

**DATA COLLECTION ACTIVITIES**

**AND**

**IMPLEMENTATION INSTRUMENTS**

**PREPARED FOR AID/PPC/E/ESDS**

**BY BUREAU OF THE CENSUS**

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## DATA COLLECTION ACTIVITIES AND IMPLEMENTATION INSTRUMENTS

### I. Summary

This report examines the implementing instruments AID uses to fund the collection and analysis of quantitative data to meet project and program information needs. It recommends specific modifications in the language used in these instruments which will improve the utility of the data and their analyses for AID and host countries. The implementing instruments are: participating agency service agreements, (PASA) resource support services agreements, (RSSA) grants, cooperating agreements and contracts. The recommendations made: (1) are consistent with the particular features of each instrument; (2) specify how management of planning for data collection and analysis activities should be improved by AID; and (3) indicate how data collected and analyzed under the implementing instrument should be documented to guarantee that the final product (i.e., reports and the actual data set) will be amenable to secondary (additional) analysis at little additional expense.

### II. Background

The purpose of data collection activities is to acquire information necessary for making sound managerial decisions in the areas of planning, monitoring, and evaluating programs. The data can be at the macro level (national aggregate statistics) or micro level (data on individual, household, farm, etc.).

AID has funded data collection activities since its inception. AID requires data to carry out its mission of designing assistance programs to help developing countries improve their use of human and economic resources, increase

economic productivity, and improve the quality of human life, as well as to promote international economic or political stability in support of these goals. AID has taken steps to establish data information banks and services to use in their programs; such as the Economic and Social Data Bank (ESDB) for macro-data information covering a thirty year period, 1950 to present for 177 countries.

AID also established the Development Information Service (DIS) for use by future AID project designers. The DIS has abstracted, indexed, and catalogued AID-generated project design and evaluation documentation for about 66 percent of the development projects active since September, 1974. However, this system does not contain details on the data collection activities of the projects, such as the methodology and procedural operations involved and tabulation and analysis of the data, nor does it contain the micro-data collected. In addition, there is little, if any, information available on principal contact from whom further in-depth knowledge of the data collection activities could be obtained.

AID contracted with Abt Associates Inc. of Cambridge, Massachusetts, to carry out an inventory of AID-sponsored micro-data sets. This inventory was completed in May, 1982. Although the number of data collection activities between 1974 and 1981 was estimated to be in excess of 1000, only 470 were identified and of these, 204 were catalogued. This documentation expanded the DIS information by covering the variables included in the data collection activity and further sources for information. However, it did not obtain details on methodology, tabulations and analysis of the data or the micro-data sets.

Abt Associates pointed out the need for and problems associated with obtaining the micro data sets for past data collection activities as follows:

"Currently studies collecting these data, if available at all, can be located only after arduous, expensive and time-consuming individual searches. It has been frequently asserted that if information on all the studies carried out by the agency that contain micro-data collection were systematically and centrally available to AID personnel and the developing countries, substantial savings could be realized in time, effort and money."<sup>1</sup>

AID has contracted with the Bureau of the Census to update the information obtained by Abt Associates, document the estimated 800 projects not covered by Abt Associates and obtain additional information on the content of the data collection activity as well as knowledgeable persons who could be contacted. A current inventory of data collection activities undertaken will be maintained in order that PPC/E/ESDS can respond to requests from USAID missions, central offices and AID contractors regarding these activities. In addition it will further assist in monitoring the Agency's effort in data collection, with a view to assist or facilitate these efforts, especially to distribute or publicize useful data or methodological approaches.

The methodology and procedural operations used in collecting the micro-data, the tabulations and analysis of the data, and the micro-data sets themselves are valuable information. They can be used by:

- LDC governments to assess their social and economic development programs.
- Mission personnel for identifying problem areas to be included in their Country Development Strategy Statements (CDSS).
- Design teams preparing Project Identification Documents (PIDs) and Project Papers (PPs).
- Researchers replicating studies or conducting similar studies.
- Researchers performing additional analysis and making international comparisons.

