.2.2 Planning

A.I.D. has an information resources management concept which involves central planning for information resources management resources, with operational responsibility for these resources in the hands of the users.

As part of the planning process, A.I.D. is required by OMB and GSA to periodically review its information management activities, to ensure that they are carried out in an efficient, effective, and economical manner. The Agency's policy is to integrate information resources management review needs, when possible, within other A.I.D. responses to external reporting, such as OMB Circulars A-76, A-123, A-127, and other information resources management-related reviews.

The A.I.D./W and mission reviews are undertaken not only to determine how well a particular program is being implemented at a given location, but also to gather information needed in planning for future efforts or to make mid-course changes to current plans or policies.

A.I.D. has recently begun an information resources management strategic planning process, as well as a study to provide recommendations for improvements in the planning process. The final results of these efforts will result in new and revised policy statement recommendations in the planning area.

4.2.3 Funding

Operating expense-funded information resources are in-house A.I.D. operational requirements, i.e., those items required to support U.S. staff in day-to-day operations, either in A.I.D./W or the missions. Each A.I.D. mission budgets for its own operating expense-funded information technology resources. MS/IRM budgets for and manages the central information technology operating expense budget for A.I.D./W, based on input provided by A.I.D./W offices. (In some instances, central bureaus/offices use their own operating expense funds to support information resources management programs/activities.) MS/IRM constructs the Agency's consolidated budget in a standard format for submission to OMB and the Congress, based on the central budget and those submitted by the missions during the annual budget submission process.

The information technology components of program-funded development assistance initiatives are also included in the Agency's information technology program. Program-funded acquisitions are subject to delegated dollar authorities. Where the life cycle cost of an information technology component of a project or program exceeds \$100,000, MS/IRM must review and authorize that component before funding is approved.

4.2.4 Management and Use of Central Facilities

MS/IRM operates a large central computer facility that provides required computing power for the development and operation of applications, as well as for data communications services. CDIE also operates a large minicomputer facility to store and access developmental information.

MS/MO is responsible for voice communications and relies on the Department of State for the majority of the central communications services, e.g., telephone, cable, etc.

MS/IRM is responsible for providing information technology support services. A.I.D. has established several Technical Support Centers which provide technical advice and assistance on standard hardware and software. CDIE also has a development information center, for the storage and transmission of programmatic information.

MS/IRM also operates a clearinghouse for the exchange of glossaries and application systems that can be used on the Agency's standard microcomputers, word processors, and minicomputers.

4.2.5 Telecommunications

A.I.D. provides text and data telecommunications services for both A.I.D./W offices and the missions. The goal of these services is to link Agency users in order to allow the transfer of E-Mail and data among A.I.D./W offices, between the missions and A.I.D./W, and among the missions. Additionally, telecommunications services are provided, as required, for access to selected non-A.I.D. sources of data, either through commercially obtained services or through inter-governmental networks.

As stated previously, MS/IRM is responsible for data communications (except as noted in Section 3.1.5), while MS/MO is responsible for voice communications, with the Department of State providing the central facilities for much of this service.

In addition, a recent memorandum from the senior information resources management official in A.I.D. itemizes the types of telecommunications services available within A.I.D., e.g., text, data, voice, FAX, and provides policy guidance on the uses of each.

4.2.6 End-User Computing

The foreign assistance objectives of the United States require that A.I.D. personnel have ready access to required information in both the developmental and operational areas. This requirement has led to a policy of decentralized operation of information technology resources in the hands of the users.

A.I.D. has adopted a policy of employing standardized hardware and software to the maximum extent practicable, to ensure cost-effective and productive methods of meeting Agency information technology requirements. This policy is intended to facilitate end-user computing, ease overall training requirements, facilitate transfers between physical locations, and allow for the shifting of information resources management resources as organizational changes occur.

4.2.7 Data

Data policies are currently being formulated.

4.3 Goals

The information resources management goals are based on A.I.D. goals, as set forth by the new Administrator and other senior A.I.D. management personnel in certain vision statements. These goals are delineated below, and are also displayed graphically on Exhibit 4-1, to demonstrate their relationships to the A.I.D. goals.

IRM GOALS BY A.I.D. GOALS

IRM GOALS	A.I.D. GOALS		
	AG1 GOAL MEASUREMENT	AG2 INTEGRATED VIEWS	AG3 DECENTRAL- IZATION
IG1 - INFRASTRUCTURE		X	X
IG2 - NETWORK CAPABILITY		X	X
IG3 - SYSTEMS DEVELOPMENT	X	X	X
IG4 - INFORMATION ARCHITECTURES		X	X
IG5 - NEW TECHNOLOGIES	X	X	X

EXHIBIT 4-1

IG1 To develop an infrastructure which will assure that A.I.D. information resources are prudently managed as key Agency resources, in support of Agency program and administrative goals and strategies:

Infrastructure

- . Organization/roles and responsibilities
- . Policies and procedures
- . Methodologies
- . Planning and budgeting

Information resources

- . Data
- . Systems/applications
- . Delivery systems
- . Personnel
- . Funds.

IG2 To provide an integrated network capability which will allow A.I.D. staff to exchange text and data within their working groups, as well as with other groups in A.I.D./W and the overseas missions, in order to increase productivity and efficiency.

IG3 To improve the capability of the Agency to develop and maintain key resource management information systems (financial, personnel, contractual, project), which in turn will allow management to assure accountability and the prudent investment of Agency resources.

IG4 To provide secure and flexible information architectures (data, application, hardware) which will be responsive to rapid strategic and tactical changes of the Agency, in response to the pursuit of U.S. interests and A.I.D. goals.

IG5 To position the information resources management program, to ensure A.I.D.'s ability to incorporate new information management technologies and techniques, that will be needed to address future Agency information management challenges.

4.4 Strategies

The information resources management strategies are based on the information resources management goals set forth in Section 4.3. These strategies are the basis for the information resources management activities delineated in Section 4.5. The strategies are delineated below, and are also displayed graphically on Exhibit 4-2, to demonstrate their relationships to the A.I.D. goals.

SI Improving the management of Agency information resources

- . Clarify the information resources management organization and define information resources management roles and responsibilities for each organizational element
- . Integrate the information resources management planning and budgeting functions
- . Organizationally integrate the information resources management technical disciplines

IRM STRATEGIES BY A.I.D. GOALS

IRM STRATEGIES	A.I.D. GOALS		
	AG1 GOAL MEASUREMENT	AG2 INTEGRATED VIEWS	AG3 DECENTRAL- IZATION
S1 - IMPROVE MANAGEMENT OF AID INFORMATION RESOURCES		X	X
S2 - IMPROVE COMMUNICATION & AUTOMATION SUPPORT		X	X
S3 - IMPROVE SYSTEMS	X	X	X
S4 - IMPROVE INFORMATION STRUCTURE		X	X
S5 - ACT AS AGENT OF TECHNOLOGICAL CHANGE	X	X	X

EXHIBIT 4-2

- . Define information resources management policies, procedures, standards, and methodologies, which are integrated through a life cycle development methodology.
- S2 Improving communications and automation support and services for bureaus/offices and missions**
- . Increase proactive support to A.I.D. managers, professionals, and administrative staff in Washington and overseas
 - . Decentralize support to the bureaus/offices and missions, to facilitate widespread streamlining of operations and improvement in productivity
 - . Install E-Mail in all offices in A.I.D./W and missions
 - . Provide all qualified staff desktop access to a work station; link work stations to local area networks; and link networks to gateways to larger systems (minicomputers/mainframes)
 - . Adopt an "open" systems architecture.
- S3 Improving existing major systems and developing new corporate and bureau/office/mission systems**
- . Acquire proven state-of-the-art systems development technology, tools, and resources and provide training, to enhance system development capabilities
 - . Triage some old systems and improve others: MACS, MIDAS, FACS
 - . Develop or acquire new systems: Bureau/Office Information System (IS), Executive IS
 - . Incorporate data standardization, security, and portability objectives in modification efforts
 - . Ensure the following principles are followed in systems modification and development
 - .. Identify management and client needs
 - .. Involve clients in systems development
 - .. Follow data administration principles for data exchange
 - .. Utilize existing hardware platforms, only increasing the installed base when cost justified.
- S4 Improving the structure of Agency information**
- . Develop information architectures (data, application, and hardware)
 - . Improve the accessibility and accuracy of data by investing in a central data administration program
 - . Develop a data base approach that promotes integration across existing hardware platforms.

SS Improving the ability of the Agency to act as an agent of change in the study and adoption of advanced technologies

- . Maintain contacts with information technology vendors
- . Perform research and development activities
- . Facilitate transitions to new technologies.

These strategies and the activities that follow are comprehensive and address the information needs of the Agency over the life of this Plan.

4.5 Activities

The role that information resources played in A.I.D. in the 1980s has undergone a radical change, not just in perception, but also in the nature of technology and its use within the Agency. In the 1970s, information technology in A.I.D., as well as in many other large public sector institutions, was viewed as a counting tool and as a productivity tool for word processing. With the advent of the microcomputer in the 1980s, however, the use of automated tools to assist in the decision-making process of mid-level managers spread. Thus, the need and demand for accurate corporate data and associated tools increased. This demand was not met by the organizations responsible for information resources management program management, since the information resources management strategy did not fit the business needs of the Agency.

The proposed A.I.D. information resources management strategies for the 1990s are based on the following premises:

- . Timely access to accurate, organized information is a critical success factor for the proper management of A.I.D. in achieving its stated goals.
- . Data is a corporate resource of the Agency and, as such, must be managed.
- . The mission of information resources management is to manage prudently the information resources required to capture, house, and disseminate properly the corporate data and text.
- . The goals of information resources management must be an intrinsic part of the strategies of the Agency in pursuing its programmatic and business goals.

In the final analysis, the information resources management function must be managed to assure that the Agency's information resources are used and services provided in a manner which enables the Agency to enhance its performance as an instrument of foreign policy and as a development agent.

The initiatives listed below have been identified as activities to be accomplished in the various information resources management program elements in A.I.D. Each initiative is described on an Information Resources Management Activity Sheet in Appendix E. These activity sheets provide more detailed information concerning each initiative including the following: Title; Code; Cross References to Agency Goal, Function/Activity, Information Resources Management Goal, and Budget Code; Status; Priority; Objective; Background; Approach; Milestones; Acquisitions; Resources; Benefits/Cost Savings/Cost Avoidance; and Constraints/Conditions/Assumptions.

These initiatives are also depicted graphically on three exhibits: IRM Activities by A.I.D. Goals (Exhibit 4-3); IRM Activities by IRM Goals (Exhibit 4-4); and IRM Activities by A.I.D. Functions (Exhibit 4-5). The purpose of these exhibits is to demonstrate how the information resources management initiatives support the Agency's current operations and plans for the future. These exhibits are provided at the end of this section of the document.

4.5.1 Information Resources Management Program Management

Critical to the success of the information resources management program in A.I.D. is the need to continue the radical, but evolutionary change in information resources management style and practices. Underlying this strategy is the premise that the business drives the application of information resources, and that the priorities and allocation of information resources are determined by the user (represented by the IMC), not by the technician (the information resources management practitioner).

In addition, this strategy shifts the emphasis from a management style that overly emphasized control of hardware acquisition and software development and centralization of information resources allocation in A.I.D./W, to one that increases the degree of self-determination by the end user and the partial decentralization of technical support. The strategy also strives to change a reactive mode of problem solving to a more proactive one, where due emphasis is given to planning, a disciplined approach to systems development, synergy of solutions, and service-oriented support.

The challenge will be to achieve a balance between centralization and decentralization. The core of this challenge will be to maintain centralized control over information resources management policies, standards, architectures, and acquisition responsibilities (to the extent necessary to take advantage of economies of scale), while allowing decentralization of resource allocation and technical support.

The information resources management program management initiatives primarily address infrastructure and integration issues. Infrastructure includes organization, security, planning, policies and procedures, standards, and training. These initiatives form a base from which services and new development can more effectively and efficiently be provided. Paramount among these initiatives are studies to integrate more closely the information resources management disciplines, redefine roles and responsibilities, and develop information architectures through the ISP and data modeling processes. Without clearly defined information resources management roles and responsibilities, the success of the other initiatives is jeopardized.

A.I.D. has historically emphasized the operational aspects of information resources management - delivery of services and development of new capabilities. A.I.D. recognizes that it needs to mature as an information organization and that the development of infrastructure is a necessary precursor to that maturation.

The projects listed below are described in more detail on the Information Resources Management Activity Sheets in Section I of Appendix E.

IPM-0 Operations and Maintenance

Supply the operations and maintenance support required to maintain the basic level and quality of service in support of the information resources management needs of A.I.D.

While this initiative is not a true strategic activity, it is included to provide funding data on actions required in the day-to-day operations and maintenance of the information resources management program at A.I.D.

IPM-1 Strategic Business Plan

Develop, as an Agency initiative, a business planning process that will provide a means to develop and promulgate A.I.D. goals and strategies, on a cyclic basis. This process will enhance the information resources management community's ability to develop supporting strategic and tactical plans.

IPM-2 Information Systems Planning Study

Conduct an information systems planning study. This initiative will provide a business perspective to the development of the "road maps" or architectures for the information resources management program. The products of the study will be information, data, application, and delivery system architectures, which will enhance communication of user needs and priorities and information resources management approaches.

IPM-3 Information Resources Management Integration

- (1) **Integration of Information Resources Management Disciplines:** Clarify the roles and responsibilities of the senior information resources management official, the IMC, and other major organizational elements with information resources management responsibilities. This project will address organizational issues, such as the appropriate location of the telecommunications and data administration functions, and the multiple locations of the systems development function within MS/IRM. It will also address responsibility issues such as the IMC's role regarding development information and funding of programmatic activities within MS/IRM.
- (2) **Information Resources Management Strategic, Tactical, and Operational Planning and Control Process:** Implement and institutionalize an information resources management planning process that integrates planning for all information resources management technical disciplines, increases user involvement in the process, and assures that budgetary and other environmental constraints are considered.

This project will also define the characteristics of an information resources management project control process and develop supporting policies and procedures. It will build on the current MBO approach, used within the Bureau of Management Services, to plan, monitor, and control key projects to include all information resources management projects. The roles and responsibilities of the IMC, user offices, and information resources management offices must be defined.

IPM-4 Systems Life Cycle Development Methodology

Define a methodology, including appropriate CASE tools, for the systems development life cycle and acquire a new methodology or update the current LCDM. The methodology will be adapted to the A.I.D. environment to include reference to an ongoing project to develop an on-line index of information resources management policies, procedures, guidelines, and standards applicable to the provision and use of automation in A.I.D.

IPM-5 ADP Information Security

Improve ADP information security worldwide. Overseas the focus will be on closing the communications gap between A.I.D./Washington and the missions as it pertains to the following issues:

- . Protecting sensitive data in the field
- . Enhancing physical security of A.I.D.'s ADP facilities
- . Securing all international communications
- . Countering the threats to automated application systems.

Domestically the program will emphasize the following:

- . Disaster recovery for the computer centers
- . Removing unacceptable vulnerabilities in the automated system applications
- . Resolving personnel ADP security issues
- . Providing third shift operational coverage to primary computer facilities.

IPM-6 Robust Regional Information Centers

Establish or expand information support centers in each geographic region (Latin America and the Caribbean, Europe and the Near East, Africa, and Asia) to include such functions as systems analysis, Help Desk, and training.

IPM-7 Enhanced Information Training Program

Respond to users' expressed need for information skills training at all levels of the organization. Executive training will focus on management's role in information resources management and technological opportunities. Professional and support staff training will concentrate on improving skills to use hardware and software tools.

IPM-8 Technical Support Centers in Each Major A.I.D./W Location

Develop technical support centers in each major A.I.D./W location (New State, SA-1, SA-2, SA-16). These A.I.D./W support centers will contain technical specialists who have in-depth

knowledge of the various hardware and software tools and utilities being used and can provide direct assistance in the use of these tools to the end-user community.

The New State center will be expanded to include a Development Information Center, which will make development information more readily available to the user community.

IPM-9 Technical Assistance Program for Africa, Latin America and the Caribbean, Europe and the Near East, Asia and Private Enterprise, and Science and Technology Bureaus

Expand a fiscal year 1990 project to support bureau program-related information requirements by decentralizing research, reference, and acquisition staff to two on-site staff per bureau.

4.5.2 Information Management

In the next five years, A.I.D. must redress the benign neglect that has been afforded the data administration discipline, to the point where the function was assigned to an organization external to MS/IRM.

The strategy to address this situation is a two-pronged approach. On the one hand, A.I.D. will attempt to institutionalize within the user community and management the idea that data is a corporate resource and, as such, must be managed. This will be accomplished by enhancing the role of the IMC in setting priorities and resolving data conflicts relating to data standards, ownership, security, and access.

On the other hand, A.I.D. must create within MS/IRM the infrastructure to manage properly corporate data. This will be accomplished by conducting a three-year effort to formulate an Agency-wide data architecture of corporate data, creating detailed data models of key data entities, selecting a life cycle development methodology that gives emphasis to data management, institutionalizing the use of data dictionaries and data standards, and selecting the proper data base management tools for each platform.

These changes will be complicated by the resource impact of having to migrate applications to a more rational set of DBMS tools, which may not be stabilized until the AWACS solution is selected.

The information management initiatives primarily address data administration and data base administration issues. The Agency has started activities in these areas, but the infrastructure required to support them is not in place and, therefore, many efforts have fallen short of their goals. The objectives of the information management initiatives are to help A.I.D. provide better management and control of its investment in information, through the definition of data requirements and standards and the acquisition of a data base management system which will allow linkages among various hardware platforms and provide improved access to information.

The projects delineated below are described in more detail on the Information Resources Management Activity Sheets provided in Section 2 of Appendix E.

IM-1 Data Initiatives

- (1) **Data Administration:** Continue the FY 1990 activity to define the functions associated with data administration, to define the requirements for a data dictionary and data standards, and to acquire a data modeling methodology and associated CASE tool. These activities will assist in application design, data definition, and data standardization.
- (2) **Data Modeling:** Develop, on an incremental basis of two per year, data models for subject areas. The end result will be a corporate-wide data architecture.

IM-2 Relational Data Base Management System for Personal Computers and Local Area Networks

Continue the FY 1990 activity to procure an RDBMS which will operate on two of A.I.D.'s hardware platforms: personal computers and local area networks.

IM-3 Relational Data Base Management System for Mainframe Computers

Procure an RDBMS for the mainframe hardware platform, ensuring that user needs, particularly those of the A.I.D./W Accounting and Control System, are met. If possible, ensure that the RDBMS is compatible with that procured for PCs and LANs.

IM-4 Access to Other Organizations' Data

Continue activities to obtain access to social, economic, political, and cultural data available in other organizations' data bases, including the United Nations, the Canadian International Development Agency, the Swedish International Development Authority, and the Japan International Cooperation Agency.

4.5.3. Hardware

The cornerstone of A.I.D.'s hardware strategy for the 1990s is a shift from a proprietary, minicomputer-based environment to an "open" architecture based on microcomputers, interconnected by LANs. Although the current architecture served A.I.D. well in the introduction of automation to the field, it has not proven to be responsive to the needs of an increasingly computer-literate user community for information and decision support tools.

This shift marks not only a redistribution of office automation functions and roles (e.g., the redefinition of the role of the secretary), but also, more importantly, a new approach to designing applications and rationalizing subsets of the corporate data base. In a sense, the hardware strategy marks a shift from large, complex integrated applications running on mainframes, toward small, single-function applications with a limited domain of information, serving the specific information needs of a working group, regardless of organizational boundaries.

At the midpoint in the horizon of this strategic plan, a re-examination of the role of the mainframe will take place. This re-examination will be driven by the possible migration of key human resource applications (e.g., personnel and payroll) to outside time-sharing services, as well as determination of the processing environment for AWACS.

Underlying the current strategy is the need to centralize the capitalization of the hardware migration, while decentralizing the prioritization responsibilities, by shifting these types of decisions to the IMC.

The hardware initiatives primarily address the development of an "open" architecture for A.I.D., in order to facilitate portability among the multi-tiered delivery system currently in place. Related to the "open" architecture initiatives are those pertaining to the installation of LANs throughout A.I.D. and the ongoing operation and maintenance of the equipment supporting A.I.D.'s information systems.

The projects below are described in more detail on the Information Resources Management Activity Sheets in Section 3 of Appendix E.

H-1 Excellence Through Automation Initiative for A.I.D./W

Modernize A.I.D./W's remaining automation base and move A.I.D./W from a proprietary vendor (Wang) environment to an industry standard "open" systems architecture, by installing industry standard PCs and PC-LANs (over 500 PCs and 10-15 PC-LANs for New State offices). The PCs will be fully loaded and networkable, while the file servers for each PC-LAN will be installed with COTS software. This project also includes acquiring presentation hardware for A.I.D./W use, including plotters, color monitors, data shows, paintjets, and other items. The enhanced automation base will improve staff productivity in the performance of A.I.D. functions and activities which support the pursuit of A.I.D. goals.

H-2 A.I.D./W Hardware Initiatives

Implement projects to support the evolution to an "open" systems architecture and provide technical support during this process, while upgrading existing equipment needed to satisfy current information processing requirements and to maintain pace with increased user demands. These actions will improve the utilization of scarce technical resources and ensure satisfaction of end-user needs.

- (1) **Mainframe System Replacement:** Replace the CPU in Beltsville to avoid reaching the saturation point for throughput due to an increase in the usage growth rate and to provide more user-friendly access to data, allowing users to take more control of their automation/information needs and depend less heavily on the more costly computer programming resources.
- (2) **Data/Memory Storage Upgrade:** Acquire additional disk storage and upgrade mainframe memory to: meet increasing data storage requirements caused by normal growth and installation of work stations; and maintain current and expected levels of service as users and systems are added.
- (3) **Data Access/Retrieval Speed Upgrade:** Modify mainframe to allow storage devices to access data at a rate 50% faster than is currently possible.

- (4) **Mainframe Peripheral Upgrade:** Upgrade peripherals to continue to provide necessary support to the end-user community by: replacing the tape drives with newer cartridge drives, which are faster and less error-prone; acquiring mainframe-attached printers for large bureaus; and providing remote laser printers for the mainframe, which generate multiple copies of user reports in lieu of continuous-feed printouts.
- (5) **Mainframe Software Upgrade:** Acquire mainframe-based spreadsheet software for those offices with a need for central manipulation of spreadsheets.
- (6) **Platform/Systems Integration:** Provide additional connectivity among Agency networks (PC, Wang, and IBM), additional network management tools, increased support services for LAN technologies from various vendors, and more sophisticated diagnostics, monitoring, and reporting of the expanding network, than is currently available.
- (7) **Networked End-User Applications Hardware:** Acquire POSIX-based application file-servers, consisting of a high-end microcomputer loaded with an RDBMS (See Activity IM-2) and developed systems. These file-servers will be used to make applications available to networked users, including the PC/LAN-based MISs for A.I.D./W bureaus (See Activity S-3).
- (8) **Wang Minicomputer Systems Replacement:** Acquire additional disk storage and upgrade memory for the Wang VS minicomputer systems. Replace aged Wang VS minicomputer systems with newer systems, which will utilize newer technologies, provide additional system capabilities, serve more users, and better support facility requirements. This project will likely occur during multiple years, and will ensure that system and user demands do not exceed the capabilities of the Wang VS minicomputer systems.
- (9) **HP 3000 Minicomputer System Upgrade:** Upgrade the HP 3000/48 minicomputer system to a larger capacity HP 3000 series 900 minicomputer system with additional memory and more dial-in ports. The upgraded HP system will support expanded information processing requirements for the Document and Information Handling Facility and on-line access requirements to DIS data bases by A.I.D. staff and external organizations, via support for more simultaneous dial-users and a communications link for public data network access. This project will ensure that system and user demands do not exceed the capabilities of the HP minicomputer system.
- (10) **POSIX Requirements Analysis:** Acquire hardware and software to allow MS/IRM/TS to support the POSIX initiatives being undertaken for the overseas automation project and subsequent extension into A.I.D./W, including an "open" systems computer, which will provide a base for the government-wide "open" systems initiatives that are designed to free the government from proprietary systems and allow better interoperability of computer programs and applications.
- (11) **Integration of Data Across Architecture:** Acquire hardware and software needed to provide support for better integration of data among existing mainframe computer systems, minicomputers, and LANs, as well as "open" systems, both domestically and overseas.

H-3 U.S.A.I.D. Hardware Initiatives

Institute new computer hardware based on the multi-platform, "open" systems concept for missions and modernize their automation base by installing industry standard PCs and PC-LANs. The PCs will be fully loaded and networkable, while the file servers for each PC-LAN will be installed with COTS software. The enhanced automation base will improve staff productivity in the performance of mission functions and activities. The following projects will provide the hardware and support the missions need to effect the evolution to an "open" systems architecture.

- (1) **Mission Simulation Support:** Acquire POSIX computers and related software for the testing of overseas Wang VS-based applications and the conversion to a POSIX-based "open" systems environment. The acquisition will allow A.I.D./W to determine the requirements for the conversion effort and to support it.
- (2) **Technical Support Services:** Provide technical support services to the missions during implementation of the POSIX environment. These services will ensure a smooth migration which will better utilize scarce information resources management resources.
- (3) **POSIX Computers for MACS and MIDAS in Missions:** Provide POSIX computers for MACS and MIDAS in the missions. This version of MACS will be that which was enhanced and migrated to operation in a PC-LAN environment under an RDBMS. Implementation of these computers will ensure that the most critical mission system is expeditiously moved to operation in the target "open" systems environment.
- (4) **Mission Hardware System Acquisitions:** Acquire fully loaded industry standard PCs and PC-LANs with installed COTS software, pursuant to the evolution to an "open" systems environment. The performance of mission activities will be enhanced by the COTS software and the converted/migrated systems which this hardware will support.

H-4 New Technology Initiatives

Acquire/develop imaging/CD-ROM/micrographics/information dissemination technology as determined by the results of CD-ROM prototypes currently being undertaken in CDIE and MS/IRM and a new study. The use of such technology will facilitate the capture and dissemination of information within A.I.D., which will support the execution of operational, management, and programmatic activities.

- (1) **Imaging Systems Acquisition:** Acquire hardware and software for imaging systems for ES, FM, or PM. This project will serve as a prototype for potential extension to other A.I.D./W organizational elements.
- (2) **CD-DIS Product Development/Enhancement and Installation/Distribution:** Implement projects to enhance the CD-DIS product and to satisfy additional requirements for development information related to CD-DIS. This product includes additional features for and access to CD-DIS to provide development information in a more efficient and effective manner.

- (3) **A.I.D. Handbook CD-ROM Product Development/Enhancement and Installation/Distribution:** Implement projects to develop and implement a full text CD-ROM product for the dissemination of all of the A.I.D. Handbooks and other pertinent regulatory and policy data. These projects will build on the results of the prototype developed previously.
- (4) **Other CD-ROM Products Development/Enhancement and Installation/Distribution:** Develop and implement a CD-ROM product for the dissemination of other procedural, policy, and regulatory information needed by other mission organizational elements in U.S.A.I.D., e.g., the Regional Legal Advisor's Office.
- (5) **Micrographics and Information Dissemination Technologies Study:** Initiate and complete a study of micrographics and information dissemination technologies in order to guide A.I.D. in the acquisition of such technologies for use in the capture and dissemination of development information. The objectives of the study are to:
 - . Assess the adequacy of currently installed technology
 - . Identify areas where additional/alternative technology will improve performance of program objectives
 - . Examine options for and make recommendations on additional/alternative technology
 - . Formulate a strategy for maintaining a low-cost, high-quality, government-furnished information technology base.

Results from this study will be used to guide A.I.D. in the acquisition of technologies for enhancing performance of the records management and institutional memory functions.

H-5 Capacity Planning Initiatives

Perform capacity planning for A.I.D. computer systems. Implementation of this project will ensure that A.I.D.'s delivery systems can support the information processing requirements for current and future applications designed to support A.I.D. functions and activities.

- (1) **Mainframe Capacity Planning:** Perform capacity planning for the mainframe, allowing for resource contention arising from future major system development efforts, e.g., AWACS.
- (2) **Mission Capacity Planning:** Expand and enhance a capacity planning program in support of the missions. This program will assist missions in accommodating capacity needs arising from the installation of centrally developed and supported systems and the development and maintenance of local systems, all of which support the performance of mission activities. It will also ensure that capacity needs are satisfied for all platforms during the evolution to an "open" systems environment in the missions.

4.5.4. Software

The software strategy is characterized by two underlying forces, both addressing current shortcomings in methodology and goals. On the one hand, there is a need to resolve a critical vulnerability in the central accounting system (FACS) and to provide information systems which

respond to the needs of program and project managers. From a methodology point of view, the strategy is to institutionalize the discipline of developing systems, following a life cycle development methodology, giving emphasis to the data base approach, and maximizing the use of off-the-shelf solutions.

The change in hardware architecture necessitates the migration of some key applications, e.g., MACS, and the strategy is to take advantage of the migration to move from a third generation language, such as COBOL, to an RDBMS and fourth generation language.

The need to plan software development and minimize development costs drives the need for productivity tools throughout the life cycle.

The software initiatives primarily address the development, replacement, and/or enhancement of systems critical to A.I.D. operations, e.g., AWACS, RAMPS, MACS, and the New American Payroll System (NAPS). Other software initiatives include the development of systems for project management, application management, and mission administration, as well as the purchase/upgrade of off-the-shelf software for word processing, spreadsheet, and graphics applications. Critical to the issue of systems development is the need to define requirements accurately and completely, in order to preclude the unnecessary expenditure of funds to develop similar systems, when one standard system will suffice.

While the application development projects for A.I.D./W and the missions are shown in two separate activities (S-3 and S-4), there are linkages among the various projects. The ISP will be the vehicle for detailing these linkages.

The projects below are described in more detail on the Information Resources Management Activity Sheets in Section 4 of Appendix E.

S-1 A.I.D./W Accounting and Control System Acquisition/Development and Implementation

Acquire/develop and implement AWACS to replace FACS and selected other FM systems. AWACS will provide on a timely basis the financial information necessary to:

- . Meet the needs of A.I.D. management
- . Satisfy the reporting requirements set forth in the Foreign Assistance Act of 1961 (as amended), Foreign Assistance Appropriation Acts, and other legislation governing A.I.D.
- . Fulfill all requirements set forth by the General Accounting Office, Office of Management and Budget, Department of the Treasury, General Services Administration, and the Department of State.

AWACS will correct technical deficiencies in FACS, reduce the maintenance costs for A.I.D.'s primary accounting system, and be more responsive to changing requirements.

S-2 Implementation of Human Resources Systems for Personnel and Payroll

Explore the feasibility of moving operations of personnel and payroll systems to a Federal service bureau, such as the Department of Agriculture's National Finance Center (NFC), and replace the existing systems with that organization's systems.

