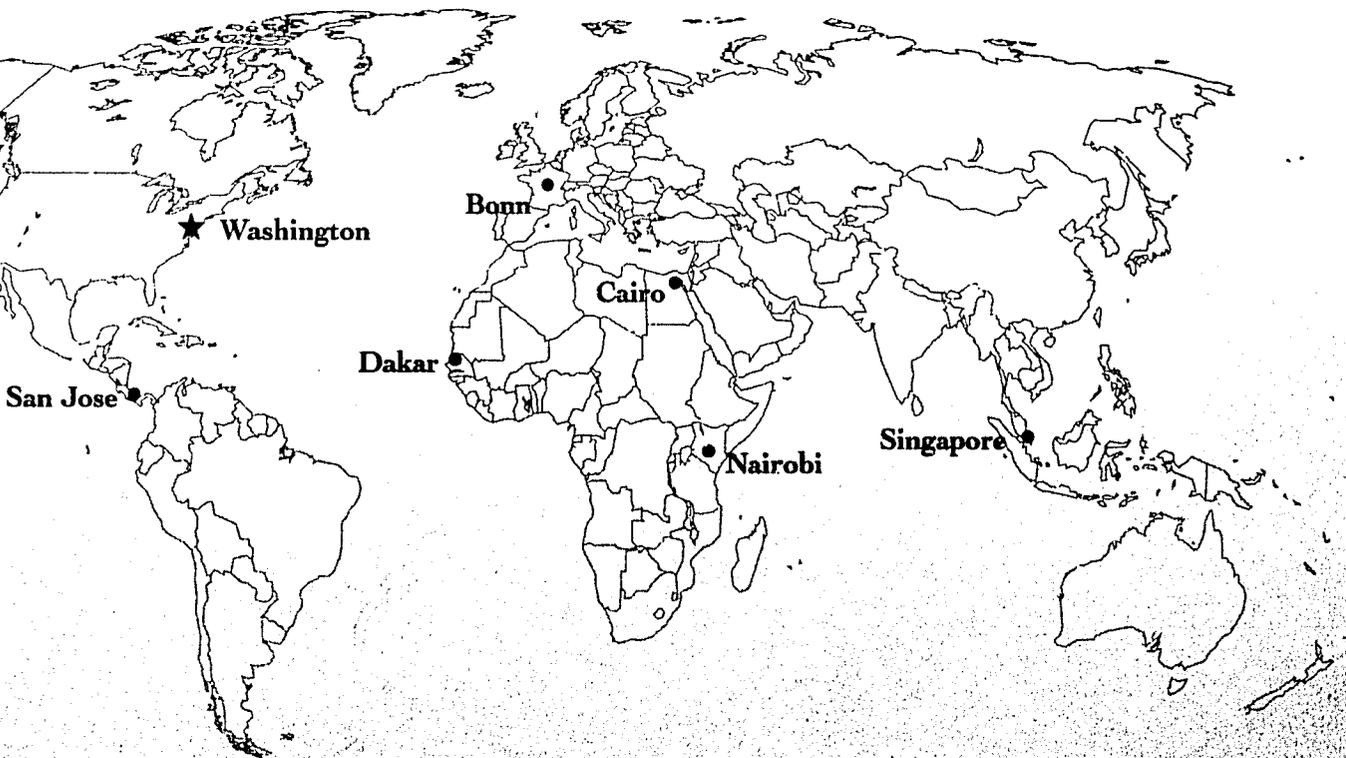


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Audit of the  
Quality of USAID/Jordan's MACS Data