AID also contracted with Mr. Chris Hermann to do an analysis of the issues in AID's use and management of quantitative socio-economic information in rural development. In his second paper, Hermann recommends the need for a data bank or repository of micro-data sets and other materials related to data collection activities but indicated it should be done after improvements were made in the contracting language used so that usable products would be obtained. He states the following:

"AID should improve its management of contractor collected data. AID staff currently encounters great difficulty in obtaining usable copies of data sets from contractors. AID needs to develop a contractual mechanism which would systematically deliver a usable, properly documented data set to AID, the mission or host country."<sup>2</sup>

Improvement of the language in implementation instruments is the first step that must be taken to assure the acquisition of usable data with adequate documentation from data collection activities. It is the statement of work which constitutes the essence of the agreement between the parties on what is to be done and fundamentally binds the contractor and the government in their respective obligations.<sup>3</sup>

The statement of work is probably the most important part of a PIO/T or contract. The statement of work must:

- Have clear goals and objectives.
- Be written in the active voice.
- Clearly spell out AID's requirements.
- Contain specific language so there is no room for doubt.
- Provide clear target dates to be met.
- List all obligations of the Government.
- Indicate where AID approval is necessary before progressing from one stage to the next.
- Specify progress, final, or other reports required indicating
  - frequency,
  - content and format,
  - language translation requirements, if other than English,
  - number of copies, and
  - desired distribution.
- Specify the product(s) to be delivered indicating
  - a description of their scope and content
  - delivery dates.

### III. Analysis of Previous Implementing Instruments

The first step to improving the language of implementing instruments is to analyze recently used language. There are five implementing instruments, Participating Agency Agreements (PASA), Resources Support Service Agreements (RSSA), grants, cooperative agreements and contracts.

The implementing instruments analyzed in these projects were selected by using the projects catalogued by Abt Associates as having a data collection component, except for World Fertility Projects. The project numbers were then submitted to the Office of Contract Management to obtain PIO/T numbers and total value of the contract. All copies of PIO/T's for projects with PIO/T numbers and total contract values of over \$100,000 were requested from the Office of Contract Management. A total of 63 were requested, 46 were obtained for the analysis. The rest could not be found in the files at that time.

Of the 46 implementing instruments obtained, 19 were determined not to have a data collection component. Another one was only an amendment to a contract and no data collection activity was described in the amendment. Five of the implementing instruments were excluded from the analysis because the agreement or contract specified that the data collection component would be developed in future meetings or would be developed as part of the work plan. The 21 remaining implementing instruments were distributed as follows: 2 PASA's, 3 grants, 2 cooperative agreements, and 14 contracts.

The following subsections describe each type of implementing instrument and provide the results of the analysis of the examples found for that type.

#### A. Agreements with Other Federal Agencies

##### 1. Participating Agency Service Agreement (PASA)

PASAs are agreements with other Federal agencies for specific services or support. Usually technical assistance is furnished through experts on the agency's regular rolls. The assistance provided is tied to a specific goal to be performed within a definite time frame.<sup>4</sup>

Appendix A contains the names and identifying PASA number from two PASAs specifying a data collection activity component. The first PASA is for long term assistance. It contains language concerning "level of effort" where the contractor (in this case a government agency) agrees to provide inputs in work months in pursuit of objectives. No specific output is specified and no topics are given for the reports to be supplied to AID. There is no method to measure the accomplishment of the fulfillment of the PASA or targets that can be monitored.

The second PASA is for specified outputs. However, the language in the PASA listed is not direct. Without the tables giving targeted dates of accomplishments it would be difficult if not impossible to know what accomplishments are expected to be completed. This PASA was written more like a project paper (PP) than a PASA.

## 2. Resource Support Services Agreement (RSSA)

A RSSA is used for obtaining continuing, general support assistance from a participating agency. Unlike a PASA, a RSSA has no specific readily measurable goal to be accomplished within a set time period.<sup>5</sup> Because the nature of a RSSA is not specific no analysis of the language has been done.

