

**U.S. Agency for
International
Development**

**FY 1997 - 2002
STRATEGIC
INFORMATION
RESOURCES
MANAGEMENT
PLAN**

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EXECUTIVE SUMMARY

INTRODUCTION

The Strategic Information Resources Management Plan is a road map to the future, which sets the direction for the IRM program in meeting the Agency's information needs. The Agency is in the midst of reengineering its programs and processes to improve resource management, program effectiveness, and service delivery. USAID's Office of Information Resource Management in partnership with the Agency's program areas, is transforming the Agency through the development of the New Management Systems which support the reengineering efforts.

The plan is important in shaping how we do business today and in the future. We have already seen changes in the workplace as a result of our strategic initiatives. The New Management Systems (NMS) will provide information that will allow managers to make better decisions and track resources more accurately. Processes that were counterproductive or duplicative are being replaced or eliminated to produce a more effective USAID.

The FY 1997 - 2002 Strategic IRM Plan supports the Agency's strategic directions and focuses on the implementation of the New Management Systems to support a reengineered USAID. The plan also focuses on managing for results and takes on a customer focus by adding a new quality goal in keeping with the Agency's Customer Service Plan.

Agency Environment and Organization

USAID is a changing Agency as it has been reshaped and reinvented to meet the needs of a post cold war era. As the Agency faces declining resources the Agency plans to increase its efficiency and effectiveness through reengineering. The Agency has focused its direction on five goals: 1) promoting broad-based economic growth; 2) building sustainable democracies; 3) stabilizing world population and protecting human health in a sustainable fashion; 4) managing the environment for long-term sustainability; and 5) saving lives, reducing suffering and reinforcing development potential.

Status of Current IRM Program

USAID has made tremendous progress against the previous strategic IRM plan and was able to successfully complete three of its six goals. The Agency is well into the implementation stage of the Information Systems Plan which evolved into the NMS, with more than half the systems developed and the architecture in place. The Agency's IRM architecture has continued to remain constant with only minor modifications. The development of the New Management Systems is continuing with several systems implemented. Over the next year the final systems will begin development and refinements will be made to the existing systems. The completion of NMS is a top priority for a reengineered USAID. As the Agency continues to face budget pressures many of the IRM projects have had to be scaled back in scope or have extended their completion dates.

The IRM Strategic Plan

THE IRM MISSION

The USAID Office of Information Resources Management exists to:

enable the USAID community
to manage and use information
to meet USAID's strategic objectives.

USAID's IRM VISION

When IRM has achieved its mission:

Individuals in the USAID community will each have
easy and rapid access to the information they need to meet strategic objectives.

Work groups with members throughout the USAID community will share
information to coordinate their work toward USAID's strategic objectives.

USAID will be ready and able to regularly exchange detailed information
about development goals, strategies, techniques and results with members of the larger
development community
to leverage each other's contributions
and to jointly accelerate sustainable development.

The USAID community includes all those who
must share knowledge and work together
to achieve USAID's strategic objectives.

The larger development community includes
the USAID community and all others who
must share knowledge and work together
to make sustainable development a reality.

GOALS

In order to support this vision of a reengineered USAID, a number of IRM goals have been established. The first goal, an operational goal addresses IRM's role in providing the infrastructure necessary to support the informational needs of the Agency. This includes such things as maintaining systems and technical environment for the proper and secure running of these systems. The second goal addresses the need for a smaller and leaner Agency to be able to obtain and create information for external customers, partners and stakeholders and for internal management in a cost-effective, timely, accurate and thoughtful manner. This includes the development and maintenance of an integrated new management system (NMS). Included in this goal is IRM's commitment to explore and develop effective electronic systems to fully utilize virtual teams and training sessions. The third goal reflects IRM's commitment to bringing technical expertise and program management skills to decisions about the use of technology and monitoring the effectiveness of the technology application throughout its life cycle. The fourth goal delineates the Agency's and IRM commitment to facilitate Information Technology (IT) technology transfer to developing countries in support of USAID's strategic objectives and activities in education, health, finance, economics, environment and democratic sectors.

1. Operations

Assure the architecture required to support the Agency automated business processes is available and provides a reliable, secure and robust environment to support the Agency's business as well as the productivity of Agency staff.

2. Information Management

Improve USAID's ability to manage, access and use information to achieve Agency strategic objectives.

3. Quality

Improve the value (efficiency and effectiveness) of IRM products and services.

4. Project Support

Ensure information technology and information management components of program activities contribute effectively to meeting USAID goals and objectives.

KEY INTERMEDIATE RESULTS

Based on the goals and strategies defined in the Strategic Plan, the Agency has identified 19 key intermediate results (KIR). A key intermediate result is deemed critical to accomplishing an Agency goal, objective, or mission.

KIR1.1 Provide a reliable and secure world-wide network to provide access to information, transactions and channels of communication required to conduct Agency business. (This includes voice, data, and cables.)

KIR1.2 Provide the computer capacity (hardware/operating systems/utilities) required to run business applications and productivity tools.

KIR1.3 Assure that the Agency data/information required to support Agency business processes is managed and treated as a critical corporate resource.

KIR1.4 Agency electronic information, networks and computers are protected from unauthorized access and/or modification.

KIR1.5 Corporate software is maintained to support the business processes of the Agency.

KIR1.6 Minimize disruption to USAID/W operations during the move to the Federal Triangle Building (FTB) and continue to provide telecommunications and network services in the new location.

KIR1.7 Maintain a sound and integrated information technology architecture.

KIR 2.1 Provide new management system (NMS) information to Agency decision makers and staff that will enable them to measure program performance, allocate and manage resources and acquire the goods and services needed to achieve results.

KIR 2.2 Improve USAID's ability to format, organize, track, exchange, and archive Agency data so that it can be used effectively and preserve knowledge assets.

KIR 2.3 Enable workforce, partners and customers to work collaboratively.

KIR 2.4 Develop an organized information repository that is available for access by development organizations and the public.

KIR 2.5 Improve USAID staff's ability to access and use information.

KIR3.1 Improve IRM's skill base to ensure that the Agency has the technical ability and skills to support the information architecture.

KIR3.2 Improve IRM Processes

KIR 3.3 Reduce the cost of providing IRM Services.

KIR3.4 Improve the quality of IT business decisions.

KIR4.1 Become the central resource for information technology expertise as applied to development activities.

KIR4.2 Create effective, cost-efficient technology solutions for program activities.

KIR 4.3 Expand the value of technological solutions for program activities by transfer of solutions to similar environments.

I. INTRODUCTION

Since the last Strategic Plan was written, the U. S. Agency for International Development (USAID) has launched its new management systems (NMS) on a worldwide basis. The Agency now has in place the information technology to support its ambitious plans to reengineer and streamline the Agency's operations and policies. As noted in the previous IRM Strategic Plan, the new directions defined by the Administrator for USAID both *require* and *enable* the IRM program to more sharply focus its efforts in support of fulfilling Agency objectives. The values of focussing on measured results, rapid and flexible implementation of development activities, teams sharing information and working together despite varied geographical and organizational locations, and empowerment and accountability of employees, all depend on having better information systems in place. The changes have both provided additional impetus to the Information Systems Plan (ISP) begun in FY 1993, and led to adjustments in that Plan to ensure that it fully supports the new vision of how USAID will operate. The ISP, a five-year program for completely revamping the Agency's information systems, has become an integral part of reinventing the Agency, and was recognized as such by the National Performance Review. The original ISP plan has evolved into the concept of a set of new management systems which not only support the business processes of the Agency, but also support the information needs of USAID's knowledge workers in a streamlined, empowered work environment. The FY 1997-2002 Strategic IRM Plan supports the Agency's strategic directions and plans for redefining and streamlining USAID to meet the challenges of the post-Cold War world.

This document represents the sixth annual Five-Year Strategic Information Resources Management (IRM) Plan of USAID. The Paperwork Reduction Act of 1995, the basic legislative authority for information resources management in the Federal government, requires agencies to develop and maintain a strategic IRM plan that describes how information resources management activities help accomplish the agency's missions. The Clinger-Cohen Act of 1996 further reinforced the importance of strategic planning for IRM resources and investments. This document contains an overview of the Agency, its IRM program, plans, and budget. It discusses the progress made on the ISP, and outlines the work that remains.

II. Agency Environment and Organization

PLANNING ENVIRONMENT

A Changing Role and a Changing Agency. Since 1961, the U.S. Agency for International Development (USAID) has carried out America's economic and humanitarian assistance programs abroad. U.S. foreign assistance has always had the twofold purpose of furthering America's foreign policy interest in expanding democracy and free markets while improving the lives of citizens in developing countries. The end of the Cold War brought a unique opportunity to redirect U.S. foreign assistance to better advance America's interests in a rapidly changing international environment. The emergence of new and expanding markets for the U.S. economy and their strong potential for growth have made the economies of developing nations increasingly important to the United States. USAID plays a critical role in helping to develop new markets for the United States. Foreign economic and humanitarian assistance programs in the developing world constitute a critical investment in the future of the American economy. In addition, USAID has been called on to serve as the frontline agency in helping to secure a number of high priority political and economic transitions around the globe.

As foreign policy concerns of the United States have evolved over the past decade, the role of USAID has become more focused. Three years ago, USAID became a reinvention laboratory under the National Performance Review, one of only two U.S. government agencies so named. As a reinvention laboratory, USAID has focused on fewer, more attainable objectives; simplified the agency's organization and empowered its staff; and redesigned and simplified the way it does business.

The Agency's mission is to promote broad-based, sustainable development and to provide humanitarian assistance in situations of natural and man-made disasters. In carrying out this mission, USAID focuses its activities upon five interrelated development goals. The goals are supported by a number of programs implemented around the world. Each program is tailored to the requirements and needs of the country in which it is being implemented.

USAID's goals are 1) promoting broad-based economic growth; 2) building sustainable democracies; 3) stabilizing world population and protecting human health in a sustainable fashion; 4) managing the environment for long-term sustainability; and 5) saving lives, reducing suffering, and reenforcing development potential.

USAID will continue to face a number of challenges in the coming years. As an international agency, the demands placed upon USAID will depend significantly on emerging foreign policy priorities, and the occurrence of new humanitarian crises. However, because USAID continues to face declining resource levels for virtually all of its activities, the Agency will, in all likelihood, increasingly limit both its field presence and scope of work. This trend will result in the Agency working more closely with our partners, and the cooperation of other donors and organizations to obtain our goals.

USAID Core Values. The redesign of USAID's functions and procedures is based upon five core values: customer focus, empowerment/accountability, results orientation, teamwork, and diversity.