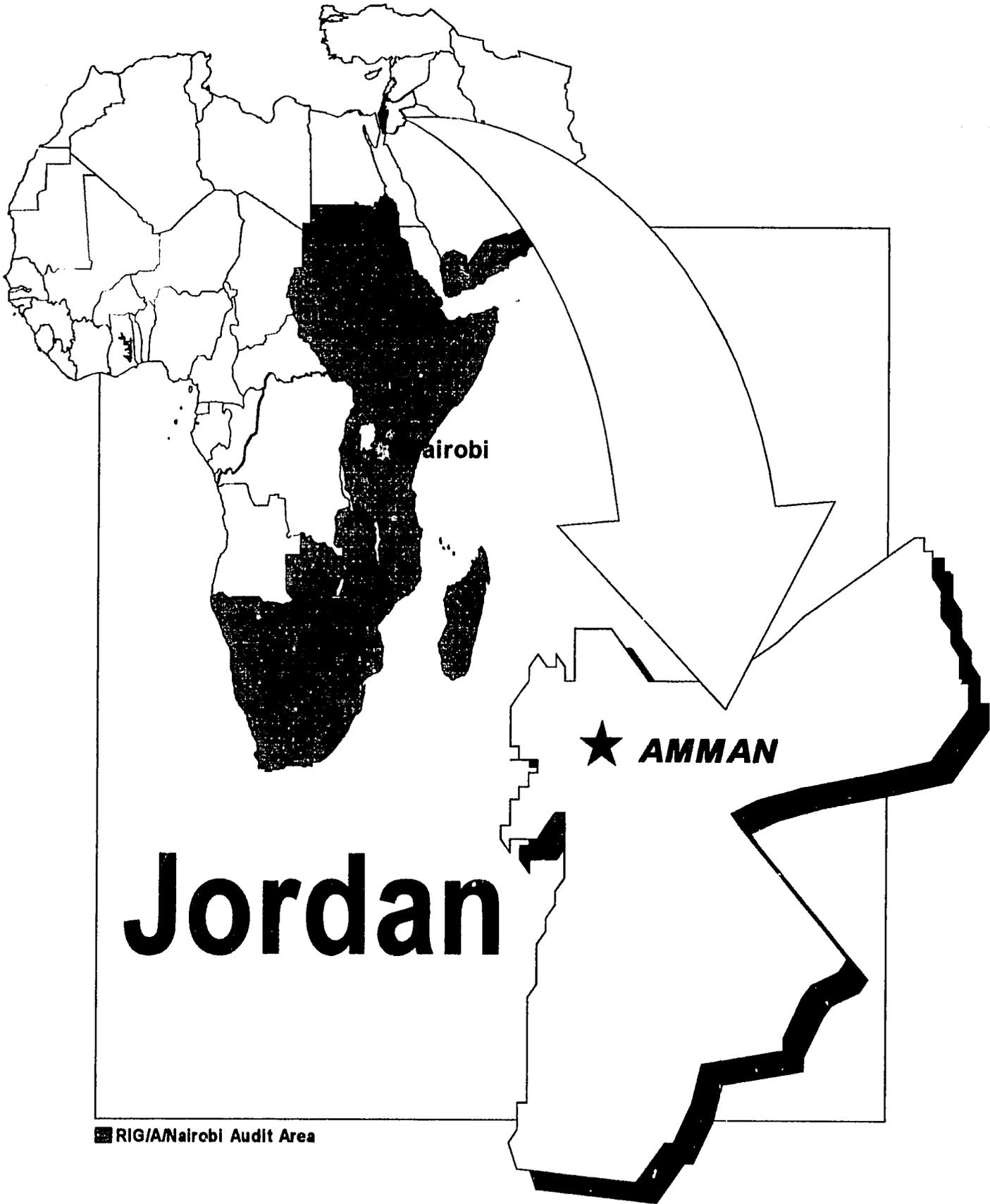
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Report No. 3-278-95-011  
May 5, 1995



**Audit of the  
Quality of MACS Data At USAID/Jordan**

**Audit Report No. 03-278-95-011  
May 5, 1995**



 RIG/A/Nairobi Audit Area



May 5, 1995

**MEMORANDUM**

**FOR:** William T. Oliver, DIRECTOR USAID/Jordan

**FROM:** Everette B. Orr, RIG/A/N

**SUBJECT:** Audit of the Quality of USAID/Jordan's MACS Data  
(Report No. 03-278-95-011)

This memorandum is our report on the Audit of the Quality of Mission Accounting and Control System (MACS) Data at USAID/Jordan. We considered your comments on the draft report and have included them in their entirety as Appendix II to this report. Based on your comments, both of the recommendations are considered resolved upon issuance.