## B. Grants

Universities, U.S. research and educational institutions, and private and voluntary organizations are the usual recipients of grants. However, grants also can be awarded to any responsible corporation or

organization engaged in a program which is in agreement with the policy specified in the Foreign Assistance Acts.

The principal purpose of a grant is to transfer money, property, services, or anything of value to the Grantee in order to accomplish a public purpose of support or stimulation without substantial involvement during the performance of the proposed activity. AID does not intend to have any collaboration, participation or intervention as long as the recipient runs the project in accordance with the terms of the grant.

Appendix A contains the names and identifying grant numbers of three grants with data collection activities. The statements of work for these three grants are in terms of generalities. Since the purpose of a grant is to support an ongoing activity and allow the recipient substantial freedom to pursue its stated program or project purpose, the intent of the language has to be flexible. This is exactly the circumstances described in the statements of work in the grants reviewed.

#### C. Cooperative Agreements

Cooperative agreements are disbursed on the same basis as grants.

A cooperative agreement is used to transfer money, property, services, or anything of value to the recipient in order to accomplish a public purpose or stimulation with anticipated substantial AID involvement during the performance of the proposed activity. Anticipated substantial involvement during performance would exist and will be presumed to be substantial where the relationship includes one or more of the following:

- review and approval of one stage before work can begin on a subsequent stage during the period of the agreement;
- review and approval of the substantive provisions of subordinate agreements or contracts;
- involvement in the selection of key recipient personnel;
- Agency and recipient collaboration or joint participation;
- monitoring to permit specified kinds of direction or redirection of the work because of interrelationships with other projects.<sup>6</sup>

Two cooperative agreements with a data collection activity were reviewed. The universities and agreement identification numbers are given in Appendix A. In both of these cooperative agreements, data collection is a component. The agreements were for the Universities to establish health programs-Xerophthalmia and family planning programs.

In the first agreement the substantial involvement consisted of the first three of the categories listed above. It did not provide for any targets by which the data collection activity component was to be accomplished. The second cooperative agreement included statements covering the second and third categories listed above - personnel and subagreement approval were required. But again, no targeted dates for accomplishing the data collection activities were given.

#### D. Contracts

Contracts are awarded to private individuals, corporations, universities, profit and non-profit organizations, research and educational institutions, etc. Recipients of contracts must be able to meet certain responsibility requirements such as having the necessary expertise, having adequate

financial resources or ability to obtain such as required to do the job, etc.

Contracts are used by AID when they intend to retain the right to exercise greater administrative, contractual, or legal remedies for breach of the terms and conditions than would be appropriate under a grant or cooperative agreement. There are many types of contracts but the most important types are fixed price and cost-reimbursement.

#### 1. Fixed Price Contracts

Data collection activities are not usually included in most fixed price contracts. However, in some cases, Architect-Engineer fixed price contracts include a data collection activity component. In these cases, the data collection activity is used to determine the environmental impact or evaluate the socio-economic impact of the construction. Architect-Engineer firms are the primary contractors for the construction projects and frequently subcontract for the data collection component. A recommendation will be made in Section IV. E of this paper for a fixed price contract with a data collection activity.

#### 2. Cost-Reimbursement Contracts

There are two kinds of cost-reimbursement contracts. The first kind is a "level of effort" contract. In a level of effort type contract, the statement of work is stated in general terms, usually in terms of the objective or target to be accomplished, and the contractor agrees to provide specified inputs, usually in work months of identified effort for a stated period of time in pursuit of that objective or target.<sup>7</sup> Many data collection activities are a component of "level

of effort" contracts. Although two contracts of this type were obtained, the contracts were excluded from analysis because level of effort contracts are specified in terms of inputs. Like the fixed price contracts a recommendation will be made for "level of effort" contracts in section IV. C of this paper.

