

**OGDEN** GOVERNMENT SERVICES  
Systems Group

# PRELIMINARY COST/BENEFIT ANALYSIS OF THE INFORMATION SYSTEMS PLAN

## DETAILED PROJECT PLAN

---

**March 29, 1993**

**Prepared for:**

The Agency for International Development  
Office of Information Resources Management

**Through the:**

General Services Administration  
National Capital Region

Contract GS00K90AJD0621  
Task Number N3S723001

## TABLE OF CONTENTS

<u>SECTION</u>	<u>PAGE</u>
1. INTRODUCTION . . . . .	1-1
1.1 Background and Understanding . . . . .	1-1
1.2 Scope of the Study . . . . .	1-1
1.3 Technical Approach . . . . .	1-2
2. PROJECT MANAGEMENT PLAN . . . . .	2-1
2.1 Introduction . . . . .	2-1
2.2 Team Structure . . . . .	2-1
2.3 Methodology . . . . .	2-2
3. TIME PLAN . . . . .	3-1
3.1 Introduction . . . . .	3-1
3.2 Sequencing of Events . . . . .	3-1
4. KEY ISSUES PLAN . . . . .	4-1
4.1 Introduction . . . . .	4-1
4.2 Technical Issues . . . . .	4-1
4.3 Management Issues . . . . .	4-2
5. PROJECT IMPLEMENTATION PLAN . . . . .	5-1
 <u>APPENDICES</u>	
A. DOCUMENTS REVIEWED	
B. TIME PLAN	

## 1. INTRODUCTION

### 1.1 BACKGROUND AND UNDERSTANDING

Information management plays a key role throughout the Agency for International Development (A.I.D.) as the Agency carries out its mission of assisting developing countries. A.I.D. recently prepared an Information Systems Plan (ISP) to begin a process of upgrading all its information systems. The A.I.D. Office of Information Resources Management (FA/IRM) enlisted the assistance of OGDEN Government Services for preparation of a preliminary cost/benefit analysis of the ISP.

A.I.D. is at a very early stage in the initiation phase of its ISP effort. It has to complete an analysis of each of its eight business areas to determine how many systems (in place of the current 70+ systems in 21 system categories) will be needed under the ISP. At this juncture, the Agency has estimated the non-recurring development and five year implementation costs for hardware, software, systems development, security, and installation, but has not estimated full life cycle costs and the cost of the current information management/information technology (IM/IT) program. Given that, OGDEN's task is to:

- Define the full life cycle costs of the ISP systems, including validating the estimates of system development costs.
- Identify and quantify all current IM/IT expenditures and project these costs for the ISP life cycle period.
- Analyze and project the impact on Agency IM/IT expenditures of implementing the ISP over the five year implementation period and beyond.
- Define and analyze both the quantitative and qualitative benefits likely to accrue to the Agency, including projected cost savings once the ISP is fully implemented.

### 1.2 SCOPE OF THE STUDY

The Agency needs information upon which to base decisions regarding the pursuit of ISP implementation funding through its budget process and the further development of ISP implementation plans and actions. We will focus on the ISP action plan for the new systems and systems architecture, but will also examine the existing information management/information technology (IM/IT) program. Our analysis will conform to the applicable portions of the FIPS PUB 64, Feasibility Study Document.

The action plan for implementation of the ISP is organized into fourteen major initiatives which include eight business areas and six other initiatives directly related to ISP

implementation. A listing of the initiative areas follows:

- Annual ISP Planning
- ISP Start-Up
- Development Coordination
- Open Systems/Worldwide Network
- Core Accounting
- Procurement
- Annual Budgeting
- Operations
- Property Management
- Workforce Management
- Guidance
- Communications
- Small Mission Software
- Special Projects

"Core Accounting" through "Communications" represent the Agency's eight business areas.