I appreciate the cooperation and courtesy extended to my staff during the audit.

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**Introduction**

Realizing that USAID must operate with increasingly scarce funds, the Agency is undertaking a new and aggressive effort to change the way data and information are managed. Such an effort is critical to our future: in the modern workplace, be it business or government, a high-quality, reliable information system is no longer a luxury—it is a necessity.

To ensure that the data in the entire USAID system is of high quality and therefore useful to managers concerned about project status and pipeline reports, the Office of Information Resource Management (IRM) is undertaking a major initiative. They are centralizing data collection and improving the management of information by creating a data warehouse (see Appendix V), a repository for data from all Agency systems. One of the first steps in bringing data to this warehouse is the PIPE (Project Information and Pipeline Evaluation) initiative. A joint IRM and Financial Management project, the PIPE will combine MACS data from the missions and financial data from USAID/Washington, allowing all Agency managers timely and comprehensive information on USAID projects worldwide.

Accordingly, for this system to succeed, the MACS data from all of the missions must be of the highest quality. Therefore, in support of IRM's work, the Office of Audit

is conducting a series of audits designed to evaluate the quality of data in the MACS files, which is central to the Agency's work. An important part of the effort is this audit of USAID/Jordan's data.

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## Audit Objective

This audit was designed to answer the following question:

- Is the data in USAID/Jordan's Mission Accounting and Control System (MACS) accurate?

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## Audit Findings

USAID/Jordan's MACS data was not considered to be accurate in any of the 39 data elements reviewed. This occurred primarily because the Mission was unable to locate supporting documents. Thus, unsupported transactions resulted in a significant error rate for all of the 39 data elements that we reviewed.

<b>RESULTS OF OUR REVIEW OF USAID JORDAN'S MACS DATA</b>			
<b>MACS Files</b>	<b>Data Elements Reviewed</b>	<b>Elements With Significant Errors</b>	<b>Elements With No Significant Errors *</b>
Budget Allowance Transaction	3	3	0
Reservation/Obligation Transaction	4	4	0
Commitment Transaction	7	7	0
Disbursement Transaction	10	10	0
Advance Transaction	8	8	0
Project Information Master	7	7	0
<b>Total</b>	<b>39</b>	<b>39</b>	<b>0</b>

\* Elements with error rates of less than 5 percent were considered insignificant and thus were considered accurate for reporting purposes. Error rates for each of these elements can be found in Appendix III.

The significant error rates were caused by two different problems:

- Documentation not maintained to support transactions; and
- Project files not maintained accurately and errors made during data entry.

Since USAID managers worldwide will rely on information in the Agency's data warehouse for making decisions on where and how to allocate scarce resources, it is critical that the data coming from each mission's MACS be accurate and complete. Therefore, the efforts of USAID/Jordan to ensure the integrity of data in MACS will contribute to the Agency's overall goal of providing accurate and timely information on all project activity worldwide in USAID. An analysis of each problem area and recommendations to correct the problems are discussed in detail below.

### **Documentation Supporting Entries in MACS Was Not Maintained**

The General Accounting Office's Internal Control Standards require all transactions to be documented by written evidence. In addition, the standard requires documentation be available and easily accessible for examination. Additionally, USAID Handbook 21 provides that:

*"The head of each bureau, staff office, and overseas post is responsible for implementing effective records management procedures within his or her organization."*

USAID/Jordan is the official accounting station for USAID/Jordan, USAID/Yemen, and USAID Offices in Oman, Lebanon, and the West Bank/Gaza. USAID source documentation used for entering information in MACS should be located and maintained at USAID/Jordan; however, we found this was not always the case. For example, documentation to support 49 records in the Reservation/Obligation Transaction (ROT) file, 32 records in the Disbursement Transaction (DIT) file, and 23 records in the Advance Transaction (ADT) file were not found. Since documentation was not available to support the entries, we could not verify the records in the MACS.