The second kind of cost reimbursement contract is a completion type contract. Completion type contracts are used when the tasks or an output can be defined with sufficient precision to permit the development of estimates within which prospective contractors can reasonably be expected to complete the work. When the data collection activity is the major focus of a contract, it is almost always a cost-reimbursement completion type contract. In addition, in many cases when the data collection activity is a component of a larger project, the contract is a cost-reimbursable completion type.

Twelve cost reimbursement completion type contracts with data collection activities were reviewed to determine the specificity of current contracting language. (A list of these contracts is given in Appendix A.) The scope of work for each of the contracts was examined to determine if the thirteen items listed in Table 1 were covered. The items in Table 1 consist of two categories. Items 1-6 are integral steps in data collection activities while items 7-13 are products of the data collection activity. The criteria used in determining if the items were covered in the scope of work were:

- a. if any details regarding the item were mentioned,
- b. if it was proposed that materials containing details would be

submitted later for approval,

- c. if in the case of products, the products were mentioned or were to be submitted during or upon the completion of the activity, or
- d. if for analysis, details were mentioned concerning the analysis of the data collected.

The results of this review are given in Table 1 below.

Table 1. Number of Contracts by Integral Elements Covered in Data Collection Activities

Item	Number of Contracts Specifically Mentioning Item
Total Contracts Reviewed	12
Integral Steps	
1. General Outline of Project	8
2. Schedule of Operations	2
3. Selection of Respondents	6
4. Items Included on Questionnaire	5
5. Quality Control	1
6. Non-response Resolution Products	1
Products to be Delivered	
7. Final Questionnaire	1
8. Training Materials Used	1
9. Manuals and Other Materials	1
10. Data Set	1
11. Tabulations	2
12. Analysis of Results	6
13. Description of Actual Activity	4
None of the Above	3

Table 2 gives the number and percent of contracts by the number of items which were covered in the contract. Of the twelve contracts reviewed, one contract was excellent and met the conditions for all items.

The scope of work in only one contract covered all 13 items while the scope of work for the rest of the contracts covered less than half of

the items listed in Table 1. There were three contracts that met none of the conditions. This means that the products and information obtained from the majority of the contractors is the result of the contractor's sense of responsibility and not directed specifications by AID for carrying out the objectives of the project.

Table 2. Number and Percent of Contracts by Number of Items Covered

Number of Items Covered	Number of Contracts	Percent of Contracts*
0	3	25
1	1	8
2	2	17
3	1	8
4	3	25
5	1	8
13	1	8

\*Total does not add to 100% due to rounding.

IV. Recommendations

The responsibility for developing a contractable statement of work which will ensure that AID's requirements are fulfilled is shared by the technical officer, program and back stop officers, and contracting personnel. Since contracting personnel are always involved in any type of implementation instruments, the most efficient way to improve the detailed specifications for most, if not all, data collection activities is through the contracting personnel. Through an awareness program, contracting personnel could be provided with guidelines to easily recognize PIO/Ts with data collection activities. The contracting personnel could point out to the other personnel involved the need to strengthen the language with regard to the data collection component. Contracting personnel could suggest to the technical officer that a statistician should assist in formulating the data collection component. PPC/E/ESDS would provide a statistician to assist AID or Mission personnel

with regard to the data collection activity component by:

- writing the portions of the RFP dealing with the data collection activity.
- writing the evaluation criteria pertaining to the data collection activity to be used by the technical review panel.
- participating as one of the members on the technical review panel for responses to the RFP.

In addition the following recommendations are made with regard to changing the language currently used in implementation instruments.

A. Grants

It is appropriate to use grants when emphasis is placed on promotion of the independent capacity, integrity and quality of the entity or the programs supported, rather than on specific work and the manner in which it is performed or the day to day activities of the entity as a part of the U.S. Government's foreign assistance program.<sup>8</sup> No change is recommended in the current procedures and the language should be made only as specific as desired.