RAMPS and NAPS are old systems, created almost 20 years ago, which are difficult to maintain and modify for growing numbers of legislatively required changes. Moving to a more modern operating system at another Federal agency will improve execution of the personnel management and payroll functions within A.I.D.

S-3 A.I.D./W Software Initiatives

Initiate and/or complete projects in support of the information needs of A.I.D./W organizational elements. The following projects are generally intended to develop and implement systems which will support the management and/or operational activities of these elements. Several of these projects should be coordinated with the AWACS effort, i.e., there should be automated interfaces to handle the interaction between systems containing financial data and the Agency's accounting system.

- (1) **Application Portfolio Analysis System:** Develop and implement a system for performing applications portfolio analysis for all A.I.D. applications. This system will facilitate the analysis of system effectiveness and aging and the identification of potential new applications. Initial input to this system will be the information resources management assessments and architectures produced by an information systems planning study (see Activity IPM-2).
- (2) **Systems Development Management and Status Reporting System:** Develop and implement a systems development management and status reporting system for all A.I.D. systems development projects. This system will facilitate the management of development activities and the use of available computer resources. It will also facilitate the institutionalization of the new LCDM and standards (see Activity IPM-4).
- (3) **Comprehensive Application Clearinghouse Listing System:** Develop and implement a single, multi-purpose application clearinghouse listing system to identify applications available to both A.I.D./W organizational components and the missions. The system will provide descriptions with sufficient functional and technical detail for effective evaluation by interested organizational elements. It will also facilitate implementation of the recommendations from a study of information resources management organizational roles and responsibilities study (see Activity IPM-3).
- (4) **Enhancement of the Automated Annual Budget Submission System:** Enhance the Automated ABS System. The system is designed to be used by the missions and A.I.D./W organizational elements to enter and maintain data related to their annual budget submissions to A.I.D./W. This data is required to fulfill Congressional and A.I.D. reporting requirements.

Current projects to enhance the system will be completed. New projects will be initiated and completed to enhance the capability of the system to analyze ABS data and to expand system features and functionality. These efforts will improve the execution of the financial management function.

- (5) **File Conversion for Vendor Profile Database Integration with A.I.D. Consultant Registry Information System:** Complete implementation of the file conversion project to integrate the VPD with ACRIS. This project is part of the effort to establish the VPD as A.I.D.'s authoritative data base for supplying vendor information to A.I.D. systems.

- (6) **Project Management Information System:** Complete the development and implementation of PMIS. This system is being developed using IDMS and will operate on the mainframe. It is being designed to support S&T project management information requirements, but will be accessible to all A.I.D./W organizational elements.
- (7) **Budget Plan Code Conversion for Mainframe Systems:** Complete projects for FM to convert certain mainframe systems to use budget plan codes instead of allotment codes. The conversion effort will bring the following systems into compliance with this financial management requirement:
- . CFR System (to be completed)
 - . U101 System (to be completed)
 - . General Ledger Accounting and Reporting System (GLARS) (to be initiated and completed)
 - . Cash Journal (to be initiated and completed).

Conversion entails modification of the system data structures and interfaces.

- (8) **PC-LAN-Based Bureau MISs:** Initiate and/or complete projects to develop and implement MISs for A.I.D./W bureaus. These systems will satisfy the MIS requirements and improve the program coordination and implementation of the client bureaus. The following systems will be designed to operate in a PC-LAN-based POSIX environment under an RDBMS on application file servers (see Activity H-3):
- . Disaster Management System for OFDA (to be completed)
 - . MIS for ENE (to be initiated and completed)
 - . Food For Peace MIS for FVA (to be initiated and completed)
 - . MIS Disaster Reporting Module for OFDA (to be initiated and completed).
- (9) **Participant Training Information System (PTIS) Migration to IDMS Environment:** Move PTIS for OIT from a non-DBMS-based environment on the mainframe to an IDMS environment. This project will correct deficiencies in the current system.
- (10) **Replacement of Loan Accounting Information System (LAIS):** Acquire/develop and implement a replacement for LAIS. The new system will correct current deficiencies in satisfying financial management information requirements and address current difficulties in using the system and accessing the data. This effort should be coordinated with the AWACS project (see Activity S-1).
- (11) **Executive Information System (EIS):** Develop and implement an EIS for A/A.I.D. to provide senior A.I.D. executives with summary-level data necessary for effective management. This system will support A.I.D. management activities at the highest levels.

- (12) **Decision Support System (DSS)--Redesign of Project Accounting Information System (PAIS):** Develop and implement a redesigned PAIS to ensure compatibility of data bases and consistent data definitions per the development and implementation of the DSS. The new system will operate on the mainframe under IDMS. The redesigned PAIS will improve execution of the financial management function.
- (13) **A.I.D.-Wide Correspondence and Document Tracking System:** Develop and implement an A.I.D.-wide full correspondence and document tracking system. This system will satisfy the need for a standard system for all of A.I.D. and will improve the execution of correspondence and document management activities. The system will be designed to operate in a PC-LAN environment. Where possible, the system will also make use of the imaging technologies, to transfer documents among senior executives (see Activity H-4(1)).
- (14) **Management Operations Support Systems:**
- **Resources Management Information System** to support MS/MO's management of its work flow and budget requirements. The system will incorporate functions of the Non-Expendable Property System and Administrative Purchasing System, along with other existing automated and manual record-keeping systems, to provide a comprehensive tracking and management information system. It will also emphasize the use of electronic document approval and transmission where possible. The new system will improve the execution of the operations management function.
 - **Replacement of the Permanent Storage Accounting System (PSAS)** to provide data onstorage of employee household effects and to ensure central accounting control and prompt payment. The new system will correct functional deficiencies of the old PSAS, including the lack of capability to monitor conformance with storage regulations and an inability to verify A.I.D. receipt of contract-specified storage discounts. It will also address technical deficiencies arising from system operation on obsolete hardware and the use of obsolete software. The new system will improve the execution of the operations management function.
- (15) **Payroll Administrative System:** Develop and implement a Payroll Administrative System to satisfy payroll administrative information requirements for PM. This system will address deficiencies in the administrative area not corrected by the redesigned NAPS.

S-4 U.S.A.I.D. Software Initiatives

Initiate and/or complete projects concerning applications for the missions. The primary applications consist mainly of various centrally developed and supported accounting, cost tracking, and management systems for the missions, e.g., MACS, MIDAS, VMS, NXP, and PTMS, which are either Wang VS-based or PC-based. They also include locally developed and supported applications at the missions, which are mainly Wang VS-based and satisfy a plethora of local information needs. All of these systems facilitate the performance of mission activities.

(1) **Integrated Mission Administrative Management System:** Integrate mission administrative management systems into a single mission system. This system will be developed, in accordance with A.I.D. data integration standards, to satisfy mission administrative management information needs. Initially, it will integrate other mission administrative systems to run from a single menu. Eventually, it will run as a single, unified system, satisfying the need for a unified administrative and cost management system. The system design will build from the analysis and design of an integrated administrative MIS for mission executive officers currently being performed by the Mission Systems Center in San Jose, Costa Rica. Ultimately, the system will be designed or converted to operate in a PC-based POSIX environment under an RDBMS.

(2) **Mission Program/Project Support Systems:**

- . **Socioeconomic Status System:** Develop and implement a system to provide mission economists and program/project managers ready access to socioeconomic and geographic data. This data will provide an objective basis for assessing and measuring program/project performance.
- . **Mission Program/Project Evaluation System:** Develop and implement a system to provide mission directors and A.I.D./W management (primarily PPC/CDIE) with evaluative information on programs/projects implemented at mission sites. This information will provide data for assessing and measuring program/project performance.

(3) **Other Applications for the Missions:**

- . **Installation and Maintenance of Current Applications:** Deliver for installation the centrally developed and supported systems at the remaining appropriate mission sites, and centrally maintain and support these systems during the evolution to an "open" systems architecture.
- . **Conversion/Migration to a PC-Based POSIX Environment under an RDBMS:** Convert/migrate the centrally developed and supported systems at individual mission sites, and assist in the conversion/migration of locally developed and supported systems. The new systems will satisfy additional information needs of the overseas missions.

(4) **Mission Program/Project Officer MIS:** Initiate and/or complete projects to satisfy the need for a mission program/project officer MIS. This system will facilitate the management and implementation of programs/projects by mission program/project officers and directors.

The Management Information/Decision Action System is a prototype project management system, designed to provide mission program/project officers and directors with information about the status of projects, as well as financial information. It is being designed to operate concurrently with MACS on the Wang VS (using PACE) at individual mission sites. The current MIDAS will be installed at selected mission sites on an as-needed or requested basis. The system will be centrally maintained and supported during the evolution to an "open" systems architecture.

(5) **Mission Accounting and Control System:** MACS is the primary administrative system for the missions, handling budgeting and accounting for operating expense and project funds. It is a major source of data for the management of the missions and their development programs/projects. Changes to MACS should take the AWACS project into consideration (see Activity S-1), to allow for automated interfacing between the two systems.

• **Conversion/Migration of MACS from VS COBOL to POSIX COBOL:** Convert/migrate MACS from a VS COBOL-based system to a POSIX COBOL-based system. This version of MACS will be made available to those missions that choose to purchase the interim generation of POSIX computers for MACS.

• **Conversion/Migration of MACS and MIDAS to a PC-Based POSIX Environment under an RDBMS:** Convert/migrate MACS and MIDAS to operate in a PC-based POSIX environment under an RDBMS at all mission sites that operate MACS. The new system will satisfy additional information needs of mission and A.I.D./W managers, the latter via a roll-up to the primary A.I.D. accounting system. This version of MACS and MIDAS will be made available to the missions via the centrally funded new generation of POSIX computers for MACS (see Activity H-3(3)).

Other projects will be added as necessary.

S-5 Contract Information Management System

Initiate and/or complete projects associated with CIMS. CIMS is the primary system for supporting A.I.D. contracting and contract management activities. It uses modules which are designed and developed for specific organizational elements and functional areas within A.I.D. In making modifications to CIMS, consideration should be given to automated interfaces with MACS overseas (see Activities S-4(1) and S-4(2)) and AWACS in A.I.D./W (see Activity S-1).

- (1) **Completion of CIMS Module Development and Installation:** Complete development and installation of additional modules for and enhancements to CIMS. The modules for A.I.D./W organizational elements include those for IG and OSDBU. The Host Country Contracting Module will be installed at remaining mission sites with contracting officers. Enhancements to existing and planned modules will continue.
- (2) **Maintenance of Current CIMS:** Maintain the current CIMS for both A.I.D./W organizational elements and the missions. (CIMS was developed using PACE and operates on the Wang VS.) The current enhanced modules will be centrally maintained and supported during the evolution to an "open" systems architecture.
- (3) **Conversion/Migration to a PC-Based POSIX Environment under an RDBMS:** Convert/migrate CIMS to operate in a PC-based POSIX environment under an RDBMS at A.I.D./W and individual mission sites. The new system will satisfy additional information needs of both A.I.D./W organizational elements and the missions.

S-6 American Electronic Time and Attendance (AETA) System Conversion/Migration

Convert/migrate AETA to operate in a PC-LAN-based POSIX environment under an RDBMS in A.I.D./W and at individual mission sites. Consideration should be given to the projects in Activity S-2 since, ultimately, the AETA data will be interfaced with the servicing system. The new system will satisfy current and additional personnel and payroll information needs for A.I.D./W organizational elements and the missions.

S-7 Installation of PC-Based Development Information System Product

Expand MicroDIS installation network by an additional 50 installations (for a total of 175 installations worldwide), including adding another 10 mission DICs to the network. MicroDIS is designed as an integrated library management system for PCs. It supports the programmatic activities of the missions by providing development information to mission program/project officers and directors.

4.5.5 Telecommunications

Critical to the implementation of any long-term Agency telecommunications strategy is the DOS telecommunications strategy, not only because of A.I.D.'s dependency on the cable system as the formal A.I.D. communications channel, but also because of the sharing of a voice system (ATT's Dimension 85) and, in some cases, data channels with missions. Furthermore, within the DOS strategy, the implementation of a worldwide data/voice/image network is one of the cornerstones for the 1990s.

Because the building of a telecommunications infrastructure is capital intensive, A.I.D.'s overall telecommunications strategy must be dependent on the DOS strategy. Critical to determining the degree of dependency will be the speed with which DOS implements DOSTN and the initial coverage of the network. A.I.D.'s missions have critical communications needs with A.I.D./W and other nodes in the continental United States. In the next two years, if the initial coverage and time schedule of DOSTN do not satisfy the Agency's needs, A.I.D. must find realistic alternatives from commercial value-added networks, at least as a stopgap measure, until DOSTN is in place in those countries where A.I.D.'s missions are located.

In addition, a careful re-examination of the premise underlying a wide area network in A.I.D./W will have to be undertaken in 1991. With the advent of microcomputers and the need to link them to serve the working group, the use of LANs as a key strategy will serve two purposes. Not only will the LAN provide the vehicle to implement an economic in-house E-Mail and data sharing solution, it will also shift the location for housing corporate data. This shift points to a decrease in the pivotal role the mainframe has played in A.I.D./W and, hence, calls into question its current role as the switching center in a wide area network.

Thus, the cornerstone of the telecommunications strategy for the next six years must be based on a set of key studies to be undertaken in the first two years of the Strategic Information Resources Management Plan. These studies will determine the degree of dependency on DOSTN, reformulate the architecture of a wide area network in A.I.D./W, and determine the minimal set of telecommunications functions that A.I.D. must satisfy in the 1990s, independent of DOS.

The telecommunications initiatives are primarily oriented toward studies to improve the near and longer term operational management of the telecommunications function. Because A.I.D. is dependent upon the Department of State for most communications services, the Agency is deferring any major (non-study) initiatives until the impact of DOSTN can be better assessed.

The projects listed below are described in more detail on the Information Resources Management Activity Sheets provided in Section 5 of Appendix E.

T-1 Network Architecture Planning

Develop the plan and strategy for the A.I.D. telecommunications network that will encompass requirements for A.I.D./W and mission data and voice communications, by evaluating the network resources required to support A.I.D. and integrating these requirements into a physical and logical network design.

- (1) Washington-Wide Area Network. Develop functional requirements and feasibility analyses to determine connectivity requirements for A.I.D./W. Changes in text and data flow patterns and volumes resulting from increased availability of computers and LANs require that the current topology and components be re-examined to identify the best mix of gateways and direct connectivity.
- (2) International Connectivity. Explore operationally and economically feasible alternative approaches (to ICS) for international text and data communications. Of particular interest is the exploration of value-added services and international X.25 services. This initiative primarily involves a policy dialogue between A.I.D. and DOS to address how it may be possible to take advantage of technology to enhance communications without adversely affecting national security or political concerns.

T-2 Voice Communications Initiatives

Implement projects to improve the voice communications system in A.I.D.

- (1) System 85 Network Administrative Improvement. Resolve operational and billing management issues related to the System 85 PBX network. This initiative will ensure that services rendered are adequately budgeted and monitored and call detail can be used to detect problems and influence behavior.
- (2) Voice Communications Cost Effectiveness. Determine whether the costs currently being expended by A.I.D./W for voice communications are competitive with those charged for similar services in the private sector. Analysis will include both premises switching and long distance services.

T-3 Text Communications Initiatives

Implement projects to improve the text communications system in A.I.D.

Continue a FY 1990 project to explore direct connectivity of A.I.D./W computers with the A.I.D./W cable room. The initiative will also explore the possibility of capitalizing on technology to connect missions electronically to the DOS cable system.

Expedite "incoming cable" distribution by expanding the schema used to determine action and information offices to include more key words. AMADS is being pilot tested in FY 1990 and will be analyzed for full deployment in FY 1991.

T-4 External Data Base Access

Assess the A.I.D./W connectivity requirements for external data bases and determine the most appropriate method for access, e.g., domestic packet.

I-5 Telecommunications Policy Study

Develop a formal policy statement that will govern the delivery and use of telecommunications services in the Agency. The development effort will address the delivery and use of voice and data communications (both in Washington and in the missions), as well as special forms of communication. Included will be the full range of telecommunications vehicles available to A.I.D., e.g., telephone, cable, FAX, ICS.

IRM ACTIVITIES BY A.I.D. GOALS

IRM ACTIVITIES	A.I.D. GOALS		
	AG1 GOAL MEASUREMENT	AG2 INTEGRATED VIEWS	AG3 DECENTRAL- IZATION
IPM-1 - STRATEGIC BUSINESS PLAN	X	X	X
IPM-2 - INFORMATION SYSTEMS PLAN	X	X	X
IPM-3 - IRM INTEGRATION	X	X	X
IPM-4 - LIFE CYCLE DEVELOPMENT METHODOLOGY			X
IPM-5 - ADP INFORMATION SECURITY			X
IPM-6 - REGIONAL INFORMATION CENTERS			X
IPM-7 - INFORMATION TRAINING	X	X	X
IPM-8 - TECHNICAL SUPPORT CENTERS	X	X	X
IPM-9 - DI TECHNICAL ASSISTANCE PROGRAM	X	X	X
IM-1 - DATA INITIATIVES			X
IM-2 - RDBMS FOR PCs AND LANs			X
IM-3 - RDBMS FOR MAINFRAMES			X
IM-4 - EXTERNAL DATA ACCESS	X	X	X

EXHIBIT 4-3

Previous Page Blank

IRM ACTIVITIES BY A.I.D. GOALS

IRM ACTIVITIES	A.I.D. GOALS		
	AG1 GOAL MEASUREMENT	AG2 INTEGRATED VIEWS	AG3 DECENTRAL- IZATION
H-1 - EXCELLENCE THRU AUTOMATION	X	X	X
H-2 - A.I.D./W HARDWARE INITIATIVES	X	X	X
H-3 - USAID HARDWARE INITIATIVES	X	X	X
H-4 - NEW TECHNOLOGY INITIATIVES		X	X
H-5 - CAPACITY PLANNING			X
S-1 - AWACS ACQUISITION/DEVELOPMENT			X
S-2 - HUMAN RESOURCES PERSONNEL/PAY SYSTEMS			X
S-3 - A.I.D./W SOFTWARE INITIATIVES	X	X	X
S-4 - USAID SOFTWARE INITIATIVES	X	X	X
S-5 - CIMS			X
S-6 - AETA			X
S-7 - MICRODIS INSTALLATION	X	X	X

EXHIBIT 4-3 (CONT.)

IRM ACTIVITIES BY A.I.D. GOALS

IRM ACTIVITIES	A.I.D. GOALS		
	AG1 GOAL MEASUREMENT	AG2 INTEGRATED VIEWS	AG3 DECENTRAL- IZATION
T-1 - NETWORK ARCHITECTURE PLAN	X	X	X
T-2 - VOICE COMMUNICATIONS INITIATIVES	X	X	X
T-3 - TEXT COMMUNICATIONS INITIATIVES	X	X	X
T-4 - EXTERNAL DATA BASE ACCESS		X	X
T-5 - A.I.D. TELECOMMUNICATIONS POLICY			X

EXHIBIT 4-3 (CONT.)

IRM ACTIVITIES BY IRM GOALS

IRM ACTIVITIES	IRM GOALS				
	IG1 INFRA- STRUCTURE	IG2 NETWORK CAPABILITY	IG3 SYSTEMS DEVELOPMENT	IG4 INFORMATION ARCHITECTURES	IG5 NEW TECHNOLOGIES
IPM-1 - STRATEGIC BUSINESS PLAN	X	X	X	X	X
IPM-2 - INFORMATION SYSTEMS PLAN	X				X
IPM-3 - IRM INTEGRATION	X				X
IPM-4 - LIFE CYCLE DEVELOPMENT METHODOLOGY	X				X
IPM-5 - ADP INFORMATION SECURITY			X		X
IPM-6 - REGIONAL INFORMATION CENTERS	X	X			X
IPM-7 - INFORMATION TRAINING	X	X	X	X	X
IPM-8 - TECHNICAL SUPPORT CENTERS	X	X	X	X	X
IPM-9 - DI TECHNICAL ASSISTANCE PROGRAM	X	X			X
IM-1 - DATA INITIATIVES	X	X	X	X	X
IM-2 - RDBMS FOR PCs AND LANs		X	X	X	X
IM-3 - RDBMS FOR MAINFRAMES		X	X	X	X
IM-4 - EXTERNAL DATA ACCESS		X		X	X

EXHIBIT 4-4

IRM ACTIVITIES BY IRM GOALS

IRM ACTIVITIES	IRM GOALS				
	IG1 INFRA- STRUCTURE	IG2 NETWORK CAPABILITY	IG3 SYSTEMS DEVELOPMENT	IG4 INFORMATION ARCHITECTURES	IG5 NEW TECHNOLOGIE
H-1 - EXCELLENCE THRU AUTOMATION		X	X		X
H-2 - A.I.D./W HARDWARE INITIATIVES		X	X	X	X
H-3 - USAID HARDWARE INITIATIVES		X	X	X	X
H-4 - NEW TECHNOLOGY INITIATIVES		X	X	X	X
H-5 - CAPACITY PLANNING			X	X	X
S-1 - AWACS ACQUISITION/ DEVELOPMENT			X		X
S-2 - HUMAN RESOURCES PERSONNEL/PAY SYSTEMS			X		X
S-3 - A.I.D./W SOF. /ARE INITIATIVES			X	X	X
S-4 - USAID SOFTWARE INITIATIVES			X		X
S-5 - CINC			X		X

EXHIBIT 4-4 (CONT.)

IRM ACTIVITIES BY IRM GOALS

IRM ACTIVITIES	IRM GOALS				
	IG1 INFRA- STRUCTURE	IG2 NETWORK CAPABILITY	IG3 SYSTEMS DEVELOPMENT	IG4 INFORMATION ARCHITECTURES	IG5 NEW TECHNOLOGIES
S-6 - AETA			X		X
S-7 - MICRODIS INSTALLATION			X	X	X
T-1 - NETWORK ARCHITECTURE PLAN		X			X
T-2 - VOICE COMMUNICATIONS INITIATIVES	X				X
T-3 - TEXT COMMUNICATIONS INITIATIVES	X	X	X	X	X
T-4 - EXTERNAL DATA BASE ACCESS		X	X		X
T-5 - A.I.D. TELECOMMUNICATIONS POLICY	X				X

EXHIBIT 4-4 (CONT.)

IRM ACTIVITIES BY A.I.D. FUNCTIONS

IRM ACTIVITIES	A.I.D. FUNCTIONS								
	F1 DEV. & BC. SUBJECT	F2 COMMODITIES	F3 DISASTER RELIEF	F4 SCIENCE & TECHNOLOGY	F5 PERSONNEL MANAGEMENT	F6 FINANCIAL MANAGEMENT	F7 CONTRACT MANAGEMENT	F8 INFO. RES. MANAGEMENT	F9 INTEGRATION FUNCTION
IPM-1 - STRAT BOIC BUSINESS PLAN	X	X	X	X	X	X	X	X	X
IPM-2 - INFO SYSTEMS PLAN	X	X	X	X	X	X	X	X	X
IPM-3 - IRM INTEGRATION	X	X	X	X	X	X	X	X	X
IPM-4 - LIFE CYCLE DEVEL METHODOLOGY								X	
IPM-5 - ADP INFO SECURITY								X	X
IPM-6 - REGIONAL INFO CENTERS	X	X	X	X	X	X	X	X	X
IPM-7 - INFO TRAINING	X	X	X	X	X	X	X	X	X
IPM-8 - TECH SUPPORT CENTERS	X	X	X	X	X	X	X	X	X
IPM-9 - DI TECH ASSISTANCE PROGRAM	X	X	X	X	X	X	X	X	X

- 71 -

Previous Page Blank

EXHIBIT 4-5

IRM ACTIVITIES BY A.I.D. FUNCTIONS (CONT.)

IRM ACTIVITIES	A.I.D. FUNCTIONS								
	F1 DEV. & EC. SUBJECT	F2 COMMODITIES	F3 DISASTER RELIEF	F4 SCIENCE & TECHNOLOGY	F5 PERSONNEL MANAGEMENT	F6 FINANCIAL MANAGEMENT	F7 CONTRACT MANAGEMENT	F8 INFO. RES. MANAGEMENT	F9 INTEGRATION FUNCTION
B4-1 - DATA INITIATIVES	X	X	X	X	X	X	X	X	X
B4-2 - ROOMS FOR PC/LAN	X	X	X	X	X	X	X	X	X
B4-3 - ROOMS FOR MAINFRAMES	X	X	X	X	X	X	X	X	X
B4-4 - EXTERNAL DATA ACCESS	X	X	X	X	X	X	X	X	X
H-1 - EXCELL THRU AUTOMATION	X	X	X	X	X	X	X	X	X
H-2 - A.I.D./W HARDWARE INITIATIVES	X	X	X	X	X	X	X	X	X
H-3 - USAID HARDWARE INITIATIVES	X	X	X	X	X	X	X	X	X
H-4 - NEW TECHNOLOGY INITIATIVES	X	X	X	X	X	X	X	X	X
H-5 - CAPACITY PLANNING					X	X	X	X	X

IRM ACTIVITIES BY A.I.D. FUNCTIONS (CONT.)

IRM ACTIVITIES	A.I.D. FUNCTIONS								
	F1 DEV. & IBC. SUPPORT	F2 COMMODITIES	F3 DISASTER RELIEF	F4 SCIENCE & TECHNOLOGY	F5 PERSONNEL MANAGEMENT	F6 FINANCIAL MANAGEMENT	F7 CONTRACT MANAGEMENT	F8 INFO. RES. MANAGEMENT	F9 INTEGRATION FUNCTION
S-1 - AWACS ACQUISITION/ DEVELOPMENT						X			
S-2 - HUMAN RES PERS/PAY SYSTEMS					X	X			
S-3 - AID/W SOFTWARE INITIATIVES	X	X	X	X	X	X	X	X	X
S-4 - USAID SOFTWARE INITIATIVES	X	X	X	X	X	X	X	X	X
S-5 - CBMS	X	X	X				X		
S-6 - ABTA					X	X			
S-7 - MICRODIS INSTALLATION	X	X	X	X					

IRM ACTIVITIES BY A.I.D. FUNCTIONS (CONT.)

IRM ACTIVITIES	A.I.D. FUNCTIONS								
	F1 DRY. & BC. SUPPORT	F2 COMMODITIES	F3 DISASTER RE/RE	F4 SCIENCE & TECHNOLOGY	F5 PERSONNEL MANAGEMENT	F6 FINANCIAL MANAGEMENT	F7 CONTRACT MANAGEMENT	F8 INFO. RES. MANAGEMENT	F9 INTEGRATION FUNCTION
T-1 - NETWORK ARCHITECT. PLAN	X	X	X	X	X	X	X	X	X
T-2 - VOICE T-COMM INITIATIVES	X	X	X	X	X	X	X	X	X
T-3 - TEXT T-COMM INITIATIVES	X	X	X	X	X	X	X	X	X
T-4 - EXTERNAL DATA BASE ACCESS	X	X	X	X	X	X	X	X	X
T-5 - A.I.D. T-COMM POLICY									X

4.6 Funding Considerations

The activities listed above are a comprehensive set of Agency information requirements. Most of these requirements, if undertaken immediately, could result in improvements in Agency efficiency and effectiveness. However, it is unrealistic in this time of Federal fiscal constraints to plan for resources to be made available at the level needed to undertake such an ambitious program. Consequently, we have developed a set of fiscal assumptions and have allocated resources against the requirements as constrained by those assumptions. The fiscal assumptions are as follows:

- . **FY 1991 - Funding is constrained to the level identified in the FY 1991 Congressional Presentation**
- . **FY 1992 - Funding is constrained to the level approved by the A.I.D. Administrator in the August 1990 budget review**
- . **FY 1993 - FY 1996**
 - .. **Previous year's base-level operations increases by a five percent per year inflation factor**
 - .. **Funding is projected for AWACS, including the purchase of a new mainframe in 1993, to accommodate parallel operations of FACS and AWACS, and a new data base management system, if necessary**
 - .. **Funding for new initiatives is projected at a rate of approximately \$8 million per year, plus a five percent inflation factor compounded annually.**

The base funding levels are those non-discretionary costs necessary to maintain current levels of support. They include some initiatives that can be accomplished by existing management staff on a part-time basis. Cost of government personnel are not included; costs of contract personnel are included.

The information resources management base funding includes funds for the following types of costs:

- . **MS/IRM**
 - .. **Contractors to operate central computers, maintain the existing portfolio of applications, and provide technical support for the central computer and end-user environments**
 - .. **Computer and data communications maintenance, leasing and services, minimal funding for replacement of obsolete equipment, and computer supplies and materials**
 - .. **Contractor support procurement, acquisition, inventory management, and directives management functions and studies, analyses, and evaluations.**
- . **MS/MO**
 - .. **Contractors to operate the telecommunications facilities and provide technical support for the central computer and end-user environments**
 - .. **Telephone, cable, and FAX equipment maintenance, leasing and services, minimal funding for replacement of obsolete equipment, and computer supplies and materials**

.. Operation of the records management function and contract support for microfiching historical records.

PPC/CDIE

Computer and data communications maintenance, leasing and services, minimal funding for replacement of obsolete equipment, and computer supplies and materials.

AA/MS

Maintenance of overseas computer equipment.

Missions

Replacement and upgrades of computers that are locally funded.

The strategy followed in prioritizing the initiatives was to concentrate in the early years on correcting infrastructure problems, so that the development of new service capabilities would be more efficient and effective in later years, and on completing critical, ongoing initiatives. In the later years, significant funding was allotted to the development of software and to fielding hardware.

The specific strategies followed in prioritizing the Plan initiatives are itemized below:

- . Fund base-level activities throughout the program years
- . In the first three years, fund those initiatives that will help rectify serious problems in the management of information resources: integration, infrastructure, and planning projects
- . Continue to give high priority to data initiatives throughout the program years, to rectify serious problems in managing and accessing data
- . Constrain new hardware and software initiatives to critical efforts that have been initiated previously, such as ETA, AWACS, and MACS projects, until an ISP is developed to provide a better road map and prioritization vehicle for the program
- . Constrain telecommunications initiatives to those which will better control costs, determine requirements, and plan new strategies, until the effect of the DOSTN project can be assessed.

Because the Agency does not yet have a vehicle, such as an ISP, to act as a framework and guide in the prioritization of its applications and hardware initiatives, this Plan assumes that the IMC will prioritize specific, later-year projects on a fiscal year basis, based on the then-current critical needs of the Agency and the then-anticipated funding levels.

Exhibits 4-6 through 4-9 display, in chart form, the application of these assumptions and strategies.

Summary of Funding Projections (Exhibit 4-6) displays, at a summary level by organizational element, funding projections for base-level operations and initiatives. Since several organizations share information resources management responsibility, we have attempted to show how each contributes to the program. However, since each of these organizations performs other non-information resources management functions, establishing an accurate picture of the base-level funding for the information resources management function was difficult. Therefore, these figures should be viewed as a reasonable approximation, but not necessarily a totally accurate representation, of base-level costs.