## MISSING DOCUMENT FILES FROM USAID/JORDAN'S MACS DATA

MACS FILE	USAID/Yemen	% of SAMPLE	USAID/Jordan & OTHERS	% of SAMPLE
MXPIM	4	6.45	22	35.48
MXBAT	3	4.54	7	10.61
MXROT	14	17.5	35	43.75
MXCOT	18	22.5	25	31.25
MXDIT	13	16.05	19	23.46
MXADT	19	24.36	4	5.13

The documents were not available because the Mission did not have an adequate, documented filing system that allowed for the timely retrieval of source documents. The Mission's filing system is based on each document having a Reservation Control Number (for operating expense transactions) and an Earmark Control Number (for project/program transactions). However, not all transaction documents contain these numbers; therefore, the individual responsible for filing documents must access the MACS system to obtain the number (something for which she has not been trained) or obtain the number from the appropriate accountant.

Consequently, according to Mission staff, some documents were not filed timely and others were lost or misplaced. The misplacement of USAID/Yemen transactions was due to civil strife—the Mission has been closed on two occasions, both within our audit period—and thus, the documents were not initially provided to USAID/Jordan. Since April of 1992, USAID/Jordan has been the official Accounting Station for USAID/Yemen. These transactions accounted for approximately 16 percent of our sample. For example, our review of records in the ROT file showed that 14 document files supporting entries made for USAID/Yemen could not be located. As a result, missing documents accounted for significant error rates ranging from 6.45 to 24.36 percent of USAID/Yemen's transactions alone.

### **Recommendation No. 1: We recommend the Director, USAID/Jordan:**

- 1.1 establish written procedures necessary to ensure that documentation is retained to support all transactions entered in the Mission Accounting and Control System;**

- 1.2 design and implement a filing system that allows for the timely and adequate filing of all official Mission documents; and
- 1.3 assign sole responsibility for the filing system to staff properly trained in maintaining the Mission's official files.

**Project Files Not Maintained Accurately**

Project information in USAID/Jordan's MACS was inaccurate because the information was not entered and maintained according to procedures established by MACS User's Guide (Release 19). These procedures detail the need to:

- Verify 17 data elements, including the Project Number, Agreement Date, Authorization Date, and Project Assistance Completion Date (PACD), when entering information into the system; and
- Periodically review the data elements and adjust them as required.

We reviewed all of the Mission's 62 Project Information Master (PIM) records and tested seven data elements in each record. For all seven elements we identified significant errors, resulting in error rates ranging from 41.93 to 79.03 percent. Overall, this means that over half of the data was unsupported or erroneous.

<b>PROJECT INFORMATION MASTER FILE</b>				
<b>MACS DATA ELEMENT</b>	<b>TOTAL RECORDS</b>	<b>SAMPLE RECORDS</b>	<b>SAMPLE ERRORS</b>	<b>ERROR RATE</b>
Project Assistance Completion Date	62	62	45	72.58%
Authorized Amount	62	62	34	54.83%
Agreement Date	62	62	44	70.96%
Terminal Disbursement Date	62	62	49	79.03%
Project Number	62	62	26	41.93%
Life of Project (In years)	62	62	49	79.03%
Host Country Contribution	62	62	32	51.61%

The Mission's procedures did not ensure all data elements were updated when changes were made to a project as required by the MACS User's Guide (Release 19). This occurred because documents used to enter project information into MACS did not always contain all the necessary data and the Mission did not have a written policy to obtain the correct information. For example, estimates of the Life of Project in years were sometimes necessary because the originating document did not contain the information. However, no attempts were made to obtain the correct Life of Project dates because the Mission did not have a written policy to obtain the information. Thus, information in the PIM Master File did not contain correct project data.