B. RSSA

Since a RSSA is for general support assistance no changes are recommended. If RSSA activities are intended to accomplish a specific output, then the guidelines given in section IV. D. for PASA for Specified Outputs and Cost-Reimbursement Completion Contracts, on page 23 should be used.

C. PASAs for Long-Term Assistance and Level of Effort Cost-Reimbursement Contracts.

The only difference between PASAs for long term assistance and level of effort cost-reimbursement contracts is PASAs are fulfilled by government agency personnel while work on level of effort contracts is done by private contractors. The purpose is the same in both cases - to provide a specified number of person months in pursuit of the objectives. In both cases, the personnel working on any project involving a data collection activity may need to acquaint themselves with the country, environment, and any existing restrictions or extenuating circumstances that may influence the activity. In these cases, ninety days is usually enough time for the staff to familiarize themselves with these conditions and assess the situation. At the end of ninety days the staff should be able to formulate a realistic schedule with targeted dates for accomplishing the steps in a data collection activity.

1. Schedule of Activities

Thus the language in the PASA and the level of effort cost-reimbursement contract should include the following language (inside the quotation marks):

"By or before the end of the first 90 days of the contract, the \_\_\_\_\_ (participating agency or contractor, whichever is appropriate) shall provide a realistic schedule with dates for submission for approval by AID or Mission personnel of the following steps in the data collection activity:

- a. Proposed method of analysis including tabulations and other presentations

- b. Draft of questionnaire
- c. Proposal for selection of respondents (sample design)
- d. Proposed edit and quality control procedures
- e. Proposed method of training interviewers and other staff members
- f. Proposal for resolution of non-response cases - refusal, not home, unable to locate, etc.
- g. Proposed pretest (if any)
- h. Pretest results (if pretest)
- i. Final questionnaire
- j. Final copies of all manuals and documented procedures
  - (1) Interviewers
  - (2) Supervisors
  - (3) Edit
  - (4) Quality control
  - (5) Resolution of non-response
  - (6) Estimation Procedures
  - (7) Data processing specifications

Dates must also be specified for the following:

- a. Selection of respondents
- b. Training supervisors
- c. Training interviewers
- d. Beginning data collection
- e. Training clerical editors and quality control staff
- f. Completion of data collection
- g. Completion of hand edit or review of data collected

- h. Begin processing data (checkin of data)
  - i. Begin data processing edit
  - j. Completion of data processing - tabs and variance calculations completed
  - k. Completion of analysis of data
  - l. Delivery of final report and other output materials as specified in contract statement."
2. Outputs at the Conclusion of a Data Collection Activity

There are three basic outputs that are to be provided to AID at the conclusion of each data collection activity.

a. Micro-data set

If AID has the host country's concurrence for obtaining a copy of the micro-data set, use the appropriate language, provided in quotes for the scope of work being written. That is, if no machine processing is included in the scope of work use the language in quotes under item (1) below. If data capture or computer processing is included in the scope of work use the language in quotes under item (2) below.

If AID is not going to obtain a copy of the micro-data set, use the appropriate language provided in quotes for the scope of work being written and replace AID with the words "Host Country."

- (1) If no computer or other machine processing is to be performed by the contractor or participating agency specify:  
"The                     (contractor or participating agency)                     shall give the original completed data collection forms to AID

on \_\_\_\_\_ (this will usually be a date close to the conclusion of the activity but prior to the reimbursement of the contractor). This information shall be accompanied by a document in English with a description of the:

- (a) Identifying information on each form and
- (b) Data items collected for each individual and/or facility and the possible answers. (Note answers to all openended questions must be provided in English.)"

(2) If any data capture or computer processing of the microdata set is being done by the contractor or participating agency, specify: "The \_\_\_\_\_ (contractor or participating agency) shall provide a copy of the microdata set on \_\_\_\_\_ (punch cards, magnetic tape, or disk) to AID on \_\_\_\_\_ (this will usually be a date close to the conclusion of the activity but prior to reimbursement of the contractor). This micro-data set on \_\_\_\_\_ (punch cards, magnetic tape, or disk) must be accompanied with documentation on the following (Appendix B has two possible examples of this type of documentation):

- (a) The name of the project and country or countries from which the data were collected.
- (b) The dates the data were collected. (If more than one country, a person who is using the information must be able to associate the date the data were collected in each country with the country name.)