The task will focus on collecting and analyzing the data and information necessary for A.I.D. to determine whether implementation of its ISP will yield sufficiently significant benefits and savings to the Agency to warrant its making the investment. The result will be a preliminary cost/benefit analysis, i.e., preliminary to A.I.D.'s follow-on Business Area Analyses in each of its eight critical business areas. The data will be arrayed for presentation to A.I.D. by the eight business areas and the six other major initiative areas.

### 1.3 TECHNICAL APPROACH

OGDEN will review the costs and management issues of the current program as well as of the ISP. We will examine the interrelationship of the current IM/IT program with the action item initiative areas itemized above, especially the impact of the ISP action items on the current program. Our analysis will be a general analysis done at a high level to address the management issues with which the Agency is dealing. The results will be data for

2

recommendations regarding the cost/benefit of implementing the ISP. Our overall approach will involve:

- Collection and analysis of Agency-wide data related to the cost of the current IM/IT program,
- Projection of costs not heretofore estimated for the ISP,
- Estimation of the costs and benefits of implementation of the ISP, and
- Estimation of the impact of implementation on the cost of the existing IM/IT program.

The results of our analysis will be delivered to the Agency incrementally. This project plan constitutes the first deliverable product. Nine additional reports will be developed and presented to the Agency throughout the eighteen week life of the task. These reports and the sequencing of their development and presentation is discussed later in this plan.

1. Existing IM/IT Program
2. Existing costs and benefits
  - The impact in terms of deliverables
  - Changes in cost/benefit
3. New items needed to be completed
  - Business changes
  - No business changes
4. Cost-Phase investments/operating expenses
  - Priorities/Scope
  - Allocation
  - Timing of the investments
  - B/C

## 2. PROJECT MANAGEMENT PLAN

### 2.1 INTRODUCTION

This task was initiated on March 15, 1993 through a meeting of representatives of A.I.D., OGDEN Government Services, and the General Services Administration Contracting Officer's Technical Representative. The Agency's designated Client Representative and our Task Leader were present.

An initial scoping session was held, providing the first opportunity for us to meet with Agency personnel to discuss the task, and the concerns of the Agency. We also discussed generally how the work will be accomplished under the task. The following subsections document this.

### 2.2 TEAM STRUCTURE

We have assembled a team of five principal people who are automated information systems specialists (AIS), senior analysts and analysts. The Task Leader (an AIS), another AIS and a senior analyst will be the team members meeting with A.I.D. personnel in data collection, project discussions, and other direct interfaces. In addition to having educational and work experience credentials in automated data systems, they have credentials in Federal government budgeting and accounting practices.

One analyst will support the task through data analysis, preparation of cost schedules, and related analytical work and report preparation from the OGDEN office. An additional AIS will support the task principally through providing a quality control element.

The work of the five principal team members will be supported by appropriate administrative personnel in the OGDEN office.

In addition to the named team members, the Task Leader has a multitude of other resources available in the OGDEN offices, in such specialty areas as:

- computer hardware
- software
- information engineering
- economics

These employees have experience in costing and cost/benefit analysis and will work with the team members as they gather data for analysis.

## 2.3 METHODOLOGY

The method of performing the analysis and the flow of work will involve data collection, data analysis, issue management, client consultation, and report preparation. Generally these activities will be carried out as follows:

- Data Collection - Current IM/IT program data and ISP data will be collected through our reading of A.I.D. written documentation and through our interview of A.I.D. staff members. Most of the data collection will be performed on site in the A.I.D. offices; some of the written material will be taken to our office for reading there. The Agency has already provided much written material to us which we have used to scope the task and prepare this project plan. A listing of the documents we reviewed is included as Appendix A.

We will be interviewing numerous individuals in A.I.D. FA/IRM as well as personnel in other units of the FA Directorate and other Directorates. Our plan for interviewing FA/IRM people is to participate in unstructured conversations covering topics in the individuals' specialty areas or functional responsibility areas. The interviews of personnel outside the FA/IRM area will be more formal, i.e., they will follow a structured questionnaire. The questionnaire is a required deliverable product. While the questionnaire will provide the structure for the interviews, our intent will be to treat them as guides for the interviews. This will allow the flexibility to discuss topics not on the questionnaire should the need and the opportunity arise. We will provide synopses of the interviews to the Agency in our reports.