In addition, information contained in the PIM file was not periodically reviewed for accuracy. For example, the Agreement Date should be the date the agreement was signed—which does not change. Because Mission project files were not maintained accurately, 70.96 percent of the project agreement dates in the MACS were incorrect. If the project information files had been periodically reviewed, it is likely that the errors described above would have been detected and corrected.

**Recommendation No. 2: We recommend that the Director, USAID/Jordan:**

- 2.1 correct the Project Information Master file to ensure the information is accurate;**
- 2.2 revise procedures and train personnel in the proper method of updating information in the Project Information Master file; and**
- 2.3 periodically review the data entered into the Project Information Master file to ensure the data is correct.**

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## **Management Comments and Our Evaluation**

USAID/Jordan agreed with the report's recommendations, but had some reservations with the wording of the audit finding. The Mission felt that the wording was misleading and would leave the reader with the impression that the data base was "rife with errors". However, according to the scope and methodology of this worldwide MACS audit, any entries into the MACS system lacking support documentation were to be considered errors for the purposes of the audit. Thus, when we found unsupported data entries, we were required to consider them as errors, i.e., inaccurate entries. We believe, therefore, that the report accurately depicts the situation in USAID/Jordan.

USAID/Jordan has initiated corrective actions addressing the concerns of the report's recommendations. In view of the Mission's comments and actions taken, we are closing Recommendation Nos. 1.1, 1.2, 1.3, 2.2, and 2.3. Recommendation No. 2.1 is resolved and will be closed when all corrections to the Project Information Master File are completed. The Mission's response to the draft report is included in its entirety as Appendix II of this report.

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## APPENDICES

## SCOPE AND METHODOLOGY

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### Scope

The Office of the Regional Inspector General for Audit, Nairobi audited the quality of data maintained in MACS files of USAID/Jordan in accordance with generally accepted government auditing standards. The audit was performed from November 29 through December 15, 1994, and February 5 to 16, 1995, at USAID/Jordan. We reviewed 6 files and 39 data elements from a universe of 28 MACS Transaction/Master files and 757 data elements (21.4 and 5.2 percent respectively). If the error rate was significant (five percent or more) on any of the data elements, we determined the cause and made appropriate recommendations.

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### Methodology

The Office of Audit consulted with Financial Management (FM) officials in Washington, D.C., and identified the MACS files and key data elements that would be reviewed for each file. At FM's request, we agreed to report any unsupported MACS transactions as errors in computing the error rates.

We analyzed USAID/Jordan MACS transactions for the period October 1, 1991, to September 30, 1994, from six of the twenty-eight MACS Transaction/Master files<sup>1</sup>:

- Budget Allowance Transaction
- Reservation/Obligation Transaction
- Commitment Transaction
- Disbursement Transaction

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<sup>1</sup> A complete listing of MACS Transaction/Master files can be found in Appendix IV.

- Project Information Master
- Advance Transaction

We selected a statistical sample for five of the data files that would provide a confidence level of 90 percent and a precision level of plus or minus 4 percent. We reviewed the entire universe of records in the Project Information Master file.

For each data element reviewed (dollar amounts, dates, document numbers, etc.), we determined whether the data in MACS was supported by information from source documents. Our determinations included identifying transactions with unsupported documentation as errors. Based on the results of these determinations, we calculated error rates for each data element and assessed whether the error rate was significant. Error rates of less than five percent were not considered significant. Data elements with an error rate equal to or less than five percent were considered accurate for reporting purposes. Except for the Project Information Master file, which was reviewed in its entirety, we statistically projected the number of errors in the MACS file. These projections indicate the total number of errors estimated for each data element based on the errors found in the statistical sample.