- **Customer Focus:** The Agency has strengthened its focus on customers, both to involve them more directly in planning, managing and evaluating development activities, and to ensure that we are making greater progress in delivering measurable and sustainable development results that directly impact peoples' lives. This focus is in keeping with an Executive Order issued by President Clinton in 1993 calling on each federal agency to set customer standards, and with the National Performance Review that calls for a government that "puts customers first."
- **Empowerment and Accountability:** To empower means to invest with authority to make and implement decisions. An organization that involves customers more, and that focuses on the results of its services to customers, has to place the authority for decisions as close as possible to where the action takes place, and to where the impact is achieved. Employees must be able to use their own initiative, to take considered risks, and to respond to opportunities.
- **Results Orientation:** Even before the passage of the Government Performance and Results Act of 1993, USAID has been striving to improve its focus on, and ability to measure and manage for results. For USAID, results represent changes in developing country conditions that the Agency and its partners seek to influence through the provision of development assistance. For a system to be results-oriented, its processes must be focused on achieving these changed conditions. In the past, some of these processes have become overly bureaucratic, directed toward meeting regulatory and administrative requirements rather than toward supporting in a substantive way the objective of the action. Processes in the reengineered USAID now place greater emphasis on accomplishing objectives and serving the customer, including setting clear objectives and targets, collecting adequate information to judge progress, and adjusting strategies and tactics as required. The Agency is recasting its appropriation request in performance objective terms. This results-orientation will not be limited to USAID's major programmatic areas, but will also shape how all parts of the Agency measure their performance and contribution to the Agency mission.
- **Teamwork:** The complexities of development assistance, reduced staffing and resources, and the desire to involve the Agency's customers and partners more fully in the development process all point to the need to foster teamwork as a way of doing business. In the reengineered USAID, much of the work of planning, implementing and monitoring will be performed by teams. Personnel assignments, promotions, and rewards will be explicitly linked to the achievement of results by teams. While teams have been organized to perform work in the Agency in the past, the new reengineered system involves a substantial increase in the degree of responsibility, authority, autonomy and accountability that they hold. Teams will draw full and part-time

members from throughout USAID (mission, Washington, and regional staff could all be members on one team), and will include representatives of partners, contractors, and, whenever appropriate and feasible, customers. Some members may participate primarily electronically.

- **Diversity:** Following adoption of the first four core values, the Agency recognized that while each was critical to the future success of doing business in the new way, there was a missing element. Because of our multicultural workforce and diverse global customer base, the administrator determined that promotion of diversity should be added as a fifth core value. USAID stands out among federal agencies. It is dedicated to global improvement of the quality of human life, and extends hope and opportunity to people of developing countries. To deliver quality programs abroad, we must ensure a workplace environment in which each employee values the richness of diversity, experience, and contributions of others. Every Agency employee should have the opportunity to contribute to the full extent of her or his ability. Reengineering is moving the Agency toward accomplishing its major activities in and through teams made up of USAID employees, partners, stakeholders and customers. This movement requires a major shift in organizational thinking and, among other things, a thorough appreciation and understanding of diversity. It is a business necessity that team members have a common understanding of the value of diversity, and be able to recognize, accept, and utilize human differences in working to meet customer needs.

New, streamlined policies and procedures reflecting these values were put in effect October 1, 1995. Related reforms in procurement, financial management, and human resources management are also being implemented.

How do these core values and streamlined procedures relate to the Agency's information management program? The Agency's NMS have been central to all of these efforts, due to the essential role information technology plays in the new way of doing business. Information technology is a key "enabler" of reengineering. Without the ability to share information freely and rapidly, several of the core values, particularly empowerment and teamwork, would not be workable. In fact, many of the outdated processes that the Agency has eliminated were in essence control procedures necessitated by a lack of good information. In addition, the increased emphasis on performance measurement requires better systems to enable managers to keep track of results data, and to aggregate and compare across programs and countries.

Another way in which the ISP and reengineering are related has to do with the analytical techniques that are used in both. The Agency has combined selected techniques of information engineering with other techniques from the reengineering discipline to simultaneously streamline business processes while defining the systems requirements to support the new processes.

III. STATUS OF CURRENT IRM PROGRAM

STATUS OF INFORMATION SYSTEMS PLAN (ISP) IMPLEMENTATION

The ISP was completed in late 1992 during a period of transition in Agency management. The ISP provided the framework for the Agency's integrated information technology architecture. The plan was endorsed by previous Agency management after extensive discussion, and was subsequently adopted and expanded by the new USAID management team and evolved into the NMS, with implementation beginning in 1993. As mentioned in Section II, the plan has been adapted and strengthened to support the reengineering of USAID. The ISP was praised by the NPR and GSA, who recognized the key role it would play in supporting the changes in the Agency. As this Strategic Plan is written, substantial progress has been made toward achieving the strategies and objectives outlined in the plan.

Technical Architecture. Perhaps the most significant achievement is the expansion of network connectivity. E-mail connections have been established to 87 sites worldwide, i.e., virtually all active USAID sites. Connectivity upgrades, relying primarily on satellite technology (VSAT), have been installed at the 39 largest sites, providing the increased bandwidth needed to support the increased traffic of the NMS, as well as offering Internet access.

Another critical accomplishment has been the completion of efforts to provide a desktop PC for all "information workers" -- i.e., the target audience for the ISP. This includes virtually all USAID employees and on-site contractors, except for drivers, etc. These employees have all been provided with *at least* a 486 PC, provided access to E-mail, Windows-based office automation tools like word processing, and existing USAID applications. The universality of E-mail has substantially changed the way business is done in USAID, largely supplanting the old cable system, and making informal communications and document sharing between offices and missions the normal mode of doing business. Professional staff have learned to use office automation tools, leading to a reduction in clerical staff and allowing the Agency to concentrate its scarce personnel resources in the technical and managerial functions that are most critical.

A third cornerstone of the technical architecture is the replacement of outdated Wang minicomputers with new, open systems (UNIX-based) servers, supporting a standard relational data base management system (Oracle) in USAID/Washington and the missions. This has been accomplished for Washington and the 39 missions that serve as regional accounting stations, substantially reducing hardware and software maintenance costs. An enterprise-wide network management system has been introduced to monitor critical server, applications, and network devices to ensure performance with minimal downtime. Decisions on the architecture for non-NMS sites are pending, and will probably reflect a mix of solutions based on the size of the mission (i.e., Intel-based servers or UNIX servers with a Windows graphical user interface).

STRATEGIC INFORMATION RESOURCES MANAGEMENT PLAN

Future architecture changes will address enhancing network management capabilities, expanding the intranet technology base, introducing multi-media training tools, and strengthening the use of collaborative technologies for workgroup activities.

Exhibit 1 shows the current status of automation in the USAID Missions.

**Exhibit 1: Summary of USAID Field Site Automation Status
as of November, 1996**

Region	Number of Sites	LAN Installed	UNIX Server Installed	Connected via E-mail
Africa	37	24	16	25
Latin America & Caribbean	22	17	11	17
Asia & Near East	22	16	10	18
Europe & Newly Independent States	31	18	2	27
Total	112	75	39	87

Systems Architecture. Progress has also been made in developing the systems architecture to support NMS. The ISP divided the Agency's work into eight business areas, illustrated in Exhibit 2.

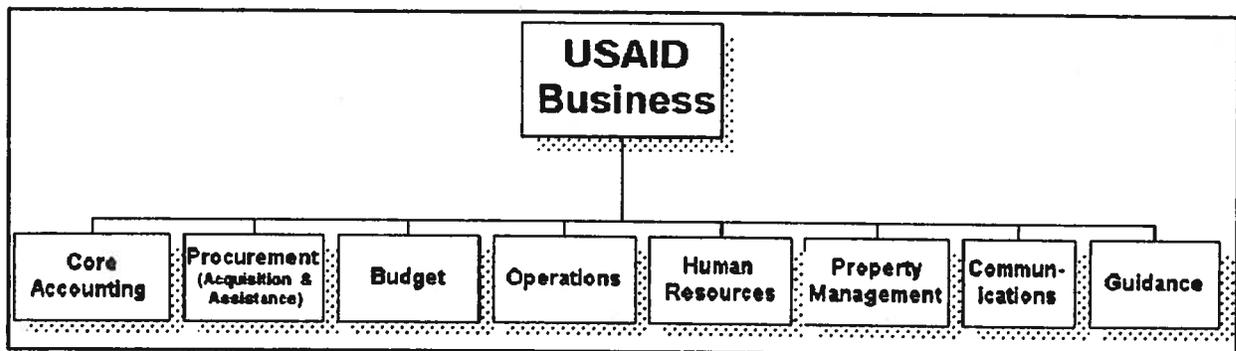


Exhibit 2

Work is underway in six of the eight business areas originally defined. The requirements for the Communications and Guidance business areas have been folded into the other areas, as they represent cross-cutting issues. Major systems supporting the most critical functions to support USAID's new way of doing business -- accounting, budgeting, acquisition and

STRATEGIC INFORMATION RESOURCES MANAGEMENT PLAN

assistance, and operations -- were implemented in Washington during the summer of 1996, and worldwide implementation began in October, 1996. These four business areas represent not only the most critical systems for USAID, but also the most complex -- which means that substantially more than half of the systems development effort is completed. Work on enhancements and expanded functionality for these core systems continues.

Additional systems development work has begun in two other business areas. The Human Resources business area has completed preliminary design specifications and requirements, and is seeking an off-the-shelf software package to meet its needs. The Property Management Business Area Analysis (BAA) is underway, and is also likely to seek an off-the-shelf solution if a suitable one can be found.

Security Architecture and Plans. The Agency remains committed to ensuring the security of the computers and information used by all staff. Over the past several years the Agency has expanded and improved its security program through the promulgation of policies and guidelines, security awareness training, technical security assessments, and the implementation of control procedures. The Agency has also developed security plans for the Agency's IBM mainframe environment.

USAID's ISP security architecture addresses security within the context of the Agency's overall IT planning, reengineering, systems development, operation, and maintenance efforts. The plan defines a comprehensive IT security architecture for USAID which includes security objectives, protection policies and standards, basic security principles supporting the planned architecture; physical and environmental safeguards; technical security measures for Agency networks and systems; application-level security controls; connectivity and communications protection.

Information Management. In addition to the new management system developed for the Agency's structured and transaction processing data, USAID is also developing information management strategies for unstructured data. USAID knowledge workers are heavily dependent on unstructured data (e.g., project papers, white papers, correspondence, analyses) that is critical to daily operations. After the information management methodology has been selected, the Agency will establish an information management committee. The committee, staffed with key offices Agency-wide will provide direction, guidance and coordination of text and management efforts. Some of the activities outlined for the committee are among the following:

- Developing an inventory of unstructured information;
- Determine if information engineering/reengineering principles can be used to model unstructured information;
- Determine organization(s) responsible for data creation, updating and integrity;
- Conduct technical assessment of tools to manage unstructured information;

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- Develop architecture that links solutions among USAID organizations with key responsibilities for managing unstructured information (NMS, OFDA, Participant Training, CDIEs data collections, etc.);
- Develop an Agencywide Information Management program/vision for the purpose of coordinating efforts and resources applied to information management.

CURRENT IRM PROGRAM

Agency-wide IM/IT Costs. The Office of IRM (M/IRM) has primary responsibility for the Agency's IRM program. M/IRM plans, implements, reviews and manages information-related activities and resources to support the Agency in meeting its goals and objectives. 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. The ISP cost/benefit analysis performed during 1993 was instrumental in identifying the dispersed costs of the Agency's total program. Projected total Agency spending for IM/IT in FY 1997, is \$79,809,000 reflecting both headquarters and mission spending. The Clinger-Cohen Act of 1996 places increased emphasis on capital planning and investment control for information technology, which will mean the process of making decisions regarding investments in technology will need to be redesigned.

The Agency is initiating a number of activities to improve its management of information technology investments. A team comprised of staff from across the Agency has been established to advance the use of information and communication technology (ICT) in meeting Agency goals. In FY97, they plan to inventory USAID's program-funded ICT activities to obtain a better reading on information technology and management costs and programs aimed at advancing Agency goals. In addition the Agency is establishing an information technology and capital planning program to better manage IT investments. As part of this program the Agency will establish performance measures for IT.