- Data Analysis - We will perform all of the data analysis in our office using appropriate analysis techniques. Included in the process will be our discussions with the other OGDEN resources mentioned in section 2.2, above.

As necessary, we will also draw on the expertise of colleagues in other firms in the automated information systems and consulting industries to provide the best possible solutions to unique problems and issues that we may encounter.

- Issue Management - We are using the term "issue" in the context of problems, concerns, questions, known controversies, or other areas requiring definition, decision, or solution. The Agency has already surfaced a number of such issues and it is our expectation that additional issues will surface as we collect and analyze data. A listing of currently known issues is included later in this project plan.

It is our intent to identify issues and call them to the attention of the Client Representative as we surface them. While our recommended solutions will be provided in our reports, we anticipate that most issues will have to be solved on a quicker turn around. It is our responsibility to manage the identified issues to get concurrence on issue solutions in a timely manner.

- Client Consultation - As required by A.I.D., we will obtain client concurrence on specific segments of the task as follows:
  - The questionnaire to be used in the interviews of non FA/IRM personnel will be presented to the Agency in draft form as a deliverable, before it is put to use.
  - Our approach to life cycle cost analysis will be presented for client concurrence before we complete the analysis.
  - Our approach to analysis of other quantitative and qualitative benefits of the ISP will also be presented for client concurrence before the analysis is done.
  - Our final report will be presented in draft form as a deliverable product, then finalized after Agency review.

In addition, as suggested above in regard to issue management, client consultation is an essential ingredient in successful completion of this task beyond the areas stipulated in the contractual arrangement. Therefore we will, for example, discuss our positions and recommendations on issues with the Client Representative before reports are prepared and delivered.

- Report Preparation - Following discussions with the Client Representative, we will complete our written reports and schedules and formally present them by delivery to the Agency. The next section of this project plan provides the delivery schedules.

### 3. TIME PLAN

#### 3.1 INTRODUCTION

All events in this task will follow a fast track. Eighteen weeks are allotted for completion of the total task, including the client acceptance periods for the incremental deliverables that will be provided. Generally, the work on a particular deliverable will commence following completion of a preceding deliverable, although in some cases work will substantially begin before full completion of the preceding deliverable product. Given that information on a variety of topics and segments of the task will have to be obtained from certain individuals and that there will not be sufficient time to interview people more than one time, some work will be started well ahead of delivery dates. When we interview certain individuals, we will discuss not only the then-current milestone/deliverable, but other later-occurring milestones as well. The following subsection discusses specific dates.

#### 3.2 SEQUENCE OF EVENTS

Milestone and subtask accomplishment dates and deliverable dates were agreed to in the task award process. During the discussions we had with the Client Representative in scoping the task and gathering data for development of this project plan we agreed to modify the timing of the deliverables in two of the milestones. The change accelerated the review of the current IM/IT program and deferred revalidation of the projected ISP development costs. The principal purpose of the agreed changes was to allow us to obtain a more complete picture of the current situation and a greater understanding of the agency issues and its culture sooner.

Appendix B provides two exhibits illustrating the revised dates and the sequence of events. Exhibit 1 shows the delivery dates for each of the ten deliverable products. Exhibit 2 shows the sequencing of the subtasks within each of the milestones by week of the task.

## 4. KEY ISSUES PLAN

### 4.1 INTRODUCTION

As discussed in the issue management discussion on page 2 - 2, there are a number of issues already identified, and we anticipate identifying additional issues as we complete the task work. This section lists the predominant issues of which we are currently aware. We plan to address each of these issues and provide a recommended solution or answer. Most will require discussion with the client representative early on for decision or to obtain concurrence for use of the recommended solution in our further work. For purposes of this project plan, we have categorized the known issues as either technical or management issues.