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U.S. AGENCY FOR  
INTERNATIONAL  
DEVELOPMENT

15 MAR 1995

To: Everette B. Orr, RIG/AN  
From: *William T. Oliver*  
William T. Oliver, USAID/Jordan Mission Director  
Subject: USAID/Jordan response to the draft Audit of the Quality of USAID/Jordan's MACS data

USAID/Jordan has reviewed the subject draft audit report on the MACS data and concurs with the recommendations in the report. While USAID/Jordan agrees with the recommendations, we do not agree with the wording of the audit finding. The wording "USAID/Jordan's MACS data was not considered to be accurate in any of the 39 data elements reviewed," leaves a reader with the distinct impression that the data-base is rife with errors. Other than information in the Project Information Master (PIM) file, the audit did not find the MACS data files had input errors, but rather that the data, when compared to located source documents, was accurate. The audit did discover that the Controller's Office could not locate many of the source documents during the course of the audit. While this situation is not acceptable, and in terms of the audit, constitutes an "error," it does not necessarily, in-and-of-itself, mean the data is inaccurate or incorrect. It simply means that during the time of the audit, the Controller's Office could not prove the accuracy of the data with source documents. The extrapolation from not finding source documents to the statement that the "MACS data was not considered accurate in any of the 39 data elements reviewed," is very misleading to the report reader. In fairness, the audit report, after making this potentially misleading statement, proceeds to explain the primary reason for the significant error rate is the number of un-located documents. The Mission's comments to the specific recommendations follow:

**Recommendation No. 1: We recommend that the Director, USAID/Jordan:**

- 1.1 establish written procedures necessary to ensure that documentation is retained to support all transactions entered in the Mission Accounting and Control System; and
- 1.2 design and implement a filing system that allows for the timely and adequate filing of all official Mission documents; and
- 1.3 assign sole responsibility for the filing system to staff properly trained in maintaining the Mission's official files.

USAID / AMERICAN EMBASSY, P.O. BOX 354, AMMAN 11118, JORDAN PHONE: 820100 FAX: 820144  
USAID, UNIT 70206, APO AE 09892 - 0206

**Mission Response:**

**Recommendation 1.1:** USAID/Jordan has written a desktop procedure for the Controller's Office to address this recommendation (attachment 1). A major change in the filing system is the use of the document numbers for filing, rather than the either the earmark control or reservation control number. This will eliminate the requirement to access MACS to both file and access the document and therefore speed the filing. Also, responsibility for establishing and maintaining each type of file has been assigned to specific individuals. Implementation of the new system has started. USAID/Jordan requests this recommendation be closed.

**Recommendation 1.2:** USAID/Jordan assumes that this recommendation is meant for the official documents related to the Controller's Office and MACS data and not the entire Mission filing system. The desktop procedure developed for Recommendation 1.1 describes the filing system that will accomplish timely and accurate filing. Additionally, USAID/Jordan is currently having Mr. John Edward, a C&R specialist from USAID/Egypt, at post for two weeks to conduct a training course for Mission secretaries. The Administrative Assistant from the Controller's Office will attend this course. Mr. Edward will spend a full day with the Controller's Office personnel to provide additional direction and answer any questions that may arise. USAID/Jordan requests this recommendation be closed based upon the actions taken.

**Recommendation 1.3:** The desktop procedure describes the filing system and the person responsible for maintaining each set of files. USAID/Jordan requests this recommendation be closed based upon the desktop procedure.

**Recommendation No. 2: We recommend that the Director, USAID/Jordan:**

- 2.1 correct the Project Information Master file to ensure the information is accurate;
- 2.2 revise procedures and train personnel in the proper method of updating information in the Project Information Master file; and
- 2.3 periodically review the data entered into the Project Information Master file to ensure the data is correct.

**Mission Response:**

**Recommendation 2.1:** All data input errors identified by the audit team (except missing source documents) for active projects are in the process of being corrected. The Mission expects all corrections for active projects to be completed by March 31, 1995. USAID/Jordan is in the process of assembling a complete set of source documents in one place for the Project Information Master (PIM) file. Due to workload constraints, identified data input errors for closed projects will be corrected

as the source documents are assembled. As the documents are assembled, the PIM file will be reviewed against the source documents. All discovered errors will be corrected at that time. USAID/Jordan requests this recommendation be closed.