Summary of Funding Projections for Base-Level Operations (Exhibit 4-7) displays, by organizational element, funding projections for the major components of base-level operations.

Summary of Funding Projections for Initiatives (Exhibit 4-8) displays, by organization and program element, funding projections for initiatives.

Funding Projection by Initiative (Exhibit 4-9) displays funding projections for each initiative. This chart shows that several of the priority initiatives can be accommodated within base-level funding (or from carry-over funding from prior years). The chart also shows the funding requirements projected for priority initiatives in fiscal years 1991 and 1992 and sustainment levels of funding in the out years. Significant funding levels are projected for A.I.D./W Hardware (H2), A.I.D./W Software (S3), and U.S.A.I.D. Software (S4) initiatives. These initiatives each contain a wide array of potential projects which will compete on an annual basis for funding by the IMC. Other initiatives, such as Technical Support Centers (IPM8) and Capacity Planning (H5), will also compete with the hardware and software initiatives for allocation of funding by the IMC. Funding requirements for these initiatives can be found in the Activity Sheets in Appendix E.

**SUMMARY OF FUNDING PROJECTIONS
FOR FY 1991 THROUGH FY 1996**

ANNUAL TOTALS (000)

ORGANIZATION /IRM PROGRAM	91	92	93	94	95	96	TOTAL
MS/IRM:							
Base	11,735	12,680	13,314	13,980	14,679	15,413	81,801
Initiatives	2,537	5,065	13,000	5,251	5,512	5,787	37,152
MS/IRM Sub-Total	\$14,272	\$17,745	\$26,314	\$19,231	\$20,191	\$21,200	\$118,953
AA/MS *							
Base	\$3,122	\$3,054	\$3,217	\$3,378	\$3,547	\$3,724	\$20,052
Missions **							
Base/Initiatives	\$6,200	\$6,510	\$6,836	\$7,178	\$7,537	\$7,914	\$42,175
MS/MO *							
Base	6,489	6,831	6,908	6,988	7,072	7,161	41,449
Initiatives	423	567	614	550	578	607	3,339
MS/MO Sub-Total	\$6,912	\$7,398	\$7,522	\$7,538	\$7,650	\$7,768	\$44,788
PPC/CDIE *							
Base	235	250	263	276	290	305	1,619
Initiatives	240	100	50	50	50	50	540
PPC/CDIE Sub-Total	\$475	\$350	\$313	\$326	\$340	\$355	\$2,159
FM *							
Initiatives	\$4,500	\$2,751	\$2,250	\$2,350	\$1,875	\$1,250	\$14,976
Base TOTAL	\$27,781	\$29,335	\$30,538	\$31,800	\$33,125	\$34,517	\$187,096
Initiatives TOTAL	\$7,700	\$8,483	\$15,914	\$8,201	\$8,015	\$7,694	\$56,007
TOTAL	\$35,481	\$37,818	\$46,452	\$40,001	\$41,140	\$42,211	\$243,103

- * IRM portion of base budget.
- ** Included as base on supporting charts.

Exhibit 4-6

Previous Page Blank

**SUMMARY OF FUNDING PROJECTIONS FOR BASE OPERATIONS
FOR FY 1991 THROUGH FY 1996**

ANNUAL TOTALS (000)

ORGANIZATION /BASE	91	92	93	94	95	96	TOTAL
MS/IRM							
Appl/Sys Maintenance	3,375	3,540	3,717	3,903	4,098	4,303	22,936
Mini/Mnfrm Operations	1,565	1,780	1,869	1,963	2,061	2,164	11,402
Mainframe Programming	450	470	74	518	544	571	3,047
HW/SW Maint/Leasing	2,180	2,480	2,604	2,734	2,871	3,014	15,883
T-Comm Svc/Equipment	630	725	761	799	839	881	4,635
Tech Support Center	650	680	714	750	787	827	4,408
Overseas Support	1,750	1,800	1,890	1,985	2,084	2,188	11,697
Replacement Hardware	595	620	651	684	718	754	4,022
Proc/Acq/Inv Mgt	360	375	394	413	434	456	2,432
Supplies/Materials	20	150	157	165	174	182	948
Studies	60	60	63	66	69	73	391
MS/IRM Sub-Total	\$11,735	\$12,680	\$13,314	\$13,980	\$14,679	\$15,413	\$81,801
AA/MS *							
Overseas Maintenance	\$3,122	\$3,064	\$3,217	\$3,378	\$3,547	\$3,724	\$20,052
Missions *							
Overseas HW/SW	\$6,200	\$6,310	\$6,836	\$7,178	\$7,537	\$7,914	\$42,175
MS/MO *							
Cable	478	530	557	585	614	645	3,409
Records Management	914	993	1,043	1,095	1,150	1,208	6,403
Telephones	5,097	5,308	5,308	5,308	5,308	5,308	31,637
MS/MO Sub-Total	\$6,489	\$6,831	\$6,908	\$6,988	\$7,072	\$7,161	\$41,449
PPC/CDIE *							
Hardware	\$235	\$250	\$263	\$276	\$290	\$305	\$1,619
Base TOTAL	\$27,781	\$29,335	\$30,538	\$31,800	\$33,125	\$34,517	\$187,096

* IRM portion of base budget.

Exhibit 4-7

**SUMMARY OF FUNDING PROJECTIONS FOR INITIATIVES
FOR FY 1991 THROUGH FY 1996**

ANNUAL TOTALS (000)

ORGANIZATION /INITIATIVES	91	92	93	94	95	96	TOTAL
MS/TRM							
IRM Program Management	1,000	500	800	250	250	250	3,050
Information Mgt (Data)	50	650	650	650	650	250	2,900
Hardware	180	1,325	9,060	1,327	1,414	1,639	14,945
Software	1,157	2,290	2,490	3,024	3,198	3,648	15,807
Telecommunications	150	300	0	0	0	0	450
MS/TRM Sub-Total	\$2,537	\$5,065	\$13,000	\$5,251	\$5,512	\$5,787	\$37,152
MS/MO							
Telecommunications	\$423	\$567	\$614	\$550	\$578	\$607	\$3,339
PPC/CDIE							
Hardware	\$240	\$100	\$50	\$50	\$50	\$50	\$540
FM							
Software	\$4,500	\$2,751	\$2,250	\$2,350	\$1,875	\$1,250	\$14,976
Initiatives TOTAL	\$7,700	\$8,483	\$15,914	\$8,201	\$8,015	\$7,694	\$56,007

Exhibit 4-8

**FUNDING PROJECTIONS BY INITIATIVE
FOR FY 1991 THROUGH FY 1996**

ANNUAL TOTALS (000)

INITIATIVES	91	92	93	94	95	96	TOTAL
IPM1 Business Plan	BL	BL					0
IPM2 ISP	350	BL					350
IPM3 Integration	BL	BL					0
IPM4 LCDM	300	BL					300
IPM5 Security	350	500	800	250	250	250	2,400
IPM6 Regional Info Ctr							0
IPM7 Training							0
IPM8 Tech Support Center							0
IPM9 DI Tech Assistance	BL	BL	BL	BL	BL	BL	0
IPM Sub-Total	\$1,000	\$500	\$800	\$250	\$250	\$250	\$3,050
IM1 Data Initiatives	BL	550	550	550	550	150	2,350
IM2 RDBMS LAN	50	100	100	100	100	100	550
IM3 RDBMS Mainframe							0
IM4 External Data Bases	BL	BL	BL	BL	BL	BL	0
IM Sub-Total	\$50	\$650	\$650	\$650	\$650	\$250	\$2,900
H1 ETA							0
H2 A.I.D./W Hardware	420	1,425	9,110	1,377	1,464	1,689	15,485
H3 U.S.A.I.D. Hardware							0
H4 New Technology							0
H5 Capacity Planning							0
H Sub-Total	\$420	\$1,425	\$9,110	\$1,377	\$1,464	\$1,689	\$15,485
S1 AWACS	4,500	2,751	2,250	2,350	1,875	1,250	14,976
S2 Personnel/Payroll	100	340	240	240	240	240	1,400
S3 A.I.D./W Software	326	745	1,060	1,327	1,414	1,639	6,511
S4 U.S.A.I.D. Software	360	1,205	1,100	1,367	1,454	1,679	7,165
S5 CIMS	371	BL	40	40	40	40	531
S6 AETA	BL	BL	50	50	50	50	200
S7 DIS	BL	BL					0
S Sub-Total	\$5,657	\$5,041	\$4,740	\$5,374	\$5,073	\$4,898	\$30,783
T1 Network Plan	150	300					450
T2 Voice Initiatives	BL	BL					0
T3 Data Initiatives	423	567	614	550	578	607	3,339
T4 Time Sharing	BL	BL					0
T5 Policy	BL	BL					0
T Sub-Total	\$573	\$867	\$614	\$550	\$578	\$607	\$3,789
Initiatives TOTAL	\$7,700	\$8,483	\$15,914	\$8,201	\$8,015	\$7,694	\$56,007

BL = Base Level Funding

The DMC will prioritize and allocate funds to all initiatives without funding levels, in conjunction with the prioritization and allocation for H2, S3, & S4.

Exhibit 4-9

4.7 Plan Management

The Strategic Information Resource Management Plan was created through the joint efforts of the various information resources management users and providers and the IMC. The Plan was also developed and closely aligned with the FY 1991 budget submission. Execution of the Plan will be managed in a similar manner.

Without resources, the Plan is just a conceptual document. Once the budget is approved, resources will be allocated to projects through an IMC prioritization process. This prioritization and allocation process should take place as soon as the budget is authorized by Congress. The IMC will also determine the frequency with which the individual projects will receive program and status reviews and who will be responsible for conducting those reviews.

All reviews will place emphasis on:

- . Adherence to schedules
- . Problem identification and resolution
- . Reallocation of resources, as required.

The IMC will be responsible for reviewing the status of the most critical projects. As a first cut, this list might include:

. Monthly Reviews:

- .. AWACS
- .. ISP

. Quarterly Reviews:

- .. information resources management program management initiatives - all
- .. Information management initiatives - data modeling
- .. Hardware initiatives - ETA
- .. Software initiatives - two or three key applications
- .. Telecommunications initiatives - network architecture plan
- .. Other projects with issues/problems of interest to the IMC

. Mid-Year Reviews - All initiatives.

The offices responsible for each initiative will conduct monthly status reviews. These action offices will report to the IMC at the next monthly review meeting on problems or issues that are not resolvable or which impact other projects.

Some development projects will receive resources, as other projects are completed, via a reprioritization by the IMC. If the Agency is confronted with mission changes or other unexpected contingencies, the Plan will be reviewed in its entirety in light of the changed environment.

The ISP initiative (Activity IPM-2) will become the baseline for planning out-year information resources management initiatives. The existing set of initiatives will be validated or changed as a result of that planning effort. Until the ISP is completed and becomes the baseline, the list of key initiatives discussed under Measurements of Success in the Executive Summary of this Plan can be the vehicle for comparing objectives to accomplishments.

APPENDIX A
DOCUMENT REVIEW LIST

APPENDIX A - DOCUMENT REVIEW LIST

INVENTORIES

AID's ADP Systems Descriptions - Undated

Mission Application Systems Support (IRM) - Undated

Washington Services Projects Summary (IRM) - 04/09/90

Survey of Automated Systems in the Missions (IRM) - Cable and Compilation of Responses - 01/23/90

Summary of AID Owned Equipment Overseas (AIMSLIST) (IRM) - 01/18/90

A.I.D. Software Exchange Catalog (IRM) - 01/11/90

Systems: Main Frame; Wang VS; Pinkerton's OIS and VS Applications; Micro Computer; IRM/SM System Assignments (IRM) - 12/06/89

A.I.D. Automation Hardware and Software Review Lists (IRM) - 11/14/89

Automated Inventory Management System (AIMS) (IRM) - 04/16/89

Timesharing Services - Users, Monthly Cost, Description, FY 85 Obligation (IRM) - 08/15/85

STANDARDS

General Procedures for Site Assessments (IRM) - Undated

OMB Circular A-11 Report on Acquisition, Operating, and Use of Information Technology Systems (OMB) - 05/29/90

Communications Services to the Field (MS) - 01/31/90

Guidelines on Duties for Secretaries (DOS) - 11/28/89

Federal Information Systems and Technology Planning (OMB) - 08/22/89

Use of Facsimile Transmission (FAX) (DOS) - 07/21/89

Automation Security Guidebook (DH&I) - 04/15/88

Strategic Information Resources Management Planning Handbook (Revised) (GSA) - 10/00/87

System Manager's Guide (IRM) - 10/01/85

APPENDIX A - DOCUMENT REVIEW LIST (CONT.)

STANDARDS (CONT.)

Office of Management and Budget Circular A-130 (OMB) - 12/12/85

Information Processing Standards Manual (IRM) - 12/01/81

System Development Standards Reference Manual (IRM) - 01/21/80

STUDIES

Alternatives for Maintenance of Wang Equipment Installed Overseas (IRM) - Undated

Information Resource Life Cycle Management Study - Final Draft
(IRM) - Undated

A.I.D./Washington Telephone System Management Review (MS) - 02/20/90

Analysis of Local Area Network Architectures for New State (PDC) - 09/25/89

FACS System Review - 08/30/89

Opportunities for Information Management Within AID - Observations and Final Report (PDC)
- 06/28/89

Five-Year Strategy for Information Resources Management 1989-1993 - Final Report on
Recommended Strategy and Implementation Steps (Booz-Allen) - 06/00/88

Five-Year Information Resources Management Strategy Study - Management Briefing on
Recommended IRM Five-Year Strategy 1989-1993 and Implementation Steps - Draft
(Booz-Allen) - 03/18/88

Five-Year Information Resources Management Strategy Study - Management Briefing on
USAID and AID/W Requirements 1989-93 (Booz-Allen) - 01/00/88

Management Improvement ("The Minicomputer Program of the Department of State") (DOS) -
07/29/86

International Communications System Impact Analysis (Booz-Allen) - 07/09/85

REQUIREMENTS

~~Near East Bureau Automated Requirements Study (Booz-Allen) - Undated~~

AFR/TR Office Automation Survey and Needs Assessment - Draft (Management Systems
International) - 02/00/90

APPENDIX A - DOCUMENT REVIEW LIST (CONT.)

REQUIREMENTS (CONT.)

Automated Systems in the Mission (USAID/New Dehli) - 02/16/90
Use of/Need for Automated Systems in the Mission (USAID/Jakarta) - 02/06/90
Summary Report on Mid-Level Management Information System Needs (Trayfors) - 06/00/89
Statement of LAC Management Information Goals and Objectives to the Agency Information Management Committee (LAC) - 03/21/89

PLANNING

A.I.D. Automation - Undated
Information Management Committee Meeting Notes (IRM) - Various Dates
Addendum to Proposed Excellence Through Automation Implementation Schedule (IRM) - 05/09/90
U.S. Department of State Information Management - Strategic Issues and Goals - Draft (DOS) - 04/19/90
A.I.D. Management Objectives 1990 MBO - 02/16/90
Improving Agency Efficiency (Bellinger Report) (A.I.D.) - 01/24/90
Agency Vision and IRM Goals (IMC) - 10/05/89
Information Management Projects FY 1991 (IRM) - 09/00/89
Information Management Strategy (IMC) - 06/16/89
Addressing Information Management Problems (PPC) - 12/23/88
Management of AID's Automation Resources (IRM) - 10/28/86
"Blueprint for Development" - The Strategic Plan of the Agency for International Development (A.I.D.) - 06/00/85

BUDGET

~~IRM/WS Budget Submission - Revised (IRM) - 04/12/90~~
FY-91 & 92 IRM/WS Budget (IRM) - 03/09/90
Agency for International Development - Congressional Presentation - Fiscal Year 1991 - Main Volume (A.I.D.) - 02/20/90

APPENDIX A - DOCUMENT REVIEW LIST (CONT.)

BUDGET (CONT.)

Automation Support Services FY 1990 with Buy-Downs (IRM) - 01/31/90

Benefit/Cost Analyses (IRM)

- Standardized Data Structures and Definitions - Undated**
- Data Administration - Undated**
- Modernizing CFR and U101 - Undated**
- Improving the Agency's Financial Accounting System (FACS) - Undated**
- Consolidation of Electronic Communications and Building Communications Services at New State - 10/28/89**
- Printer Replacement Project - 10/25/89**
- Automatic Upgrades in A.I.D. Buildings Outside New State - 10/25/89**
- Improve International Communications System - 07/14/89**
- Replace Ineffective Printers - 07/14/89**
- Automated Voucher Tracking - MACS - 07/13/89**
- Automate the ABS - 07/12/89**

Agency for International Development - Congressional Presentation - Fiscal Year 1990 - Main Volume (A.I.D.) - 01/10/89

MISCELLANEOUS

Presentation of the Task Force on Foreign Assistance to the House Foreign Affairs Committee - Undated

Technical Specifications for Disaster Recovery and Related Issues - Final Report (D&T) - 05/23/90

Available Disaster Recovery Services - Interim Report (D&T) - 04/16/90

A.I.D. Communications Network - 04/03/90

Message from the Administrator (Roskens) - 03/22/90

LAC Bureau Objectives (LAC) - 03/16/90

IMAGE, Vision for the Future (ANE) - 03/09/90

Excellence Through Automation Newsletter (IRM) - 02/00/90

Testimony of Administrator Designate, Dr. Ronald W. Roskens, before the Senate Foreign Relations Committee - 02/27/90

APPENDIX A - DOCUMENT REVIEW LIST (CONT.)

MISCELLANEOUS (CONT.)

A.I.D. Handbook 17 - AID Organization Handbook (A.I.D.) - 01/17/90

**Statement of Work for Establishing Backup Site for AID's Automated Sensitive Systems (IRM)
- 12/07/89**

A.I.D. Handbook 1 - Policy (A.I.D.) - 10/01/89

Remarks of Mark L. Edelman at Swearing-In Ceremony as Deputy Administrator - 07/26/89

**A.I.D. Handbook 3S - Project Officer's Guidebooks and AID Evaluation Handbook (A.I.D.) -
03/01/89**

**Development and the National Interest - U.S. Economic Assistance into the 21st Century
(A.I.D.) - 02/17/89**

A.I.D. Handbook 18 - Information Services (A.I.D.) - 06/16/88

OTHER DOCUMENTS

Management of Electronic Records: Issues and Guidelines (U.N.) - 1990

**NASA Strategic Automation Management Plan (STAMPS) - Executive Summary (Volume) Plan
(Volume) (PRC) - 01/00/86**

**A Management System for the Information Business: Organizational Analysis (Van Schaik) -
1985**

**Information Resources Management Plan, FY86-FY90 - Foreign Agricultural Service -
07/15/85**

APPENDIX B
A.L.D. INTERVIEW LIST

APPENDIX B - A.I.D. INTERVIEW LIST

A.I.D./Washington

Office of the Administrator

Alexander R. Love, Counselor to the Agency
Francis J. Kenefick, Special Assistant to the Counselor

Bureau for Program and Policy Coordination

George A. Laudato, Deputy Assistant Administrator, and
Co-chairman IMC
Richard C. Nygard, Deputy Assistant Administrator
James E. Painter, Deputy Associate Assistant Administrator,
Office of Planning and Budgeting
Maury D. Brown, Chief, Development Information Division,
Center for Development Information and Evaluation
Richard DiCiurcio, Data Administrator

Bureau for Science and Technology

Douglas Sheldon, Director, Office of Program, and Member
IMC
David A. Erbe, Deputy Director, Office of Program
Ralph W. Cummings, Jr., Deputy Agency Director for Food and
Agriculture
Shirley A. Toth, Program Analyst, Office of Energy
Kay A. Harley, Director, Office of Management
Sharon A. Carney, Systems Manager, Office of Management
Genease E. Pettigrew, Office of Health

Bureau for Management Services

Michael Doyle, Assistant to the Administrator
John F. Owens, Deputy Assistant to the Administrator, and
Co-chairman IMC

Office of Management Operations

Charles D. McMakin, Director
Ralph A. Williams, Acting Director

Office of Information Resources

Sally D. Goldberg, Director
Paul P. Spishak, Deputy Director
Herbert B. Thompson, Chief, Special Projects Staff

APPENDIX B - A.I.D. INTERVIEW LIST (CONT.)

A.I.D./Washington (Cont.)

Wayne H. Van Vechten, Chief, Planning and Evaluation
Division
Lawrence E. Livesay, Chief, Mission & Project Services
Division
Steven F. Renz, Chief, Technical Support Division
Joseph E. Heffern, Chief, Automation Support Division
William M. Schauflier, Chief, A.I.D./W Services
Division
Eugene M. Dwyer, Chief, Systems Management Division
Dianne L. Arnold, Automation Support Division
Patricia L. Kristobek, Automation Support Division

Bureau for Personnel and Financial Management

Office of Personnel Management

David G. Mein, Chief, Foreign Service Personnel
Division
Jeanette M. Barrow, Chief, Civil Service Personnel
Division
Evelyn P. Hooker, Chief, Personnel Systems & Program
Evaluation Staff
Lucy M. Sotar, Chief, Training Division
John K. Jessup, Jr., Chief, Administrative and Special
Training Branch, Training Division
M. Cary Kauffman, Administrative and Special Training
Branch, Training Division

Office of Financial Management

Michael G. Usnick, Controller
John Kelley, former Project Manager for FACS Replacement
Bruce K. Birnberg, Former Chief, Financial Systems
Division
Mark S. Matthews, Deputy Controller for Overseas
Operations
Elmer S. Owens, Deputy Controller for Accounting
Operations
Gary Eidet, Project Manager for AWACS

Bureau for Africa

James L. Govan, Deputy Director, Office of Development
Planning
Louis C. Stamberg, Chief, Program Analysis and Budget
Division, Office of Development Planning

APPENDIX B - A.I.D. INTERVIEW LIST (CONT.)

A.I.D./Washington (Cont.)

Glenn C. Cauvin, Program Analysis and Budget Division,
Office of Development Planning
Donald R. Mackenzie, Chief, Program and Regional Operations
Staff, Office of Technical Resources
Charles Gary Merritt, Chief, Population and Nutrition
Division, Office of Technical Resources

Bureau for Asia, Near East & Europe

John S. Blackton, Deputy Assistant Administrator
Jerry M. Jordan, Director, Executive Management Staff
Bruce J. Odell, Director, Office of Project Development,
and Member IMC

Bureau for Latin America and The Caribbean

Honorable James Michaels, Assistant Administrator
William R. Granger, Director, Executive Management Staff
Robert S. Meehan, Chief, Program Analysis and Budget
Division, Office of Development Programs, and Member IMC
Elizabeth A. Mills, Deputy Director, Executive Management
Staff
Jeffrey W. Evans, Deputy Director, Office of Development
Resources
Hjalmar P. Kolar, Assistant Director/Dominican Republic,
Office of Caribbean Affairs
Elizabeth B. Warfield, Project Support Staff, Office of
Development Resources
Elaine Estep, Executive Management Staff
Umeki G. Thorne, Executive Management Staff
Michael Anderson, Project Officer

Field Organizations

U.S.A.I.D. Costa Rica

Carl Leonard, Mission Director
Tom Clarkson, Controller
Carlos Sanz, Controller's Office
John S. Johns, Executive Officer
Fernando Giacomini, ADP Systems Manager, Executive Office
Faith Keiterman, Communications and Records, Executive
Office
Rick Garland, Project Development Officer
Ligia Carvajal, Project Development Office

APPENDIX B - A.I.D. INTERVIEW LIST (CONT.)

Field Organizations (Cont.)

Richard Burke, Chief, Programs Office
Marta Huerga, Programs Office
Linda Gutierrez, Regional Administration of Justice Office
Lynn Hambergren, Regional Administration of Justice Office
Elaine Grigsby, Economics Officer
Ross Wherry, Rural Development Officer
Kenneth Lanza, Office of Public Sector
Betsy Murray, General Development Officer
Patricia Monge, Office of Training Development
Norma Wolter, ROCAP

U.S.A.I.D. El Salvador

Hank Bassford, Mission Director
Gerry Nell, Executive Officer
Cathy O'Meara, ADP Systems Manager, Executive Office
Frank Breen, Controller
John Heard, Assistant Mission Director, Operations
Bill Kaschak, Assistant Mission Director, Programs
Kraig Baier, Infrastructure and Rural Development
Deborah Kennedy, Projects Officer
Julian Heriot, Economic and Commercial Officer
Spike Stephenson, Office of Private Enterprise
Patsy Layne, Chief, Office of Education and Training
Claude Boyd, Office of Education and Training
Thom McKee, Chief, Development Planning and Programming Office
Ted Bratrud, Development Planning and Programming Office

U.S.A.I.D. Niger

George Eaton, Mission Director
Valerie Dickson-Horton, Deputy Mission Director
Anthony Vodraska, Executive Officer
Pamela Callen, Controller
Jack Slattery, Chief of General Development Office
Charles Kelly, Chief of Disaster Relief Unit
Ernest F. Gibson, Chief of Agriculture Development Office
Beatrice K. Beyer, Chief of Program Office
John Mitchell, Agricultural Development Officer

APPENDIX B - A.I.D. INTERVIEW LIST (CONT.)

Field Organizations (Cont.)

U.S.A.I.D. Pakistan

James Norris, Mission Director
John Martin, Executive Officer
Linda Martin, Deputy Controller
Virgil Miedema, Office of Program
David Johnston, Office of Energy
Anjum Ahemad, Office of Energy
Jerry Anderson, Office of Project Development & Monitoring
Gordon West, Office of Project Development & Monitoring
Marilyn Buchan, Office of Contracts and Commodities
Steve Klaus, Office of Contracts and Commodities
Richard Goldman, Office of Agriculture and Rural
Development
Joe Ryan, Chief Economist, Office of Program
Harry Dickherber, Office of Agriculture and Rural
Development
Nauman Bin Muhammad, ADP Manager
ADP Committee

REDSO/WCA Cote D'Ivoire

Arthur Fell, Mission Director
Douglas Arnold, Controller
Mike Fritz, Executive Officer
Gerald Render, Acting Head, Office of Procurement
Paul F. Mulligan, Director, Program Analysis & Evaluation
Charles Moseley, Director, General Development Office
Wayne King, Director, Project Development Office
Dave Mandell, Deputy Director, Project Development Office
Buayan Bryant, Regional Legal Advisor
Richard Fraenkel, Program Analysis & Evaluation Division
Dave Washburn, Regional Data Management Analyst, Office of
the Controller
Joel Cotton, Regional Data Management Analyst, Office of
the Controller

Department of State Information Resources Management Officials

Joseph F. Acquavella, Acting Deputy Assistant Secretary,
Deputy Assistant Secretary for Planning and Development,
Diplomatic Security
Bruce F. Morrison, Director, Office of Plans, Deputy
Assistant Secretary for Planning and Development,
Diplomatic Security
Robert L. Luniak, Chief, Digital Systems, Diplomatic Security
James Materazzo, FTS 2000 Engineering Specialist, Digital Systems, Diplomatic Security

APPENDIX C

A.I.D. /FUNCTIONAL ACTIVITIES

C-1

97

APPENDIX C - A.I.D. FUNCTIONAL ACTIVITIES

The activities of the United States Agency for International Development, in support of the functions for which the Agency is responsible, are as follows:

- F1 Provide development and economic support and assistance to recipient countries in the areas of: agricultural development, rural development, and nutrition; health; child survival; population planning, education, and human resource development; energy; natural resources development and environmental planning; and private enterprise development**
 - A1 Prepare assistance policies**
 - A2 Prepare long-range program plans, analyses, sector assistance strategies, and project analyses, designs, and assessments**
 - A3 Analyze problems and formulate the Agency's position on major U.S. foreign development policies**
 - A4 Implement approved programs and projects**
 - A5 Implement policies which encourage the development of democratic institutions, the furtherance of human rights, the integration of women in national economies, the integrated use of capital, technical, and other assistance, and the promotion of trade and investment**
 - A6 Promote regional self-reliance and self-sustaining economic growth**
 - A7 Provide grants and loans to sustain economic activity and restore economic equilibrium, to address basic development needs, and to improve the infrastructure**
 - A8 Provide grants to private U.S. nonprofit organizations sponsoring American schools and hospitals abroad**
 - A9 Guarantee repayment to U.S. lenders which provide private financing for shelter for lower income families**

- F2 Administer U.S. government commodities programs to recipient countries**
 - A1 Administer the sale/donation of various commodities**
 - A2 Administer the Food for Development Programs**
 - A3 Administer the surplus agricultural commodity program**

- F3 Plan and implement overseas relief, rehabilitation, preparedness, early warning, and mitigation, for humanitarian and disaster relief purposes, in countries stricken or threatened by natural or man-made disasters**
 - A1 Formulate U.S. assistance policies**
 - A2 Coordinate assistance activities among elements of the U.S. government**
 - A3 Maintain contingency planning and preparedness**
 - A4 Mobilize U.S. government resources**
 - A5 Promote and support preparedness programs**
 - A6 Direct the disaster coordination center in Washington, D.C.**

APPENDIX C - A.T.P. FUNCTIONAL ACTIVITIES (CONT.)

F4 Support research to explore the potential uses of emerging technologies for development, and projects to strengthen the capacity of recipient countries to broaden the range of technologies in use and take advantage of new technologies

- A1 Provide direction and resources to U.S., international, and recipient countries' educational, scientific, and technical communities
- A2 Develop sectoral strategies and methodologies
- A3 Arrange for field service needs to be met
- A4 Mobilize resources to provide assistance
- A5 Coordinate with other U.S. agencies, international organizations, universities, and other private sector groups

F5 Conduct personnel management activities in support of other A.I.D. functions

- A1 Develop, maintain, and administer personnel management policies, procedures, standards, and regulations
- A2 Develop personnel management information systems and processes
- A3 Perform collective bargaining and administer grievance procedures
- A4 Classify positions
- A5 Recruit, hire, assign, train, counsel, evaluate, and assist in the career development of personnel
- A6 Perform position management

F6 Conduct financial management activities in support of other A.I.D. functions

- A1 Develop, maintain, and administer financial management policies, procedures, standards, and regulations
- A2 Develop financial accounting and financial management information systems and processes
- A3 Conduct financial analyses
- A4 Plan, develop, and maintain the budget
- A5 Plan, develop, and maintain appropriation accounting
- A6 Plan, develop, and maintain program accounting
- A7 Plan, develop, and maintain operating expense accounting
- A8 Plan, develop, and maintain the grant/loan program
- A9 Calculate, control, and make payments
- A10 Perform cash management
- A11 Perform debt collection

F7 Conduct contract and commodity management activities in support of other A.I.D. functions

- A1 Develop, maintain, and administer contract and commodity management policies, procedures, standards, and regulations
- A2 Develop contract and commodity management information systems and processes
- A3 Administer the commodity import programs
- A4 Implement requirements for commodity marking and labeling

APPENDIX C - A.I.D. FUNCTIONAL ACTIVITIES (CONT.)

