

Programs and Systems Audits

AUDIT OF THE
QUALITY OF MACS DATA
AT
USAID/HONDURAS

Report No. 9-522-94-009
June 24, 1994

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U.S. AGENCY FOR
INTERNATIONAL
DEVELOPMENT

June 24, 1994

MEMORANDUM FOR DIRECTOR USAID/Honduras, Marshall D. Brown

FROM: IG/A/PSA, Toby L. Jarman 

SUBJECT: Audit of the Quality of MACS Data at USAID/Honduras
(Audit Report No. 9-522-94-009)

This memorandum is our report of the audit of the quality of Mission Accounting and Control System (MACS) data at USAID/Honduras. We considered your comments on the draft report and have included them as an appendix to this report (see Appendix II). Based on your comments and actions, both of the recommendations are considered closed upon issuance.

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

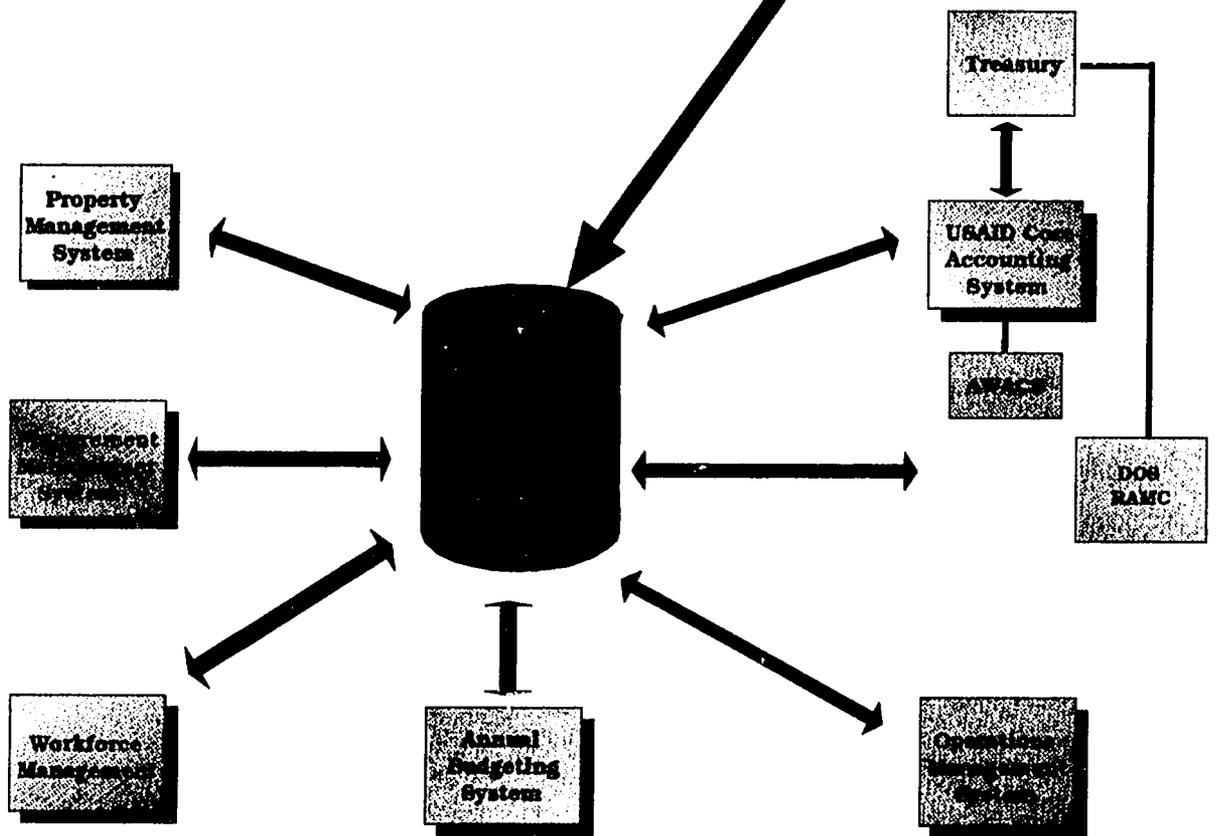
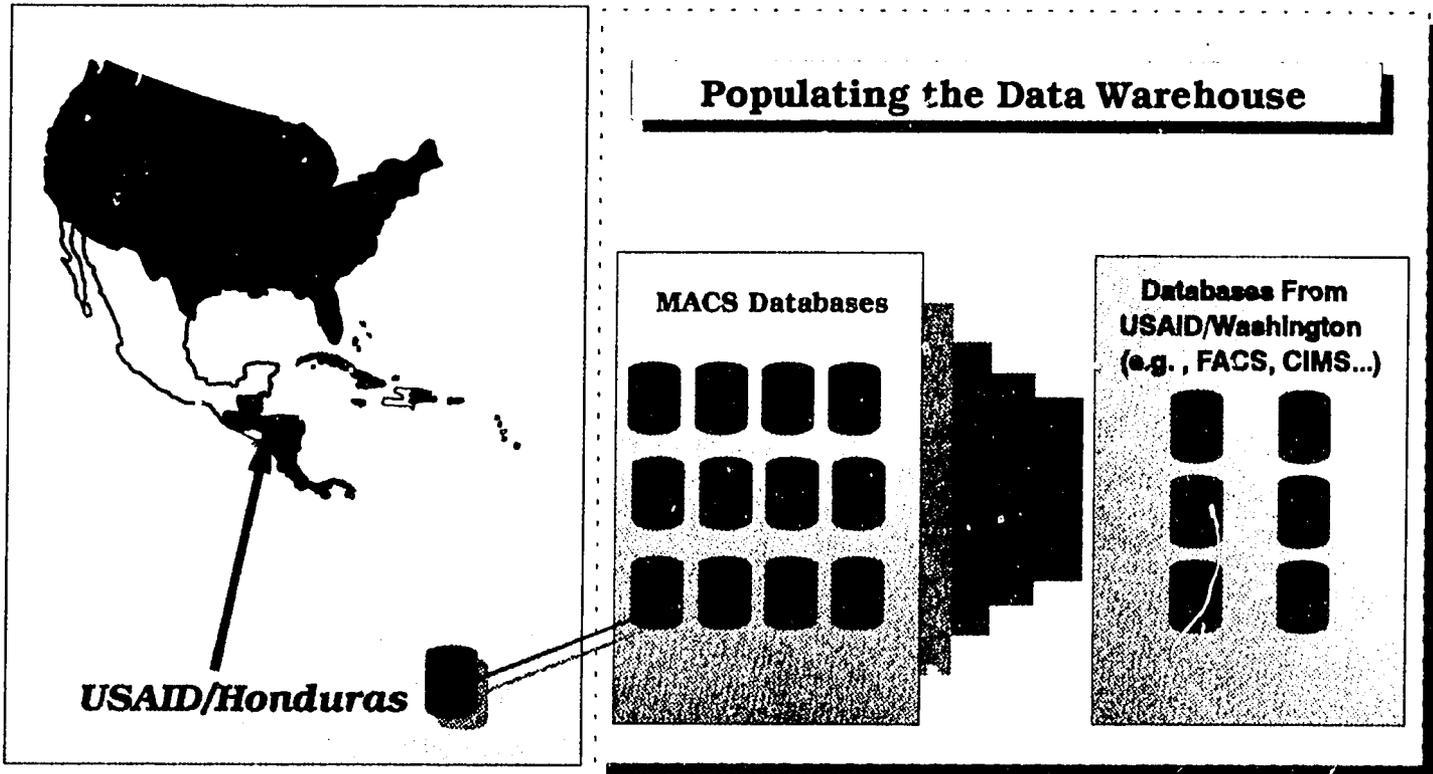
Introduction

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. If management makes decisions based on information that is inaccurate or incomplete, valuable resources can be wasted.