M/IRM's budget has been divided into a number of major program activity categories, to facilitate planning and tracking of IRM expenses. The categories, and their respective resource levels for FY 97, are shown in Exhibit 3. There is no direct funding for KIR 3.3 - "Reduce the cost of IRM services", included in the FY97 budget. This is because \$200,000 of the telecommunications budget, KIR1.1, is being used to implement the international voice gateway which will reduce the cost of IRM services. These funds are reflected under the telecommunications budget because they are considered operational.

STRATEGIC INFORMATION RESOURCES MANAGEMENT PLAN

Exhibit 3: USAID's IRM Budget by Planned Activity -- FY 97

Program Activity	Estimated FY 97 Costs
1.1 Telecommunications	9,202,000
1.2 Operations	8,672,000
1.3 Data Administration	1,272,000
1.4 Security	657,000
1.5 Systems Development & Maintenance	3,874,000
1.6 Move to FTB	15,493,000
1.7 Maintain Technical Architecture	1,833,000
2.1 New Management Systems	16,962,000
2.2 Information Management	729,000
2.3 Enable Collaborative Workgroups	196,000
2.4 Provide Public Access	250,000
2.5 Improve USAID's Staff Ability to Access and Use Information	2,806,000
3.1 USAID Technical Training	24,000
3.2 Improve IRM Processes	247,000
3.3 Reduce Costs of IRM Services	-----
3.4 Improve the Quality of IT Business Decisions	22,000
Salaries, Benefits, and Other General Costs	9,946,000
Total USAID Overseas IM/IT Costs	6,474,000
Total OE-Funded IM/IT Costs	78,659,000
4.1 Promote Technical Services	150,000
4.2 Cost-Effective IT Solutions for Program Activities	450,000
4.3 Technology Transfer	550,000
Total Program-Funded IM/IT Costs	1,150,000
TOTAL USAID IM/IT Budget	79,809,000

(As of 3/13/97).

1. Agency IM/IT spending includes Federal Information Processing (FIP) resources and excludes information system components of USAID development projects that are ultimately turned over to host country institutions.

Status of IRM Regulatory Infrastructure. The ISP study, as well as other external reviews, pointed out the need for improvements in the management of the IRM program. Updated standards and policies need to be put in place for data administration, system methodologies and basic platforms, security, and records management. A uniform reporting structure is needed to accurately capture all IRM spending in the budget process. Without such a regulatory infrastructure, it is likely that USAID will never solve the problems of redundant and non-integrated systems, as the problem is one of organizational culture far more than a technical problem.

Toward this end, M/IRM has completely revised its policies and procedures, as published in USAID Handbook 18. These materials were updated and revised in FY 1995, in part to comply with the Executive Order mandate that Agency regulations be reduced in volume by 50%.

The Clinger-Cohen Act was signed into law in February 1996. The act has a major impact on the way Agencies plan, manage, and evaluate the impact of their IRM programs. Under the Act the Agency assigned a Chief Information Officer (CIO), who is responsible for carrying out USAID's responsibilities under the act. The primary responsibilities are:

1. Provide advice to the head of the Agency on IRM issues.
2. Develop and maintain a sound and integrated IT architecture.
3. Promote efficient and effective design and operation of all major IRM processes including improvements to work processes of the Agency.
4. Monitor Performance of IT programs and evaluate performance based on performance measures to determine to continue, modify or terminate a program or project.
5. Access requirements for Agency personnel regarding knowledge and skill in information resources management for facilitating the achievement of the performance goals and rectify deficiencies in these areas by developing strategic training and professional development plans.

The Agency is moving forward toward implementing the requirements of this act. A Chief Information Officer, the Assistant Administrator for Management, and a Deputy Information Officer, the Director for IRM, have been assigned. Goals 2 and 3 of this plan support developing a capital investment process, IRM performance measures, and institutionalizing a comprehensive Agency-wide IRM training program.

IRM Performance Measurement

USAID is committed to measuring progress toward achieving IRM's goals to assess its success in supporting the Agency. IRM is using the balanced scorecard approach for performance measurement, reflecting both strategic and operational aspects of the program. This approach represents one of the "best practices" in the field and is used by many private sector corporations. It reflects the enterprise view, which forces management to look at four critical measurement areas that affect successful mission accomplishment, in context of the total enterprise, thus limiting the danger of suboptimizing by concentrating on any one area at the expense of the others.

USAID has begun its performance measurement program by identifying the initial IRM performance measure areas for each of the 4 strategic goals under each of the four measurement perspectives. USAID will work with customers and stakeholders to define specific indicators and measurement goals.

Customer Perspective

Goal 1: Improved customer satisfaction with information technology abilities, reliability, ease of use, and range of services provided.

Strategic/Financial Perspective

Goal 2: Improve the Agency's ability to provide IRM services by minimizing costs and maximizing benefits.

Innovation and Learning Perspective

Goal 3: Improve USAID's use of technology transfer.

Internal Business Perspective

Goal 4: Improve the availability of IRM services.

IV. IRM STRATEGIC PLAN

IRM Strategic Plan Development

The IRM Strategic Plan was developed with a broad representation of the Agency, to include senior management, program and IRM staff, and the CIO. A workshop was held with a team of senior IRM staff to develop the IRM mission, vision, and goals. Agency program staff were interviewed. Their recommendations and proposals for consideration played an important role in the development of the plan. The CIO briefed the planning team on his vision and the role that information resources management plays in supporting the Agency. The Agency reengineering staff also provided input as to the future direction of the Agency. With the insights from these groups the mission, vision, and general goals for the plan were developed. Workgroups were established to further refine the goals and develop key results (KIRS) and strategies. The KIRS are the specific things the Agency plans to accomplish and the strategies are the approach we plan to take to achieve them.

USAID's IRM Strategic Plan is the guiding document which presents USAID's vision, key results and strategies. This plan supports the Agency in accomplishing its mission. The Agency is developing its first Strategic Plan and in the future we will then be able to link to the Agency Strategic Plan.

The IRM Strategic Plan is not intended to be an all inclusive planning document. Detailed internal operational plans specify how the vision and implementation strategies in this IRM Strategic Plan are carried out in daily operations.

THE IRM MISSION

The USAID Office of Information Resources Management exists to:

enable the USAID community

to manage and use information

to meet USAID's strategic objectives.

USAID's IRM VISION

When IRM has achieved its mission:

Individuals in the USAID community will each have easy and rapid access to the information they need to meet strategic objectives.

Work groups with members throughout the USAID community will share information to coordinate their work toward USAID's strategic objectives.

USAID will be ready and able to regularly exchange detailed information about development goals, strategies, techniques and results with members of the larger development community to leverage each other's contributions and to jointly accelerate sustainable development.

The USAID community includes all those who must share knowledge and work together to achieve USAID's strategic objectives.

The larger development community includes the USAID community and all others who must share knowledge and work together to make sustainable development a reality.

GOVERNING ASSUMPTIONS

The strategic IRM plan is based on a number of management and technical assumptions as well as constraints which impact the accomplishment of IRM goals, strategies, and initiatives. The following section summarizes the limitations, conditions or constraints which affect USAID and its information resources management environment.

Management Assumptions. The fundamental assumption regarding this plan is that the Agency will continue to have available the funds necessary to carry out the systems development efforts associated with the NMS. A substantial investment in the technical architecture was made during the past three years. The past two years have seen increased use of resources for systems development as four of the largest NMS systems were developed and implemented. As this plan is written, the architecture is largely in place in Washington and the 39 larger missions, but additional investment is required to develop solutions for the smaller missions. The bulk of systems development has also been accomplished in the past two years, but additional refinements of the NMS systems are

required, and there are still two business areas, property management and human resources, that remain to be developed.

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

- **Hardware:** USAID will complete the move from dependence on proprietary architecture minicomputers in its missions and Washington offices to an open systems environment. When fully implemented, all corporate systems will run on UNIX-based servers using a relational data base technology (Oracle), and operating in a client server mode. An alternative to UNIX may be required for the smallest USAID sites, to avoid the burden of UNIX system administration, but Oracle will be standard regardless of the server architecture. As the last systems are moved off the Wang VS platforms, this hardware will continue to be phased out. The mainframe will be needed to support legacy systems until their complete phase-out, which is expected prior to the year 2000. The new architecture is expected to yield substantial savings to the Agency, as well as permitting the use of the same applications in every location, regardless of size.
- **Software:** The cost of applications development and maintenance will continue to be a major area of concern for USAID. As portions of NMS move into maintenance mode the Agency will still need to devote resources to refinements of the system, while continuing development of the final modules. Systems are gradually being replaced by NMS but there are still some legacy systems that will not be replaced by NMS immediately. These systems are entering the end of their lifecycle and need to be examined and assuming that they continue to be needed, replaced. These systems still require maintenance until funds can be obtained to modernize.
- **Telecommunications:** The technical architecture described in the ISP calls for connectivity to all USAID sites for both e-mail and data exchange. In Washington, the plan to consolidate all USAID staff in one building in FY97 has simplified network planning, and broader bandwidth will be available in the new building, permitting applications such as imaging if required. However, an additional challenge will be to provide connectivity where needed to the many USAID contractors not moving to the new building in a secure and efficient manner. Overseas, M/IRM assumes that all sites will be connected; i.e., if it is worthwhile for USAID to station personnel in a country, it is worthwhile to connect them to the network. Most sites now have e-mail connections, but the new systems will require more bandwidth than is currently supplied to many missions through DTS-PO. As a result, USAID in partnership with DTS-PO has begun to implement a new network based on satellite (VSAT) communications, which will provide increased communications capacity links for data transfer to support the NMS and other corporate applications for all USAID sites. This cooperative approach will take advantage of both satellite links and land lines, using whichever technology can provide the needed bandwidth at the lowest

cost for each site.

Constraints. A number of factors constrain the Agency's ability to move forward with its information systems plan. One such constraint is the need for balancing short-term interim solutions (new systems as well as possible enhancements to the remaining legacy systems) with progress toward long-term strategic goals. The demand for quick systems to meet pressing information needs is natural and unavoidable. Often, these take the form of management reporting systems which reformat data and make it more accessible; the problem with short-term solutions of this type is that they do not solve the data quality problems of the underlying systems that they depend on. M/IRM must negotiate the level of resources to be devoted to such systems, as opposed to redesigning the major corporate systems that solve the more fundamental information problems.

The Agency is facing major budget constraints and therefore, as budgets become leaner, there will be a major impacts on the number, scope, and milestones of IRM initiatives. At this time there are several worthwhile projects where needs have been identified but remain unfunded or are scaled. Among the projects eliminated from the budget or reduced in scope are:

- replacement of PCs on a regular basis.
- enhanced communications to non-unix sites.
- evaluation of some new technologies.

Another challenge of managing the migration to a new technical architecture is maintaining network compatibility as the Agency moves forward on a phased basis. By the time one new technology can be installed all across the Agency, newer versions of the hardware or software may become available. The Agency must keep moving in terms of versions, upgrades and new tools in order to keep the architecture maintainable. In addition, the rapid increase in user sophistication creates growing desires to try new tools which are not Agency-standard. The marginal increase in user satisfaction these may provide must be balanced against the increased costs of acquisition, training and support, and, in some cases, the risk of network failure due to compatibility problems. As the Agency reengineers its capital investment review process for IT, the capital investment review board will play a major role in considering the costs of architecture alternatives.

Training remains a concern, both from the broader level of awareness of information management and security to the very detailed level of training on specific packages.