F8 Conduct information resources management activities in support of other A.I.D. functions

- A1 Develop, maintain, and administer information resources management policies, procedures, standards, and regulations**
- A2 Provide automation services to A.I.D. organizations**
- A3 Develop, implement, and maintain information systems**
- A4 Provide technical assistance to A.I.D. -funded projects**
- A5 Provide records management**
- A6 Administer programs related to telecommunications, mail and diplomatic pouch, printing and graphics, and other related support**

F9 Integrate and manage all A.I.D. functions

- A1 Develop, maintain, and administer administrative and logistical policies, procedures, standards, and regulations**
- A2 Develop administrative and logistical information systems and processes**
- A3 Administer programs related to travel and transportation**
- A4 Administer programs related to real and personal property, administrative purchasing, and logistical support**
- A5 Conduct audits and investigations**
- A6 Perform all legal activities**
- A7 Administer equal opportunity program**
- A8 Administer small and disadvantaged business program**
- A9 Respond to external requests for information**
- A10 Coordinate among all A.I.D. functions and activities**

APPENDIX D
A.I.D. FIELD ORGANIZATION LISTING

D-1

101

APPENDIX D - A.I.D. FIELD ORGANIZATION LISTING

Africa

- . U.S.A.I.D. Botswana
- . U.S.A.I.D. Burkina Faso
- . U.S.A.I.D. Cameroon
- . U.S.A.I.D. Guinea
- . U.S.A.I.D. Kenya
- . U.S.A.I.D. Lesotho
- . U.S.A.I.D. Liberia
- . U.S.A.I.D. Madagascar
- . U.S.A.I.D. Malawi
- . U.S.A.I.D. Mali
- . U.S.A.I.D. Mozambique
- . U.S.A.I.D. Niger
- . U.S.A.I.D. Republic of South Africa
- . U.S.A.I.D. Republic of Zaire
- . U.S.A.I.D. Rwanda
- . U.S.A.I.D. Senegal
- . U.S.A.I.D. Somalia
- . U.S.A.I.D. Sudan
- . U.S.A.I.D. Swaziland
- . U.S.A.I.D. Tanzania
- . U.S.A.I.D. Uganda
- . U.S.A.I.D. Zambia
- . U.S.A.I.D. Zimbabwe

- . Office of A.I.D. Representative Burundi
- . Office of A.I.D. Representative Cape Verde
- . Office of A.I.D. Representative Chad
- . Office of A.I.D. Representative Ethiopia
- . Office of A.I.D. Representative Ghana
- . Office of A.I.D. Representative Guinea-Bissau
- . Office of A.I.D. Representative Mauritania
- . Office of A.I.D. Representative The Gambia
- . Office of A.I.D. Representative Togo

- . A.I.D. Section of Embassy Nigeria

- . Regional Economic Development Services Office/West Central Africa (REDSO/WCA) Cote
D'Ivoire
- . REDSO for East and Southern Africa (ESA) Kenya

- . Regional Housing and Urban Development Office/East Africa (RHUDO/EA) Cote
D'Ivoire
- . RHUDO/West Africa (WA) Kenya

- . Office of Regional Inspector General for Audit and Investigations (RIG) Dakar
- . RIG Nairobi

APPENDIX D - A.I.D. FIELD ORGANIZATION LISTING (CONT.)

Latin America and The Caribbean

- . U.S.A.I.D. Bolivia
- . U.S.A.I.D. Costa Rica
- . U.S.A.I.D. Dominican Republic
- . U.S.A.I.D. Ecuador
- . U.S.A.I.D. El Salvador
- . U.S.A.I.D. Guatemala
- . U.S.A.I.D. Haiti
- . U.S.A.I.D. Honduras
- . U.S.A.I.D. Jamaica
- . U.S.A.I.D. Nicaragua
- . U.S.A.I.D. Panama
- . U.S.A.I.D. Peru

- . Office of A.I.D. Representative Belize
- . Office of A.I.D. Representative Brazil
- . Office of A.I.D. Representative Chile
- . Office of A.I.D. Representative Colombia
- . Office of A.I.D. Representative Mexico
- . Office of A.I.D. Representative Uruguay

- . A.I.D. Section of Embassy Paraguay

- . Regional Development Office/Caribbean (RDO/C) Barbados
- . Regional Office for Central American Programs (ROCAP) Guatemala

- . RHUDO/Central America (CA) Honduras
- . RHUDO/Caribbean (CAR) Jamaica
- . RHUDO/South America (SA) Panama

- . RIG Tegucigalpa

Europe and the Near East

- . U.S.A.I.D. Egypt
- . U.S.A.I.D. Morocco
- . U.S.A.I.D. Jordan
- . U.S.A.I.D. Tunisia
- . U.S.A.I.D. Yemen Arab Republic

- . Office of A.I.D. Representative Lebanon
- . Office of A.I.D. Representative Oman

- . Regional Contract Officer Morocco
- . Regional Economic Advisor/Jordan
- . Regional Legal Advisor Morocco

APPENDIX D - A.I.D. FIELD ORGANIZATION LISTING (CONT.)

Europe and the Near East (Cont.)

- . RHUDO/Near East
- . RIG Cairo
- . Office of Development Affairs, World Food Program (WFP) and Food and Agriculture Organization (FAO), and International Fund for Agricultural Development (IFAD) Rome
- . Office of the A.I.D. Development Assistance Coordinator/U.S. Mission to the United Nations Agencies for Food and Agriculture in Rome (FODAG) Rome
- . Office of the U.S. Representative to the Development Assistance Committee of the Organization for Economic Cooperation and Development (DAC/OECD) Paris
- . Office of U.S. Joint Commission Oman

Asia and Private Enterprise

- . U.S.A.I.D. Bangladesh
- . U.S.A.I.D. India
- . U.S.A.I.D. Indonesia
- . U.S.A.I.D. Nepal
- . U.S.A.I.D. Pakistan
- . U.S.A.I.D. Philippines
- . U.S.A.I.D. Sri Lanka
- . U.S.A.I.D. Thailand

- . Office of A.I.D. Representative Afghanistan
- . Office of A.I.D. Representative Burma
- . Office of A.I.D. Representative Portugal

- . RDO/South Pacific (RDO/S Pacific) Fiji

- . RHUDO/Asia

- . RIG Manila
- . RIG Singapore

- . Office of Association of South East Asian Nations (ASEAN) Liaison Manila
- . Office of the U.S. Executive Director, Asian Development Bank (ADB) Manila

APPENDIX E
INFORMATION RESOURCES MANAGEMENT ACTIVITY SHEETS
(FY 1991 - 1996)

INDEX OF INFORMATION RESOURCES MANAGEMENT ACTIVITIES

<u>ACTIVITY NUMBER</u>	<u>ACTIVITY NAME</u>	<u>PAGE</u>
<u>Information Resources Management Program Management</u>		E-5
IPM-0	Operations and Maintenance	E-7
IPM-1	Strategic Business Plan	E-11
IPM-2	Information Systems Planning Study	E-13
IPM-3	Information Resources Management Integration	E-17
IPM-4	Systems Life Cycle Development Methodology	E-21
IPM-5	ADP Information Security	E-25
IPM-6	Robust Regional Information Centers	E-29
IPM-7	Enhanced Information Training Program	E-33
IPM-8	Technical Support Centers in Each Major A.I.D./W Location	E-35
IPM-9	Technical Assistance Program for Africa, Latin America and the Caribbean, Europe and the Near East, Asia and Private Enterprise, and Science and Technology Bureaus	E-37
 <u>Information Management</u>		 E-39
IM-1	Data Initiatives	E-41
IM-2	Relational Data Base Management System for Personal Computers and Local Area Networks	E-45
IM-3	Relational Data Base Management System for Mainframe Computers	E-47
IM-4	Access to Other Organizations' Data	E-49
 <u>Hardware</u>		 E-51
H-1	Excellence Through Automation Initiative for A.I.D./W	E-53
H-2	A.I.D./W Hardware Initiatives	E-57
H-3	U.S.A.I.D. Hardware Initiatives	E-61
H-4	New Technology Initiatives	E-65
H-5	Capacity Planning Initiatives	E-69

INDEX OF INFORMATION RESOURCES MANAGEMENT ACTIVITIES
(CONT.)

<u>ACTIVITY NUMBER</u>	<u>ACTIVITY NAME</u>	<u>PAGE</u>
<u>Software</u>		E-71
S-1	A.I.D./W Accounting and Control System Acquisition/Development and Implementation	E-73
S-2	Implementation of Human Resources Systems for Personnel and Payroll	E-77
S-3	A.I.D./W Software Initiatives	E-79
S-4	U.S.A.I.D. Software Initiatives	E-87
S-5	Contract Information Management System	E-93
S-6	American Electronic Time and Attendance (AETA) System Conversion/Migration	E-97
S-7	Installation of PC-Based Development Information System Product	E-99
<u>Telecommunications</u>		E-101
T-1	Network Architecture Planning	E-103
T-2	Voice Communications Initiatives	E-107
T-3	Text Communications Initiatives	E-111
T-4	External Data Base Access	E-115
T-5	Telecommunications Policy Study	E-117

APPENDIX E

INFORMATION RESOURCES MANAGEMENT ACTIVITY SHEETS
(FY 1991 - 1996)

SECTION 1 - INFORMATION RESOURCES MANAGEMENT PROGRAM MANAGEMENT

ACTIVITY TITLE: Operations and Maintenance

ACTIVITY CODE: IPM-0

AGENCY GOAL CROSS REFERENCE(S): AG1 - AG3

FUNCTION/ACTIVITY CROSS REFERENCE(S): F1 - F9

IRM GOAL CROSS REFERENCE(S): IG1 - IG4

BUDGET CODE CROSS REFERENCE(S): MS/IRM - P113, P119, P121, P129,
P131, P132, P141, P142, P144, P145,
P151, P152, P153, P211, P212, P213,
P221, P222, P400, P530
MS/MO - R111, R160, R181, R500
PPC/CDIE
AA/MS
Missions

STATUS: Continuation

RESPONSIBLE OFFICE(S): MS/IRM, MS/MO, PPC/CDIE, AA/MS, Missions

AGENCY (IMC) PRIORITY: FY 1991

1. **OBJECTIVE STATEMENT:** To supply the operations and maintenance support required to maintain the basic level and quality of service in support of the information resources needs of A.I.D.
2. **BACKGROUND:** A.I.D. provides certain operations and maintenance support in order to meet the basic information resources requirements of the Agency.
3. **APPROACH:** A.I.D. provides information resources operations and maintenance support to its users through five organizational elements - MS/IRM, MS/MO, PPC/CDIE, AA/MS, and the missions - in the following categories:

MS/IRM

The general types of operations and maintenance work performed by MS/IRM are described below:

- .. Contractors to operate central computers, maintain existing portfolio of applications, and provide technical support for the central computer and end-user environments
- .. Computer and data communications maintenance, leasing and services, minimal funding for replacement of obsolete equipment, and computer supplies and materials
- .. Contractor support procurement, acquisition, inventory management, and directives management functions and studies, analyses, and evaluations.

Specifically, operations and maintenance funds are used for the following:

- .. Applications/systems maintenance (A.I.D./W)
- .. Computer operators for minicomputers and the mainframe
- .. Computer programmers for the mainframe
- .. Hardware maintenance and software leasing (A.I.D./W)
- .. Telecommunications services and equipment (A.I.D./W)
- .. Technical support center for end users (A.I.D./W)
- .. Overseas support (mission portfolio maintenance, including MACS, PTMS, NXP, MIDAS, CIMS, etc., and technical advisory support)
- .. Replacement hardware (A.I.D./W)
- .. Procurement/acquisition/inventory management
- .. Supplies/materials
- .. Studies/analyses/evaluations.

MS/MO

- .. Contractors to operate telecommunications facilities and provide technical support for the central computer and end-user environments
- .. Telephone, cable, and FAX equipment maintenance, leasing and services, minimal funding for replacement of obsolete equipment, and computer supplies and materials
- .. Operation of the records management function and contract support for microfiche historical records.

PPC/CDIE - Computer and data communications maintenance, leasing and services, minimal funding for replacement of obsolete equipment, and computer supplies and materials.

AA/MS - Maintenance of overseas equipment.

Missions - Replacement and upgrade of computers that are locally funded.

4. MAJOR MILESTONES:

Description	Planned Start Date	Planned End Date	Responsible Organization
Provide ongoing operations and maintenance	10/01/90	Ongoing	MS/TRM, MS/MO, PPC/CDIE, AA/MS, Missions

5. MAJOR ACQUISITIONS: None

1/10

6. RESOURCE REQUIREMENTS:

Resource Category Cost (000)	Fiscal Years					
	FY91	FY92	FY93	FY94	FY95	FY96
(1) MS/IRM	11735.0	12680.0	13314.0	13980.0	14679.0	15413.0
Appl/System Maint	3375.0	3540.0	3717.0	3902.9	4098.0	4302.9
Mini/Mnfrm Opn	1565.0	1780.0	1869.0	1962.5	2060.6	2163.6
Mnfrm Programming	450.0	470.0	493.5	518.2	544.1	571.3
HW/SW Maint/Leasing	2180.0	2480.0	2604.0	2734.2	2870.9	3014.5
T-Comm Svc/Eqpmt	630.0	725.0	761.3	799.4	839.4	881.4
Tech Support Ctr	650.0	680.0	714.0	749.7	787.2	826.6
Overseas Support	1750.0	1800.0	1890.0	1984.5	2083.7	2187.9
Replacement HW	595.0	620.0	651.0	683.6	717.8	753.7
Proc/Acq/Inv Mgt	360.0	375.0	393.7	413.4	434.1	455.8
Supplies/Materials	120.0	150.0	157.5	65.4	73.7	182.4
Studies	60.0	60.0	63.0	66.2	69.5	72.9
(2) MS/MO	6489.0	6831.0	6907.0	6987.0	7071.0	7159.0
Cable	478.0	530.0	557.0	584.0	614.0	644.0
Records Management	914.0	993.0	1043.0	1095.0	1150.0	1207.0
Telephone	5097.0	5308.0	5308.0	5308.0	5308.0	5308.0
(3) PPC/CDIE						
Hardware	235.0	250.0	275.0	300.0	330.0	360.0
(4) AA/MS						
Overseas Maintenance	3122.0	3064.0	3217.0	3378.0	3547.0	3724.0
(5) Missions						
Overseas HW/SW	6200.0	6510.0	6836.0	7177.0	7536.0	7913.0

NOTE: The base funding levels are those non-discretionary costs necessary to maintain current levels of support. They include some initiatives that can be accomplished by existing management staff on a part-time basis. Costs of government personnel are not included; costs of contract personnel are included.

7. BENEFITS/COST SAVINGS/COST AVOIDANCE: These activities will maintain a minimum level of information support for the Agency.

8. CONSTRAINTS/CONDITIONS/ASSUMPTIONS: These resources assume that no new requirements are identified.

ACTIVITY TITLE: Strategic Business Plan

ACTIVITY CODE: IPM-1

AGENCY GOAL CROSS REFERENCE(S): AG1 - AG3

FUNCTION/ACTIVITY CROSS REFERENCE(S): F1 - F9

IRM GOAL CROSS REFERENCE(S): IG1 - IG5

BUDGET CODE CROSS REFERENCE(S): NA - This is an Agency, not an information resources management, initiative

STATUS: Continuation

RESPONSIBLE OFFICE(S): AA/MS

AGENCY (IMC) PRIORITY: FY 1991

1. **OBJECTIVE STATEMENT:** This initiative is an enabling initiative for the information resources management community; it is not an information resources management initiative.

To institutionalize a strategic business planning process to provide clear direction to the Agency and facilitate the development of strategic and tactical information resources management plans that better support Agency goals.

2. **BACKGROUND:** A.I.D. uses a number of different vehicles to develop, test, and promulgate the Agency-wide mission statement, goals, and strategies. The lack of a process to accomplish this direction setting makes planning for supporting functions, such as information resources management, less than optimal. While this initiative is outside of the scope of information resources management, it is a key enabler and, therefore, has been identified in this Plan.
3. **APPROACH:** The senior information resources management official will take the lead in building Agency consensus for this undertaking. The contractor selected will first determine the contents of a strategic business plan and the method of developing the plan.
4. **MAJOR MILESTONES:**

Description	Planned Start Date	Planned End Date	Responsible Organization
Educate senior management	Ongoing	10/01/90	AA/Mgt
Develop Statement of Work (SOW)	10/01/90	10/30/90	AA/Mgt
Acquire contractor	11/01/90	12/15/90	MS/IRM
Complete initial study	01/01/91	02/15/91	Contractor
Review study	02/15/91	04/01/91	IMC/A.I.D. Mgt
Implement recommendations	04/01/91	06/01/91	Sr Mgt
Conduct Strategic Business Plan	06/01/91	09/01/91	Sr Mgt

5. MAJOR ACQUISITIONS:

Description	Planned Start Date	Planned End Date	Estimated Cost
Business Planning Study	11/01/90	09/01/91	\$ 250,000

6. RESOURCE REQUIREMENTS:

Resource Category	Fiscal Years					
	FY91	FY92	FY93	FY94	FY95	FY96
6.1 Staff Years						
FTE						
Contract	2.5					
6.2 Cost (000)						
A.I.D. Staff						
Contractor	250.0					
Other (HW/SW)						

NOTE: Since this is an Agency initiative, these estimated resource requirements are not included in the information resources management financial projections.

7. BENEFITS/COST SAVINGS/COST AVOIDANCE: The following benefits are anticipated from this initiative:

- . Improved Agency communication of goals and strategies.
- . Means to better rationalize support function roles in support of Agency direction.

8. CONSTRAINTS/CONDITIONS/ASSUMPTIONS: This activity requires:

- . Senior Agency buy-in and commitment
- . Continuation of the Administrator's interest in defining A.I.D.'s mission and role
- . Use of participatory management approach.

ACTIVITY TITLE: Information Systems Planning Study

ACTIVITY CODE: IPM-2

AGENCY GOAL CROSS REFERENCE(S): AG1 - AG3

FUNCTION/ACTIVITY CROSS REFERENCE(S): F1 - F9

IRM GOAL CROSS REFERENCE(S): IG1, IG5

BUDGET CODE CROSS REFERENCE(S): MS/IRM - P119

STATUS: Continuation

RESPONSIBLE OFFICE(S): Senior Information Resources Management Official (Lead),
MS/IRM, IMC, PPC/CDIE, MS/MO

AGENCY (IMC) PRIORITY: FY 1991

1. **OBJECTIVE STATEMENT:** To establish a controlling plan for information resources management long-range initiatives and the supporting architectures - information, application, data, and geographic.
2. **BACKGROUND:** A.I.D. does not have a means to integrate and rationalize its overall information needs. Consequently, it is able to visualize and plan for information support with only a near-term perspective. A.I.D. needs to institutionalize an information resources management planning process that is driven by business goals, supports business functions, processes, and information needs, and contains information, data, application, and delivery system architectures, that provide a road map for longer-term integration of capabilities.
3. **APPROACH:** Under the executive sponsorship of an Assistant to the Administrator, a contractor will conduct an ISP with the active participation of senior managers in the Agency. The data architecture will be developed incrementally, with data modeling efforts for two subject areas being conducted each year (see Activity IM-1). A.I.D. will also institutionalize a process to maintain the Plan and use it as the road map for future planning efforts.

4. MAJOR MILESTONES:

Description	Planned Start Date	Planned End Date	Responsible Organization
Acquire contractor	10/01/90	10/15/90	MS/OP
Conduct study	10/15/90	04/01/91	Contractor
Review study	04/01/91	05/01/91	IMC/A.I.D. Mgt
Implement recommendations	05/01/91	07/01/91	IRM/IMC
Institutionalize planning process	07/01/91	Ongoing	IRM/IMC

5. MAJOR ACQUISITIONS:

Description	Planned Start Date	Planned End Date	Estimated Cost
ISP Study	10/01/90	03/30/91	\$ 350,000

6. RESOURCE REQUIREMENTS:

Resource Category	Fiscal Years					
	FY91	FY92	FY93	FY94	FY95	FY96
6.1 Staff Years						
FTE						
Contract	3.5					
6.2 Cost (000)						
A.I.D. Staff						
Contractor	350.0					
Other						

NOTE: FY 1992 funding for this activity is included in the base.

7. BENEFITS/COST SAVINGS/COST AVOIDANCE: The benefits of this activity will be:

- Through a structured, top-down methodology, the Agency will be able to establish a strategic plan to satisfy its near and long-term information needs, a more rational approach than is currently in use.
- A concurrent effect will be to develop the application, data, geo-technical (delivery system) architectures that will:
 - .. Provide visibility to business processes, data flows, and relationships and permit the identification and bounding of application systems and data bases (information architecture)
 - .. Provide boundaries for applications, reduce application duplication, and facilitate prioritization of development efforts, including identification of core systems to be under central control and support systems that are in the user domain (application architecture)
 - .. Provide boundaries for logical data bases, reduce data duplication, and facilitate prioritization of data base development efforts, including identification of core data to be under central control and support data that are in the user domain (data architecture) (see Activity IM-1)
 - .. Provide identification of locations of similar types of Agency organizations, and identification of data and processing needs by location, which becomes a means to rationalize hardware and telecommunications configurations and distribution (delivery system architecture).

115

8. **CONSTRAINTS/CONDITIONS/ASSUMPTIONS:** The following factors need to be considered and monitored:

- . **A.I.D. management, at least at the senior information resources management official level, and the IMC must buy-into this activity and provide oversight.**
- . **Payoffs are mostly of a long-term nature and the Agency must be willing to invest for the long term.**

ACTIVITY TITLE: Information Resources Management Integration

ACTIVITY CODE: IPM-3

AGENCY GOAL CROSS REFERENCE(S): AG1 - AG3

FUNCTION/ACTIVITY CROSS REFERENCE(S): F1 - F9

IRM GOAL CROSS REFERENCE(S): IG1, IG5

BUDGET CODE CROSS REFERENCE(S): MS/IRM - P119

STATUS: New

RESPONSIBLE OFFICE(S): MS/IRM (Lead), MS/MO, PPC/CDIE, PPC/DACU, IMC

AGENCY (IMC) PRIORITY: FY 1991

1. OBJECTIVE STATEMENT: To integrate information resources management through:

- Realignment of organizational structures and redefinition of roles and responsibilities for all information resources management elements
- Institutionalization of an integrated information resources management planning and control process.

2. BACKGROUND:

- (1) The information resources management disciplines (automation, data, telecommunications, records management, printing, and publications) are managed by several different organizations within A.I.D. The distinctions between these disciplines are blurring rapidly from both technology and management perspectives. Many organizations have found the integrated management of these disciplines to produce management efficiencies and cost benefits. Further, within the automation and data disciplines of A.I.D., there is fragmentation of responsibilities, even within an office, e.g., MS/IRM software development in the divisions of Mission and Project Services (MPS), Washington Services (WS), Automation Support (AS), and Systems Management (SM). In addition, management oversight of information resources management is accomplished by a senior information resources management official and an Agency steering committee, the IMC. The roles and responsibilities of these entities need to be aligned with an integrated view of information resources management.
- (2) In terms of planning, A.I.D. historically has not had a strategic information resources planning process. The Agency has attempted, on several occasions, to develop a strategic information resources management plan as a project. Lacking such a plan, A.I.D. has relied on the development of tactical plans as part of the budget process. This short-range view has resulted in less than optimal plans.

In FY 1990, MS/IRM contracted to have its planning process reviewed and recommendations made to improve that process. The objective was to develop procedures that integrated the information resources management disciplines; provided user management oversight for requirements definition and prioritization; provided technical management oversight for project and program management; and was integrated with the Agency budget process.

3. **APPROACH:**

- (1) The IMC will commission a study on the integration of the information resources management disciplines, review the results, and make recommendations to senior management on the implementation of the recommendations.
- (2) MS/IRM, under the direction of the IMC, will develop and implement policies and procedures to institutionalize the recommended planning approach. As a follow-on action, MS/IRM will define characteristics on an information resources management project control process and develop supporting policies and procedures.

4. **MAJOR MILESTONES:**

Description	Planned Start Date	Planned End Date	Responsible Organization
(1) Integration			
Conduct study	09/01/90	04/01/91	MS/IRM
Review study	04/01/91	06/01/91	IMC/A.I.D. Mgt
Implement recommendations	06/01/91	Ongoing	Sr IRM Official
(2) Planning and Control			
Review recommendations	09/15/90	11/01/90	IMC/IRM
Develop policies, procedures, guidelines	11/01/91	11/01/92	Contractor
Review products	11/01/91	11/01/92	IMC/A.I.D. Mgt
Implement recommendations	11/01/91	11/01/92	IRM/IMC
Institutionalize	11/01/91	Ongoing	IMC/IRM

5. **MAJOR ACQUISITIONS:** None.

6. **RESOURCE REQUIREMENTS:** Funding for these projects is included in the base.

7. **BENEFITS/COST SAVINGS/COST AVOIDANCE:** The following benefits are anticipated from completion of this activity:

- (1) Better integration of planning and execution for the information resources management disciplines.
- Elimination of duplication between MS/IRM and PPC/CDIE in such areas as facilities management, contract administration, and operations.
- More rational development of communications strategies, plans, and acquisitions to include data, text, and voice communications.

- . Integration of data planning between the data administration function and MS/IRM and CDIE applications development functions.
 - . Improved functional/management oversight of information resources management and better alignment of information resources management with Agency goals.
 - . Appropriate oversight of information resources management programs and disciplines by functional management, to assure consistency with business needs and priorities.
- (2) . Less time-consuming and more rational planning process, with better linkages between projects in different planning horizons.
- . Planning process which is more responsive to user needs and establishes reasonable expectations.
 - . Appropriate technical and user management oversight of critical information initiatives.
8. **CONSTRAINTS/CONDITIONS/ASSUMPTIONS:** The following factors need to be considered and monitored:
- (1) . A well thought-out SOW, that is consistent with the evolving information resources management strategies and management approach, must be developed.
- . A.I.D. management, at least at the senior information resources management official level, and the IMC must buy-into this activity and provide oversight.
 - . Implementation period may be extended in order to address personnel and cultural constraints.
- (2) . This project relates to Activity IPM-2 (ISP Study), which will provide the strategic planning part of this process.

ACTIVITY TITLE: Systems Life Cycle Development Methodology

ACTIVITY CODE: IPM-4

AGENCY GOAL CROSS REFERENCE(S): AG3

FUNCTION/ACTIVITY CROSS REFERENCE(S): F8

IRM GOAL CROSS REFERENCE(S): IG1, IG5

BUDGET CODE CROSS REFERENCE(S): MS/IRM/WS - P119

STATUS: New

RESPONSIBLE OFFICE(S): MS/IRM

AGENCY (IMC) PRIORITY: FY 1991

1. **OBJECTIVE STATEMENT:** To institutionalize a modern LCDM that will facilitate the development and maintenance of applications/data systems.
2. **BACKGROUND:** The current LCDM was developed in the mid-1970s and has not been updated to reflect new techniques and concerns in the development cycle, such as prototyping, data modeling, off-the-shelf software selection, and differences between major and minor development efforts. Further, the LCDM has not been modified to reflect clearly the roles and responsibilities of the various offices sharing development responsibilities, nor to define clearly the decision points and decision makers during the development cycle. Since A.I.D. relies substantially on contractors to develop and maintain its systems, the lack of a viable LCDM has resulted in increased cost and unnecessary delays in the development of mission critical systems.
3. **APPROACH:** MS/IRM will commission a contractor to define LCDM characteristics/requirements in the A.I.D. environment in coordination with data administration; compare those characteristics/requirements to current and commercially available LCDMs; and assist in the selection, acquisition, and/or modification of the best option, including the appropriate CASE and 4GL tools to support the methodology and facilitate software development.

4. MAJOR MILESTONES:

Description	Planned Start Date	Planned End Date	Responsible Organization
Develop SOW	08/01/90	08/15/90	MS/IRM
Acquire contractor	08/15/90	08/15/90	MS/OP
Develop requirements	11/01/90	12/15/90	Contractor
Review requirements	12/15/90	01/01/91	IRM
Develop recommendations	11/01/90	12/15/90	Contractor
Review recommendations	12/15/90	01/01/91	IRM
Develop SOW	02/01/91	04/01/91	Contractor
Review SOW	04/01/91	04/15/91	IRM
Acquire LCDM and CASE	04/15/91	07/15/91	MS/OP
Modify LCDM and policy	07/15/91	02/01/92	Contractor
Review mods and policy	02/01/92	04/01/92	IRM/IMC
Institutionalize	04/01/92	05/30/92	IMC/IRM

5. MAJOR ACQUISITIONS:

Description	Planned Start Date	Planned End Date	Estimated Cost
LCDM and CASE	04/01/91	07/15/91	\$ 200,000

6. RESOURCE REQUIREMENTS:

Resource Category	Fiscal Years					
	FY91	FY92	FY93	FY94	FY95	FY96
6.1 Staff Years						
FTE						
Contract		1.3				
6.2 Cost (000)						
A.I.D. Staff						
Contractor		100.0				
Other (HW/SW)		200.0				

NOTE: FY 1992 funding for this activity is included in the base.

7. BENEFITS/COST SAVINGS/COST AVOIDANCE: The benefits of this project are expected to be:

Structured approach to development of applications should facilitate the development and maintenance of software and data bases, thus reducing the overall cost to the government.

Identification of user and information resources management responsibilities and decision authorities should result in more realistic requirements and better designed systems.

Use of CASE and 4GL tools should expedite the development process and decrease the cost of maintenance over the long term.

8. **CONSTRAINTS/CONDITIONS/ASSUMPTIONS:** The following condition and assumption apply:

Condition: Introduction of discipline into the development cycle will be traumatic from both a user and information resources management perspective. To be effective, accompanying orientation and training will be required.

Assumption: The comparison of requirements to the current methodology will result in a decision to acquire and modify a commercial LCDM package. (This will be less costly than modifying the current methodology.)

ACTIVITY TITLE: ADP Information Security

ACTIVITY CODE: IPM-5

AGENCY GOAL CROSS REFERENCE(S): AG3

FUNCTION/ACTIVITY CROSS REFERENCE(S): F8, F9

IRM GOAL CROSS REFERENCE(S): IG3, IG5

BUDGET CODE CROSS REFERENCE(S): MS/IRM - P133, P141

STATUS: Continuation

RESPONSIBLE OFFICE(S): IRM/AS (Lead), PPC/CDIE, IRM/MPS, MS/MO

AGENCY (IMC) PRIORITY: FY 1991

1. OBJECTIVE STATEMENT: To improve overall ADP security worldwide.

Overseas the focus will be on closing the communications gap between A.I.D./W and the missions as it pertains to the following issues:

- . Protecting sensitive data in the field
- . Enhancing physical security of A.I.D.'s ADP facilities
- . Securing all international communications
- . Countering the threats to automated application systems.

Domestically the program will emphasize the following:

- . Disaster recovery for the computer centers
- . Removing unacceptable vulnerabilities in the automated system applications
- . Resolving personnel ADP security issues
- . Providing third shift operational coverage to primary computer facilities.