To ensure that 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 page 2 and 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. The PIPE initiative is a joint IRM and Financial Management project that will combine MACS data from the missions with financial data from USAID/Washington, allowing all Agency managers timely and comprehensive information on the status of all USAID projects worldwide.

Accordingly, for this system to succeed, the MACS data from 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/Honduras data.

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Audit Objective

The audit was designed to answer the following question:

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

Audit Findings

USAID/Honduras' MACS data was accurate in 26 of the 33 data elements reviewed; however, the other 7 data elements contained significant errors.

RESULTS OF OUR REVIEW			
MACS Files	Data Elements Reviewed	Elements With Significant Errors	Elements With No Significant Errors *
Budget Allowance Transaction	2	0	2
Reservation/Obligation Transaction	5	0	5
Commitment Transaction	8	0	8
Disbursement Transaction	12	2	10
Project Information Master	6	5	1
Tctal	33	7	26

(* Error rates of 5% and less were considered accurate for reporting purposes. Error rates for each of these elements can be found in Appendix III.)

The seven significant errors were caused by the following two problems:

1. project files not maintained accurately, and
2. accounting personnel posting errors.

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/Honduras 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.

1. Project Files Not Maintained Accurately

Project information in USAID/Honduras' MACS was inaccurate because the information was not entered and maintained according to procedures established by MACS User's Guide (Release 18). 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 a judgmental sample representing 24 of the Mission's 59 Project Information Master (PIM) records and tested six data elements in each record. Five of the six elements contained significant errors, with error rates from 16.67 to 75.00 percent.

PROJECT INFORMATION MASTER FILE			
MACS DATA ELEMENT	RECORDS SAMPLED	ERRORS FOUND	ERROR RATE
Project Assistance Completion Date	24	5	20.83%
Authorized Amount	24	3	12.50%
Agreement Date	24	6	25.00%
Terminal Disbursement Date	24	18	75.00%
Life of Project (Years)	24	12	50.00%

The Mission's procedures did not ensure that all data elements were updated when changes were made to a project. For example, it was often necessary to enter estimated project data in the Project Information Master file before a grant agreement was actually signed. Accounting personnel created a project record and assigned a project number to the proposed grant. These steps were necessary to allow the entry of budget and other accounting information into MACS for planned projects. However, once the project agreement was signed, accounting personnel did not always revise the information in MACS to correspond with the approved project/grant agreement. Similarly, when revisions or corrections were received, accounting personnel did not always verify that all the data in the MACS record was accurate.

Additionally, information contained in the PIM file was not periodically reviewed for accuracy. For example, the date on which a project agreement was signed does not change. However, 25.00 percent of the project start dates in our sample were incorrect. If the project information files had been periodically reviewed, it is likely that such errors would have been detected and corrected.

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

- 1.1 review the Project Information Master file records to ensure the information is accurate and make corrections as appropriate;**
- 1.2 revise procedures and train personnel in the proper method of updating information in the Project Information Master file; and**
- 1.3 periodically review the data entered into the Project Information Master file to ensure the data is correct.**

2. Disbursement Posting Errors

Disbursement posting errors occurred because the Mission did not follow the data parameters established in the MACS User's Guide (Release 18). When payments are made in local currency, the actual amount paid in local currency should be entered as a value in the Local Currency Disbursement Amount data element. When a value is not entered in these data elements, MACS automatically enters a default value of zero (0). Additionally, when a payment is for a local cost (i.e., for goods and services procured in a cooperating country), the Local Cost Code data element should contain a value of one (1); if the payment is not for a local cost, the data element should contain a value of zero (0).

Our review of 81 Disbursement Transaction records found that 7 (8.64%) had errors in the Local Currency Disbursement Amount and 8 (9.88%) had errors in the Local Cost Codes. Discussions with Mission staff revealed that, in contrast to the MACS User's Guide, they had been instructed to fill the Local Currency Disbursement Amount with the same number entered into the Budget Allowance Disbursement Amount—a practice which ceased with the implementation of MACSTRAX, the Agency's computerized voucher processing and payment system. Four of the seven Local Currency errors appeared to result from following this guidance. The three remaining Local Currency Disbursement Amount errors and all of Local Cost Code errors appeared to result from either the voucher examiner not fully understanding the correct use of these data elements or from human error.