IRM GOALS, KEY INTERMEDIATE RESULTS AND STRATEGIES

The Agency's Information Resources Management program exists to support the goals and objectives of the Agency. IRM provides the tools and the information needed to manage the Agency's programs. Given the Agency's mission, there are five principal ways in which IRM support is critical to the success of the Agency:

STRATEGIC INFORMATION RESOURCES MANAGEMENT PLAN

- Providing the administrative control mechanisms to enable sound stewardship of the considerable resources the Agency administers in support of developing countries;
- Providing the institutional memory and critical evaluation facilities to program managers in Washington and around the world, as they attempt to design programs to meet specific needs of individual client countries;
- Providing information-oriented tools and techniques that support business process reengineering;
- Providing direct IRM support for ADP-related projects in developing countries.
- Providing the capability to track activities and results and use outcomes to plan projects.

Last year's strategic IRM plan had a total of 6 goals. In an effort to better align the Agency's Strategic IRM Plan with the operational work we do as an organization, and our budget a new strategic framework was created that is much more comprehensive. The new strategic framework includes all the strategic programs, projects, and operational activities necessary to support the mission of the Agency. This new alignment will better position us for implementing capital investment planning under the Clinger-Cohen Act and for developing IRM performance measures.

This plan reflects substantial work that must be accomplished to meet the information needs of the Agency. The following section describes the IRM goals and key intermediate results which are cross-cutting, supporting each of the Agency's sustainable development goals and objectives. This section also provides specific measures of success in this undertaking, which should help in the prioritization of initiatives in light of available resources.

The primary focus of the IRM program for FY97, is to continue moving forward with development and enhancements to the NMS. NMS will allow Agency management to access budget, personnel, financial and programmatic information, as required to respond to management issues and external queries. This project consumes a large portion of IRM resources and has a major impact on the management and operations of the Agency.

Goal 1 supports ongoing operational and maintenance required to maintain the basic level and quality of service necessary to support the information needs of the Agency. Operational support is the other major component of the budget. Therefore, there are limited discretionary resources available to accommodate the Agency's other information requirements. Activities to support these requirements will be spread out over the next five years and will be accomplished as resources become available.

Goal 1: Operations

Assure the architecture required to support the Agency automated business processes is available and provides a reliable, secure and robust environment to support the Agency's business as well as productivity of Agency staff.

While this goal is not a true strategic activity, it is included in the plan to provide funding data and to develop performance goals on actions required in the day-to-day operations and maintenance of the information resources management program at USAID. This goal is primarily operational in nature, but all the components of the goal are vital in keeping the Agency running smoothly. The Agency has become dependent upon information and information technology to operate such technologies as phones, E-mail, word processing, information systems, internet access, and a secure and reliable information environment. A major portion of the Agency's IRM budget and functions are required to provide the information services necessary to keep the Agency operating. The Strategic IRM Plan sets broad direction and goals for managing information and supporting the delivery of services to customers and the public and identifies major IRM activities to be undertaken to accomplish the desired Agency mission and goals.

As in any complex federal organization the Agency is required to account for taxpayer moneys, manage resources as mandated by law, and see that development funds are used as they were intended. To accomplish these mandates the Agency needs to develop/acquire and maintain critical management systems such as accounting, payroll, and personnel systems. This also necessitates that the Agency create and maintain the proper technical environment so these applications can run properly, and their domain of information is safeguarded from improper/unauthorized access, modification or destruction.

KIR1.1 Provide a reliable and secure world-wide network to provide access to information, transactions and channels of communication required to conduct Agency business. (This includes voice, data, and cables.)

The ability to communicate easily across organizational and geographic distances is critical to the success of USAID and its partners in achieving its goals. Communications connections with USAID's partners further the Agency's mission of working together on innovative solutions to development problems and promote the Agency's value of teamwork.

The Agency will continue its efforts to provide sound and reliable network capabilities to its users by managing its resources to continually improve the functionality and reliability of USAID's telecommunications systems and explore cost-effective solutions. Through the use of the ENMS, the Agency Enterprise Network Management System, critical infrastructure components will be proactively monitored to isolate and diagnose errors prior to their having significant impact on operations. Efforts will continue to evaluate and test emerging telecommunications technologies to improve the reliability and response time of networks as

well as providing new productivity enhancing features.

USAID is exploring avenues to expand bandwidth to support growing telecommunications requirements. With the move to the Federal Triangle Building the Agency will have access to many new voice communication features that will provide the staff with more information improving management. Several voice features are planned for testing and implementation. They include receiving FAX by phone, the capability of the LAN to provide caller ID, and an electronic telephone directory that will dial a number directly.

Strategies:

- 1.1.1 Provide cost-effective communications capacity to USAID/Missions.
- 1.1.2 Extend the enterprise network management system to incorporate all USAID/W platforms and targeted NMS Mission platforms.
- 1.1.3 Provide minimal unscheduled downtime of telecommunications resources.
- 1.1.4 Provide cost-effective controls in voice telecommunications.
- 1.1.5 Provide cost-effective configurations to support secure dial-up requirements for the Agency and connectivity for off-site contractors.
- 1.1.6 Analyze and plan for business requirements that impact the enterprise network.

Measurements of Success for Fiscal Year 1997:

- Full implementation and institutionalization of phase 1 of the Enterprise Network Management System (ENMS), to ensure viability of all critical components of the computing infrastructure.
- Increased bandwidth to 64KB on the network in 11 additional sites bringing the total of 64KB sites to 17.

KIR1.2 Provide the computer capacity (hardware/operating systems/utilities) required to run business applications and productivity tools.

The Agency shall manage and maintain a sound IT infrastructure to ensure that it is reliable and available for Agency staff to access and use to carry out their work. The operating environment consists of multiple platforms, UNIX, mainframe, minicomputer, LANS, and desktops computers. The management of these platforms includes configuration planning and acquisition support, installation, operation of the computer networks and platforms, maintenance, upgrades, troubleshooting, and evaluating and testing of new technologies.

Strategies:

- 1.2.1** Provide UNIX based server platform, mainframe platform, and minicomputer platform computer capacity required for corporate applications.
- 1.2.2** Provide LAN based server platform computer capacity required for office automation applications.
- 1.2.3** Provide desktop computer capacity required for access to corporate applications and office automation applications.

Measurements of Success for Fiscal Year 1997:

- Completed a study of Windows NT operating system. Determined what role it will play in the Agency's architecture.
- Completion of the testing and implementation of Vines operating system upgrades.
- Recompetition of the disaster recovery contract for the IBM mainframe.
- Designed a backup process for servers in FTB.
- Establishment of capacity usage and performance baselines for the RISC 6000.

KIR1.3 Assure that the Agency data/information required to support Agency business processes is managed and treated as a critical corporate resource.

Accessible, accurate data is essential for the Agency to meet both its tactical and strategic goals. The main objective of the data administration function is to ensure that data is managed as a corporate asset. Data administration analyzes Agency data structures, assures their integrity and consistency, and provides documentation for users and developers of new systems. The data administration function maintains data models or blueprints from which database structures are designed and built to support the Agency. In addition, data administration maintains a data repository to provide descriptive information about the Agency's data and consistent definitions across systems. The repository data will soon be made available to Agency staff on the USAID Intranet.

USAID is facing the Year 2000 date problem with some of its information systems. The Year 2000 date problem (two digit years overflowing from "99" to "00" when the year passes from 1999 to 2000) is a flaw in many information systems with potentially expensive ramifications. The Agency is determining which systems and software are impacted by the problem and is developing an approach to rectify the situation.

Strategies:

- 1.3.1 Maintain a data repository (or Information Resource Dictionary) that will provide a single authoritative source of information describing USAID's information assets.
- 1.3.2 Develop an on-line application processing datamart that will support decision support type queries and identify trends in Agency operations.
- 1.3.3 Map operational NMS systems to the datamart database for reporting analysis purposes using executive query systems.
- 1.3.4 Ensure that Agency systems are year 2000 compliant.
- 1.3.5 Create and maintain graphical models of all of the Agency's systems in entity relationship diagrams that present clear, easy-to-understand logical representations of the systems in a visual format.

Measurements of Success for Fiscal Year 1997:

- Expanded accessibility of repository data for Agency staff by creating access via the Intranet.
- Upgraded ERWIN data modeling tool for multi-user access.
- Development of standard data definitions and domains for NMS.
- Revised the human resources data model to support COTS acquisition activities.
- Initiation of a study to determine the impact of year 2000 on USAID systems.
- Implementation of a pilot decision support system using the datamart facility.

KIR1.4 Agency electronic information, networks and computers are protected from unauthorized access and/or modification.

USAID's work relies on interconnected automated information systems and networks. Therefore, it is imperative that the Agency has assurance that its automated information systems all operate with a high degree of confidentiality, integrity and reliability. USAID and other Federal agencies face increased system vulnerabilities due to threats posed by hackers, viruses, etc. In addition, the Agency needs to comply with security regulations such as the Computer Security Act of 1987, OMB A-130, and the Clinger-Cohen Act of 1996. The Agency will provide an information security program that will protect against these threats and comply with regulatory requirements. As the Agency develops complex networks and increases access to electronic information systems, we will ensure that cost

effective security policy, technology, and procedures are in place to protect Agency computers and information. Over the next five years, the Agency will continue to evaluate emerging security technology to determine its applicability to Agency computer systems.

Strategies:

- 1.4.1 Assure that networks and computers are protected from unauthorized access.
- 1.4.2 Develop and promulgate computer and information security policy addressing telecommunication, information systems, office automation, networks, and Internet issues.
- 1.4.3 Conduct security audits of the Agency's internal firewall and networked systems to protect against unauthorized access.
- 1.4.4 Provide direction for the protection of data and the recovery of systems in case of disaster.
- 1.4.5 Conduct periodic security training to educate and keep Agency personnel aware of information and computer security threats and responsibilities.
- 1.4.6 Evaluate emerging security technologies and integrate those technologies into operational and new systems based on assessed risks and resource availability.
- 1.4.7 Develop and implement an Agency-wide security incident response capability.

Measurements of Success for Fiscal Year 1997:

- Completed security audits of the Agency's Internet, corporate Banyan and UNIX servers and LANS.
- Revised computer security policies for sensitive information and remote access connectivity.
- Defined requirements for safe telecommunications connections for off-site contractors.

KIR1.5 Corporate software is maintained to support the business processes of the Agency.

The Agency is currently going through a major development effort developing an integrated suite of applications to support its major business functions (the new management systems) NMS. NMS will continue to replace many of USAID's legacy systems over the next several years. During the transition only minimal changes will be made to current legacy systems to keep them in compliance with changes in legislation. As the NMS moves from development

to maintenance the Agency will implement processes and procedures to effectively manage these new corporate information systems throughout their lifecycle and ensure that they provide cost-effective, accurate and timely information to the Agency on a continuous basis.

Strategies:

- 1.5.1** Ensure that applications satisfy their specifications and fulfill the users' mission objectives.
- 1.5.2** Ensure that systems are reliable and perform their intended function with required precision.
- 1.5.3** Ensure that code is easy to maintain, test and is flexible and portable.
- 1.5.4** Ensure that systems are properly integrated to reduce redundant data.
- 1.5.5** Manage the software portfolio throughout its lifecycle in regard to the number of programs, condition, currency, mission requirements and efficiency and effectiveness of programs. Ensure that systems still meet mission needs and that the level of system maintenance is cost-effective.
- 1.5.6** Ensure that systems have minimal errors, are manageable, and report fault conditions on an enterprise-wide basis.
- 1.5.7** Ensure that systems meet the Agency's security requirements.
- 1.5.8** Ensure new users of corporate applications can function effectively.