2. BACKGROUND: During 1989, the National Security Agency conducted a courtesy review of A.I.D.'s automation security posture. NSA identified approximately 30 significant security issues, and A.I.D. has undertaken an ambitious program to rectify those deficiencies.

3. APPROACH:

The overseas security program will be addressed by:

- . Reviewing and revising the Administrator's policy guidance to place greater emphasis on security

- Revising procedures for the conduct of mission automation reviews to place greater emphasis on security.

Domestically the security program is being addressed in two areas:

- Disaster recovery:
 - Issue an RFP to acquire the data processing services necessary to support the disaster recovery of critical applications, as well as the operating system and full complement of other system software, at an alternate data processing center
 - Establish an alternate data processing center site and implement a supporting disaster recovery plan
 - Evaluate utility and security of the off-site backup and storage of electronic media at the Washington National Record Center (WNRC) facility and assess vulnerabilities.
- A services contract will be issued to provide the following security services:
 - Computer security awareness training of A.I.D. managers, users, and operators
 - Testing and evaluation of the disaster backup recovery services to ensure their integrity
 - Computer specialist to develop and implement changes in security policies and procedures to rectify the remainder of the NSA-identified security issues.

4. MAJOR MILESTONES:

Description	Planned Start Date	Planned End Date	Responsible Organization
General			
Develop SOW	10/01/90	11/01/90	MS/IRM/AS
Acquire contractor	11/01/90	01/15/91	MS/OP
Develop training plan	02/01/91	04/01/91	Contractor
Review training plan	04/01/91	06/01/91	MS/IRM/AS
Conduct training	06/01/91	10/01/91	Contractor
Develop test plan	02/01/91	04/01/91	Contractor
Review test plan	04/01/91	06/01/91	MS/IRM/AS
Conduct test	06/01/91	10/01/91	Contractor
Develop policies	02/01/91	04/01/91	Contractor
Review policies	04/01/91	06/01/91	MS/IRM/AS
Implement policies	06/01/91	10/01/91	MS/IRM
Disaster Recovery			
Develop RFP	10/01/90	12/01/90	MS/IRM/AS
Award contract	12/01/90	04/01/91	MS/OP
Evaluate off-site backup facility	10/01/90	04/01/91	MS/IRM/AS
Prepare action plan	04/15/91	06/15/91	MS/IRM/AS
Implement action plan	06/15/91	As Reqd	MS/IRM/AS

5. MAJOR ACQUISITIONS: None

6. RESOURCE REQUIREMENTS:

Resource Category	Fiscal Years					
	FY91	FY92	FY93	FY94	FY95	FY96
6.1 Staff Years						
FTE						
Contract						
6.2 Cost (000)						
A.I.D. Staff						
Contractor						
Other (HW/SW)	350.0	500.0	800.0	250.0	250.0	250.0

7. BENEFITS/COST SAVINGS/COST AVOIDANCE: This initiative will bring the Agency into compliance with the Computer Security Act and improve its overall security posture.

8. CONSTRAINTS/CONDITIONS/ASSUMPTIONS: The schedule for testing the disaster backup recovery capability assumes that capability will be acquired early in FY 1991.

ACTIVITY TITLE: Robust Regional Information Centers

ACTIVITY CODE: IPM-6

AGENCY GOAL CROSS REFERENCE(S): AG3

FUNCTION/ACTIVITY CROSS REFERENCE(S): F1 - F9

IRM GOAL CROSS REFERENCE(S): IG1, IG2, IG5

BUDGET CODE CROSS REFERENCE(S): MS/IRM - P600

STATUS: New

RESPONSIBLE OFFICE(S): MS/IRM/MPS

AGENCY (IMC) PRIORITY: FY To Be Determined

1. **OBJECTIVE STATEMENT:** To enhance information management support to the missions through establishment of a regional support center in each geographic region (LAC, ENE, APRE, and AFR).
2. **BACKGROUND:** Missions have become increasingly dependent on information systems support to effectively perform their functions. Local capabilities to define new systems requirements, develop new capabilities, trouble shoot operational problems, and train personnel are limited and largely ineffective. Much of this type of support (backstopping) is provided through MS/IRM/MPS; however, this is less than an optimal solution due to time and distance constraints. MS/IRM has tried several alternative means of providing enhanced support to the missions, such as roving trouble shooters in Africa and Information Resources Management South in Costa Rica. None of these experiments addressed all of the information support needs of the missions. A.I.D. needs to evaluate these experiments and determine how information support can be best provided to the missions.
3. **APPROACH:** This initiative will be addressed in two parts - a study phase and an implementation phase.

In the study phase MS/IRM will:

- . Determine the support functions that are needed that cannot reasonably be performed in-house by the missions
- . Determine which functions can be performed from A.I.D./W
- . Determine which functions can best be performed from a regional support center
- . Determine realistic resource requirements - organization structure, staffing composition, budget, facilities, and equipment, including identifying candidate locations

- . Assess previous experiments for lessons learned
- . Develop implementation recommendations and a plan.

The IMC and MS/IRM will review and act on the study and recommendations.

The implementation phase will include:

- . Obtaining resources
- . Developing implementing policies and procedures
- . Establishing the support centers
- . Monitoring support center performance.

4. MAJOR MILESTONES:

Description	Planned Start Date	Planned End Date	Responsible Organization
Develop requirements	To be determined by IMC		MS/IRM/MPS
Develop recommendations	To be determined by IMC		MS/IRM/MPS
Review recommendations	To be determined by IMC		IRM/IMC
Implement recommendations	To be determined by IMC		MS/IRM/MPS

5. MAJOR ACQUISITIONS: None

6. RESOURCE REQUIREMENTS:

Resource Category	FY to be determined
6.1 Staff Years	
FTE	
Contract	12.0 annually
6.2 Cost (000)	
A.I.D. Staff	
Contractor	960.0 annually
Other (HW/SW)	226.6

NOTE: Funding for this activity is dependent upon IMC prioritization and allocation.

7. BENEFITS/COST SAVINGS/COST AVOIDANCE: The benefits of this initiative are:

- . User requirements for new systems will be better defined by having local staff available to perform requirements analysis, prototyping, and testing.
- . Trouble-shooting support will be improved by eliminating existing time and distance constraints, and having more senior trouble shooters available to be shared.

Training will be more responsive to regional needs by having trainers closer to and more familiar with regional variables.

8. **CONSTRAINTS/CONDITIONS/ASSUMPTIONS:** This activity is based on the following assumptions:

The study will validate the need for and feasibility of establishing an information support center in each region.

The support centers will be managed by a full-time A.I.D. information resources management employee and will be manned by contractor staff.

The study will determine how travel will be funded, i.e., centrally or on a service basis by missions. (For planning purposes travel costs are assumed to be on a service basis.)

ACTIVITY TITLE: Enhanced Information Training Program

ACTIVITY CODE: IPM-7

AGENCY GOAL CROSS REFERENCE(S): AG1 - AG3

FUNCTION/ACTIVITY CROSS REFERENCE(S): F1 - F9

IRM GOAL CROSS REFERENCE(S): IG1 - IG5

BUDGET CODE CROSS REFERENCE(S): None

STATUS: New

RESPONSIBLE OFFICE(S): PM/TD (Lead), MS/IRM

AGENCY (IMC) PRIORITY: FY To Be Determined

1. **OBJECTIVE STATEMENT:** To develop an enhanced information training program that addresses the full range of Agency training needs from senior management to end users.
2. **BACKGROUND:** A.I.D. has an information training program that is primarily aimed at providing entry-level skills training related to new capabilities, e.g., LAN, COTS software, new applications. This training program is a joint responsibility of MS/IRM, users, and PM/Training Division (TD). While this type of training is effective for the purposes for which it is intended, it does not address the development of information resources management skills needed by senior management, e.g., the IMC, or advanced technical skills needed by users, e.g., systems administrators. Further, the existing training program responsibilities are fragmented and, to a great extent, the program is ad hoc.
3. **APPROACH:** This program can be developed either through an in-house task force composed of members of the information resources management community, users, and PM/TD, or via a contract.

4. **MAJOR MILESTONES:**

Description	Planned Start Date	Planned End Date	Responsible Organization
Establish Task Force	To be determined by IMC		IMC/PM
Study program needs	To be determined by IMC		Task Force
Review recommendations	To be determined by IMC		IMC/PM
Implement recommendations	To be determined by IMC		PM/IMC

5. **MAJOR ACQUISITIONS:** None

6. RESOURCE REQUIREMENTS:

Resource Category	FY to be determined
6.1 Staff Years	
FTE	
Contract	0.5 annually
6.2 Cost (000)	
A.I.D. Staff	
Contractor	40.0 annually
Other (HW/SW)	

NOTE: Funding for this activity is dependent upon IMC prioritization and allocation.

7. BENEFITS/COST SAVINGS/COST AVOIDANCE: Oversight of the information resources management function by knowledgeable functional managers will assure that information resources management resources are being applied in the best interests of the Agency.

8. CONSTRAINTS/CONDITIONS/ASSUMPTIONS: This activity is based on the following assumptions:

- Senior political appointees will delegate this responsibility to senior career managers.
- Several senior career managers have recognized the need for informed oversight of the information resources management function and will devote the necessary time and energy to become better informed.
- PM/TD and MS/IRM will jointly develop and manage this program.
- MS/IRM and PM/TD can develop a SOW that appropriately describes the senior-level information resources management training that is needed to be consistent with this Plan and its underlying philosophy.

ACTIVITY TITLE: Technical Support Centers in Each Major A.I.D./W Location

ACTIVITY CODE: IPM-8

AGENCY GOAL CROSS REFERENCE(S): AG1 - AG3

FUNCTION/ACTIVITY CROSS REFERENCE(S): F1 - F9

IRM GOAL CROSS REFERENCE(S): IG1 - IG5

BUDGET CODE CROSS REFERENCE(S): PPC/CDIE - Base
MS/IRM/TS - P132

STATUS: Continuation

RESPONSIBLE OFFICE(S): PPC/CDIE, MS/IRM/TS

AGENCY (IMC) PRIORITY: FY To Be Determined

1. **OBJECTIVE STATEMENT:** To develop technical support centers in each major A.I.D./W location, including New State, SA-1, SA-2, SA-16.
2. **BACKGROUND:** MS/IRM has for several years maintained a technical support center in SA-14 to act as a help desk for all of A.I.D./W. As part of the ETA initiative, a center was established in New State during FY 1990. This has proven to be an effective way to provide enhanced services to a broader base of A.I.D./W clients.
3. **APPROACH:** CDIE will provide resources to provide enhanced availability to developmental information to users in New State, and MS/IRM will establish a technical support center in each major A.I.D./W facility.

4. **MAJOR MILESTONES:**

Description	Planned Start Date	Planned End Date	Responsible Organization
Establish DI function at New State	To be determined by IMC		PPC/CDIE
Establish TSC in SA-2	To be determined by IMC		MS/IRM/TS
Establish TSC in SA-16	To be determined by IMC		MS/IRM/TS

5. **MAJOR ACQUISITIONS:** None

6. RESOURCE REQUIREMENTS:

Resource Category	FY to be determined
6.1 Staff Years	
FTE	
Contract	10.0 annually
6.2 Cost (000)	
A.I.D. Staff	
Contractor	660.0 annually
Other (HW/SW)	40.0 annually

NOTE: Funding for this activity is dependent upon IMC prioritization and allocation.

7. BENEFITS/COST SAVINGS/COST AVOIDANCE: The technical support centers will provide more timely responses to technical issues/problems raised by a staff that will be placing greater reliance on its information tools.

8. CONSTRAINTS/CONDITIONS/ASSUMPTIONS: This activity is based on the following assumptions:

- Over time, A.I.D. will develop a core of people who will be able to handle technical issues across the information resources management disciplines. For the near future, each technical support center will have to be manned with people who are primarily skilled in a single discipline.
- Each individual assigned to the technical support center will require a personal computer and a set of commonly used software.

ACTIVITY TITLE: Technical Assistance Program for Africa, Latin America and the Caribbean, Europe and the Near East, Asia and Private Enterprise, and Science and Technology Bureaus

ACTIVITY CODE: IPM-9

AGENCY GOAL CROSS REFERENCE(S): AG1 - AG3

FUNCTION/ACTIVITY CROSS REFERENCE(S): F1 - F9

IRM GOAL CROSS REFERENCE(S): IG1, IG2, IG5

BUDGET CODE CROSS REFERENCE(S): PPC/CDIE - Base

STATUS: Continuation

RESPONSIBLE OFFICE(S): PPC/CDIE

AGENCY (IMC) PRIORITY: FY 1991

1. **OBJECTIVE STATEMENT:** To expand the technical assistance program for the regional bureaus and the Bureau for Science and Technology.
2. **BACKGROUND:** During FY 1990, CDIE piloted a program to provide technical development information support to the regional bureaus, by assigning a DI resource to one regional bureau. This pilot proved to be an efficient and effective mode of operation.
3. **APPROACH:** A DI technical assistance asset will be assigned to each regional bureau.
4. **MAJOR MILESTONES:**

Description	Planned Start Date	Planned End Date	Responsible Organization
Assign personnel	10/01/90	07/01/91	PPC/CDIE
5. **MAJOR ACQUISITIONS:** None
6. **RESOURCE REQUIREMENTS:** Funding for this activity is included in the base.
7. **BENEFITS/COST SAVINGS/COST AVOIDANCE:** Experience with the pilot project indicates that program and project managers tend to ask more questions and receive more and better information when an in-house resource is available than when they must go to an external source.
8. **CONSTRAINTS/CONDITIONS/ASSUMPTIONS:** None.

APPENDIX E
INFORMATION RESOURCES MANAGEMENT ACTIVITY SHEETS
(FY 1991 - 1996)

SECTION 2 - INFORMATION MANAGEMENT

ACTIVITY TITLE: Data Initiatives

ACTIVITY CODE: IM-1

AGENCY GOAL CROSS REFERENCE(S): AG3

FUNCTION/ACTIVITY CROSS REFERENCE(S): F1 - F9

IRM GOAL CROSS REFERENCE(S): IG1 - IG5

BUDGET CODE CROSS REFERENCE(S): MS/IRM - P119

STATUS: Continuation

RESPONSIBLE OFFICE(S): MS/IRM, PPC/DACU

AGENCY (IMC) PRIORITY: FY 1991

1. **OBJECTIVE STATEMENT:** To effectively use data as a corporate resource in information resources management by: (1) laying a foundation for the data administration function within A.I.D.; and (2) performing data modeling, on an incremental basis, in order to develop the data architecture for the Agency.

The longer-term objectives for data administration are: improve consistency and accuracy of Agency data; provide easier and more timely user access to data; reduce duplication of data and data bases; increase end-user computing capability; reduce development and maintenance costs; facilitate exchange of data among offices; facilitate widespread use of corporate software; and facilitate a more open, integrated, corporate information structure.

2. **BACKGROUND:** Data within A.I.D. is often maintained in "cuff records," causing duplication, inconsistency, and additional maintenance costs. Multiple systems store data in a variety of forms and data structures, further complicating the tasks of improving access, data quality, and timeliness. The A.I.D. organization does not have a working mechanism for resolving data conflicts, and the tools for users to easily access and manipulate data are minimal.

To assist in improving data within the organization, in FY 1989, the data administration function was established within PPC. In FY 1990, work was begun to define the functions associated with data administration and the Agency requirements for a data dictionary and data standards.

3. **APPROACH:** This initiative involves two projects:

- (1) In order to lay a foundation for the data administration function, A.I.D. will define the activities, data dictionary requirements, and data standards; acquire a data modeling methodology and CASE tool; institutionalize the standards; and implement the data dictionary. The following steps will be performed to complete this project:

- . Initiate study to define data administration functions and data dictionary and standards requirements, and to determine optimum data modeling methodology and CASE tool
 - . Gain IMC approval
 - . Purchase data dictionary, if required, data modeling methodology, and CASE tool
 - . Develop and implement training program
 - . Disseminate data administration policies, procedures, and standards to Agency personnel
 - . Implement and maintain data dictionary and standards.
- (2) The data architecture will be developed incrementally, with data modeling efforts for two subject areas being conducted each year. One of the data models to be developed during the first year will be the financial data model, based on the AWACS initiative (see Activity S-1). The Agency will either use the AWACS contractor or secure the services of another contractor to develop this model.

4. MAJOR MILESTONES:

Description	Planned Start Date	Planned End Date	Responsible Organization
(1) Data Administration			
Define requirements	08/15/90	01/31/91	PPC/DACU
Gain IMC approval	01/01/91	02/01/91	MS/IRM
Purchase DD, DM	02/01/91	03/01/91	MS/IRM
Provide DA training	03/01/91	05/01/91	MS/IRM
Disseminate DA policies, procedures, standards	02/01/91	09/30/91	PPC/DACU
Implement DD	05/01/91	06/30/91	MS/IRM
(2) Data Models			
Develop 2 models per year	02/15/91	Cont	MS/IRM, PPC/DACU

5. MAJOR ACQUISITIONS:

Description	Planned Start Date	Planned End Date	Estimated Cost
(1) Data Administration			
Data Dictionary	02/01/91	03/01/91	\$ 50,000
Data Modeling Meth., CASE Tool	02/01/91	03/01/91	\$ 50,000
(2) Data Modeling			
	09/15/90	Cont	\$ 550,000

6. RESOURCE REQUIREMENTS:

Resource Category	Fiscal Years					
	FY91	FY92	FY93	FY94	FY95	FY96
6.1 Staff years						
(2) FTE						
Contract		6.8	6.8	6.8	6.8	1.8
6.2 Cost (000)						
(2) A.I.D. Staff						
Contractor		550.0	550.0	550.0	550.0	150.0
Other (HW/SW)						

NOTE: Project (1) is funded, for the most part, with FY 1990 dollars; accordingly, there are no costs listed.

7. BENEFITS/COST SAVINGS/COST AVOIDANCE: The benefits of these projects are:

- . Greater consistency and accuracy of data
- . Less data redundancy
- . More timely responses to ad hoc information requests
- . End-user accessibility to data
- . Greater standardization of methodology and tools
- . Less costly applications development and maintenance
- . Easier exchange of data among A.I.D./W and missions
- . More widespread use of software
- . More effective and efficient use of scarce resources.

8. CONSTRAINTS/CONDITIONS/ASSUMPTIONS: These projects are based on the following assumptions:

- . The work to define data dictionary requirements will build on the work accomplished in this area earlier in FY 1990.
- . Decisions must be made concerning the organizational placement of the Data Administration Coordination Unit within A.I.D.

- . Additional resources will be acquired (e.g., data analysts and data librarian) to ensure the proper institutionalization of the data administration function, maintenance of the data dictionary, and use and maintenance of the methodology and tool.
- . A.I.D. management must provide oversight.
- . Payoffs are primarily long-term, and the Agency must be willing to make the investment.

ACTIVITY TITLE: Relational Data Base Management System for Personal Computers and Local Area Networks

ACTIVITY CODE: IM-2

AGENCY GOAL CROSS REFERENCE(S): AG3

FUNCTION/ACTIVITY CROSS REFERENCE(S): F1 - F9

IRM GOAL CROSS REFERENCE(S): IG2, IG3, IG4, IG5

BUDGET CODE CROSS REFERENCE(S): MS/IRM - P311

STATUS: Continuation

RESPONSIBLE OFFICE(S): MS/IRM/WS

AGENCY (IMC) PRIORITY: FY 1991

1. **OBJECTIVE STATEMENT:** To reduce computer software procurement costs while maintaining functionality; reduce systems development backlog while expanding number and functionality of software applications; increase ability to share data across applications and geographical boundaries; increase employee productivity.
2. **BACKGROUND:** A.I.D. has several data base management systems: IDMS and INQUIRE (IBM mainframe environment); PACE (Wang VS environment) and various micro-based systems, including dBASE III PLUS. A.I.D. has initiated an action to procure an RDBMS that will operate on either the LAN-based and the stand-alone microcomputers.
3. **APPROACH:** The following high-level activities must be performed to complete this initiative:
 - . Review of RFP/SOW by IMC
 - . Completion of procurement action
 - . Training of personnel.

See Activity H-2 for further information concerning the RDBMS for PCs and PC-LANs.

4. MAJOR MILESTONES:

Description	Planned Start Date	Planned End Date	Responsible Organization
Review RFP	10/01/90	01/01/91	IMC
Purchase RDBMS	01/01/91	07/01/91	MS/IRM, PPC/DACU
Train	07/01/91	10/01/91	MS/IRM

5. MAJOR ACQUISITIONS:

Description	Planned Start Date	Planned End Date	Estimated Cost
RDBMS	01/01/91	01/01/92	\$ 280,000

6. RESOURCE REQUIREMENTS:

Resource Category	Fiscal Years					
	FY91	FY92	FY93	FY94	FY95	FY96
6.1 Staff years						
FTE						
Contract						
6.2 Cost (000)						
A.I.D. Staff						
Contractor						
Other (HW/SW)	50.0	100.0	100.0	100.0	100.0	100.0

NOTE: Other costs include the purchase of the RDBMS.

7. BENEFITS/COST SAVINGS/COST AVOIDANCE: The benefits of this activity are:

- . Reduced computer software procurement costs
- . Reduced systems development backlog
- . Expansion of number and functionality of software applications
- . Increased ability to share data across applications and geographical boundaries
- . Increased employee productivity..

8. CONSTRAINTS/CONDITIONS/ASSUMPTIONS: This activity assumes that MS/IRM will fill the vacant Data Base Administrator position. Costs for this resource are not included in 6. RESOURCE REQUIREMENTS. This activity also assumes the coordination of the procurement with the Data Administration Coordination Unit, to assure the acquisition of a RDBMS which meets the data administration needs for a data dictionary.

140

ACTIVITY TITLE: Relational Data Base Management System for Mainframe Computers

ACTIVITY CODE: IM-3

AGENCY GOAL CROSS REFERENCE(S): AG3

FUNCTION/ACTIVITY CROSS REFERENCE(S): F1 - F9

IRM GOAL CROSS REFERENCE(S): IG2, IG3, IG4, IG5

BUDGET CODE CROSS REFERENCE(S): None

STATUS: New

RESPONSIBLE OFFICE(S): MS/IRM

AGENCY (IMC) PRIORITY: FY To Be Determined

1. **OBJECTIVE STATEMENT:** To reduce computer hardware and software procurement costs while maintaining functionality; reduce systems development backlog while expanding number and functionality of software applications; increase ability to share data across applications, hardware platforms, and geographical boundaries; increase employee productivity.

2. **BACKGROUND:** A.I.D. has several data base management systems: IDMS and INQUIRE (IBM mainframe environment); PACE (Wang VS environment) and various micro-based systems, including dBASE III PLUS. A.I.D. has initiated an action (Activity IM-2) to procure an RDBMS that will operate on the LAN-based and stand-alone microcomputers.

A.I.D. is considering the acquisition of a data base management system that will operate on the IBM-compatible mainframes. The eventual goal is to have a DBMS that will operate on any of the three platforms projected to be in A.I.D.'s hardware delivery system: IBM-compatible mainframes; LAN-based microcomputers; or stand-alone microcomputers.

3. **APPROACH:** The following high-level steps must be performed to complete this initiative:

- . Determine mainframe DBMS requirements, using AWACS requirements document developed in Activity S-1 and architectures developed in Activity IPM-2 and Activity IM-1 as primary sources
- . Determine compatibility of requirements with RDBMS procured under Activity IM-2
- . Procure RDBMS for mainframe computers, if required
- . Train personnel.

4. MAJOR MILESTONES:

Description	Planned Start Date	Planned End Date	Responsible Organization
Define requirements	To be determined by IMC		PFM/FM, MS/IRM, PPC/DACU
Gain IMC approval	To be determined by IMC		IMC
Compare RDBMS	To be determined by IMC		MS/IRM
Gain IMC approval	To be determined by IMC		IMC
Procure RDBMS	To be determined by IMC		MS/IRM
Train	To be determined by IMC		MS/IRM

5. MAJOR ACQUISITIONS:

Description	Planned Start Date	Planned End Date	Estimated Cost
RDBMS	To be determined		\$ 500,000

6. RESOURCE REQUIREMENTS: The purchase of an RDBMS for the mainframe is estimated at \$500,000. Since a specific requirement for an RDBMS has not yet been identified, funding has not been allocated.

7. BENEFITS/COST SAVINGS/COST AVOIDANCE: The benefits of this activity are:

- . Reduced computer hardware and software procurement cost
- . Reduced systems development backlog
- . Expansion of number and functionality of software applications
- . Increased ability to share data across applications, hardware platforms, and geographical boundaries
- . Increased employee productivity.

8. CONSTRAINTS/CONDITIONS/ASSUMPTIONS: This activity assumes that MS/IRM will fill the vacant Data Base Administrator position. Costs for this resource are not included in 6. RESOURCE REQUIREMENTS. This activity also assumes the coordination of the procurement with the Data Administration Coordination Unit, to assure the acquisition of a RDBMS which meets the data administration needs for a data dictionary.

ACTIVITY TITLE: Access to Other Organizations' Data

ACTIVITY CODE: IM-4

AGENCY GOAL CROSS REFERENCE(S): AG1 - AG3

FUNCTION/ACTIVITY CROSS REFERENCE(S): F1, F2, F3, F4, F8, F9

IRM GOAL CROSS REFERENCE(S): IG2, IG4, IG5

BUDGET CODE CROSS REFERENCE(S): PPC/CDIE - Base

STATUS: New

RESPONSIBLE OFFICE(S): PPC/CDIE

AGENCY (IMC) PRIORITY: FY 1991

1. **OBJECTIVE STATEMENT:** To increase user access to social, economic, political, and cultural data available in other organizations' data bases.
2. **BACKGROUND:** The primary focus of A.I.D. program/project officers is the implementation of projects which will meet the Agency's goals. In order to develop these projects, program/project officers require detailed social, economic, political, and cultural data about individual countries. CDIE has traditionally served as the "institutional memory" for A.I.D. and is now also providing similar information to A.I.D. personnel on other institutions, e.g., international organizations, other U.S. government agencies, educational institutions, scientific institutions, etc.
3. **APPROACH:** There are four representative projects within this activity, as itemized below:
 - Implement agreements with the Canadian International Development Agency (CIDA) and the Swedish International Development Authority (SIDA) to exchange access to development activity data base and development experience information
 - Implement agreement to exchange documents and technology methodology with the Japan International Cooperation Agency
 - Arrange access to United Nations ACIS electronic data base of the U.N. Registry of Development Activities
 - Arrange access to UNDP's Development Cooperation Analysis and Reporting System data bases.

NOTE: The above items are representative of the initiatives underway in CDIE. There are no specific work steps associated with this initiative.

4. MAJOR MILESTONES: None
5. MAJOR ACQUISITIONS: None
6. RESOURCE REQUIREMENTS: Funding for this activity is included in the base.
7. BENEFITS/COST SAVINGS/COST AVOIDANCE: The benefit of this activity is greater access to development data.
8. CONSTRAINTS/CONDITIONS/ASSUMPTIONS: This initiative will be carried out in conjunction with ongoing activities within CDIE.

APPENDIX E
INFORMATION RESOURCES MANAGEMENT ACTIVITY SHEETS
(FY 1991 - 1996)

SECTION 3 - HARDWARE

ACTIVITY TITLE: Excellence Through Automation Initiative for A.I.D./W

ACTIVITY CODE: H-1

AGENCY GOAL CROSS REFERENCE(S): AG1 - AG3

FUNCTION/ACTIVITY CROSS REFERENCE(S): F1 - F9 (especially F8)

IRM GOAL CROSS REFERENCE(S): IG2, IG3, IG5

BUDGET CODE CROSS REFERENCES: MS/IRM - P321, P322, P149

STATUS: Continuation

RESPONSIBLE OFFICE(S): MS/IRM/AS, MS/IRM/WS

AGENCY (IMC) PRIORITY: FY 1991

1. **OBJECTIVE STATEMENT:** To improve and maintain the automation capabilities of A.I.D./W professional and support staff by modernizing the A.I.D./W automation base and moving A.I.D./W from a proprietary vendor environment (Wang) to an industry standard "open" systems architecture. The objectives are to provide workstations for 80% of the professional staff and 100% of the support staff through the installation of industry standard PCs and PC-LANs. The work stations will provide access to data, applications, and E-mail message traffic within the LANs and WAN (via the mainframe).
2. **BACKGROUND:** A.I.D. is evolving from a dependence on the Wang minicomputers, in support of office automation and end-user requirements, toward an "open" systems architecture, conforming to GOSIP and POSIX standards. ETA is the primary vehicle for achieving this migration from one type of delivery system architecture to another. The goals of ETA are to provide the following:
 - . Professional and support staff with the capability to produce better-looking documents more quickly
 - . More users with access to spreadsheet and graphics applications
 - . Users with ability to exchange E-mail messages and data files within the LANs and the WAN
 - . Users with access to the mainframe and, eventually, a wider variety of information sources such as CD-ROM, commercial, and CDIE data bases.

To accomplish these goals, industry standard PCs and PC-LANs will be installed at A.I.D./W sites. The PCs will be loaded with operating system, memory manager, and other utility software. PCs and LAN file-servers in a PC-LAN and/or WAN will be installed with LAN and, if necessary, WAN cards and telecommunications software (Banyan VINES, etc.). COTS software will be installed on each LAN file server, which typically includes software for spreadsheet applications (Lotus 1-2-3), PC-based DBMS applications (dBASE III PLUS), and word processing (WordPerfect). The modernized automation capabilities will be maintained and extended through additional hardware and software acquisitions. The enhanced

automation base will improve staff productivity in the performance of A.I.D./W functions and activities which support the pursuit of A.I.D. goals.

3. **APPROACH:** During the current budget period, A.I.D. will purchase and install over 500 PCs and 10-15 PC-LANs for New State (Phase 2 and 3 offices of AFR, ENE, A/A.I.D., ES, LAC, PPC, MS/MO, MS/AA, and S&T/SAA). A.I.D. will also install a to-be-determined number of PCs and PC-LANs for outside New State (Phase 2 and 3 annexes and offices in Washington and Rosslyn, particularly SA-14). The PCs will be fully loaded and networkable, while the file-servers for each PC-LAN will be installed with COTS software. Administration and technical operations of the LAN will be provided by the LAN administrators and network support staff. (This latter activity will also continue into the out-years.)

Also during the current budget period, A.I.D. will acquire the following for A.I.D./W use:

- . Presentation hardware (plotters, color monitors, etc.) and software to facilitate utilization of LAN hardware and software as information processing and production tools
- . Software upgrades to keep the previously acquired base current
- . End-user, task-specific software to improve staff efficiency
- . Supplemental hardware to assist in providing users with needed processing and communications capabilities.

Additional hardware and software acquisitions and upgrades will be needed during the out-years to maintain and enhance the automation base.