Recommendation No. 2: We recommend that the Director, USAID/Honduras, provide additional training to accounting personnel to ensure they understand and use the correct procedures for determining the values to be placed in the Local Cost Code and Local Currency Disbursement Amount data elements.

<p style="text-align: center;">MANAGEMENT COMMENTS AND OUR EVALUATION</p>
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USAID/Honduras agreed with the report's findings and recommendations. Based on their comments and actions taken subsequent to the audit, we consider both recommendations closed upon issuance of this report. Their response to the draft report is included (without attachments) in Appendix II of this report.

SCOPE AND METHODOLOGY

Scope

The Office of Program and Systems Audits audited the quality of data maintained in MACS files of USAID/Honduras in accordance with generally accepted government auditing standards. Performed from October 25, 1993, through December 21, 1993, at USAID/Honduras, the audit reviewed five files and 33 data elements (17.9 and 4.4 percent respectively) from a universe of twenty-eight MACS Transaction/Master files and 757 data elements. If the error rate was significant (above 5 percent) on any of the data elements, we also evaluated the cause and made appropriate recommendations.

Methodology

After consulting with financial management officials in Washington, D.C., we identified the MACS files and key data elements that we would review for each file. We analyzed fiscal year 1992 and 1993 data from five of the twenty-eight MACS Transaction/Master files¹:

- Budget Allowance Transaction
- Reservation/Obligation Transaction
- Commitment Transaction
- Disbursement Transaction
- Project Information Master

We selected a statistical sample for four of the data files that would provide a confidence level of 90% and a precision level of plus or minus four percent. We reviewed a judgmental sample of the 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 a source document(s). Based on the results of these determinations, we calculated error rates for each data element and assessed whether the error rate was significant. An error rate of greater than five percent was 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 sampled on a judgmental basis, 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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¹ A complete listing of MACS Transaction/Master files can be found in Appendix IV.

USAID/HONDURAS
MEMORANDUM



DATE : June 10, 1994

TO : Toby L. Jarman, IG/AFSA
USAID/Washington

FROM : Marshall Brown, MD *Marshall Brown*
USAID/Honduras

SUBJECT : Draft Audit Report of the Quality of MACS Data at USAID/Honduras

The subject draft audit report has been reviewed, and this memorandum transmits our comments on the draft for your consideration and use in preparing the final audit report. Also Attachment A to this memorandum is the representation letter regarding our responsibilities and disclosures of information related to this audit activity. Overall, we view the audit as helpful in fine-tuning our procedures for periodic review and updating of the non-financial project information contained in our MACS data base. We also believe that the very limited types and number of errors identified by your review have served to confirm that our MACS accounting system and the related internal Mission controls provide the intended and necessary financial management safeguards to support program implementation and management. Further, my staff has completed specific actions to both correct all identified errors and implement improved procedures in response to the draft audit's two recommendations. The draft audit's recommendations and corresponding completed action are outlined below.

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

- 1.1 review the project information master file records to ensure the information is accurate and make corrections as appropriate;
- 1.2 revise procedures and train personnel in the proper method of updating information in the project information master file; and
- 1.3 periodically review the data entered into the project information master file to ensure the data is correct.

Actions Completed:

- 1.1 the project information master file has been reviewed to ensure that all the information is correct. Attachment B provides copies of the MACS reports and data screens reflecting the corrections of errors identified by the draft audit.

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- 1.2 Attachment C (Office of the Controller – Financial Management Statement No. 66) was prepared to establish procedures incorporating the review and verification of the MACS project information master file into the Mission's regular quarterly meetings between accountants and project officers to develop project accrued expenditure estimates. The draft of this document was the subject of meetings held with all accounting staff to provide training on this additional requirement of our quarterly reviews. With this procedure, the project information file will receive regular recurring reviews by both accounting staff and project management staff.
- 1.3

Recommendation No. 2: We recommend that the Director, USAID/Honduras, provide additional training to accounting personnel to ensure they understand and use the correct procedures for determining the value to be placed in the Local Cost Code and Local Currency Disbursement Amount data elements.