Recommendation 2.2: USAID/Jordan believes that the procedures established in the MACS user guide (Release 19) and the Financial Management Policy Directive issued on November 15, 1994, addressing input of certain data for unilateral-type projects, provide adequate guidance. All controller staff with access to the PIM file have been required to re-read the guidance. As part of the training, the controller has reviewed the guidance with the affected personnel to ensure that the guidance is understood and interpreted in a consistent manner. Based upon the actions taken, USAID/Jordan requests this recommendation be closed.

Recommendation 2.3: Whenever the PIM file is modified for a project for any reason, the chief accountant and controller will review all the information in the PIM file for that project. In addition, as part of the semi-annual Section 1311 review, all project officers will be requested to review the project summary information, as currently provided on the P19 report, for accuracy. Based upon the proposed actions, USAID/Jordan requests this recommendation be closed.

USAID/Jordan would like to thank RIG for discovering the weakness in the Controller's Office filing system. The Mission fully intends to have a better system in place and operational in the near future. To ensure that the system starts correctly, I am detailing a secretary from another office on a half-time basis for the next several months to assist in setting up and implementing the new filing system. To ensure that our new system is working as intended, I have included a follow-up review in our FY 96 audit planning request.

**USAID/JORDAN  
MACS FILES AND ELEMENTS REVIEWED**

MACS FILES/ELEMENT	UNIVERSE	NUMBER IN SAMPLE	ERRORS IN SAMPLE	ERROR RATE	PROJECTED ERRORS IN UNIVERSE
<b>BUDGET ALLOWANCE TRANSACTION</b>					
Budget Plan Code	358	66	10	15.15%	54
Transaction Amount	358	66	12	18.18%	65
Project Number	358	66	10	15.15%	54
<b>RESERVATION/OBLIGATION TRANSACTION FILE</b>					
Obligation Number	7,145	80	50	62.50%	4,466
Reservation Control Number	7,145	80	49	61.25%	4,376
Budget Plan Code	7,145	80	49	61.25%	4,376
Transaction Amount	7,145	80	62	77.50%	5,537
<b>COMMITMENT TRANSACTION FILE</b>					
Commitment Number	4,857	80	45	56.25%	2,732
Earmark Control Number	4,857	80	44	55.00%	2,671
Call Forward Date	4,857	80	45	56.25%	2,732
Budget Plan Code	4,857	80	50	62.25%	3,023
Transaction Amount (AID/W)	4,857	80	47	58.75%	2,853
Transaction Amount (Mission)	4,857	80	56	70.00%	3,400
Commitment End Date	4,857	80	56	70.00%	3,400
<b>DISBURSEMENT TRANSACTION FILE</b>					
Obligation Number	22,780	81	33	40.74%	9,281
Reservation Control Number	22,780	81	32	39.50%	9,000
Commitment Number	22,780	81	33	39.50%	9,281
Earmark Control Number	22,780	81	33	39.50%	9,281
Budget Plan Code	22,780	81	39	48.14%	10,968
Disbursing Code	22,780	81	32	39.50%	9,000
Federal Outlay Code	22,780	81	36	44.44%	10,124
Local Currency Disbursement	22,780	81	34	41.97%	9,562
Budget Allowance Disbursement	22,780	81	34	41.97%	9,562
Transaction Type	22,780	81	32	39.50%	9,000
<b>PROJECT INFORMATION MASTER FILE</b>					
PACD	62	62	45	72.58%	45
Authorized Amount	62	62	34	54.83%	34
Agreement Date	62	62	44	70.96%	44
Terminal Disb. Date	62	62	49	79.03%	49
Host Country Contribution	62	62	32	51.61%	32
Project Number	62	62	26	41.93%	26
Life of Project (In Years)	62	62	49	79.03%	49