4. **MAJOR MILESTONES:**

Description	Planned Start Date	Planned End Date	Responsible Organization
Acquire/install PC/PC-LAN	Ongoing	09/30/92	MS/IRM/WS, MS/IRM/AS
Acquire additional hardware and software	Ongoing	09/30/92	MS/IRM/WS
Acquire additional hardware and software	10/01/92	09/30/96	MS/IRM/WS
Administer LAN and support network	Ongoing	09/30/92	MS/IRM/AS
Administer LAN and support network	10/01/92	09/30/96	MS/IRM/AS

5. MAJOR ACQUISITIONS:

Description	Planned Start Date	Planned End Date	Estimated Cost
PCs and PC-LANs (Hardware and Software)	Ongoing	09/30/92	To be determined
Additional Hardware and Software	Ongoing	09/30/92	To be determined
Additional Hardware and Software	10/01/92	09/30/96	To be determined

6. RESOURCE REQUIREMENTS: Partial funding for this activity was provided through FY 1989 deobligation/reobligation dollars. Activities after FY 1991 will be funded from Activity H-2, according to the prioritization and allocation of funds by the IMC.

7. BENEFITS/COST SAVINGS/COST AVOIDANCE: The benefits of this activity are:

- . A.I.D. users will be able to produce better-looking documents more quickly
- . More users will have access to spreadsheet and graphics applications, to assist them in computational and presentation aspects of their work
- . Users will be able to exchange E-mail messages and data files within LANs and the WAN, thus expediting the work process and reducing paper generation and transmission
- . Through access to the mainframe, users will have a wider variety of information available to them, to assist them in the technical aspects of their work.

8. CONSTRAINTS/CONDITIONS/ASSUMPTIONS: It is assumed that the current contract dispute will be resolved by the end of September 1990, thus permitting both the completion of the ongoing implementation of ETA currently funded by deobligation/reobligation monies and the scheduled initiation of this activity in FY 1991.

ACTIVITY TITLE: A.I.D./W Hardware Initiatives

ACTIVITY CODE: H-2

AGENCY GOAL CROSS REFERENCE(S): AG1-AG3

FUNCTION/ACTIVITY CROSS REFERENCE(S): F1-F9

IRM GOAL CROSS REFERENCE(S): IG2, IG3, IG4, IG5

BUDGET CODE CROSS REFERENCE(S): MS/IRM - P311, P312, P313, P321, P322, P510,
P520
PPC/CDIE - Base

STATUS: New and Continuation

RESPONSIBLE OFFICE(S): MS/IRM/TS, MS/IRM/AS, PPC/CDIE

AGENCY (IMC) PRIORITY: FY 1991

1. **OBJECTIVE STATEMENT:** To ensure that the current and future information processing and reporting requirements are supported by the mainframe, minicomputers, and associated networks, by identifying and implementing projects which increase the availability of networked applications and meet end-user demand for technical support during the evolution to an "open" systems architecture.
2. **BACKGROUND:** A.I.D. is evolving from a dependence on the Wang minicomputers, in support of office automation and end-user requirements, toward an "open" systems architecture, conforming to GOSIP and POSIX standards.

Contention for mainframe computing resources for information processing and reporting will increase with the anticipated growth in the demands of current systems and the advent of major systems development efforts, such as AWACS. Actions to maintain pace with these and other increases in user requirements will improve the performance of A.I.D. functions and activities supported by the mainframe.

During the period of transition to standards conformance, A.I.D. must maintain the viability of its minicomputer hardware systems. The aging of current systems and the immediate demands for more computing power require the replacement/upgrade of the Wang VS and HP minicomputer systems. These replacements/upgrades will enhance the ability of the minicomputer tier to support the Agency's processing needs.

Networked application file-servers are needed for the development and operation of end-user applications, including PC/LAN-based MISs for A.I.D./W bureaus. This project will enhance end-user productivity in the performance of operational and program management activities.

MS/IRM must be able to provide expertise for new technologies and products installed during the evolution to the "open" systems architecture, particularly Activities H-1 and H-3. This support is critical to ensure that the migration toward the new delivery systems architecture is well planned and incremental, which will improve the utilization of scarce information resources.

Without these actions, restrictions may need to be placed on the number of new users, new transactions, new applications, and the size of existing and planned data bases.

3. **APPROACH:** MS/IRM/AS and PPC/CDIE (for HP computer-related items) will maintain pace with current and anticipated growth in customer demands by upgrading and/or replacing the mainframe, Wang VSs, and HP computers; peripheral devices; and the connected PC and mainframe networks. The specific actions taken will vary from year to year and depend upon the prioritization of the IMC and the expected growth in demand for computer hardware and application support services. The trend will be away from dependence upon minicomputers and toward the GOSIP and POSIX standards.

The initiatives which are to be undertaken are listed below. The timing of the activities is to be determined by the IMC. Any given activity may occur in more than one of next six years. The activities over the next six years include the following:

- (1) **Mainframe System Replacement:** Upgrade mainframe system to provide more user-friendly access to data, allowing users to take more control of their automation/information needs and depend less heavily on the more costly computer programming resources.
- (2) **Data/Memory Storage Upgrade:** Acquire additional disk storage and upgrade mainframe memory to:
 - . Meet increasing data storage requirements caused by normal growth and installation of work stations
 - . Maintain current and expected levels of service as users and systems are added.
- (3) **Data Access/Retrieval Speed Upgrade:** Modify mainframe to allow storage devices to access data at a rate 50% faster than is currently possible.
- (4) **Mainframe Peripheral Upgrade:** Upgrade peripherals to continue to provide necessary support to the end-user community:
 - . Replace the tape drives on the mainframe with newer cartridge drives, which are faster and less error-prone
 - . Acquire mainframe-attached printers for large bureaus
 - . Provide remote laser printers for the mainframe which generate multiple copies of user reports in lieu of continuous-feed printouts.
- (5) **Mainframe Software Upgrade:** Acquire mainframe-based spreadsheet software for those offices with a need for central manipulation of spreadsheets.
- (6) **Platform/Systems Integration:** Provide additional connectivity among Agency networks (PC, Wang, and IBM), additional network management tools, increased support services for LAN technologies from various vendors, and more sophisticated diagnostics, monitoring, and reporting of the expanding network than is currently available.

- (7) **Networked End-User Applications Hardware:** Acquire POSIX-based application file-servers, consisting of a high-end microcomputer loaded with a relational data base management system (See Activity IM-2) and developed systems. These file-servers will be used to make applications available to networked users, including the PC/LAN based MISs for A.I.D./W bureaus (See Activity S-3).
- (8) **Wang Minicomputer Systems Replacement:** Acquire additional disk storage and upgrade memory for the Wang VS minicomputer systems. Replace aged Wang VS minicomputer systems with newer systems, which will utilize newer technologies, provide additional system capabilities, serve more users, and better support facility requirements. This activity will likely occur during multiple years. This project will ensure that system and user demands do not exceed the capabilities of the Wang VS minicomputer systems.
- (9) **HP 3000 Minicomputer System Upgrade:** Upgrade the HP 3000/48 minicomputer system to a larger capacity HP 3000 series 900 minicomputer system with additional memory (80 megabytes) and more dial-in ports. The upgraded HP system will support expanded information processing requirements for the Document and Information Handling Facility and on-line access requirements to DIS data bases by A.I.D. staff and external organizations, via support for 20 simultaneous dial-users and an X.25 communications link for public data network access. This project will ensure that system and user demands do not exceed the capabilities of the HP minicomputer system.
- (10) **POSIX Requirements Analysis:** Acquire hardware and software to allow MS/IRM/TS to support the POSIX initiatives being undertaken for the overseas automation project and subsequent extension into A.I.D./W, including an "open" systems computer, which will provide a base for the government-wide "open" systems initiatives that are designed to free the government from proprietary systems and allow better interoperability of computer programs and applications.
- (11) **Integration of Data Across Architecture:** Acquire hardware and software needed to provide support for better integration of data among existing mainframe computer systems, minicomputers, and LANs, as well as "open" systems, both domestically and overseas.

4. MAJOR MILESTONES:

Description	Planned Start Date	Planned End Date	Responsible Organization
Acquire hardware and software	To be determined by IMC		MS/IRM/TS

5. MAJOR ACQUISITIONS:

Description	Planned Start Date	Planned End Date	Estimated Cost
Hardware and Software	To be determined by IMC		

157

6. RESOURCE REQUIREMENTS:

Resource Category	Fiscal Years					
	FY91	FY92	FY93	FY94	FY95	FY96
6.1 Staff Years						
FTE						
Contract						
6.2 Cost (000)						
A.I.D. Staff						
Contractor						
Other (HW/SW)	420.0	1425.0	9110.0	1377.0	1464.0	1689.0

7. BENEFITS/COST SAVINGS/COST AVOIDANCE: The A.I.D./W hardware initiatives will allow continued and expanded support of the user community. These initiatives will permit continued successful operation of the Beltsville computer facility, the Wang VS sites, and the HP equipment. The mainframe system replacement will allow simultaneous development of AWACS and continued ongoing operation of FACS and other existing mainframe systems.

As a result of these initiatives, the information resources management community will be able to expand its supported user community base and allow more users to access the network applications, thus facilitating more effective and efficient use of scarce information resources management resources.

8. CONSTRAINTS/CONDITIONS/ASSUMPTIONS: The accomplished end result will depend upon the prioritization of initiatives and the allocation of funds by the IMC. The hardware initiatives have individual constraints, conditions, and assumptions.

- The need to replace the mainframe CPU is strongly dependent upon the advent of AWACS in FY 1993 (See Activity S-1). This replacement action also assumes that the AWACS platform will be the mainframe. While there are other compelling reasons for mainframe replacement, the replacement based strictly on AWACS must be revisited as AWACS progresses.
- A new generation of equipment conforming to GOSIP and POSIX standards will replace the reliance upon the minicomputer tier, as currently supported by the WANG VS and HP minicomputer systems, by the end of FY 1993.
- Based upon file-server utilization, performance, and end-user demand, two new file-servers could be added during each of the out-years.
- Identification of projects which position the information resources management community to support the user community more effectively should be accomplished at least once a year based upon analyses of the practical, appropriate level of end-user community support.

12

ACTIVITY TITLE: U.S.A.I.D. Hardware Initiatives

ACTIVITY CODE: H-3

AGENCY GOAL CROSS REFERENCE(S): AG1 - AG3

FUNCTION/ACTIVITY CROSS REFERENCE(S): F1 - F9

IRM GOAL CROSS REFERENCE(S): IG2, IG3, IG4, IG5

BUDGET CODE CROSS REFERENCE(S): MS/IRM - P321, P143
Missions

STATUS: New

RESPONSIBLE OFFICE(S): MS/IRM/MPS, Missions

AGENCY (IMC) PRIORITY: FY 1991

1. **OBJECTIVE STATEMENT:** To modernize the automation base of the missions and move them from a proprietary vendor environment (Wang) to an industry standard "open" systems architecture through the installation of PCs and PC-LANs. The PC will provide access to data, applications, and E-mail message traffic within the LAN.
2. **BACKGROUND:** A.I.D. is evolving from a dependence on the Wang minicomputers, in support of office automation and end-user requirements, toward an "open" systems architecture, conforming to GOSIP and POSIX standards. The enhanced automation base will improve staff productivity in the performance of mission functions and activities which support the pursuit of A.I.D. goals. The goals of this effort are to provide the following:
 - . Professional and support staff with the capability to produce better-looking documents more quickly
 - . More users with access to spreadsheet and graphics applications
 - . Users with ability to exchange E-mail messages and data files across LANs.

To accomplish these goals, industry standard PCs and PC-LANs will be installed in the missions. The PCs will be loaded with operating system, memory manager, and other utility software. PCs and LAN file-servers will be installed with LAN cards and telecommunications software (Banyan VINES, etc.) COTS software will be installed on each LAN file-server, which typically includes software for spreadsheet applications (Lotus 1-2-3), PC-based DBMS applications (dBASE III PLUS), and word processing (WordPerfect).

3. **APPROACH:** A.I.D. will install a to-be-determined number of PCs and PC-LANs in the missions. The PCs will be fully loaded and networkable. This includes connectivity to the Wang VS minicomputers until the Wang VS-based applications are converted/migrated or phased out. The file-servers for each PC-LAN will be installed with COTS software. Analysis and design of the specifics for the new architecture will be performed. Technical support will be centrally provided during the missions' evolution to an "open" systems architecture.
- (1) **Mission Simulation Support:** Acquire POSIX computers and related software for the testing of overseas Wang VS-based applications and the conversion to a POSIX-based "open" systems environment. The acquisition will allow A.I.D./W to determine the requirements for the conversion effort and to support it.
- (2) **Technical Support Services:** Provide technical support services to the missions during implementation of the POSIX environment. These services will ensure a smooth migration which will better utilize scarce information resources management resources.
- (3) **POSIX Computers for MACS and MIDAS in Missions:** Provide POSIX computers for MACS and MIDAS in the missions. This version of MACS will be that which was enhanced and migrated to operation in a PC-LAN environment under an RDBMS. Implementation of these computers will ensure that the most critical mission system is expeditiously moved to operation in the target "open" systems environment.
- (4) **Mission Hardware System Acquisitions:** Acquire fully loaded industry standard PCs and PC-LANs with installed COTS software, pursuant to the evolution to an "open" systems environment. The performance of mission activities will be enhanced by the COTS software and the converted/migrated systems which this hardware will support.

4. **MAJOR MILESTONES:**

	Description	Planned Start Date	Planned End Date	Responsible Organization
(1)	Acquire POSIX	10/01/90	09/30/96	IRM/MPS, Missions
(2)	Provide technical support	10/01/90	09/30/96	IRM/MPS, Missions
(3)	Acquire POSIX for MACS/MIDAS	10/01/91	09/30/94	IRM/IMPS, Missions
(4)	Acquire PCs/PC/LANs	10/01/92	09/30/95	IRM/MPS, Missions

5. MAJOR ACQUISITIONS:

Description	Planned Start Date	Planned End Date	Estimated Cost
POSIX computers	10/01/90	09/30/96	\$ 750,000
POSIX computers	10/01/91	09/30/94	\$ 4,000,000
PCs/PC-LANs	10/01/92	09/30/95	\$ 24,000,000

6. RESOURCE REQUIREMENTS: Funding is dependent upon mission funding or regional bureau support.

7. BENEFITS/COST SAVINGS/COST AVOIDANCE: The benefits of this activity are:

- . Mission personnel will be able to produce better-looking documents more quickly.
- . More personnel will have access to spreadsheet and graphics applications to assist them in computational and presentation aspects of their work.
- . Personnel will be able to exchange E-mail messages and data files across LANs, thus expediting the work process and reducing paper generation and transmission.

8. CONSTRAINTS/CONDITIONS/ASSUMPTIONS: Decisions will have to be made at a later date regarding centralized or decentralized funding for the POSIX computers and LANs. Funding for mission hardware acquisitions in project (4) is an aggregate mission estimate.

151

ACTIVITY TITLE: New Technology Initiatives

ACTIVITY CODE: H-4

AGENCY GOAL CROSS REFERENCE(S): AG2, AG3

FUNCTION/ACTIVITY CROSS REFERENCE(S): F1, F2, F5 - F9

IRM GOAL CROSS REFERENCE(S): IG2, IG3, IG4, IG5

BUDGET CODE CROSS REFERENCE(S): MS/IRM - P119, P321
MS/MO - R176
PPC/CDIE

STATUS: Continuation and New

RESPONSIBLE OFFICE(S): MS/IRM/PE, MS/MO, PPC/CDIE

AGENCY (IMC) PRIORITY: FY 1991

1. **OBJECTIVE STATEMENT:** To facilitate the investigation, acquisition, and use of new or emerging technologies in the A.I.D. environment. Two of the new technologies are imaging/CD-ROM technology and micrographics and information dissemination technology. The objectives for those two new technologies are:
 - To acquire/develop imaging/CD-ROM technology to facilitate the capture and dissemination of regulatory, programmatic, and other information within A.I.D.
 - To initiate and complete a study of micrographics and information dissemination technologies, in order to guide A.I.D. in the acquisition of such technologies for use in the capture and dissemination of development information.
2. **BACKGROUND:** A.I.D. is an information agency and, as such, requires storage of data and access to stored data. To enhance and modernize the information gathering and storage process, A.I.D. needs to acquire a storage capability and access methodology which will better accommodate the needs of its users, particularly executive and management personnel. The use of imaging/CD-ROM technology will support the execution of Agency management, operational, and programmatic activities. Results from the micrographics study will be used to guide A.I.D. in the acquisition of technologies for enhancing performance of the records management and institutional memory functions.
3. **APPROACH:** A.I.D. will acquire/develop imaging/CD-ROM technology, as determined by the results of current and planned imaging/CD-ROM prototype projects being undertaken by PPC/CDIE, MS/IRM/PE, and MS/IRM/WS. The objectives of this initiative will be accomplished through development and extension of these prototype products and systems.

- (1) **Imaging Systems Acquisition:** MS/IRM/WS will acquire during FY 1991, hardware and software for imaging for ES, FM, or PM, involving up to six or seven personnel. This project will serve as a prototype for potential extension to executive personnel in other A.I.D./W organizational elements, up to approximately 100 personnel. It will improve the document management function within the selected element(s) and facilitate the formulation and dissemination of Agency policy and regulations by executive and management personnel. Extension to other A.I.D./W organizational elements will be implemented over FY 1993, FY 1994, and FY 1995, involving the acquisition of the necessary hardware and software for users.
- (2) **CD-DIS Product Development/Enhancement and Installation/Distribution:** CDIE will implement projects to enhance the CD-DIS product and to satisfy additional requirements for development information related to CD-DIS. These projects will improve the execution of programmatic activities by providing development information in a more effective and efficient manner:

- Produce a quarterly production of CD-DIS to disseminate A.I.D. development experience and technical information to missions and less developed country (LDC) institutions overseas
- Make access to this information available, on disk, to A.I.D. constituencies, including A.I.D. contractors, U.S. universities, private voluntary organizations (PVOs), and other developmental organizations

OR

- Expand the CD-DIS product to include access to a complete union catalog of the PC-based DIS (MicroDIS) catalog data base holdings, which would include access to the following:
 - .. 15 missions' DIC catalogs of local development materials
 - .. 10 A.I.D.-funded, contractor-operated information clearinghouse development collections
 - .. Country-wide development information collections obtained from MicroDIS installations in Ecuador (15 installations), Paraguay (8 installations), and Nepal (5 installations)
 - .. A.I.D. Project Document Micrographics System (APDMS) data bases which provide access to A.I.D.'s active official project file documentation
 - .. Entire FY 1992 Congressional Presentation
 - .. Demonstration statistical data base to test and evaluate replacement of the distribution of economic and social data statistics by floppy diskette with distribution by one CD-ROM optical disk.

Funds on an ongoing basis are required to contract for the services which prepare the CD-DIS product for release. It is up to customers of the DIS information to acquire the technology for receiving the product.

- (3) **A.I.D. Handbook CD-ROM Product Development/Enhancement and Installation/Distribution:** MS/IRM/PE will implement projects to develop and implement a full text CD-ROM product for the dissemination of all A.I.D. Handbooks and other pertinent regulatory and policy information. These projects will build on the results of the prototype developed previously. This product will improve the execution of management, operational, and administrative activities by providing the information in a more effective and efficient manner:

- Produce quarterly update productions of the CD-ROM product to disseminate A.I.D. policy, procedural guidance, and regulatory information to missions and A.I.D./W
- Install a complete hardware/software system for MS/IRM CD-ROM maintenance
- Assure CD drive capability at all LAN installations and arrange for CD drives in buildings where LANs will not be located
- Make access to this information available to A.I.D. constituencies, including A.I.D. contractors, U.S. universities, PVOs, and other developmental organizations.

Funds on an ongoing basis are required to contract for the services which prepare the CD-ROM A.I.D. Handbook product for release. Extension of the project to the remaining Handbooks will require expanding these contracted services. (Currently, no funds are budgeted for FY 1992.) Acquisition of the scanning equipment will allow some of this activity to be performed in-house and facilitate the incorporation of this technology into the A.I.D./W automation base.

It is up to the customers of this information to acquire the technology for receiving the product. It is unknown at this time which A.I.D./W organizational elements intend to acquire the necessary hardware and software. It is assumed that the missions will budget for acquisition of the technology in the monies set aside for hardware and software acquisition under Activity H-3.

- (4) **Other CD-ROM Products Development/Enhancement and Installation/Distribution:** MS/IRM will develop and implement a CD-ROM product for the dissemination of other procedural, policy, and regulatory information needed by other mission organizational elements in U.S.A.I.D.s, e.g., the Regional Legal Advisor's Office. This project will improve the execution of management, operational, and administrative activities by providing needed information in a more effective and efficient manner:

- Assess the needs of other mission organizational elements for this type of technology and information dissemination
- Develop a prototype CD-ROM product for the dissemination of the needed data
- Produce quarterly update productions of the CD-ROM product to disseminate the needed data to the missions
- Make access to this information available to A.I.D. constituencies, including A.I.D. contractors, U.S. universities, PVOs, and other development organizations.

This project will build on the technology implemented by project (3). The information described in the paragraph above can easily be included in the product developed by that project and read by the same acquired technology. Funds will be required to expand the contract for the services used in project (3) to include the additional documents and information covered in this project.

- (5) **Micrographics and Information Dissemination Technologies Study:** A.I.D. will also initiate and complete a study on micrographics and information dissemination technologies (CDIE and MS/MO). The objectives of the study are as follows:

- Assess the adequacy of currently installed, government-furnished information technology for performing program objectives in a least-cost, highest-quality manner
- Identify areas for which additional or alternative government-furnished information technology will improve the performance of program objectives
- Examine options for additional or alternative government-furnished information technology and provide substantiated recommendations regarding the options, addressing such matters as cost-effectiveness, organizational factors, and human resources
- Formulate a strategy, consistent with A.I.D.'s strategic technology direction, for maintaining a low-cost, high-quality, government-furnished information technology base, including implementation and transition plans, as required.

The strategy will be used to guide A.I.D. acquisition and institutionalization of these technologies. The study will be performed, with interim and final review by A.I.D. personnel. A final report of findings and recommendations will be produced.

4. **MAJOR MILESTONES:** Milestones are dependent upon the IMC prioritization of projects.
5. **MAJOR ACQUISITIONS:** Major acquisitions are dependent upon the IMC prioritization of projects and allocation of funds.
6. **RESOURCE REQUIREMENTS:** Funding is dependent upon IMC allocation.
7. **BENEFITS/COST SAVINGS/COST AVOIDANCE:** The projects under this activity will benefit A.I.D. by:
 - Facilitating the performance of document-intensive activities of executive and management personnel
 - Facilitating the capture and dissemination of information within A.I.D.
 - Increasing the number of users with access to this information
 - Providing more development information to users on a regular basis.

A.I.D. will then be able to use these technologies in the least-cost, highest-quality manner for achieving program objectives.

8. **CONSTRAINTS/CONDITIONS/ASSUMPTIONS:** It is assumed that A.I.D. will commit to institutionalization of this technology in both A.I.D./W and the missions. This will require significant outlays for the requisite hardware and software purchases. Other than the imaging systems described in project (1), no monies for such projects by either group have yet been identified. It is assumed that such purchases will be budgeted in coming fiscal years, and for the missions, be included in the acquisitions forthcoming under Activity H-3.

ACTIVITY TITLE: Capacity Planning Initiatives

ACTIVITY CODE: H-5

AGENCY GOAL CROSS REFERENCE(S): AG3

FUNCTION/ACTIVITY CROSS REFERENCE(S): F8

IRM GOAL CROSS REFERENCE(S): IG3, IG4, IG5

BUDGET CODE CROSS REFERENCE(S): MS/IRM - Base

STATUS: New

RESPONSIBLE OFFICE(S): MS/IRM/AS, MS/IRM/MPS

AGENCY (IMC) PRIORITY: FY 1993

1. **OBJECTIVE STATEMENT:** To ensure that A.I.D. has enough computer capacity to accommodate the requirements of its users under the target "open" systems environment for A.I.D./W and the missions.
2. **BACKGROUND:** Projects are needed to ensure that A.I.D.'s delivery systems can support information processing requirements for current and future applications designed to support A.I.D. functions and activities. The need to perform capacity planning will become even more critical as A.I.D. moves toward and institutionalizes the target "open" systems environment for A.I.D./W and the missions. Generally, this activity is subsumed within the technical and/or operational support actions of MS/IRM/AS and MS/IRM/MPS. Beginning in FY 1993, this activity will receive a higher visibility among ongoing information resource management activities.
3. **APPROACH:** A.I.D. will perform capacity planning for its computer systems with the following two projects:
 - (1) **A.I.D./W Capacity Planning:** Perform capacity planning for the mainframe to address potential resource contention arising from future major system development efforts, e.g., AWACS. This will ensure that the future performance of A.I.D. functions and activities supported by the mainframe is satisfactory. While the minicomputer systems tier is still in place, capacity planning will also be done for the Wang VS minicomputers, to ensure that this platform continues to support VS-based applications still in use. Capacity planning for the LAN servers, serving as the primary hardware platform in the target "open" systems environment for A.I.D./W, will be performed on an ongoing basis to ensure that the applications they support continue to operate.

- (2) **U.S.A.I.D. Capacity Planning:** Enhance the capacity planning program in support of the missions. This program will assist missions in accommodating capacity needs arising from the installation of centrally developed and supported systems and the development and maintenance of local systems, all of which support the performance of mission activities. It will also ensure that capacity needs are satisfied for all platforms during the evolution to an "open" systems environment in the missions. Missions will be grouped into categories based on mission size, hardware configuration and capacity, installed portfolio, and locally developed systems. Short-term and long-term capacity plans for each category of mission will be developed and implemented on a rotational and ongoing basis as capacity planning support is provided to each of the missions.

These projects will be part of other activities performed by MS/IRM/AS and MS/IRM/MPS for FY 1991 and FY 1992.

4. MAJOR MILESTONES:

Description	Planned Start Date	Planned End Date	Responsible Organization
(1) Plan A.I.D./W capacity	10/01/92	09/30/96	MS/IRM/AS
(2) Plan mission capacity	10/01/92	09/30/96	MS/IRM/MPS

5. MAJOR ACQUISITIONS: None

6. RESOURCE REQUIREMENTS: Funding for near-term planning is included in the MS/IRM budget base.

7. BENEFITS/COST SAVINGS/COST AVOIDANCE: These projects will assist A.I.D. to plan better for its computer capacity needs, avoiding resource contention arising from future system development and installation efforts. Such contention would limit the utility to A.I.D. of applications and data bases developed to support Agency functions and activities.

8. CONSTRAINTS/CONDITIONS/ASSUMPTIONS: It is assumed that project (2) will be centrally funded, but that need not be the case. It is also assumed that, for both projects, the capacity planning activity will receive visibility in future budget preparations distinct from other technical and/or operational support and planning activities, and will coordinate with ongoing architecture evolution projects (see Activities H-1 and H-2).

APPENDIX E
INFORMATION RESOURCES MANAGEMENT ACTIVITY SHEETS
(FY 1991 - 1996)

SECTION 4 - SOFTWARE

E-71

ACTIVITY TITLE: A.I.D./W Accounting and Control System
Acquisition/Development and Implementation

ACTIVITY CODE: S-1

AGENCY GOAL CROSS REFERENCE(S): AG3

FUNCTION/ACTIVITY CROSS REFERENCE(S): F6

IRM GOAL CROSS REFERENCE(S): IG3, IG5

BUDGET CODE CROSS REFERENCE(S): FM

STATUS: Continuation

RESPONSIBLE OFFICE(S): FM, MS/IRM

AGENCY (IMC) PRIORITY: FY 1991

1. **OBJECTIVE STATEMENT:** To acquire/develop and implement AWACS to replace FACS and selected other FM systems. AWACS will provide on a timely basis the financial information necessary to:
 - . Meet the financial information management needs of A.I.D. management
 - . Satisfy the reporting requirements set forth in the Foreign Assistance Act of 1961 (as amended), Foreign Assistance Appropriation Acts, and other legislation governing A.I.D.
 - . Fulfill all financial management requirements set forth by the General Accounting Office, Office of Management and Budget, Department of the Treasury, General Services Administration, and the Department of State.
2. **BACKGROUND:** AWACS will correct the technical deficiencies in FACS, reduce the maintenance costs for A.I.D.'s primary accounting system, and be more responsive to changing requirements.
3. **APPROACH:** The replacement of FACS with AWACS will occur through the execution of the following steps:
 - . Review A.I.D./W operations that affect FM and identify alternative methods for "doing business" that will simplify the processes performed and the procedures followed.
 - . Determine the functional requirements for and design AWACS to satisfy system objectives.

- . Develop cost/benefit information to assist in selecting an option to meet the identified requirements: a modified off-the-shelf package from the GSA schedule of Federal financial management systems or other options identified by the contractor, any of which must operate in a to-be-determined environment, including platform and choice of RDBMS (if necessary).
- . Provide primary information for requirements for mainframe RDBMS under Activity IM-3.
- . Develop an evaluation methodology for selecting among alternatives and contractor(s) for the selected choice.
- . Acquire and modify or custom develop AWACS, and test and implement the system in the selected environment.
- . Train staff on the new system.
- . Maintain the new system through the first 18 months after implementation.

A contractor will be selected to perform the first three steps (listed above) and assist in performance of the fourth, based on the RFP issued before the end of FY 1990. A second contract award will be made to perform the fifth and sixth steps, based on the RFP prepared from the design specifications and the developed evaluation methodology.

NOTE: If an RDBMS is required for the system and the selected platform is the mainframe, then the RDBMS will be acquired for the mainframe as part of Activity IM-3. The RDBMS will then be available for other future systems development efforts.

Selection of the development and production environment for this system should be determined in part by the POSIX and GOSIP requirements of the new delivery systems architecture at the end of A.I.D.'s evolution to an "open" systems environment, and by the need to integrate it with other systems in A.I.D./W. All of the above activities should conform to the new LCDM methodology selected by A.I.D., and make use of whatever CASE tools are appropriate for the effort and compatible with the methodology. If appropriate, the new system should make use of the RDBMS selected by A.I.D. and whatever development tools it provides.