### 4.2 TECHNICAL ISSUES

Technical issues are issues that are pertinent to cost/benefit analysis or the cost/benefit analysis technique, such as:

- Cost Estimation - The method of estimating and revalidating recurring or non-recurring current IM/IT program or ISP costs.
- Standards - Which industry standards or models to use for cost estimation or as other benchmarks in the analysis.
- Life Cycle Period - The appropriate estimated life period to use for the ISP systems against which to measure the costs and benefits.
- Discount Rate - The appropriate discount percentage to use in order to reflect the net present value of future costs and benefits in the yearly cost/benefit stream.
- Prior Costs and Sunk Costs - How to identify and treat costs that have already been expended or incurred as a result of past decisions.
- Sensitivity Analysis - Specifically how to test key assumptions that are made in the cost/benefit analysis and measure the relative effect or risk of these assumptions on the results of the analysis.
- Analysis Segmentation - How and to what extent to segment the data into logical pieces for analysis and presentation to account for the **phased implementation period** of the ISP and for **consideration of seemingly related, but perhaps extraneous entities such as AWACS.**
- Quantitative/Qualitative Benefits - How and to what extent to identify and measure non-system generated benefits that can be related to ISP implementation.

### 4.3 MANAGEMENT ISSUES

There are a range of management issues in addition to the technical issues. These are issues, that while pertinent to the cost/benefit analysis, are problems in a management sense rather than in a technical one. The issues grow out of the need to control IRM Agency-wide and the need and ability to acquire Agency level support for the ISP. Key management issue examples are:

- The definition of IM/IT - The program definition must not only be complete in an IRM sense, but must be workable within other processes within the Agency. For example, the definition of IM/IT costs should be one that would be useful in the Agency budget process.
- AWACS and PC/LAN - What is the real relationship of the ISP as an entity or as a plan to AWACS and to the conversion to a PC/LAN environment? While all three concepts are conclusively IRM, are they all ISP? As consultants, we need to provide objective analysis, but still be mindful of political issues with the Agency and provide the best consultation possible.
- Systems Integration - This issue could be related to the AWACS issue. It deals with the concept of integrated planning of systems, as opposed to integration in a direct data linkage sense. It also deals with coordination of IRM acquisition on an Agency-wide basis.
- Agency Tenor - What is the posture of the Agency leadership regarding IRM and the ISP and functions of policy councils and executive sponsors? What are the needs of officials at that level and what is needed for them to champion the ISP?
- Budgetary Control Mechanisms - Potential ways to authorize, control, and monitor the expenditure of funds for IRM resources; track ISP implementation progress; and obtain and maintain an increased level of knowledge of Agency-wide IRM activity.

## 5. PROJECT IMPLEMENTATION PLAN

Project Implementation will begin according to the schedule of events shown in Appendix B immediately upon delivery of this project plan. The Client Representative has already provided us substantial documentation for review and analysis and has arranged to accommodate us in the A.I.D. offices for review of additional documentation, especially A.I.D. Directives. We will contact him to arrange the time that we will be present on site.

We will also work with the Client Representative to arrange for discussions with FA/IRM personnel during the week of March 29, 1993 and for interviews of non-FA/IRM personnel the following week. We will provide our interview questionnaire on April 5, 1993.

**APPENDIX A**

## DOCUMENTS REVIEWED

### A.I.D IRM Organization

Office of Information Resources Management Organizational Chart, October, 1992

Functional Statements, Office of Information Resources Management (MS/IRM)

Committee Charter, Draft Re-Charter of ISP Steering Committee, February 2, 1993

Committee Charter, Information Management Committee, October 2, 1991

### A.I.D IRM Plans

"Strategic Information Resources Management Plan: Volume I," November, 1991

"Strategic Information Resources Management Plan: Volume II," January, 1992

"Information Systems Plan Volume I: Report to Management," December, 1992

"Information Systems Plan Volume II: Appendices," December, 1992

### A.I.D. Systems

"FA/IRM/SDM System Inventory," March 1, 1993

"Financial Management Status Report and 5-Year Plan for FY 1992-1996," August 28, 1992