Measurements of Success for Fiscal Year 1997:

- Improved reliability of Executive Action and Correspondence Tracking System (EXACT) by upgrading the COTS packages that support the EXACT, obtaining a vendor support plan, establishing an IRM systems administrator to support the Unix server.
- Improved reliability of Telegram Automated Project, (TAP) by moving from the SCO/UNIX platform to SUN/Solaris.
- Completion of the development of an interface between the payroll system (NAPS) and the Agency-wide Accounting and Control System (AWACS).

KIR1.6 Minimize disruption to USAID/W operations during the move to the Federal Triangle Building (FTB) and continue to provide telecommunications and network services in the new location.

USAID is geographically located at multiple sites across the Washington DC metropolitan area. To work more efficiently and effectively the Agency is being relocated to FTB in 1997. During the transition period of the move the Agency plans to minimize disruption of operations as it applies to maintaining systems, the use of computers and networks, and safeguarding of IT equipment. Plans are in process to make the appropriate technological changes to support the Agency at the new location and take advantage of the new technological features that are available as a result of the move. This includes a more modern phone system in the new location, as well as enhanced cabling and wiring for the networks.

Strategies:

- 1.6.1** Ensure that automation equipment is safeguarded during the move to the FTB.
- 1.6.2** Ensure that voice and data networks are moved and maintained in the new building.
- 1.6.3** Ensure that computer services such as local printing, and network services are maintained.
- 1.6.4** Ensure that cable operations are not disrupted and that they can operated in the new location.
- 1.6.5** Ensure that the telephone system is designed to provide adequate service at the new location and is minimally disrupted during the move.
- 1.6.6** Develop operating procedures for the move to the new location that affect IRM related support activities.

Measurements of Success for Fiscal Year 1997:

- Development of the technical infrastructure design for the FTB. Completed the move of automation equipment while maintaining the network without major disruption of service.
- Moved Agency users' data to new server locations in FTB based on physical locations in the new building.

KIR1.7 Maintain a sound and integrated information technology architecture.

USAID will plan and manage a sound and integrated information technology architecture, which will guide technology purchases to ensure compatibility with other Agency IRM investments and data integration efforts. The Agency will pursue innovation in the development and use of IT products and services and plan for new technological enhancements. The focus is on enabling the Agency to examine and assess the

organizational, financial benefits and costs of adopting new or innovative technology(s) that impact the IT architecture. Pilot programs, prototypes, and targeted studies will provide information needed to determine whether new technology applications should result in full scale implementation. This activity includes such things as evaluations of new operating system alternatives and migration plans; research of middleware and groupware products; network engineering and design; capacity planning for network traffic; analysis of an integrated suite of office automation tools; new Internet/Intranet tools; and other special exploratory studies and pilots to access the potential applications of new technology developments to Agency programs.

Strategies:

- 1.7.1 Analyze capacity requirements for the network and develop traffic baselines to predict network needs.
- 1.7.2 Design and plan network enhancements.
- 1.7.3 Maintain and operate an interoperability lab.
- 1.7.4 Establish and manage a technical research and product evaluation program for IT products.
- 1.7.5 Develop and maintain the technical architecture and standards.

Measurements of Success for Fiscal Year 1997:

- Development of a strategy and policies to provide access to core business applications from off-site locations.
- Development of an on-line strategy to provide non-NMS site access to NMS applications.
- Development of a plan to migrate to a new network operating system/desktop environment.
- Completion of a network traffic analysis. Development of a network traffic map to be used to plan capacity requirements for future traffic and impact on applications.
- Analyzed network capacity and simulated network loads. Acquired and installed tools to model scenarios of network loads and developed network enhancement recommendations.
- Establishment of a research and development agenda for IRM and began institutionalization of a structured methodology for conducting research and development.

GOAL 2: Information Management

Improve USAID'S ability to manage, access and use information to achieve Agency strategic objectives.

As an organization, USAID is becoming smaller. The level of operating expense funds has been decreasing and is not expected to increase in the near future. The configuration of missions worldwide will change and missions structure will downsize substantially. Each employee will have fewer support personnel available and will be required to be more self-sufficient. The work requirements for professional positions will increase as the Agency decreases in size. As this occurs, each employee will experience a need to access information from many sources both internal and external to USAID. Information must be delivered to them with maximum efficiency and at lowest cost to the Agency. Each employee will need access to information without having to spend time in conversion of that information. Information must have common definitions. USAID employees need to be able to obtain and create information and make it available to their customers in an expedient, simple manner. Organizations throughout USAID require assistance in defining their specific requirements for management and use of information as their work processes change. USAID must continue to meet the requirements of Federal regulations regarding records creation and retention. Information about sustainable development is an important product of USAID. Information products must be available in a manner that is most cost-effective for USAID yet achieves the objectives for which the information was intended.

KIR 2.1 Provide new management system (NMS), information to Agency decision makers and staff that will enable them to measure program performance, allocate and manage resources and acquire the goods and services needed to achieve results.

One of the Agency's highest priorities is to develop an integrated suite of corporate information systems, to support the Agency's newly reengineered processes. The Agency is in the middle of developing an integrated set of standardized new management systems (NMS) to meet the Agency's business needs. They are being built on the foundation of the Agency's Information Systems Plan. The goal is to produce an integrated view of the Agency's total information needs and eliminate redundant and inconsistent data, replace outdated legacy systems, and provide management with accurate, timely and comprehensible information to support management decision making. Several NMS systems have been developed and are currently being used by the Agency. These systems will continue to be modified over the next year to include refinements. The final NMS systems are currently in development or the requirements phase of the systems lifecycle.

Strategies:

2.1.1 Develop USAID's World-wide Accounting System, AWACS.

2.1.2 Develop the Acquisition and Assistance System.

- 2.1.3 Develop the Budget System.
- 2.1.4 Develop the Operations Management System.
- 2.1.5 Develop the Human Resources System.
- 2.1.6 Develop the Property Management System.
- 2.1.7 Transition NMS management to IRM.
- 2.1.8 Train NMS users and provide on-line help and consultation.
- 2.1.9 Resolve the disposition and data migration of legacy systems and data.
- 2.1.10 Coordinate NMS modules and testing.

Measurements of Success for Fiscal Year 1997:

- Contract awarded for the development of the human resource system of NMS.
- Completion of the functional requirements for the NMS property management system.

KIR 2.2 Improve USAID's Ability to format, organize, track, exchange, and archive Agency data so that it can be used effectively and preserve knowledge assets.

USAID is an information-based Agency. Information is used to make decisions as how best to implement and maintain sustainable development programs. Thus, information management must become a core function that is everyone's responsibility, and is essential to the mission of the Agency.

USAID programs are supported by a combination of structured and unstructured information. To date, much effort has been placed on determining an architectural overview and improving the function of structured data. A large volume of total Agency information generated is unstructured and is required for program direction, management, and decision making efforts. However, less emphasis has been placed on unstructured data (reports, plans, e-mails, etc.). This objective concentrates on improving the management of unstructured information.

Strategies:

- 2.2.1 Establish an information management committee to serve as a formal body to make policy decisions concerning the management and use of unstructured data.
- 2.2.2 Determine an approach (e.g. information engineering and/or business process

engineering) to be used to manage unstructured information.

2.2.3 Determine organization(s) responsible for information creation, updating and integrity.

2.2.4 Determine the uses and value of unstructured information.

2.2.5 Conduct a technical assessment of unstructured information management tool sets.

Measurements of Success for Fiscal Year 1997:

- Establishment of an information management committee;
- Identification of document management tools for managing and leveraging unstructured information.
- Selection of an approach (e.g. information engineering and/or business process reengineering) to be used to manage unstructured information.

KIR 2.3 Enable Workforce, Partners and Customers to Work Collaboratively.

The Agency has been impacted by large budget cuts which are resulting in reduced staff and travel funds. Therefore the Agency will be reducing its presence around the world and will be changing the way that it will be delivering aid.

The new work approach will require the Agency to work together in workgroups that are no longer co-located but rather geographically dispersed. In addition the Agency will be relying more on its partners (other development organizations, peace corps, etc.) to carry out AID programs. The Agency will need to rely on subject-matter experts in regions for consultation on delivering programs rather than having the staff co-located directly on-site. In many cases these encounters need to be face to face to share documents, pictures, and just open discussions that cannot be effectively accomplished via e-mail or over the phone.

To work more closely with these partners the Agency will need to be able to better share information with its partners, use their information, or in some cases form virtual teams and workgroups. The Agency will explore cost-effective alternatives to travel so that geographically dispersed groups of individuals; employees, customers, partners, and stake holders; with similar focus and goals, can utilize information technology to work together to solve common problems. The Agency will also look at ways to provide training that was once accomplished by sending staff state-side. Time and money will be saved by bringing people together electronically to solve common problems.

As the Agency continues to be under budget pressures, it has increased its focus on restructuring the organization and reengineering its processes. The new management system (NMS) represents a major undertaking taking place over the past several years, with FY97

being the first full year of implementation.

In addition to this NMS, there has been significant reengineering of processes across the Agency. This has perhaps been most significant in the Missions--the front lines of USAID's development activities. USAID/Washington too is undergoing, and will continue to undergo reengineering activities as the Agency seeks even further efficiencies in its operations.

A dominant component in virtually all these reengineering activities is the requirement to establish, maintain, and refine, collaborative work processes. These include not only processes internal to USAID, but processes that reach outside the Agency and incorporate our development partners--be they bilateral or multilateral development assistance agencies, or the non-government organizations we partner with in accomplishing the development agenda. This demand for increased collaboration comes at a time in which emerging technologies are appearing that show promise for supporting these collaborative processes.

This KIR focuses on a number of activities within IRM that are aimed at leveraging these technologies for bringing about improvements in collaboration work processes--both inside as well as outside the Agency. While some of these initiatives are targeting cost reduction, most are aimed at experimenting with newer solutions for improving collaboration via innovative uses of Information and Communications Technologies (ICT).

Strategies:

- 2.3.1 Develop video conferencing pilots to explore the benefits of this technology in reducing travel time and expenses.
- 2.3.2 Optimize the Agency's telephone system and alternative capabilities
- 2.3.3 Enhance workgroups' ability to work together through the use of groupware.
- 2.3.4 Enhance the interchangeability of data with our partners.
- 2.3.5 Improve access and delivery of information.
- 2.3.6 Explore the use of distance learning as a way to lower travel costs and reduce the time an employee would spend away from their work sites.
- 2.3.7 Coordinate with foreign affairs agencies on technology to enhance our collaboration efforts.

Measurements of Success for Fiscal Year 1997:

- Implementation of video teleconferencing pilots in 5 missions and 10 USAID/W offices.

- Establishment of the Agency's direction for use of Lotus Notes for supporting workgroup processes.
- Completion of a study evaluating the use of Internet Phone capabilities for voice communications with the missions.
- Completion of a study to evaluate the use of Internet video capabilities for video-enabled communications with the missions.
- Exploration of Internet-based electronic conferencing capabilities in support of improving collaborative work processes with our external partners.
- Completion of a pilot (limited test) Internet-based and CD-ROM-based courseware, for technical training of system managers (e.g. distance learning technologies)
- Evaluation of Internet-based authoring tool sets (e.g., Oracle) for USAID-developed distance learning courses.

KIR 2.4 Develop an organized information repository that is available for access by development organizations and the public.

It is increasingly being recognized by the international development community that information and knowledge are critical success factors (CSFs) for the advancement of developing countries. It is also becoming clear that sharing of critical information and knowledge between the multilateral agencies, bilateral development agencies, non-government organizations (NGOs), and the commercial for-profit private sector, is essential for continued progress.