Action Completed:

Attachment D (Office of the Controller – Financial Management Statement No. 65) was developed to provide guidance to accounting staff on the proper values to be placed in the Local Cost Code and Local Currency Disbursement Amount MACS fields. The draft of this document was the subject of meetings held with all accounting and voucher examination staff to provide training on correct data entry to these fields.

Based on the actions taken in response to the draft report's recommendations and the attached documents, it is requested that recommendation numbers 1.1, 1.2, 1.3 and 2 be closed upon issuance of the final audit report.

If any further information or clarification is needed, please do not hesitate to contact me, or Mr. Robert Bonaffon, the USAID/Honduras Controller.

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(Auditor's Note: Attachments were not included due to their voluminous nature.)

USAID/Honduras
MACS FILES AND ELEMENTS REVIEWED

<u>MACS FILES/ELEMENT</u>	<u>UNIVERSE</u>	<u>NUMBER IN SAMPLE</u>	<u>ERRORS IN SAMPLE</u>	<u>ERROR RATE</u>	<u>PROJECTED ERRORS IN UNIVERSE</u>
BUDGET ALLOWANCE TRANSACTION					
Budget Plan Code	750	73	1	1.37%	*
Transaction Amount	750	73	1	1.37%	*
RESERVATION/OBLIGATION TRANSACTION FILE					
Obligation Number	11,909	80	0	0.00%	None
Reservation Control Number	11,909	80	4	5.00%	*
Budget Plan Code	11,909	80	1	1.25%	*
Transaction Amount	11,909	80	3	3.75%	*
Project Number	11,909	80	2	2.50%	*
COMMITMENT TRANSACTION FILE					
Commitment Number	6,753	80	0	0.00%	None
Earmark Control Number	6,753	80	0	0.00%	None
Call Forward Date	6,753	80	0	0.00%	None
Training Months	6,753	80	0	0.00%	None
Budget Plan Code	6,753	80	3	3.75%	*
Transaction Amount (AID/W)	6,753	80	0	0.00%	None
Transaction Amount (Mission)	6,753	80	2	2.50%	*
Commitment End Date	6,753	80	1	1.25%	*
DISBURSEMENT TRANSACTION FILE					
Obligation Number	35,968	81	0	0.00%	None
Reservation Control Number	35,968	81	0	0.00%	None
Commitment Number	35,968	81	1	1.23%	*
Earmark Control Number	35,968	81	2	2.47%	*
Budget Plan Code	35,968	81	2	2.47%	*
Disbursing Code	35,968	81	1	1.23%	*
Local Cost Code	35,968	81	8	9.88%	3,554
Federal Outlay Code	35,968	81	3	3.70%	*
Local Current Disbursement	35,968	81	7	8.64%	3,108
Budget Allowance Disbursement	35,968	81	3	3.70%	*
Amortization Begin Date	35,968	81	0	0.00%	None
Amortization End Date	35,968	81	0	0.00%	None
PROJECT INFORMATION MASTER FILE					
PACD	59	24	5	20.83%	5
Authorized Amount	59	24	3	12.50%	3
Agreement Date	59	24	6	25.00%	6
Terminal Disb. Date	59	24	18	75.00%	18
Host Country Contribution	59	24	1	4.17%	1
Life of Project (In Years)	59	24	12	50.00%	12

* Error rates of less than five percent were considered accurate for reporting purposes

MACS TRANSACTION AND MASTER FILES NUMBER OF DATA ELEMENTS	
MACS FILE NAME	# OF 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
Totals 28 MACS FILES	757

USAID'S INFORMATION MANAGEMENT

This new USAID effort to establish a quality information system is described in the Agency's Information Systems Plan (ISP).¹ 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 Financial Accounting & Control System (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.

¹ Information Systems Plan, Volume I: Report To Management, February 1993.

APPENDIX VI

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