4. MAJOR MILESTONES:

Description	Planned Start Date	Planned End Date	Responsible Organization
Provide technical evaluation	07/17/90	08/10/90	FM, MS/IRM
Award contract #1	08/10/90	09/07/90	MS/OP
Phase 1 - Provide orientation	09/24/90	10/05/90	Contractor
Phase 2 - Assess requirements	10/08/90	02/08/91	Contractor

164

Description	Planned Start Date	Planned End Date	Responsible Organization
Phase 3 - Prepare detailed requirements document	02/11/91	08/09/91	Contractor
Phase 4 - Design interfaces	02/11/91	08/09/91	Contractor
Phase 5 - Implement plan (New Life-style)	02/11/91	07/03/92	Contractor
Phase 6 - Convert (New Life-style)	02/11/91	08/25/95	Contractor
Phase 7 - Provide cost/benefit analysis	08/12/91	10/11/91	Contractor
Phase 8 - Select alternative	10/14/91	11/08/91	FM, MS/IRM
Phase 9 - Evaluate methodology	11/11/91	12/06/91	FM, MS/IRM
Issue RFP for contract #2	12/18/91	02/17/92	MS/OP, MS/IRM, FM
Phase 10 - Help select contractor	02/18/92	04/13/92	FM, MS/IRM
Phase 11 - Select contractor	02/18/92	05/18/92	MS/OP
Phase 12 - Complete FM assistance	05/18/92	08/25/95	FM
Phase 13 - Perform user test of AWACS	05/01/93	05/31/95	FM
Phase 14 - Develop system conversion plan	05/18/92	02/28/95	Contractor
Phase 15 - Implement AWACS	08/02/93	08/25/95	Contractor
Phase 16 - Maintain AWACS	08/28/95	02/28/97	MS/IRM/SM

5. MAJOR ACQUISITIONS:

Description	Planned Start Date	Planned End Date	Estimated Cost
Off-the-shelf GSA schedule package	02/18/92	05/18/92	\$ 700,000

NOTE: The major acquisition is required, if part of the selected alternative.

165

6. RESOURCE REQUIREMENTS:

Resource Category	Fiscal Years					
	FY91	FY92	FY93	FY94	FY95	FY96
6.1 Staff Years						
FTE						
Contract						
6.2 Cost (000)						
A.I.D. Staff						
Contractor						
Other (HW/SW)	4500.0	2751.0	2250.0	2350.0	1875.0	1250.0

NOTE: The funding for this activity has been allocated in the FM budget.

7. **BENEFITS/COST SAVINGS/COST AVOIDANCE:** The major benefit will be the ability to make modifications mandated by either law or executive policy in a timely manner, which will lead to a higher productivity in the performance of the financial management function and lower systems maintenance costs for A.I.D.'s primary accounting system.
8. **CONSTRAINTS/CONDITIONS/ASSUMPTIONS:** The up-front costs of the system will be higher if an off-the-shelf GSA schedule package is selected versus a fully custom-developed system, but the long-term costs may be considerably less, both for the balance of the development and implementation period and for future systems maintenance. This fact should carry significant weight in the evaluation of acquisition/development alternatives. It is also important to note that OMB prefers such package selections to customizing efforts. The system should be made to be operational in the target "open" systems environment in A.I.D./W.

ACTIVITY TITLE: Implementation of Human Resources Systems for Personnel and Payroll

ACTIVITY CODE: S-2

AGENCY GOAL CROSS REFERENCE(S): AG3

FUNCTION/ACTIVITY CROSS REFERENCE(S): F5, F8

IRM GOAL CROSS REFERENCE(S): IG3, IG5

BUDGET CODE CROSS REFERENCE(S): MS/IRM - P121
PM

STATUS: New

RESPONSIBLE OFFICE(S): MS/IRM/SM, PM

AGENCY (IMC) PRIORITY: FY 1991

1. **OBJECTIVE STATEMENT:** To explore the feasibility of moving operations of personnel and payroll systems to a Federal service bureau, such as the Department of Agriculture's National Finance Center, and replace the existing systems with that organization's systems.
2. **BACKGROUND:** RAMPS and NAPS are old systems, created almost 20 years ago, that are difficult to maintain and modify for growing numbers of legislatively required changes. Moving to a more modern operating system at another Federal agency will improve execution of the personnel management and payroll functions within A.I.D.
3. **APPROACH:** The Department of Agriculture's National Finance Center in New Orleans operates a large data processing center, which services the personnel and payroll requirements for the Departments of Agriculture and Commerce, as well as several other government agencies. The NFC is prepared to take over all the functions currently performed by RAMPS and NAPS, and add several functions requested by PM and FM which are not currently available. There are also several other Federal service bureaus which could successfully perform these functions.

The following steps will be performed during this project:

- . Perform a feasibility study to:
 - .. Identify current functionality of RAMPS and NAPS
 - .. Determine additional PM and FM requirements for replacement systems
 - .. Determine requirements for interfacing with other A.I.D. systems
 - .. Assess NFC and other bureaus' systems against requirements
 - .. Identify and evaluate risks and vulnerabilities of utilizing NFC or other bureaus' systems
 - .. Determine impact on A.I.D. operations of utilizing NFC or other bureaus' systems
- . Prepare transition plan for transferring automated personnel management function and payroll activities to the NFC or other bureaus
- . Implement transition plan

Coordinate with NFC or other bureaus' personnel for ongoing maintenance and modifications to satisfy new functional requirements and perform subsequent liaison activities.

4. MAJOR MILESTONES:

Description	Planned Start Date	Planned End Date	Responsible Organization
Prepare feasibility study	10/01/90	05/31/91	MS/IRM/SM, PM, FM
Prepare transition plan	06/01/91	09/30/91	MS/IRM/SM, PM, FM
Plan implementation	10/01/91	01/31/91	MS/IRM/SM, PM, FM
Provide ongoing coordination	10/01/91	09/30/96	MS/IRM/SM, PM, FM

5. MAJOR ACQUISITIONS: None anticipated.

6. RESOURCE REQUIREMENTS:

Resource Category	Fiscal Years					
	FY91	FY92	FY93	FY94	FY95	FY96
6.1 Staff Years						
FTE						
Contract						
6.2 Cost (000)						
A.I.D. Staff						
Contractor	100.0					
Other (HW/SW)		340.0	240.0	240.0	240.0	240.0

NOTE: The funding for this activity has been allocated.

7. BENEFITS/COST SAVINGS/COST AVOIDANCE: The benefits of this project are anticipated to be more efficient performance of the personnel management function and payroll activities and reduced system maintenance costs.

8. CONSTRAINTS/CONDITIONS/ASSUMPTIONS: The Other (HW/SW) costs are for reimbursable operations of the NFC, currently estimated to be \$103 per employee per year x @2300 A.I.D./W employees. Additionally, first-year conversion and customizing costs are estimated to be \$100,000.

If the use of NFC or other bureau's systems is determined to be not feasible, then a new initiative will be necessary for developing/acquiring replacement systems for RAMPS and NAPS. The costs of such an initiative will greatly exceed those associated with this activity as currently estimated.

168

ACTIVITY TITLE: A.I.D./W Software Initiatives

ACTIVITY CODE: S-3

AGENCY GOAL CROSS REFERENCE(S): AG1 - AG3

FUNCTION/ACTIVITY CROSS REFERENCE(S): F1 - F9

IRM GOAL CROSS REFERENCE(S): IG3, IG4, IG5

BUDGET CODE CROSS REFERENCE(S): MS/IRM - P111; P119; MS/MO; PPC/PB; FM;
OSDBU; S&T; OFDA; FVA; PM; OIT; A.I.D./A; ES

STATUS: New and continuation

RESPONSIBLE OFFICE(S): MS/IRM/WS. A.I.D./W functional offices

AGENCY (IMC) PRIORITY: FY 1991

1. **OBJECTIVE STATEMENT:** To develop and implement an integrated set of new and/or replacement systems which support or could support the management of the portfolio of A.I.D. application systems and additional information needs of A.I.D./W organizational elements.

2. **BACKGROUND:** These systems will improve performance of the information resources management activities of systems development, implementation, and propagation within the organization. In addition to internal information resources management enhancements, the projects are intended to develop and implement systems which will support the management and/or operational activities of A.I.D./W organizational elements. These representative projects constitute the bulk of the "core contract" of support services executed and managed by MS/IRM/WS for A.I.D./W. Improved utilization of scarce information resources will facilitate the creation and maintenance of systems which support the execution of A.I.D. functions and activities.
 - (1) **Application Portfolio Analysis System:** Develop and implement a system for performing application portfolio analysis for all A.I.D. applications, to facilitate the analysis of functional and technical effectiveness, effect of aging on the portfolio, and identification of potential new applications. Initial input to this system will be information resources management assessments and architectures produced by an information systems planning study (See Activity IPM-2).
 - (2) **Systems Development Management and Status Reporting System:** Develop and implement a systems development management and status reporting system for all A.I.D. systems development projects. The system will enhance the management of systems development activities and the use of available computer resources. It will also facilitate the institutionalization of the new systems LCDM and standards (See Activity IPM-4).

- (3) **Comprehensive Application Clearinghouse Listing System:** Develop and implement a single, multi-purpose application clearinghouse listing system to identify applications available to A.I.D./W organizational components and to the missions. This list should include those applications which are developed by one organizational element but could be used by another. System descriptions will carry sufficient functional and technical detail for evaluation of utility to the interested organizational element. The system will also facilitate implementation of the recommendations from the information resources management organizational roles and responsibilities study (See Activity IPM-2).
- (4) **Enhancement of the Automated Annual Budget Submission System:** Implement enhancements to the PC-based Automated ABS System by performing the following steps:
- . Complete the projects to develop the capability to upload data to the mainframe system and to retool the work force data base
 - . Correct any deficiencies identified during the first full year of field use
 - . Implement projects to facilitate the analysis of ABS data by:
 - .. Eliminating the need for numerous computer-generated reports
 - .. Replacing the current manual process with electronic transmission of data to PCs (flat files using common data definitions in Lotus 1-2-3 or dBASE III PLUS formats)
 - .. Determining the extent to which it is possible to update operating expense and work force mainframe files based on an analysis conducted by A.I.D./W
 - . Add new features, including:
 - .. The collection of PVO data for use during the fall Congressional Presentation preparation
 - .. An automated interface for streamlining the downloading of data from the mainframe
 - . Implement better data integrity checks and a better method for collecting certain PL 480 data
 - . Evaluate the possibility of giving bureaus the ability to access and revise mainframe operating expense data
 - . Evaluate the possibility of bringing PL 480 data into the A.I.D. integrated budget data base.

These efforts will improve information sharing, eliminate duplicative data entry, simplify data manipulation, facilitate data analysis during the budget process, streamline the budget preparation process through standardization of data collection and analysis, improve the reliability and validity of budget data fed to other A.I.D. information systems, and otherwise improve the execution of the financial management function.

- (5) **File Conversion for Vendor Profile Database Integration with A.I.D. Consultant Registry Information System:** Complete implementation of the file conversion project to integrate VPD with ACRIS. (ACRIS was developed in COBOL and operates on the Wang VS.) This project is part of the effort to establish the VPD as A.I.D.'s authoritative data base for supplying vendor information to A.I.D. systems.
- (6) **Project Management Information System:** Complete the development and implementation of PMIS. This system is being designed to support S&T project management information requirements, but will be accessible to all A.I.D./W organizational elements. The system is being developed using IDMS and will operate on the mainframe.
- (7) **Budget Plan Code Conversion for Mainframe Systems:** Complete projects for FM to convert certain mainframe systems to use budget plan codes instead of allotment codes. The conversion effort will bring the following systems into compliance with this financial management requirement:
 - . CFR System (to be completed)
 - . U101 System (to be completed)
 - . GLARS (to be initiated and completed)
 - . Cash Journal (to be initiated and completed).

Conversion entails modification of the system data structures and interfaces.

- (8) **PC/LAN-Based Bureau MIS:** Initiate and/or complete projects to develop and implement management information systems for A.I.D./W bureaus. These systems will satisfy the MIS requirements of the client bureaus and improve the program coordination and implementation within the client bureaus. Information from these systems will be integrated with other A.I.D. systems to assure data consistency and integrity, and will be shared among A.I.D./W offices. The following systems will be designed to operate in a PC/LAN-based POSIX environment under an RDBMS on application file-servers (See Activity H-2):
 - . Disaster Management System for OFDA (to be completed)
 - . MIS for ANE (to be initiated and completed)
 - . FFP MIS for FVA (to be initiated and completed)
 - . MIS Disaster Reporting Module for OFDA (to be initiated and completed).
- (9) **Participant Training Information System Migration to IDMS Environment:** Move PTIS from a non-DBMS-based operation on the mainframe to an operation using IDMS for OIT. This project will correct certain technical deficiencies with the current system.

- (10) **Replacement of Loan Accounting Information System:** Acquire/develop and implement a replacement for LAIS to address current deficiencies in satisfying financial management information requirements and to address current difficulties in using the system and accessing the data. This effort should be coordinated with the AWACS acquisition/development and implementation project (See Activity S-1). Other loan accounting systems, such as that used by the World Bank, will be reviewed during the feasibility study phase of the project.
- (11) **Executive Information System:** Develop and implement an EIS for A/A.I.D. to provide senior A.I.D. executives with summary-level data necessary for effective management. This information includes:
- . Key areas of A.I.D. operations (critical success factors, goals, and other key operational measurement factors)
 - . Relevant indicators from the external environment
 - . EIS will extract key information from A.I.D.'s current application programs, manipulate, and display the data in a report format useful to senior A.I.D. executives. This system will support A.I.D. management activities at the highest levels.
- (12) **Decision Support System - Redesign of Project Accounting Information System:** Develop and implement a redesigned PAIS to ensure compatibility of data bases and consistent data definitions per the development and implementation of the DSS. (The DSS will provide menu-driven access to data from budget, personnel, and financial systems for managers and non-technical personnel.) The redesigned PAIS will improve execution of the financial management function. The new system will operate on the mainframe under IDMS.
- (13) **A.I.D.-Wide Correspondence and Document Tracking System:** Develop and implement an A.I.D.-wide full correspondence and document tracking system. This system will satisfy the need for a single standard system for all of A.I.D. The system will improve the execution of correspondence and document management activities. The system will be designed to operate in a PC/LAN environment. Initially, the system will be implemented for ES, then extended to other bureaus, and eventually propagated throughout the rest of A.I.D./W and the missions, as the PC/LAN architecture is implemented. Where possible, the system will also make use of the imaging technologies A.I.D. is acquiring/developing, to transfer documents among senior executives (See Activity H-4).
- (14) **Management Operations Support Systems:** New and/or replacement systems are needed to support the operational and management activities of MS/MO. The elements of the MS/MO systems must include request tracking and routing, administrative purchasing, property management, monitoring storage of household effects and certification of invoices for that storage, and printing management. Two systems have been identified to date: a Resource Management Information System (RMIS) and a redesigned PSAS.

The RMIS will incorporate functions of the NXP System and Administrative Purchasing System, along with other existing automated and manual record-keeping systems, to provide a comprehensive tracking and management information system. The system will also emphasize the use of electronic document approval and transmission where possible. The new system will improve the execution of the operations management function.

The redesigned PSAS will provide data on storage of employee household effects and ensure central accounting control and prompt payment. The new system will correct functional deficiencies of the old PSAS, including:

- . Lack of capability to monitor conformance with storage regulations
- . Inability to verify A.I.D. receipt of contract-specified storage discounts.

The system will address technical deficiencies arising from system operation on obsolete hardware and the use of obsolete software. The new system will improve the execution of the operations management function.

(15) **Payroll Administrative System:** Develop and implement a Payroll Administrative System to satisfy payroll administrative information requirements for PM. This system will address deficiencies in the administrative area not covered by the redesigned NAPS.

3. **APPROACH:** The generic approach for each of these projects should be consistent with a selected LCDM and will most likely include the following steps:

- . Perform feasibility study to assess the practicality of the requirements
- . Determine the detailed functional requirements
- . Design the system and select the environment
- . Develop or acquire/customize the system in the selected environment
- . Test the system and perform user acceptance testing
- . Develop operational and user manuals
- . Train the users
- . Implement the system
- . Maintain the system throughout the life cycle.

For these systems, it is likely that the heaviest work will be in the definition of detailed requirements and the design of the system. The decision after completion of the feasibility study is the critical one, i.e., whether to proceed with a development or acquisition effort or continue with the current level of automation or manual support.

Selection of the development and production environment for each system should be determined in part by the POSIX and GOSIP requirements of the new delivery systems architecture at the end of A.I.D.'s evolution to an "open" systems environment. All of the above steps should conform to the new LCDM methodology selected by A.I.D., and make use of whatever CASE tools are appropriate for the effort and compatible with the methodology. If appropriate, the new systems should make use of the RDBMS and associated development tools selected by A.I.D.

4. MAJOR MILESTONES:

Description	Planned Start Date	Planned End Date	Responsible Organization
Analyze functional requirements	To be determined by IMC		MS/IRM/WS
Design system and select environment	To be determined by IMC		MS/IRM/WS
Develop system	To be determined by IMC		MS/IRM/WS
Test system	To be determined by IMC		MS/IRM/WS
Train the user	To be determined by IMC		MS/IRM/WS
Implement the system	To be determined by IMC		MS/IRM/WS
Maintain the system	To be determined by IMC		MS/IRM/SM

NOTE: The generic milestones apply to most development projects.

5. MAJOR ACQUISITIONS: None

6. RESOURCE REQUIREMENTS:

Resource Category	Fiscal Years					
	FY91	FY92	FY93	FY94	FY95	FY96
6.1 Staff Years						
FTE						
Contract						
6.2 Cost (000)						
A.I.D. Staff						
Contractor	326.0	745.01	1060.0	1327.0	14140.0	1639.0
Other (HW/SW)						

NOTE: Annual costs are national and depend on IMC priorities.

- 7. BENEFITS/COST SAVINGS/COST AVOIDANCE:** The implementation of these systems will facilitate the efficient use of scarce information resources in the strategic and tactical phases of A.I.D.'s systems life cycle. The anticipated generic benefits of these projects are improvements in the productivity of A.I.D./W personnel in the performance of Agency functions and activities in support of Agency goals.

8. **CONSTRAINTS/CONDITIONS/ASSUMPTIONS:** These projects place high demands for contractor and/or MS/IRM/WS staff support. A higher ceiling on contractor personnel and more MS/IRM/WS staff would help these projects to be undertaken and completed in a timely manner. These projects should dovetail with the other activities involving the new LCDM and the acquisition of CASE tools.

These systems should be designed to be operational in the target "open" systems environment for A.I.D./W. Hardware, development software, RDBMS, etc., necessary for these systems should be acquired through the activities that perform those functions for A.I.D./W (See Activities H-1, H-2, and IM-4). The new PSAS should also be designed to interface with AWACS (See Activity S-1).

ACTIVITY TITLE: U.S.A.I.D. Software Initiatives

ACTIVITY CODE: S-4

AGENCY GOAL CROSS REFERENCE(S): AG1 - AG3

FUNCTION/ACTIVITY CROSS REFERENCE(S): F6, F9

IRM GOAL CROSS REFERENCE(S): IG3, IG5

BUDGET CODE CROSS REFERENCE(S): MS/IRM - P122, P119
Missions

STATUS: Continuation

RESPONSIBLE OFFICE(S): MS/IRM/MPS, FM, Missions

AGENCY (IMC) PRIORITY: FY 1991

1. **OBJECTIVE STATEMENT:** To initiate and/or complete projects concerning the integration of administrative management systems into a single mission system, the support of programmatic activities at missions, the primary A.I.D. applications, a mission program/project officer management information system, and MACS.
2. **BACKGROUND:** A number of systems need to be developed in support of the missions, for the management of the mission and for programmatic activities.
 - (1) **Integrated Mission Administrative Management System:** This system will be developed, in accordance with A.I.D. data integration standards, to satisfy mission administrative management information needs. Initially, the system will integrate other mission administrative systems to run from a single menu. Eventually, the system will run as a single, unified system, satisfying the need for a unified cost management system. The system design will build from the analysis and design of an integrated administrative management information system for mission executive officers currently being performed by the Mission Systems Center in San José, Costa Rica. Ultimately, the system will be designed or converted to operate in a PC/LAN-based POSIX environment under an RDBMS.
 - (2) **Mission Program/Project Support Systems:** These systems will help to institutionalize output-based management for programs/projects and will facilitate program/project planning by the missions and A.I.D./W management. The systems will supply information which is currently unavailable, difficult to extract or synthesize, and/or not standardized within A.I.D. (and possibly across other developmental and donor organizations). These systems will be designed to operate in the target "open" systems architecture for the missions. Two such systems are:
 - **Socioeconomic Status System:** Develop and implement a system to provide mission economists and program/project managers ready access to socioeconomic and geographic data. This data will provide an objective basis for assessing and measuring program/project performance.

Mission Program/Project Evaluation System: Develop and implement a system to provide mission directors and A.I.D./W management (primarily CDIE) with evaluative information on programs/projects implemented at mission sites. This information will provide data for assessing and measuring program/project performance.

- (3) **Other Applications for the Missions:** These primary applications consist mainly of various centrally developed and supported cost tracking and management systems for the overseas missions, e.g., VMS, NXP, and PTMS, which are primarily Wang VS-based. This grouping of systems also include locally developed and supported applications at the missions which satisfy a plethora of local information needs. All of these systems facilitate the performance of mission activities. Two projects to support these systems are:

Installation and Maintenance of Current Applications: Deliver for installation the centrally developed and supported systems at the remaining appropriate mission sites and centrally maintain and support these systems during the evolution to an "open" systems architecture.

Conversion/Migration to a PC-Based POSIX Environment: Convert/migrate the centrally developed and supported systems and assist in the conversion/migration of locally developed and supported systems at individual mission sites. The new systems will satisfy additional information needs of the missions.

- (4) **Mission Program/Project Officer Management Information System:** This system will facilitate the management and implementation of development programs/projects worldwide by mission program/project officers and directors. MIDAS is a prototype project management system designed to assist mission program/project officers and directors in managing the portfolios. The system was designed to operate concurrently with MACS on the Wang VS (using PACE) at individual mission sites. MIDAS extracts data from MACS (by reformatting a copy of the MACS data base), generates program/project management information reports for mission directors and program/project officers, and downloads data into Lotus 1-2-3 spreadsheets for use by program/project officers.

MS/LRM will install the current MIDAS at selected mission sites over a period of two years and centrally maintain and support the system during the evolution to an "open" systems architecture. (This activity will include development of an interface with the version of MACS using POSIX COBOL, which provides the same data extraction as the version using VS COBOL. The interface will be provided to those missions using the new version of MACS.)

- (5) **Mission Accounting and Control System:** MACS is the primary administrative system for the missions, handling the budgeting and accounting for operating expenses and project funds. This system is the unified, approved accounting system for the missions and is a major source of data for the management of the missions and the development programs/projects.

Conversion/Migration from VS COBOL to POSIX COBOL: Convert/migrate MACS from a VS COBOL-based system to a POSIX COBOL-based system. This process will involve the translation of MACS code through the creation of an image of the system in POSIX COBOL. This version will be made available to those missions which choose to purchase POSIX boxes for MACS.

Conversion/Migration of MACS and MIDAS to a PC-Based POSIX Environment under an RDBMS: Convert/migrate MACS and MIDAS to operate in a PC-based POSIX environment under an RDBMS at all mission sites that operate MACS. The new system will satisfy additional information needs of mission and A.I.D./W managers (via roll-up to the primary A.I.D. accounting system), who cannot currently retrieve meaningful program/project data from MACS. This version of MACS and MIDAS will also provide automated integration with other mission and A.I.D./W systems, such as those for personnel, payroll, property inventories, planning and budgeting, and contract management. This version of MACS and MIDAS will be made available to the missions via the centrally funded POSIX boxes for MACS (See Activity H-3).

3. **APPROACH:** The generic approach for each of these projects should be consistent with a selected LCDM and will most likely include the following steps:

- . Perform feasibility study to assess the practicality of the requirements
- . Determine the detailed functional requirements
- . Design the system and select the environment
- . Develop or acquire/customize the system in the selected environment
- . Test the system and perform user acceptance testing
- . Develop operational and user manuals
- . Train the users
- . Implement the system
- . Maintain the system throughout the life cycle.

For these systems, it is likely that the heaviest work will be in the definition of detailed requirements and the design of the system. The decision after completion of the feasibility study is the critical one, i.e., whether to proceed with a development or acquisition effort or continue with the current level of automation or manual support.

Selection of the development and production environment for each system should be determined in part by the POSIX and GCSIP requirements of the new delivery systems architecture at the end of A.I.D.'s evolution to an "open" systems environment. All of the above steps should conform to the new LCDM methodology selected by A.I.D., and make use of whatever CASE tools are appropriate for the effort and compatible with the methodology. If appropriate, the new systems should make use of the RDBMS and associated development tools selected by A.I.D.

The integration of existing systems will be accomplished by executing the following steps:

- . Develop a front-end menu system to run the other systems
- . Modify systems to use common data verification tables

- . Define files to facilitate queries from standard DBMS software
- . Define data linkages between and among systems to minimize duplication of data storage, data entry, data compilation, etc., and to allow data to be accessible among systems
- . Determine what changes should be made to bring systems up-to-date and into minimum conformance with the referenced data administration/integration standards
- . Define data links between overseas data bases and Washington data bases so that data is easily transferable and loadable among all A.I.D. offices.

4. MAJOR MILESTONES:

Description	Planned Start Date	Planned End Date	Responsible Organization
Analyze functional requirements	To be determined by IMC		MS/IRM/MPS, FM Missions Contractor
Design system and select environment	To be determined by IMC		Contractor
Develop system	To be determined by IMC		Contractor
Test system	To be determined by IMC		Contractor
Train the user	To be determined by IMC		Contractor
Implement the system	To be determined by IMC		Contractor
Maintain the system	To be determined by IMC		MS/IRM/SM

NOTE: The majority of projects are new development. For those projects which are new development, follow the generic work steps.

5. MAJOR ACQUISITIONS: None.

6. RESOURCE REQUIREMENTS:

Resource Category	Fiscal Years					
	FY91	FY92	FY93	FY94	FY95	FY96
6.1 Staff Years						
FTE						
Contract						
6.2 Cost (000)						
A.I.D. Staff						
Contractor	360.0	1205.0	1100.0	1367.0	1454.0	1679.0
Other (HW/SW)						

179

7. **BENEFITS/COST SAVINGS/COST AVOIDANCE:** The anticipated benefits of these projects are that the missions will be better managed and better able to use information in an interchange with A.I.D./W. Some of these projects have unique benefits:

- **Integrated Mission Administrative Management System:** Integration and use of standard Agency administrative systems are particularly important to avoid retraining on new systems for overseas staff who are regularly transferred among missions. Integration of these systems ensures a single point of data entry and easier data maintenance. The use of this system will facilitate accessibility to data for both A.I.D./W and overseas users and transfer of data between the two.
- **Mission Program/Project Support Systems:** The anticipated benefits are primarily improvements in the planning of mission programs/projects. At the tactical level, information captured and reported by these systems will facilitate program/project evaluation by providing the needed output-based data. At the strategic level, the availability of this data will help mission directors and A.I.D./W management in their determination of the direction(s) the Agency should push its developmental activities.
- **Other Applications for the Missions:** The anticipated benefits are that the applications supporting the missions will continue to be operational during and after the migration to the target "open" systems architecture. These systems are mission-critical ones which facilitate the performance of management, administrative, operational, and programmatic functions of the missions.
- **Mission Program/Project Officer Management Information System:** The anticipated benefits of this project are that management of mission program/project portfolios will be greatly enhanced through the use of this system. This system will allow for greater efficiency in the use of scarce human and financial resources in planning, managing, and implementing program/project objectives. Furthermore, this implementation will eliminate the need to develop local applications for performing the same function and, thereby, help to conserve scarce information resources in the missions.

8. **CONSTRAINTS/CONDITIONS/ASSUMPTIONS:** The constraints, conditions, and assumptions depend upon each individual activity undertaken:

- **Integrated Mission Administrative Management System:** A major assumption is that the determination of functional requirements for the integrated system will roll easily into the requirements for the unified system, simplifying the design and development activities.
- **Mission Program/Project Support Systems:** It is assumed that mission budgets will be able to accommodate the purchase of such systems. It is also assumed that the data captured and reported by these systems will be appropriately aggregated for strategic analysis.
- **Other Applications for the Missions:** Implementation of the new systems in the missions depends upon implementation of the architecture evolution project (See Activity H-3). Installation and training will have to be coordinated with the actions taken to convert missions to the PC/LAN/RDBMS environment.

Mission Program/Project Officer Management Information System: It is assumed that this system will be maintained and centrally supported during fiscal years 1993 and 1994 but discontinued thereafter. The redesigned MACS/MIDAS forthcoming from this activity will supersede the current MIDAS during that time period and eventually fully replace it within the missions.

Mission Accounting and Control System: Each mission installing the POSIX version of MACS will fund the necessary POSIX "box." The cost is estimated to be \$50,000 to \$80,000 per site, depending upon the configuration needed. The costs include approximately \$900,000 for installation and training in all 40 missions. Costs for hardware and software are included in Activity H-3 and are estimated to be \$80,000 to \$100,000 per mission.

ACTIVITY TITLE: Contract Information Management System

ACTIVITY CODE: S-5

AGENCY GOAL CROSS REFERENCE(S): AG3

FUNCTION/ACTIVITY CROSS REFERENCE(S): F1, F2, F3, F7

IRM GOAL CROSS REFERENCE(S): IG3, IG5

BUDGET CODE CROSS REFERENCE(S): MS/IRM - P121, P122

STATUS: Continuation

RESPONSIBLE OFFICE(S): MS/IRM/WS, MS/IRM/MPS, MS/IRM/SM, MS/OP

AGENCY (IMC) PRIORITY: FY 1991

1. **OBJECTIVE STATEMENT:** To initiate and/or complete projects associated with CIMS.
2. **BACKGROUND:** CIMS is the primary system for supporting A.I.D. contracting and contract management activities. It uses modules which are designed and developed for specific organizational elements and functional areas within A.I.D. (CIMS was developed using PACE and operates on the Wang VS.)
 - (1) **Completion of CIMS Module Development and Implementation:** Complete development and installation of additional modules for and enhancements to CIMS. The modules for A.I.D./W organizational elements include those for IG and OSDBU. The Host Country Contracting Module will be installed at remaining mission sites with contracting officers, bringing the total to about 25.

A new version of CIMS will be developed and implemented which will allow access to non-sensitive procurement information for project officers in A.I.D./W and the missions. CIMS will also be enhanced with the addition of functionality to the designs of existing and planned modules, e.g., changing data structures to satisfy the contract closeout requirement and adding reports.

- (2) **Maintenance of Current CIMS:** Maintain the current CIMS for both A.I.D./W organizational elements and the missions. The current enhanced modules will be centrally maintained and supported during the evolution to an "open" systems architecture.
- (3) **Conversion/Migration to a PC-Based POSIX Environment under an RDBMS:** Convert/migrate CIMS to operate in a PC-based POSIX environment under an RDBMS in A.I.D./W and at individual mission sites. The new system will satisfy additional information needs of A.I.D./W organizational elements and the missions.

3. **APPROACH:** Project (1) will be completed during FY 1991 to be operational in the Wang VS/PACE environment. Project (2) is ongoing and will continue through FY 1991. (Currently, funds for this activity are identified for only that year. However, it is expected that it will continue until the system developed in project (3) fully replaces it in both A.I.D./W and the missions.) Project (3) will proceed according to the following steps:

- . Define target environment for the converted/migrated system
- . Define current functionality
- . Determine and incorporate additional functional requirements for converted/migrated system
- . Design new system
- . Migrate current code if possible and/or develop new system
- . Implement and test system
- . Install new system in A.I.D./W organizational elements and the missions, and train users
- . Maintain new system through its life cycle.