With the advent of the Internet, and associated technologies, the development community is provided an information management and access environment through which this information and knowledge sharing can begin to take place. USAID recognized the capabilities of these emerging technologies early and has been instrumental in supporting the electronic sharing of information with the international development community. This work has included the development and expansion of the Agency's external Internet Web Site, as well the creating and maintaining a number of ListServes to improve coordination and dialog among our development partners.

USAID will coordinate with its partners, especially other foreign affairs agencies and development organizations to build the base layers of information needed to support sustainable development. While some information sharing among USAID partners is occurring, USAID will work to increase information sharing.

Strategies:

- 2.4.1** The Agency will identify, categorize and catalog accurate and useful information that may be made available to the public through the establishment of an information repository.
- 2.4.2** USAID will seek opportunities to work with its partners and the public to determine the quality, value, and usefulness of the data disseminated.
- 2.4.3** Develop a planned, structured, and secure environment for providing access to USAID information via the Internet. USAID will assure that access is provided to the appropriate audiences, that data is properly organized through a directory by subject area and that descriptive elements such as purpose, source and limitations of the information are provided.
- 2.4.4** Assure USAID's technical architecture has adequate and expandable capability to handle anticipated storage, processing, access and data transmission traffic of the information repository. Determine what capacity is needed now and into the future to support Agency dissemination needs. Provide whatever capacity we are willing to afford, monitor use to determine when and how capacity requirements change over time as part of capacity and change management. Assure adequate security for public accessible systems and information.

Measurements of Success for Fiscal Year 1997:

- Development of a mission-level web solution set for allowing overseas missions to improve their information sharing with local development organizations and the public.
- Provided technical support to Legislative and Public Affairs (LPA) as they put into place the new Public Information Center (PIC) in FTB.
- Development of Internet guidelines to help enable USAID programmatic offices to expand their sharing of information with development organizations and the public.
- Augmentation/stabilization of the production Internet environment to lessen security threats and to ensure continuity of service.
- Addition of new interactive services to the Agency's Internet Web site to facilitate interactive exchange of information with the development community and the general public.

KIR 2.5 Improve USAID staff's ability to access and use information.

The Clinger-Cohen Act of 1996 requires agencies to assess the knowledge and skills of Agency personnel regarding information resources management and the adequacy of such requirements for facilitating achievement of the performance goals established for information resources management.

As the twentieth century comes to a close, technology abounds. With the transition from paper-base processes to information technology takes place, almost everyone in the Agency must learn how best to use information technology to do their jobs. Furthermore senior managers will need to fully understand the advantages of information technology and how applying new and improved systems can continually improve performance.

Many USAID employees are not aware of available IT tools or services; or of how to use them to improve their productivity. Therefore it is essential that Agency employees gain a better understanding of information management, and obtain the skills and knowledge to use information effectively. In the rapidly evolving world of information technology, we need to continually improve the information technology and information management skills of Agency staff so that they do not become trapped in an antiquated skill base.

The Agency will enhance its training and professional development program by providing Agency staff with the necessary skills to access, manage and use information effectively in their jobs and to keep current with changing technology. The aim of the training program will be just in time training, neither so early that staff loses the value of the training before they get to use it, nor too late to be of any help.

Strategies:

- 2.5.1** Determine the IRM skills required for Agency staff to perform their jobs. Identify deficiencies in existing IRM skills and knowledge. Develop standards for IRM knowledge, skills, and abilities for USAID personnel (existing and new hires) to ensure a basic level of computer competence for USAID employees.
- 2.5.2** The Offices of Information Resources Management and Human Resources will work together to develop a training program on how to manage, use and access information effectively using new and existing IT tools. Policies and procedures will be developed so that training requirements are assessed annually and annual IT training plans are developed.
- 2.5.3** Training will be conducted to educate Agency staff on how to use information technology. They will be trained as to what information is available; how to use and access the information; how to recognize the advantages/disadvantages of using existing technologies, and the benefits and cost savings.

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- 2.5.4** IRM skill and knowledge requirements will be integrated into Agency staffs performance evaluations and promotion criteria.
- 2.5.5** The IRM help desk and mission support will work with IRM customers to help them use information technology to access information.
- 2.5.6** IRM user groups will be maintained to help Agency staff use information technology tools more effectively.
- 2.5.7** The IRM newsletter, and the Internet home page will serve as vehicles to keep Agency staff abreast of new technology developments.
- 2.5.8** Coordinate with government-wide efforts to enhance computer literacy.

Measurements of Success for Fiscal Year 1997:

- Developed an approach for assessing Agency IRM training requirements.

Goal 3: Quality

Improve the value (efficiency and effectiveness) of IRM products and services.

The focus of this goal is to improve the way information and information technology is employed to achieve successful program outcomes. The goal brings together technical expertise and program management skills to decisions about the use of technology, and monitoring the effectiveness of the technology application throughout its lifecycle. To realize these improvements IRM needs to develop a framework that encourages cost-effective and timely acquisition, management, and use of information technology.

KIR3.1 Improve IRM's skill base to ensure that the Agency has the technical ability and skills to support the information architecture.

The field of information technology is continuously changing. It is especially important to have competent and knowledgeable information management professional direct-hire staff. USAID accomplishes its work through a small staff of direct-hire employees who provide overall technical direction to contractor staff. A large part of the IRM function is contracted out, which increases the chances of breakdown of communication between the Agency and contractors. Therefore, it is important that the Agency ensures that the technical skills of its direct-hire staff are continually refreshed and that their managerial skills are highly developed. Knowledgeable staff will help to ensure that the Agency is providing the best possible direction and feedback to its contractors and obtains the most appropriate technical and cost effective solutions. Individuals cannot be expected to do quality work until they have been appropriately trained.

The Agency plans to institute a comprehensive training and professional development program aimed at improving the knowledge and skillbase of the information management professionals so that they can make better IT decisions.

Strategies

- 3.1.1** Assess the skill mix of the IRM staff required to support the Agency's IRM program.
- 3.1.2** Develop a training program with the Office of Human Resources.
- 3.1.3** Provide the appropriate mix of project management, contract management, and technical skill training to IRM staff.

KIR3.2 Improve IRM Processes

USAID will improve the way information technology programs and services are implemented. To improve operations one must have a good understanding of customer needs.

IRM will focus on customer needs, through survey's, focus groups, conferences and other participatory methods to determine what services need to be improved and what areas IRM can provide better service or access to information. IRM will look at it's current operations and benchmark processes, finding the best practices used in business or government, and then adapt them to improve the Agency's operations. The focus is to promote the effective and efficient design and operation of all major information resources management processes.

Two areas have been identified for process improvement, improving software development and contract management. The Agency is implementing the Capability Maturity Model (CMM), to standardize and improve the software development processes. Without a standard process, schedules and budgets could be exceeded; product functionality and quality compromised; and there is no basis for judging product quality or solving product or process problems. Product quality is difficult to predict; the product may not meet user needs or expectations. The cost of not changing may result in software development cost overruns, wasted user time attempting to use unusable products, and attempts to fix that which should have been done correctly the first time. The Agency is currently working toward operating at CMM level 2 in two key process areas, software project planning, and requirements management.

The Agency has several technical contracts in place to support the Agency's information resources management program. During the next year many of the IRM contractors who are currently co-located with USAID staff will be relocated off-site as the Agency moves to the new FTB. To better manage the contracts the Agency plans to replace the existing contracts with performance based contracts and task orders. Policies and procedures will be developed to deal with the off-site monitoring of contractor performance. Since technology changes so rapidly future contracts will be developed to assure that the appropriate technical skillbase is available to carry out the IRM program.

Strategies

- 3.2.1 Benchmark IRM processes, finding the best practices used in business or government and adapt them to improve our own operations.
- 3.2.2 Improve our services to our customers by obtaining a better understanding of the Agency's problems and needs and how we can support them.
- 3.2.3 Improve the institutional capability of USAID to develop, purchase, maintain, and manage software efficiently, repeatably, and effectively to support achieving USAID's mission.
- 3.2.4 Improve the management of IRM contracts.
- 3.2.5 Improve the IRM policy formulation and implementation process.

Measurements of Success for Fiscal Year 1997:

- Development of processes to achieve CMM Level 2 in requirements management.
- Development of processes to achieve CMM Level 2 in software project planning.
- Development and implementation an internal IRM policy process for M/IRM.
- Establishment of performance-based contracts and/or task orders to obtain information technology services.
- Development of an IRM acquisition plan for FY97.

KIR 3.3 Reduce the cost of providing IRM Service.

In an era of major budget reductions it is essential that the IRM organization look for ways to provide cost-savings in its programs. Reviewing IRM programs, making key investment decisions through capital investment planning, and benchmarking IRM programs against the best in the industry will help to determine what areas can yield savings. Several key areas have already been identified where the Agency can save on operational costs without reducing the quality of service. The savings from these programs can then be used to fund other priority IRM programs and strategies that the Agency could not be fund or were delayed due to lack of funds.

Strategies

- 3.3.1 Review legacy systems to ensure that they are still required, are meeting the information needs required, or can be replace by NMS .
- 3.3.2 Modernize the IT infrastructure to ensure the efficient and cost-effective use of hardware. (Upgrade hardware when it provides a business benefit in supporting an application or it is more economically feasible to upgrade rather than pay more expensive maintenance costs. Ensure that the Agency does not lose your investment in the existing technology and application.)
- 3.3.3 Evaluate the mainframe and VS platforms to determine the most cost-effective way to support our business applications.
- 3.3.4 Develop an implementation plan for International Voice Gateway (IVG) lines w/DTS-PO to provide low cost international voice lines.
- 3.3.5 Review IRM programs to determine areas where cost-savings can be obtained.

Measurements of Success for Fiscal Year 1997:

- Expanded the number of locations that use the IVG lines to lower the Agency's long distance telephone costs.

KIR3.4 Improve the Quality of IT business decisions.

The Clinger-Cohen Act of 1996 required agencies to establish, monitor, and evaluate the performance of information technology in support of program accomplishments. USAID is working toward developing a successful IRM performance measurement program for IT to measure whether information resources management projects are really making a difference. Using IT performance measures and capital investment planning will help the Agency make better management decisions, and determine if programs should be implemented, continued, modified or terminated based upon performance and cost. As measures are developed they will continue to be refined over time so that they become more meaningful and more accurately reflect the value of the work being performed. To develop successful performance measurement, IRM will require the involvement of IRM's customers, stakeholders, and partners. Performance measurement will include defining areas in which the Agency will measure performance; identifying the customer for each measurement area; identifying the corresponding detailed performance measures; gathering and analyzing performance data; refining the measures so that they are truly an indicator of success.

With future budget reductions anticipated it is essential that the Agency make critical decisions on which IT projects will provide the Agency with the best return on investment. The Agency will establish a capital investment planning process for IT. This process is aimed at ensuring that IT is managed as a strategic investment. Before making investment decisions about information technology, the Agency will maximize and assess the risks and costs of the IT investments, prioritize funding decisions, and reevaluate projects at different stage in the lifecycle to determine if projects need to be refocused or terminated.

Strategies

- 3.4.1 Institute a capital-investment planning process for selecting, managing, and evaluating the value and assessing and managing the risks of information technology acquisitions.
- 3.4.2 Establish mission based performance measures for IT.