**USAID/JORDAN  
MACS FILES AND ELEMENTS REVIEWED  
(continued)**

MACS FILES/ELEMENT	UNIVERSE	NUMBER IN SAMPLE	ERRORS IN SAMPLE	ERROR RATE	PROJECTED ERRORS IN UNIVERSE
<b>ADVANCE TRANSACTION FILE</b>					
Advance Number	2,485	78	23	29.48%	733
Obligation Document Number	2,485	78	7*	8.97%	223
Commitment Document Number	2,485	78	16*	20.51%	510
Project Number	2,485	78	23	29.48%	733
Advance Type	2,485	78	23	29.48%	733
Accountability Date	2,485	78	24	30.76%	764
Transaction Amount	2,485	78	23	29.48%	733
Local Currency Amount	2,485	78	25	32.05%	796

\* Data was not required for entry in these fields, thus, unsupported documents were not counted as errors.

Please refer to report body for explanation of these errors.

MACS TRANSACTION AND MASTER FILES NUMBER OF DATA ELEMENTS	
MACS FILE NAME	ELEMENTS PER RECORD
Operating Expense Budget Master	10
Operating Expense Budget Transaction	12
Budget Allowance Master File	13
Budget Allowance Transaction File	12
Reservation Master File	17
Obligation Master File	37
Reservation/Obligation Transaction File	20
Project Information Master File	115
Project Information Transaction File	25
Condition Precedent Transaction File	96
Project Element Master File	13
Project Element Transaction File	12
Direct Reimbursement Authorization (DRA) Master File	16
Direct Reimbursement Authorization (DRA) Transaction File	17
Earmark Master File	20
Earmark Transaction File	19
Commitment Master File	41
Commitment Transaction File	25
Advance Master File	22
Advance Transaction File	30
Planned Expenditures Master File	13
Planned Expenditures Transaction File	15
Accrual Transaction File	18
Prepayment Amortization Transaction File	23
Disbursement Transaction File	28
Interface Disbursement/Advance File	36
Interface Disbursement/Advance Reject File	35
Prepayment Amortization File	17
<b>Totals 28 MACS FILES</b>	<b>757</b>

## USAID'S INFORMATION MANAGEMENT

This new USAID effort to establish a quality information system is described in the Agency's Information Systems Plan (ISP Volume I: Report to Management, February 1993). A primary goal of this plan is to have corporate data managed at the Agency level rather than "owned" by each individual office.

Using an information engineering methodology, models of the Agency's business processes and data requirements were created. These models were then broken into eight logical Business Areas. Each Business Area represents related functions within the Agency that share similar business processes and data needs. Each of these eight areas will be studied in depth, in a process called Business Area Analysis (BAA).

The Business Area Analysis (BAA) provides a greater level of detail on the functions in each area and provides a basis for designing system requirements. Each BAA 1) continues to model the data requirements and business functions, 2) includes this information in the Agency's electronic repository, and 3) reconciles the new models back to the Agency-wide models. This results in a high degree of standardization, stability, and reusability.

Currently three BAA's are being conducted—Core Accounting, Procurement, and Budgeting. The inter-dependencies of these three business areas are high and will require significant sharing of data. Therefore, to facilitate the systems development work, IRM is planning a data warehouse that will allow movement to a data sharing environment.

Populating this data warehouse will begin with transferring MACS transaction level data into the warehouse. The Core Accounting BAA, which includes the AWACS project, needs a functioning warehouse to provide the most benefit to the Agency.

Smaller initiatives are under way to begin the transition to a corporate database. PIPE (Project Information and Pipeline Evaluation) currently brings in summary MACS and FACS data, to provide project status and pipeline information to Agency managers. In order to make sound decisions, it is important that managers using such information know the quality of the data being used.

**Regional Inspector General  
for Audit, Nairobi, Kenya**

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Robb Parish, Audit Manager  
Marshall Henderson, Auditor-in-Charge  
Carlos Cabrera, Auditor  
James Rorie, Auditor  
Nelson Kaburu, Referencer