Memorandum, from Barry Goldberg, FA/IRM, "Federal Information Processing (FIP) Resources," December 28, 1992

Memorandum, from Dennis Diamond, GC/EPA, "FIP Resources," January 5, 1993

### A.I.D. Congressional Presentation FY 1993

United States Trade and Development Program, FY 1993 Congressional Presentation

Agency for International Development, FY 1993 Congressional Presentation

International Organizations and Programs, FY 1993 Congressional Presentation

Agency for International Development, FY 1993 Congressional Presentation,  
February 3, 1992

Agency for International Development, FY 1993 Congressional Presentation, Statistical  
Annex, February 3, 1992

Agency for International Development, FY 1993 Summary Tables

**FA/IRM Internal Budget Documents**

OMB Exhibit 43A, "Report on Obligations for information Technology Systems,"  
April 27, 1992

OMB Exhibit 43B, "Major Information Technology Acquisition Plans"

Office of Information Resources Management (FA/IRM), Annual Budget Submission,  
Part I, May 12, 1992

Proposed P-Code Definitions, September 9, 1992

**APPENDIX B**

14

<b>DELIVERABLE PRODUCTS</b>	<b>DURATION *</b>	<b>DELIVERY DATE</b>
Detailed Project Plan	2	3/29/93
Draft Questionnaire	3	4/5/93
Analysis of Current IM/IT Expenditures	5	4/19/93
Revalidation of ISP Development Costs	7	5/3/93
Life Cycle Cost Analysis	9	5/17/93
Impact Analysis of ISP on Current IM/IT Expenditures	12	6/7/93
Analysis of Other Quantitative or Qualitative Factors	14	6/21/93
Draft Final Report	15	6/28/93
Final Report	18	7/19/93
Briefing on Findings **	18	7/19/93

### EXHIBIT 1 - DELIVERABLES SCHEDULE

- \* Indicates total time elapsed in weeks after task start.
- \*\* Refers to briefing package; briefing dates to be determined.

MILESTONES/SUBTASKS	WEEKS																	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
<b>PREPARE DETAILED PROJECT PLAN</b>																		
1. Review Current IM/IT Program and the ISP	█																	
2. Document and Present Detailed Project Plan		█																
<b>DESCRIBE, QUANTIFY, AND ANALYZE CURRENT IM/IT EXPENDITURES</b>																		
1. Draft Questionnaire			█															
2. Analysis of Current IM/IT Expenditures			█	█	█													
<b>DESCRIBE AND QUANTIFY ISP LIFE CYCLE COSTS</b>																		
1. Revalidation of Projected ISP Development Costs							█	█										
2. Client Concurrence on Approach to Life Cycle Cost Analysis							█	█										
3. Life Cycle Cost Analysis									█	█								

B-2

EXHIBIT 2. - TIMELINE

1/6

MILESTONES/SUBTASKS	WEEKS																	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
<b>ANALYZE AND PROJECT IMPACT ON AGENCY IM/IT EXPENDITURES OF ISP OVER FIVE YEAR IMPLEMENTATION PERIOD AND BEYOND</b>																		
1. Impact Analysis of ISP on Current Expenditures																		
<b>IDENTIFY QUANTITATIVE/QUALITATIVE BENEFITS OF ISP AND PROJECT THE AGENCY SAVINGS</b>																		
1. Client Concurrence on Approach to Other Factors Analysis																		
2. Analysis of Other Factors																		
<b>PREPARE PRELIMINARY COST/BENEFIT ANALYSIS</b>																		
1. Draft Final Report																		
2. Final Report																		
3. Briefing on Findings																		

EXHIBIT 2. - TIMELINE (Continued)

B-3

11