Measurements of Success for Fiscal Year 1997:

- Hired staff to implement IT performance measures and capital investment planning.
- Development of general IT performance goals.
- Establishment of a Capital Investment Review Board for IT.

Goal 4: Project Support

Ensure information technology and information management components of program activities contribute effectively to meeting USAID goals and objectives.

The Agency has numerous development programs and activities around the world in education, health, finance, economics, environment and democratic sectors. Increasingly, the application of information technology in support of these projects' objectives is proving to be beneficial. Sustainable development is furthered by increased access of local populations and national governments to information, and by efficiency gains resulting from automating manual processes. The challenge for USAID is to identify ways in which telecommunications and information activities can promote sustainable development objectives and accelerate the integration of developing and transitioning countries into the world economy. The result of USAID's programs will not only bring measurable economic and social benefits to the recipient country, but also provide trade and investment opportunities to U.S. business through the opening of new markets and technology transfer.

In the past, the Agency has primarily focused on IT solutions for internal Agency use. The project support goal is aimed at expanding the Agency's Office of Information Resources Management role, to ensure that the IT technology components of Agency projects and programs, that are ultimately turned over to host country institutions, are effectively used to meet program information needs. The focus of this goal is to improve the way information and information technology are employed to achieve successful program outcomes and to facilitate transfer of IT to developing countries in support of USAID strategic objectives. Agency projects will be supported through management and technical IT recommendations that will ensure effective and sustainable information technology solutions. This goal also focuses on the effective use of IT solutions by replicating best practices in projects and programs and applying them to other programs, sectors or countries.

KIR4.1 Become the central resource for information technology expertise as applied to development activities.

An outreach program will be established, to identify program areas where IT is a significant component. The Office of IRM will use its technical expertise to advise or provide assistance for these components. In addition, a forum and partnerships will be established to exchange information and ideas on the use of IT technology transfer in the different development sectors and across sectors. The Agency will collaborate with partners and other IT service providers within the Agency as well as other donor assistance organizations to share IT solutions and reduce duplication of effort.

Strategies

- 4.1.1 Improve the Agency's awareness of the use of information technology in supporting USAID program activities.
- 4.1.2 Develop partnership with the Office of Procurement in reviewing IT program-funded procurement in excess of \$100,000 to ensure that they are architecturally sound and are making wise investments in IT.
- 4.1.3 Define a partnership strategy to improve the communications among USAID's partners for program-funded activities. USAID will work to create partnerships with other IT service providers within USAID and with other donor assistance organizations to define IT roles in specific programs and activities so as to minimize duplication of effort and coordinate IT activities for projects and programs.

Measurements of Success for Fiscal Year 1997:

- Initiation of partnerships with Agency project/program staff and mission offices. These partnership will determine the office of information resources management support for IT project/program activities.
- Institution of a process for conducting annual automation assessments to cover approximately 20% of USAID missions annually.

KIR4.2 Create effective, cost-efficient technology solutions for program activities.

The Agency has hundreds of projects and programs throughout the world, many with IT components that would benefit from the technical expertise provided by the Office of IRM. There is a need to coordinate and identify the major IT components of USAID projects so that the Agency can provide IT expertise when necessary. These would include such things as automating manual processes in the projects or programs, providing access and the sharing of information to increase productivity, or provide the projects with access to other IT skills. Since there is limited funding for IT expertise, the Agency will determine which IT components have the greatest impact and prioritize intervention.

Strategies

- 4.2.1 Identify USAID activities with IT components.
- 4.2.2 Identify the lifecycle stage of USAID activity and prioritize intervention.

Measurements of Success for Fiscal Year 1997:

- Completion of a study identifying IT components in USAID projects and programs.

KIR 4.3 Expand the value of technological solutions for program activities by transfer of solutions to similar environments.

The Agency has found that many IT solutions for projects and programs can be duplicated for other projects and programs or even in other countries with minimal modifications. Currently the replication of IT solutions is not the standard. Therefore, the Agency plans to maximize its IT investments by replicating proven solutions and using lessons learned as models to improve the effectiveness of IT technology transfer to similar cultures and technical environments. A library of lessons learned will be established along with policies and procedures for maintaining the library and replicating solutions. The replication and modification of standard IT solutions should save the Agency analysis and development costs over the long-term, as well as decrease the time it takes to analyze, design, develop and implement an IT solution.

Strategies

- 4.3.1** Maintain information on lessons learned with experiences in implementing IT initiatives, organized by USAID activities.
- 4.3.2** Apply proven standards and methodologies applicable to specific cultures and technical environments to implement IT solutions.
- 4.3.3** Replicate applicable USAID-funded IT applications, procedures, and regulations to similar host-country environments.

Measurements of Success for Fiscal Year 1997:

- Initiation of a process to establish an IT lessons learned repository.

The following is a timetable for the completion of the 19 KIR's in the plan.

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**Exhibit 5:
Timetable for the Nineteen Key Intermediate Results**

Initiatives	FY97	FY98	FY99	FY00	FY01	FY02
KIR1.1 Worldwide Network	█	█	█	█	█	█
KIR1.2 Operations	█	█	█	█	█	█
KIR1.3 Data Administration	█	█	█	█	█	█
KIR1.4 Security	█	█	█	█	█	█
KIR1.5 Corporate Software Maintenance	█	█	█	█	█	█
KIR1.6 Move to FTB	█					
KIR1.7 Technical Architecture	█	█	█	█	█	█
KIR2.1 Develop NMS	█	█				
KIR2.2 Information Management	█	█	█	█		
KIR2.3 Work Collaboratively	█	█	█			
KIR2.4 Public Access to Information	█	█	█			
KIR2.5 Train USAID Staff	█	█	█	█	█	█
KIR3.1 Train IRM Staff	█	█	█	█	█	█
KIR3.2 Improve IRM Processes	█	█	█	█		
KIR3.3 Cost Savings	█	█	█			
KIR3.4 Improve IT Business Decisions	█	█				
KIR4.1 Central Resource for Program IT Activities	█	█	█	█	█	█
KIR4.2 Cost-Efficient Technology Solutions for Program Activities	█	█	█	█	█	█
KIR4.3 IT Technology Transfer	█	█	█	█	█	█

V. IRM Accomplishments Achieved Toward the Goals in the Previous Strategic IRM Plan

This section sets forth the major accomplishments and achievements that the Agency has made toward accomplishing its goals as expressed in the previous Strategic IRM Plan. Three goals have been met and three have been transitioned into this update. USAID has modernized its infrastructure to support NMS, established a global telecommunications network, and strengthened and expanded its computer security program. Extensive progress has been made in implementing NMS the corporate information system, improving quality of information products and services, and the access and sharing of data and information.

GOAL 1: Modernize USAID's Information Infrastructure to Support the NMS.

Modernize USAID's information infrastructure to employ up-to-date, cost-effective technologies to support the new management systems needed to perform USAID business. This goal has taken on added importance given the reengineering of USAID's core business processes. The information infrastructure includes facilities, equipment, and software.

Progress Update:

During FY96, a number of steps were taken to complete this goal by making sure that the infrastructure was modernized and in place to support the implementation of NMS. NMS was released into production October 1996. The ISP defined the information systems and technology architecture which the Agency has followed in supporting the implementation of NMS. Standards, policies, and architectures were developed to enable information exchange and resource sharing. To permit the use of mid-range computing platforms from multiple vendors, and in order to gain the benefits of competitive pricing and service, USAID has moved away from a proprietary architecture to an open systems environment based on GOSIP and POSIX, implementing a client-server architecture which supports NMS. This past year USAID upgraded and deployed a standard workstation configuration to support NMS along with a more powerful server platform. A standardized data entry format was implemented for smaller missions to feed information to the NMS.

GOAL 2: Establish Global Telecommunications Network.

Provide worldwide connectivity that will allow all USAID staff to exchange and share information within their working groups, and with others in USAID/W and the overseas Missions, in order to carry out their functions with increased productivity and efficiency.

Progress Update:

Over the past several years USAID worked to establish a global telecommunications network which allows staff to exchange and share information worldwide. The Agency has met its

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goal to provide the ability to share corporate data, E-mail, and internet access. During FY96, a number of steps were taken to expand and improve USAID's telecommunication infrastructure.

- This year the Agency implemented an Enterprise Network Management System (ENMS). ENMS offers a suite of automated tools that will provide data to manage network capacity upgrades. These tools will allow network utilization statistics to guide specific implementations of the architecture in the future. ENMS provides comprehensive methods to monitor, detect, and resolve problems encountered that affect the performance of USAID's network and mission critical applications and platforms. Tools were installed to implement performance measurements and thresholds, change management, problem management, asset management, notification and trouble ticket processes for first level support for network operations and user help facilities.
- The Agency achieved more cost effective long distance voice telecommunication services through expanding utilization of the Department of State's Diplomatic Telecommunications Service Program Office (DTS-PO's) International Voice Gateway and recommending International Callback services to missions.
- The Agency trimmed waste by instituting procedures for identifying users of each phone line, and routinely requiring justification for modem or telephone lines that are rarely used.
- International communications capacity was enhanced by increasing the bandwidth and reliability of circuits to field sites in support of NMS and E-mail. All missions are currently connected to AIDNET; with DTS-PO basic service at 65 sites; DTS-PO enhanced service at 5 sites; and operational VSATs at all 39 overseas NMS sites.
- Over 1,500 users in AID/W and 500 mission staff now have access to Internet via Netscape and are able to access information from universities and research institutions. Everyone in AID/W has an E-mail gateway for Internet. 39 missions at NMS posts have access to Internet and Intranet via VSAT.
- The network architecture has been defined. This strategy has been recently furthered by the definition and implementation of an Enterprise Network Management System (ENMS). ENMS offers a suite of automated tools that will provide data to manage network capacity upgrades. These tools will allow network utilization statistics to guide specific implementations of the architecture in the future.
- The Agency is a charter member of the Foreign Affairs interagency IRM group, who works together to share technology and information and cooperate on common IT projects such as, the telecommunications pilot project in Indonesia for teleconferencing.

GOAL 3: Develop New Generation of Corporate Information Systems.

Building on the foundation established by the Information Systems Plan, develop an integrated set of standardized corporate information systems to meet the Agency's business needs. This is to be accomplished using information engineering (IE), which stresses extensive user involvement, adherence to a data model and standards, and a focus on the business impact of systems, rather than technology.

Progress Update:

The Agency is continuing to implement NMS. These efforts will continue under Goal 2 of the updated Strategic IRM Plan, to "Improve USAID's ability to manage, use and access information to achieve USAID Strategic Objectives." In October 1996, the Agency's world-wide accounting and control system, acquisition and assistance system, budget system, and various components of the operations system were implemented. The human resources module is in the design phase, and the property management module is in the requirements and business area analysis phase of development. During FY96, a number of steps were taken to develop NMS, these include the following.

- Version 4.0 of NMS became operational in USAID Washington and at 39 overseas sites the beginning of October 1996. Agency legacy data migrated is underway. Data from FACS - the current Washington accounting system, MACS - the current overseas accounting system, and CIMS the current procurement system - is being migrated to the new system. NMS will enable USAID employees to create results frameworks for mission activities; procure goods and services from the procurement planning stage through the obligation stage; account for all Agency monies except for trust funds; and manage budget allocations.
- To support NMS, the Agency has provided extensive training over the past year to the staff. A special NMS user help team was established as part of the user help desk to solve NMS problems and answers questions
- The responsibility for NMS development was reassigned to a NMS task force leader working directly under the CIO. This position was established to provide focus directly on NMS development, with the Office of Information Resources Management playing a supporting role.
- An advisory NMS steering committee chaired by the CIO was established to enhance communication and cooperation between the designers and users. The group addresses policy and technical issues affecting the users of NMS as they transition to the new system.
- The Agency has initiated an effort to strengthen the systems development environment using the Capability Maturity Model (CMM). This effort is underway with a focus

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on developing policies and procedures for requirements management and project planning.