These steps for project (3) should conform to the new LCDM methodology selected by A.I.D. and make use of whatever CASE tools are appropriate for the effort and compatible with the methodology. If appropriate, the new system should make use of the development tools the RDBMS provides.

4. **MAJOR MILESTONES:**

Description	Planned Start Date	Planned End Date	Responsible Organization
(1) Complete CIMS	10/01/89	09/30/91	MS/IRM/MPS, MS/IRM/WS
(2) Maintain CIMS	01/01/90	09/30/96	MS/IRM/SM
(3) Convert CIMS to new RDBM	10/01/91	09/30/92	MS/IRM/MPS, SMS/IRM/WS

5. **MAJOR ACQUISITIONS:** Acquisition of the RDBMS is under Activity IM-2.

187

6. RESOURCE REQUIREMENTS:

Resource Category	Fiscal Years					
	FY91	FY92	FY93	FY94	FY95	FY96
6.1 Staff Years						
FTE						
Contract						
6.2 Cost (000)						
A.I.D. Staff						
Contractor						
Other (HW/SW)	371.0		40.0	40.0	40.0	40.0

NOTE: The funding for this activity in FY 1992 will be covered in the base.

7. **BENEFITS/COST SAVINGS/COST AVOIDANCE:** By improving the contract maintenance and management activities in both A.I.D./W and the missions, this system will help A.I.D. to economize on the use of administrative resources.
8. **CONSTRAINTS/CONDITIONS/ASSUMPTIONS:** It is assumed that the current system will be maintained and centrally supported during FY 1993 and FY 1994 but discontinued thereafter. The redesigned CIMS will supersede the current version during that time period and eventually fully replace it within A.I.D./W and the missions.

BY

ACTIVITY TITLE: American Electronic Time and Attendance (AETA) System Conversion/Migration

ACTIVITY CODE: S-6

AGENCY GOAL CROSS REFERENCE(S): AG3

FUNCTION/ACTIVITY CROSS REFERENCE(S): F5, F6

IRM GOAL CROSS REFERENCE(S): IG3, IG5

BUDGET CODE CROSS REFERENCE(S): MS/IRM - P122

STATUS: New

RESPONSIBLE OFFICE(S): MS/IRM/MPS

AGENCY (IMC) PRIORITY: FY 1991

1. **OBJECTIVE STATEMENT:** To convert/migrate AETA to operate in a PC-LAN-based environment in A.I.D./W and at individual mission sites.
2. **BACKGROUND:** The new system will satisfy current and additional personnel and payroll information needs for A.I.D./W organizational elements and the missions. Installation within the missions will take approximately a year.
3. **APPROACH:** The following steps will be performed during this conversion/migration:
 - . Migrate current code if possible and/or develop new system
 - . Implement and test system
 - . Install new system in A.I.D./W organizational elements and the missions, and train users
 - . Maintain new system through its life cycle.

4. MAJOR MILESTONES:

Description	Planned Start Date	Planned End Date	Responsible Organization
Implement and test system	10/01/90	05/31/91	MS/IRM/MPS
Install and train users	06/01/91	09/30/91	MS/IRM/MPS
Maintain the system	10/01/91	Ongoing	MS/IRM/MPS

5. MAJOR ACQUISITIONS: None

6. RESOURCE REQUIREMENTS:

Resource Category	Fiscal Years					
	FY91	FY92	FY93	FY94	FY95	FY96
6.1 Staff Years						
FTE						
Contract						
6.2 Cost (000)						
A.I.D. Staff						
Contractor						
Other (HW/SW)			50.0	50.0	50.0	50.0

NOTE: The funding for this activity has been allocated from the base for FY 1991 and FY 1992.

7. BENEFITS/COST SAVINGS/COST AVOIDANCE: The benefits of this project are anticipated to be improved performance of personnel/payroll-related activities in the missions.

8. CONSTRAINTS/CONDITIONS/ASSUMPTIONS: Implementation of the new system in the missions depends on implementation of the architecture evolution project (see Activity H-11). Installation and training will have to be coordinated with the actions taken to convert missions to the PC-LAN environment.

ACTIVITY TITLE: Installation of PC-Based Development Information System Product

ACTIVITY CODE: S-7

AGENCY GOAL CROSS REFERENCE(S): AG1 - AG3

FUNCTION/ACTIVITY CROSS REFERENCE(S): F1, F2, F3, F4

IRM GOAL CROSS REFERENCE(S): IG3, IG4, IG5

BUDGET CODE CROSS REFERENCE(S): PPC/CDIE
Missions

STATUS: Continuation

RESPONSIBLE OFFICE(S): PPC/CDIE, Missions

AGENCY (IMC) PRIORITY: FY 1991

1. **OBJECTIVE STATEMENT:** To expand the MicroDIS installation network by an additional 50 installations (for a total of 175 installations worldwide), including adding another 10 mission DICs to the network.
2. **BACKGROUND:** The system is designed as an integrated library management system for PCs. It supports the programmatic activities of the missions by providing development information to mission program/project officers and mission directors.
3. **APPROACH:** The system will be installed at the additional sites and maintained centrally by PPC/CDIE. The mission acquisitions are financed by their respective operating expense monies.

4. **MAJOR MILESTONES:**

Description	Planned Start Date	Planned End Date	Responsible Organization
Install system	10/01/90	12/31/91	PPC/CDIE, Missions
Enhance/maintain system	10/01/90	12/31/91	PPC/CDIE

5. **MAJOR ACQUISITIONS:**

Description	Planned Start Date	Planned End Date	Estimated Cost
MicroDIS	10/01/90	12/31/91	\$ 70,000

6. RESOURCE REQUIREMENTS:

Resource Category	Fiscal Years					
	FY91	FY92	FY93	FY94	FY95	FY96
6.1 Staff Years						
FTE						
Contract						
6.2 Cost (000)						
A.I.D. Staff						
Contractor						
Other (HW/SW)	50.0	20.0				

NOTE: This activity will be funded by the missions.

- 7. BENEFITS/COST SAVINGS/COST AVOIDANCE:** The benefits of this project are anticipated to be greater access to development information in the field.
- 8. CONSTRAINTS/CONDITIONS/ASSUMPTIONS:** MicroDIS eventually needs to be operational in the target "open" systems environment for the overseas missions.

188

APPENDIX E
INFORMATION RESOURCES MANAGEMENT ACTIVITY SHEETS
(FY 1991 - 1996)
SECTION 5 - TELECOMMUNICATIONS

E-101

187

ACTIVITY TITLE: Network Architecture Planning

ACTIVITY CODE: T-1

AGENCY GOAL CROSS REFERENCE(S): AG1 - AG3 (especially AG3)

FUNCTION/ACTIVITY CROSS REFERENCE(S): F1 - F9 (especially F8)

IRM GOAL CROSS REFERENCE(S): IG2, IG5

BUDGET CODE CROSS REFERENCE(S): MS/IRM/AS - P530
MS/MO - R181

STATUS: New

RESPONSIBLE OFFICE(S): MS/IRM, MS/MO, Missions

AGENCY (IMC) PRIORITY: FY 1991

1. **OBJECTIVE STATEMENT:** To develop the plan and strategy for the A.I.D. telecommunications network that will encompass requirements for A.I.D./W and mission voice and data communications to:

- . Evaluate the network resources that are required to support A.I.D.
- . Integrate these requirements into a physical and logical network design
- . Examine alternative approaches to satisfy requirements (including operational and economic feasibility of alternative approaches (to ICS) for international data communications).

2. **BACKGROUND:** A.I.D./W and missions must have access to information located in Washington, as well as communicate interactively with each other through various network applications, e.g., E-Mail. As various implementations of newer computer technologies and applications are accomplished and distributive data base access methodologies are employed in A.I.D./W and the missions, the Agency must be capable of providing a reliable and cost-effective communications network, projecting utilization increases based upon new or revised applications, and providing direction to ensure compliance with GOSIP and international industry, e.g., X.400 standards.

A.I.D./W is currently in the process of implementing several Banyan LANs in the New State building that will eventually provide connectivity to 1,200 A.I.D. users (expected completion 2nd quarter FY 1991). The system will be physically separate from all DOS LANs, i.e., dedicated file servers and fiber risers, and will provide access to virtually all A.I.D. users that desire connectivity. In addition, A.I.D./W currently maintains two WangNets supporting approximately 900 users and will have 10 Novell LANs which will support another 150 users.

In terms of overseas communications, A.I.D./W currently uses a combination of leased lines and dial-up facilities. Although six posts currently have access to ICS (satellite links managed and operated by DOS), over 75% of the data communications traffic between

A.I.D./W and the missions is reportedly carried over switched dial-up lines with modems. A major reason for the significant volume of dial-up traffic relates to the lack of reliability of ICS, due both to faulty satellite links and leased line connections in the foreign countries in which the missions are located.

DOS is currently in the process of evaluating vendors to migrate to a new international communications system - DOSTN. However, according to the current schedule, it is not likely that DOSTN will be extended to the missions for at least two to three years. Furthermore, even though ICS is essentially "free" to the Agency, the service provided by DOS to A.I.D. is largely viewed as unreliable and problematic.

3. **APPROACH:** A.I.D. will initiate a study to define current telecommunications facilities and capabilities and define a network architecture to support voice and data communications requirements within A.I.D./W and between A.I.D./W and the missions. With participation through A.I.D. bureaus and DOS organizations, determine cost-effective solutions for communications services and hardware that will increase network reliability and performance. In terms of the international requirements, the 1985 ICS Impact Analysis conducted by Booz-Allen could be used as a potential basis for the study and should be augmented with current information.

Consideration should be given to inter-departmental and intra-departmental data communications, as well as host and external data base access. Requirements analysis should be conducted in light of the business needs of the users. Also included should be a detailed analysis of user data flow requirements.

The study should include the following components and alternatives:

International Links

- .. Voice and data requirements
- .. Leased facilities (underseas cables and/or satellite from inter-exchange or international carriers)
- .. Value-added services or international X.25 service
- .. E-Mail migration

Distant Country Local Lines

- .. Small aperture earth station technology (VSAT)
- .. Private bypass, e.g., microwave facilities

Policy Decisions (performed in Activity T-5)

- .. Agency-wide policy decisions regarding international communications procedures
- .. Use of E-Mail as partial cable replacement
- .. Use of private sector services

Compliance

- .. Transition, costs, and schedule for GOSIP compliance
- .. Transition, costs, and schedule for X.400 implementation
- .. Integrity and security requirements

Environment - Implementation plan for installation of the telecommunications network, with phases designed to meet changing requirements based on current and future systems development initiatives.

4. MAJOR MILESTONES:

Description	Planned Start Date	Planned End Date	Responsible Organization
Develop network plan	10/01/90	04/01/91	MS/IRM/AS, MS/IRM/MPS, MS/MO, Missions
Implement plan	04/01/91	Ongoing	MS/IRM/AS, MS/IRM/MPS, MS/MO, Missions

5. MAJOR ACQUISITIONS: None

6. RESOURCE REQUIREMENTS:

Resource Category	Fiscal Years					
	FY91	FY92	FY93	FY94	FY95	FY96
6.1 Staff Years						
FTE						
Contract						
6.2 Cost (000)						
A.I.D. Staff						
Contractor	150.0	300.0				
Other (HW/SW)						

7. BENEFITS/COST SAVINGS/COST AVOIDANCE: This activity will benefit A.I.D. by supporting the cost-effective and efficient implementation of information distribution systems/connectivity in domestic and international operations, arising from current and proposed systems development efforts. Other benefits are expected to be:

- . Sharing of software and hardware resources
- . Facilitating of data file transfer
- . Joint development of applications
- . Enhanced, more cost effective communications.

8. CONSTRAINTS/CONDITIONS/ASSUMPTIONS: Policy decision is required (see Activity T-3).

192

ACTIVITY TITLE: Voice Communications Initiatives

ACTIVITY CODE: T-2

AGENCY GOAL CROSS REFERENCE(S): AG1 - AG3 (especially AG3)

FUNCTION/ACTIVITY CROSS REFERENCE(S): F1 - F9 (especially F8)

IRM GOAL CROSS REFERENCE(S): IG1, IG5

BUDGET CODE CROSS REFERENCE(S): MS/MO - R111, R500

STATUS: Continuation and New

RESPONSIBLE OFFICE(S): MS/MO

AGENCY (IMC) PRIORITY: FY 1991

1. **OBJECTIVE STATEMENT:** To improve the voice communications system in A.I.D. through:
(1) the resolution of operational and billing management issues related to the voice communications network; and (2) a determination of whether costs currently being expended are competitive with those charged for similar services in the private sector.
 2. **BACKGROUND:** A.I.D.'s past experience has shown that the following three factors have contributed to a general lack of control over its voice telecommunications capabilities in Washington:
 - Heavy dependence on a third party for resolution of virtually all telephone system-related issues
 - Lack of specificity relating to telephone system budgets and financial reports
 - Lack of well-defined operational, budgeting, and payment procedures, as well as sufficient staff and resources to manage voice communications at A.I.D.
- (1) A.I.D./W is completely dependent on the Department of State to resolve all management issues - operational, financial, and technical - relating to the System 85 PBX network. In addition, because the System 85 network provides the gateway to all local and domestic and international long distance calling, A.I.D. is also dependent on DOS for these critical services.
 - (2) Due largely to this dependence on DOS, the Agency has suffered from both lack of financial specificity and inconsistent budget and actual expenses for voice communications. In addition, certain expense categories appear to have associated unit costs that are substantially higher than services available from the private sector. For example, the FTS 2000 estimated unit cost is 40 cents per minute for domestic long distance versus the competitive market, which ranges between 15 to 25 cents per minutes or lower for moderate to heavy users. The Agency needs to understand how its costs compare with competitive services in order to (a) determine whether rates should be re-negotiated with DOS or (b) examine the feasibility of being released from its current "contracts" with DOS.

3. APPROACH: This initiative involves two projects:

(1) To improve the management of voice communications in A.I.D./W:

- . **Develop and document the requisite methods and procedures relating to voice communications system management, including budgeting/financial, ordering and provisioning, and resource management, as well as technical oversight of these methods and procedures.**
- . **Identify the resources required for telephone system management, including both personnel (qualifications and numbers of personnel) and management tools and systems. Define the roles within the affected departments at A.I.D./W, as well as understand the roles of personnel in DOS. These steps should consider the methods and procedures discussed above, as well as recommendations to revise overall management of communications at A.I.D./W into a single group (see Activity IPM-3).**
- . **Identify the information required to effectively manage voice communications and work with DOS to ensure its availability.**
- . **Develop requirements for automating the management of voice telecommunications services. Consider developing/acquiring the necessary support tools for equipment and service inventory management, budgeting, tracking of expenditures, and call accounting. Analyze available telecommunications management software vis-a-vis unique requirements (if any) of the Agency.**

(2) To determine the cost effectiveness of voice communications in A.I.D./W:

- . **Obtain the full range of unit costs for voice communications services and equipment currently being provided by DOS.**
- . **Compare these unit costs to the costs for services that could be purchased on the competitive market.**
- . **Perform cash flow analysis to determine cost effectiveness of current voice communications capability over the next three to five years. Consider the following:**
 - .. **The fact that A.I.D. will own its telephones and portions of the System 85 network by 1993**
 - .. **Growth projections for telephones and local usage**
 - .. **Trended long distance communications (domestic and international) usage**
 - .. **Personnel and administrative costs associated with procuring the various components of voice communications services directly from the private sector.**

4. MAJOR MILESTONES:

Description	Planned Start Date	Planned End Date	Responsible Organization
(1) Administration			
Develop methods and procedures	10/01/90	01/15/91	MS/MO
Determine roles and responsibilities	10/01/90	01/15/91	MS/MO
Develop recommendations for telecommunication tools	01/15/91	04/15/91	MS/MO
(2) Cost Effectiveness			
Complete analysis	10/01/91	01/15/92	MS/MO
Develop recommendations	10/01/91	01/15/92	MS/MO

5. MAJOR ACQUISITIONS: None

6. RESOURCE REQUIREMENTS: Funding for these projects is included in the base.

7. BENEFITS/COST SAVINGS/COST AVOIDANCE: The benefits of this initiative are expected to be:

- Accurate budgeting and expenditure tracking capabilities
- Streamlined management of voice telecommunications
- Potential cost reduction of 25% - 30% in annual voice telecommunications expenditures.

8. CONSTRAINTS/CONDITIONS/ASSUMPTIONS: DOS can provide necessary detailed information relating to System 85 inventory and usage statistics for A.I.D. The Agency can procure services from the private sector, i.e., they are not required to use DOS as the sole provider of voice telecommunications services.

ACTIVITY TITLE: Text Communications Initiatives

ACTIVITY CODE: T-3

AGENCY GOAL CROSS REFERENCE(S): AG1 - AG3 (especially AG3)

FUNCTION/ACTIVITY CROSS REFERENCE(S): F1 - F9 (especially F8)

IRM GOAL CROSS REFERENCE(S): IG1 - IG5

BUDGET CODE CROSS REFERENCE(S): MS/MO - R111, R181

STATUS: Continuation

RESPONSIBLE OFFICE(S): MS/MO

AGENCY (IMC) PRIORITY: FY 1991

1. **OBJECTIVE STATEMENT:** To improve the text communications system in A.I.D. by capitalizing on communications technologies and policy decisions in FY 1992; and facilitating the distribution of cable messages by encoding frequently used words and/or symbols.
2. **BACKGROUND:** A.I.D. is heavily dependent on the DOS cable system in the conduct of its daily business. Approximately 1,300 incoming cables are received daily, about one-half of which are processed by AMADS. In addition to the department/individual that needs to take action on a given cable, about 20 other individuals need to be copied for informational purposes.

The DOS cable system is perceived to be encumbered by bureaucratic procedures that act as impediments to administrative, technical, and managerial communications that could facilitate and enhance the delivery of development support.

The same release and control procedures used to guide policy and decision communications are perceived to be enforced on administrative, technical, and managerial communications, negating the potential efficiencies that are available from current technologies, e.g., work station to cable direct connectivity.

Policies on the use of the cable system and the electronic media exchanges are currently under review by an inter-agency work group. The issue of procedural control over the use of cable needs to be objectively addressed in order to preclude users from seeking ways to circumvent the system.

Additionally, because distribution of cables is generally based directly on the content, there appears to be an opportunity to streamline the distribution process by automating a "content recognition" system.

3. **APPROACH:** To capitalize on communications technologies and policy decisions, the following work steps should be taken:

- Investigate alternatives for providing electronic transfer of cables, e.g., from work stations to telex transmitter, balancing the following factors:
 - .. Ability to maintain security and control over sensitive information
 - .. Ease of use and ability to streamline transmission and receipt of cables
 - .. Financial feasibility.
- Consider connectivity for both the missions and users in A.I.D./W.
- Weigh the current data communications capabilities, as well as potential policy decisions regarding sending cables.

Potential solutions include: directly connecting missions and A.I.D./W with the DOS cable systems; and allowing an A.I.D. LAN node to have connectivity to cable OCR reader at embassies and DOS.

To facilitate the distribution of cable messages, the following work steps should be taken:

- Redesign AMADS to include a numerical encoding schema to tag cables, in order to identify message content.
- Use codes to link the cable to individuals who need to receive copies.
- Pilot system in FM during FY 1990.
- Analyze system for full A.I.D./W deployment based on requirements.

4. **MAJOR MILESTONES:**

Description	Planned Start Date	Planned End Date	Responsible Organization
Install gateway in A.I.D./W	10/01/91	01/15/92	MS/IRM/AS
Conduct AMADS pilot test	Ongoing	01/15/91	MS/MO
Roll-out AMADS	10/01/91	01/15/92	MS/MO

5. **MAJOR ACQUISITIONS:**

Description	Planned Start Date	Planned End Date	Estimated Cost
Hardware/Software Gateway	Ongoing	01/15/92	\$ 70,000

197

6. RESOURCE REQUIREMENTS:

Resource Category	Fiscal Years					
	FY91	FY92	FY93	FY94	FY95	FY96
6.1 Staff Years						
FTE						
Contract						
6.2 Cost (000)						
A.I.D. Staff						
Contractor						
Other (HW/SW)	423.0	567.0	614.0	550.0	578.0	607.0

NOTE: In FY 1992, \$514,000 will be used to replace the computer system under which the cable system is operated.

7. BENEFITS/COST SAVINGS/COST AVOIDANCE: The benefits are itemized below:

- Elimination of re-entry of outgoing cables
- Streamlining of distribution of cables and potential elimination of expense associated with manual delivery in both A.I.D./W and the missions.
- More accurate and rapid distribution of incoming cable traffic
- Increased staff efficiency and responsiveness.

8. CONSTRAINTS/CONDITIONS/ASSUMPTIONS: The following assumptions apply:

- Paper cables will continue to be printed for those individuals that have the requirement
- Policy issues regarding electronic distribution of cables will be developed.
- The pilot test will prove the concepts.

ACTIVITY TITLE: External Data Base Access

ACTIVITY CODE: T-4

AGENCY GOAL CROSS REFERENCE(S): AG2, AG3

FUNCTION/ACTIVITY CROSS REFERENCE(S): F1 - F9

IRM GOAL CROSS REFERENCE(S): IG2, IG3, IG5

BUDGET CODE CROSS REFERENCE(S): MS/IRM - P160

STATUS: Continuation

RESPONSIBLE OFFICE(S): MS/IRM/AS

AGENCY (IMC) PRIORITY: FY 1991

1. **OBJECTIVE STATEMENT:** To determine aggregated A.I.D. requirements for external data base access, in order to determine most effective approach for acquiring those services.
2. **BACKGROUND:** A.I.D. has experienced recent growth with respect to requirements for access to external data bases. However, there does not appear to be any consolidation of requirements that would allow A.I.D. to take advantage of volume purchase agreements. In addition, there may exist a general lack of awareness of the capabilities available to A.I.D. users through access to external sources of information.
3. **APPROACH:** The Agency should both educate users and develop a profile of user requirements regarding the nature and extent of information available through external data bases. This information should be used to negotiate a consolidated contract with either a value-added service provider or information services provider in order to both reduce costs and ensure the effective delivery of information to A.I.D. users.

4. **MAJOR MILESTONES:**

Description	Planned Start Date	Planned End Date	Responsible Organization
Develop recommended approach	01/19/91	04/15/91	MS/IRM

5. **MAJOR ACQUISITIONS:** None

6. **RESOURCE REQUIREMENTS:** Funding for this activity is included in the base. Some portion of the funds budgeted for these access services can be used to assess alternative connectivity and access issues.

7. **BENEFITS/COST SAVINGS/COST AVOIDANCE:** There are potential cost savings due to volume purchase agreement(s).
8. **CONSTRAINTS/CONDITIONS/ASSUMPTIONS:** Users must be willing to change services.

ACTIVITY TITLE: Telecommunications Policy Study

ACTIVITY CODE: T-5

AGENCY GOAL CROSS REFERENCE(S): AG3

FUNCTION/ACTIVITY CROSS REFERENCE(S): F8, F9

IRM GOAL CROSS REFERENCE(S): IG1, IG5

BUDGET CODE CROSS REFERENCE(S): MS/IRM - Base
MS/MO - Base

STATUS: New

RESPONSIBLE OFFICE(S): MS/IRM, MS/MO

AGENCY (IMC) PRIORITY: FY 1991

1. **OBJECTIVE STATEMENT:** To develop and document a formal telecommunications policy statement that would include the necessary guidelines, rules, and regulations to govern the delivery and use of telecommunications services for the Agency. The statement would cover the full range of telecommunications services and functions.
2. **BACKGROUND:** Although the Agency has a brief policy statement governing the use of facsimile and cable, a formal set of telecommunications policies for all forms of voice and data communications does not currently exist. The lack of such a formal policy tends to encumber the development of certain strategies, such as international communications and the electronic connectivity to the cable room in A.I.D./W.
3. **APPROACH:** The Agency should examine the rules associated with the general dissemination of information in light of existing communications capabilities. Policies regarding security and authorization should be reviewed with regard to their implications and possible encumbrance of telecommunications services. Interviews should be performed at all levels of management and staff to ensure that guidelines and policies pose no threat to the day-to-day conduct of the Agency's business.

4. MAJOR MILESTONES:

Description	Planned Start Date	Planned End Date	Responsible Organization
Develop draft policy statement	10/01/90	01/15/91	MS/MO

5. MAJOR ACQUISITIONS: None

6. **RESOURCE REQUIREMENTS:** Funding for this activity is included in the base.
7. **BENEFITS/COST SAVINGS/COST AVOIDANCE:** This activity will facilitate development of forward planning and development.
8. **CONSTRAINTS/CONDITIONS/ASSUMPTIONS:** This activity will require consensus building among all levels, especially as related to implications to day-to-day business.

October 24, 1991

IRM ACCOMPLISHMENTS

During the past year, the A.I.D. Administrator has articulated several initiatives designed to improve the management of A.I.D. programs, sharpen the focus of our programs around a limited number of key objectives, and improve our ability to measure and evaluate program performance. Towards these ends, the Agency was reorganized in 1991, and the Administrator, in describing the new organization, emphasized repeatedly the need for "the information system of the Agency [to be] upgraded to meet program, accountability, and efficiency objectives, as well as to reduce vulnerability to misuse. The information resources strategy encompasses new hardware, software, better trained users and standardized data management to ensure that all personnel have accurate and reliable information."

IRM has been working to meet this challenge during the past year. The Office of IRM was reorganized in 1991, reducing the number of divisions and aligning them functionally. The functions of telephone management, telegram management and data administration were added to IRM's responsibilities. Substantial progress was made on the establishment of information engineering, data administration, and IRM strategic planning as integral parts of the IRM program. In the Agency's first IRM strategic plan, published for FY 91, these and other initiatives were spelled out, and much has been accomplished. In fact, a number of initiatives in last year's plan were completed, including the reorganization of IRM, establishment of additional technical support centers throughout A.I.D./Washington, the acquisition of commercial software tools supporting the new methodology A.I.D. is adopting, and the development of a new contract information system and an improved time and attendance system.

Organizational Issues. As mentioned above, the reorganization of the Office of IRM has resulted in a better alignment of IRM functions by bringing telecommunications and data administration under the management of the IRM staff. Within IRM, the reorganization of divisions has created an Information Policy and Administration Division which provides a focal point for the Office's efforts to move forward in new technologies, including information engineering, data administration, quality assurance, network architecture, and the migration to open systems and relational data base management system (RDBMS) technology. This small staff of senior IRM specialists serves as the think tank and "pioneers" for the Office of IRM, driving the IRM program forward in these and other new technologies.

In another division created by the reorganization, Planning, Management and Acquisition, the strategic planning function has been institutionalized. The Agency's IRM Strategic Plan annual updates, and the procedures that support the planning process and link it to the budget, are the responsibilities of the planning

staff in this division. In past years, IRM planning had largely been done by outside contractors, rather than being a true product of the IRM organization. A related development is the creation of a senior strategic planning office in the Policy Directorate for Agency-wide issues, as a part of the Administrator's reorganization. It is expected that the IRM staff will coordinate with this new staff in linking the IRM strategic plan more closely with a more fully defined Agency strategic business plan.

Life Cycle Development Methodology. The Agency has taken important first steps in implementing information engineering (IE) as the preferred systems life cycle methodology. The design for a new, integrated financial system, known as the A.I.D./Washington Accounting and Control System (AWACS), is being developed using IE techniques and CASE tools. While this was the pioneer effort in the Agency, IRM is now beginning to do Information System Planning (ISP) for the Agency as a whole, and in FY 92 and 93, will follow this with Business Area Analyses (BAAs) for the three or four major functional groupings. It is expected that this approach, using CASE tools, and the adoption of an RDBMS employing fourth generation language technology, will result in major changes to the system design and development process in the Agency. System developers' productivity is expected to increase dramatically in the next few years. While this new methodology will require extensive training, it is necessary to meet the demands for better management systems arising from the Administrator's management strategy.

Data Administration. The Agency's data administration program is still in its early stages, but the groundwork has been laid to make this a critical link in our overall approach to information management. Studies have been conducted and a data dictionary tool selected. A data administration policy has been established within IRM, and Agency-wide implementation is under way. The data administration staff are participating in the information engineering analyses for AWACS and for the Agency as a whole, and their efforts in data modelling will establish the framework for an effective data administration program as IE's Business Area Analyses are applied to all Agency system requirements during FY 92 - 93.

A related development is the acquisition of relational data base management technology to run on the LANs and open systems platforms to be acquired. The shift to RDBMS technology will improve the Agency's ability to manage and share data between systems, as well as accelerate the process of application development. During FY 91, an RFP was issued and the evaluation of bids begun. An award is expected in early FY 92.

Security. The Agency has taken a number of steps to analyze and defend against security risks, and an ambitious program for the next several years has been laid out. At A.I.D.'s request, the

1

National Security Agency conducted an information systems security assessment of A.I.D. to identify potential vulnerabilities in telecommunications and automated information systems. NSA recommendations were studied, and an effective approach to minimize potential losses and protect information resources has been developed.

A.I.D. has embarked on a dual track strategy to attain compliance with Federal security standards. Track 1 involves managing the day-to-day operations and contingencies that may arise and providing a level of assurance in data processing operations. For example, the Agency has secured contracts for disaster backup and for an off-site storage location for backup tapes. Track 2 involves the development and execution of a Strategic Plan for ADP Security. With the Agency moving toward the goal of everyone being on a single Wide Area Network, and with the fact that more of our program involves classified information, security has become a much greater priority in A.I.D.

Hardware. A.I.D./Washington has acquired PCs for almost 50% of its Washington staff, while the remainder use Wang terminals for word processing and communications. The effort to complete the installation of PCs for all Washington users is known as the "Excellence Through Automation" program, and is targeted for completion by the end of FY 93, providing funding can be obtained through the budget process. In addition to acquiring PCs, LANs and LAN servers are being installed. As we begin to reach 100% of the staff in individual offices, the Wang mini serving that office can be excessed. In order to achieve these offsetting savings, however, local Wang-based applications will have to be migrated to the new platforms.

In addition to the file servers on the LANs, it is also expected that more powerful processors will be required, primarily as platforms for the relational data base management system being acquired. The Agency acquired a POSIX-based pilot system in late FY 91, and will begin to acquire additional systems and convert application software in FY 92. For example, the AWACS system design team is evaluating the feasibility of processing in such a distributed mode, as opposed to operating on the mainframe. In addition, a project to convert the critical mission accounting applications was begun in FY 91, so that the program will be ready when the POSIX platforms and the RDBMS begin to be delivered in FY 92.

Telecommunications. The transfer of responsibility for voice communications and telegrams (cables) in FY 91 to the Office of IRM, which already had responsibility for data communications, has provided for a more integrated management of the telecommunications function, and has heightened the focus on the need for a long-range telecommunications strategy. During FY 91, IRM established

telecommunications policies, and in early FY 92, will begin the planning and analysis for a strategic network architecture.