- The Agency assessed the use of COTS packages for various components of NMS. A procurement is in process for an off-the-shelf software solution for the human resources module of NMS which will be customized for the USAID environment. The Agency is planning to review potential off-the-shelf solutions for the property management module of NMS.
- The Agency evaluated the Electronic Data Interchange (EDI) pilot test and reviewed other government agencies use of EDI. Based on these evaluations, the EDI development effort was refocused. An EDI task force was formed to focus on EDI issues and pursue an alternative EDI solution. Currently programs are being developed that are necessary for compliance testing.
- Over this past year, the Agency has increased its participation in the Foreign Affairs Interagency IRM Group (FAIIG) to facilitate the sharing of information technology and systems. A three-day conference was held to address the information technology needs of foreign affairs agencies' overseas missions. In addition, USAID is coordinating efforts with the United States Information Agency (USIA) and the Department of State (DoS) for the development of a new human resource system. This has included recent discussions with DoS with respect to purchasing of an off-the-shelf product and potentially entering into a joint agreement regarding modifications for handling Foreign Service personnel. Both USIA and the International Bureau of Broadcasting which includes Voice of America, have provided funding to support NMS so that they can use portions of the system.
- In late FY95, a policy was issued limiting upgrades, enhancements and maintenance activities on legacy systems to only what is mandatory.
- * ● Data administration standards and quality assurance review procedures for data modeling were finalized in FY 96. The ERwin CASE tool by Logic Works has been approved as the standard data modeling tool to replace the ADW CASE tool. A corporate view (Corporate Model) of the NMS business area data model is being developed based on the data requirements that the physical data base represents. The corporate model management approach is also being documented. The approach encompasses developing logical data models from the physical database; generalization of model objects for usability beyond the specific NMS application; integration among applications; and the ongoing management of subject area and functional views. Interview results with developers, development support groups, business users, IRM management, and NMS Task Forces are being used to form the basis of the corporate view approach.
- The repository is now available on-line to NMS developers to provide access to the meta data (data definitions) that describes the data in NMS. Data dictionary reporting

through the repository revealed a need to revisit the adequacy of data definitions in ERwin. The data definition project is underway to develop standard compliant data dictionary entries supporting NMS. Definitions are valuable for software change analysis, business area integration activities, and to business users as they become familiar with NMS processing capabilities.

- Full integration has not yet been achieved in NMS. To improve integration going forward, efforts are underway to introduce a set of common tables that can be shared across the business areas within NMS. Current efforts have focused on person, organization and location information that affects all of the NMS business areas. The implementation of the common tables will require NMS programming changes. These changes must be prioritized along with other functional enhancements requested by the users.

GOAL 4: Strengthen and Expand USAID's Computer Security Program

Increasingly USAID's work relies on interconnected systems and networks. Therefore it is imperative that the Agency's automated information systems all operate with a high degree of confidentiality, integrity, and reliability. USAID and other Federal agencies face increased system vulnerabilities due to threats posed by hackers, viruses, etc. The Agency needs to significantly upgrade its computer security program to achieve full compliance with the Computer Security Act of 1987, and OMB A-130 revisions to protect its information resources.

Progress Update:

Over the past 5 years, the Agency has worked to strengthen and expand its information security program to conform to regulatory guidelines. The Agency has established disaster recovery plans, developed security policies and procedures, conducted security assessments and awareness training. The security function has graduated to an operational program and will be addressed under KIR1.4, "Agency information networks and computers are protected from unauthorized access and/or damage" in updated Strategic IRM Plan. During FY96, a number of steps were taken to improve security.

- Developed a robust security firewall policy and implemented firewall technology to protect USAID's private network (AIDNET) from Internet attacks;
- Conducted systematic assessments of the security posture of the Agency's firewall and all AIDNET systems, using SATAN, the Security Administrator's Tool for Analyzing Networks;
- Provided security awareness and training through biweekly security briefings for new personnel, conducted security training sessions on safeguarding E-mail and sensitive information, and developed an M/IRM security awareness Web page on the Agency's

Intranet;

- Converted information systems security policies in USAID Handbook 18, chapter 12, for publication as chapter 551 in USAID's Automated Directives System (ADS);
- Provided client-centered security consultation and assistance on an almost daily basis to personnel in USAID/W offices and overseas missions;
- Developed a Windows interface to the Agency's standard DOS antivirus package, and provided computer virus protection, detection, and recovery services throughout USAID;
- Conducted research, tests and evaluations of new network and system security technologies, e.g., network security scanners, Internet firewalls, hardware/software encryption, robust authentication for remote users, and antivirus software packages;
- Performed a comprehensive test and evaluation of the security strengths and weaknesses of the Agency's new E-mail system.

GOAL 5: Improve the Quality of Information Products and Services.

The 1993 Government National Performance and Results Act calls on Agencies to improve the services they provide with greater accountability for achieving results, quicker and at a lower cost. The Agency's 1993 Rightsizing report recommended that IRM increase its emphasis on customer service. As part of the Agency's focus on customer service, the IRM program plans to improve the quality of information systems, products and services by improving information resources management's contribution to program productivity, efficiency and effectiveness.

Progress Update:

The quality goal has been transitioned into the new plan as "Goal 3: Improve the value (efficiency and effectiveness) of IRM products and services". During FY96, a number of steps were taken to improve the quality of IRM products and services.

- A centralized user help desk was established in January 1996 to serve as a one stop service to help Agency staff with ADP related issues. The IRM help desk not only focuses on problem resolution but also on problem prevention and actively works to reduce the number of end user trouble calls to increase productivity. The help desk averages about 120 calls per week and plays a key role in supporting NMS users.
- Research is underway on implementing IRM performance measures using best practices from the private and public sector and determining which approach best fits into our environment. A planning workshop was conducted to try to better align the

strategic IRM framework so that future measures could be developed.

- A software process improvement project has been initiated to improve the way the Agency plans, develops, and implements changes to its software process. The Agency is using the Capability Maturity Software Model (CMM) to develop a standard process for software development. Work is underway toward achieving a level 2 key process improvement for both software project planning and requirements management.
- Communications with the Agency on IRM issues has been improved in several areas. USAID sponsored a workshop: "Getting Wired for Development: Integrating Information and Communication Technology (ICT) into Communications Technology" which presented a series of issues related to the increased use of ICT technology in the developing world. USAID personnel were joined by representatives from other Government and multilateral organizations. Another channel of communication was the establishment of a PC Users Group which serves as a forum for exploring issues and concerns by USAID staff arising from the use of technologies. It has served as a place where end users can share their learning experiences. The Agency also publishes a newsletter to keep Agency staff abreast of new developments in information technology and management.

Goal 6: Improve Access and Sharing of Data and Information.

Information has become an increasingly important resource in its own right. Properly managed Agency data and information assets are critical to accomplishing the Agency's mission. The Agency will develop an information management program which will improve access and sharing of data by prudently managing information as a key Agency resource.

Progress Update:

The Agency is continuing its focus on information management. During FY96, a number of steps were taken to improve access and sharing of data and information. These efforts will continue under Goal 2 of the updated Strategic IRM Plan, with a focus to "Improve USAID's ability to manage, use and access information to achieve USAID Strategic Objectives."

- The Agency's corporate WEB was implemented in May 1996, providing the posting of textual and image information along with a full indexed textual database and sound files. Intranets have been established in several missions as an extension of the Agency corporate WEB to share mission information. There are several key information sources on the corporate WEB. The entire NMS documentation is available on-line to users via the WEB. In addition, the Agency has access to the Agency's library of development related documents/information, and executive and management information which include such things as press releases, news clips on

international development topics, and other interests of the Agency.

- The Leland initiative was launched to provide 20 African nations with access to Internet. By enhancing the ability of Africans to access, produce and use information, this project will place powerful tools at their fingertips and improve sustainable development in Africa through the use and exchange of electronic information and technologies. USAID, in cooperation with technicians from NASA, the U.S. Navy, the State Department and the private sector, have begun country-by-country design and installation of Internet service in Africa to suit each country's specific technology and development needs, incorporating existing systems and efforts already under way by other donors.
- A common report writer, Impromptu, was acquired to support database administrator level users of NMS. This package will allow end-users to select their own reports. A report writing requirement was built into the review of Human Resource COTS packages. The Agency is exploring other avenues for producing user friendly reports.
- The Agency's Internet home page has been established for over a year and has won several awards.
- The Internet data services maintains listservs (electronic conference groups) averaging about one thousand subscribers per conference. The subscribers to the commerce business daily listserve is more than 2,500, and the subscribers to the Legislative and Public Affairs site is more than 2,000. Forty-one posts have full access to Internet and our web pages. Over the last year several mission have requested support and installed internal web services. In addition, several have moved forward in establishing external web sites.

APPENDIX 1: MAJOR SYSTEMS INVENTORY

The following six systems have been defined as major information systems, based on the definition provided in OMB Circular A-130, and for purposes of the GSA-mandated IRM Review program. A-130 defines a major information system as "an information system that requires special continuing management attention because of its importance to an agency mission; its high development, operating or maintenance costs; or its significant impact on the administration of the agency programs, finances, property, or other resources."

NMS: NMS is a suite of integrated corporate systems that supports accounting, procurement, budgeting, Agency operations and performance management, human resources, and property management. The Agency is in the middle of implementation with several systems operational and others under development. Because of the critical nature of the system and complexity of this systems development effort this is the top priority IT project for the Agency overshadowing other IT initiatives. This system will be replacing many of the major information systems.

FACS: The "Financial Accounting and Control System" (FACS) is the primary financial management system for the Agency. It is mainframe-based, and provides both on-line and batch processing for users in the Office of Financial Management. Due to its age, limitations, and difficulty in maintaining, a replacement system, AWACS, is under development, and is discussed elsewhere in this plan.

AETA: The "American Electronic Time and Attendance" system (AETA) was developed to replace the timecards used in USAID. It is available on the IBM mainframe, Wang VS systems, and PC platforms. It is used by timekeepers both in Washington and overseas on a biweekly basis, with the overseas time and attendance data being transmitted to Washington via the Department of State cable system.

RAMPS/NAPS: The "Revised Automated Manpower and Personnel System" (RAMPS), and the "New American Payroll System" (NAPS) are, respectively, the Agency's personnel and payroll systems. These systems are mainframe-based, more than 20 years old, and are scheduled for replacement.

MACS: The "Mission Accounting and Control System" (MACS). It is the primary accounting system for overseas missions, and runs on a Wang VS and on a UNIX platform. MACS is an on-line, interactive system that is updated immediately as new transactions are input. The Wang installations have been converted to the UNIX version, and will ultimately be replaced by a field version of the AWACS system.

CIMS: The "Contract Information Management System" (CIMS) is a Wang VS-based system for gathering and recording contractual actions. The information is used by the Office of Procurement for internal Agency management reporting purposes and for its external reporting responsibilities. It is being replaced by the new acquisition and assistance system which is part of NMS.

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PTIS: The "Participant Training Information System" (PTIS) is a mainframe-based system used to provide statistical data on the USAID-funded participant training program. The system includes information on USAID-funded training of host country participants in the U.S., and on third country training of participants outside the U.S.