- (c) Name and affiliation of person to contact if there are any questions.
- (d) Record length in characters (if variable length, specify the largest record length)
- (e) Identification of each item in the record:
  - Source codes (if any) used to identify each item.
  - Record location (layout field-by-field) if source codes are not used.
  - The codes for each item and description of the information they represent, such as 1-Female, 2-Male, 9-Unknown.
  - Acceptable range for items whose values represent measurements such as weight, length, hectares, etc.
- (f) If a tape is provided give the following physical characteristics:
  - density
  - labelled, non-labelled (serial number, if labelled)
- (g) Specify data format i.e. binary, packed decimal, character. (If character, specify ASCII or EBCDIC.)
- (h) If the records are packed, instructions on how to unpack the records.
- (i) For any information collected but not included in the micro-data set:
  - ((1)) Description of information not included, such as number of questionnaires or actual items excluded.

((2)) Reason for exclusion for each item and/or category of information.

(j) Detailed documentation must also be provided of:

((1)) All edit procedures used and the resulting changes in data.

((2)) All imputations made and the calculations and reasons for the imputations"

b. Statistical Tables and Tabulations

If the contractor is to provide statistical tables and tabulations for the survey, use the following contract language:

"The \_\_\_\_\_ (contractor or participating agency) shall provide statistical tables; and \_\_\_\_\_ (pie, bar, and pictorial charts; graphs; etc. whichever illustrates the facts best or is desired by AID or the Mission) to AID on \_\_\_\_\_ (this will usually be a date close to the conclusion of the activity but prior to reimbursement of the contractor). The statistical tabulations are to cover \_\_\_\_\_ (list of topics or interrelationships desired by AID or the Mission). For each tabulation, table, chart, etc. a descriptive title and labels are to be

provided along with documentation of procedures and results of data processing which affect data quality i.e.

(1) Non-response rates from refusals, unable to locate, not at home, etc.

(2) Imputations used to correct for non-response coverage and missing items.

For statistical tables, the following information must also be given:

- Specific and clear column and row headings
- Definitions of units of measure
- Row and column totals
- Standard errors for key items

c. Final Data Collection Activity Document

A final document describing the methodology and procedures used in the data collection activity must be provided to AID. Use the following language in the scope of work:

"The \_\_\_\_\_ (contractor or participating agency) shall provide a final document covering the following topics to AID on \_\_\_\_\_ (this will usually be a date close to the conclusion of the activity but prior to the reimbursement of the contractor):

- (1) Name and address of the \_\_\_\_\_ (contractor or federal agency)
- (2) Purpose of the data collection activity
- (3) Method of selecting respondents
  - (a) For Probability samples
    - Target population
    - Description of sample design
    - Sampling frame
    - Unit of selection for each stage of sampling
    - Sample size
  - (b) For other methods
    - Target population

- Unit of selection
- Process of selection
- Reason for selection
- Non-coverage

(4) Method of data collection

- (a) Interview
- (b) Observation
- (c) Tests
- (d) Records
- (e) Other

(5) Methods of producing estimates

- (a) Domains
- (b) Weighting procedures
- (c) Adjustments
- (d) Variances

(6) Field Operations

Included under this topic are a discussion of difficulties encountered during field work; adjustments and changes made; staff turnover rates; methods for retraining staff; quality of enumerators regarding interviewer techniques in interviewing, coverage and integrity; field editing; and recommendations for the future.

(7) Non-response rates

Included under this topic are a discussion of nonresponse rates broken down by unable to locate, not at home, refusals and other possibilities; procedures to reduce non-response

rates; difficulties in utilizing procedures to reduce non-response; any resampling or replacement of primary units in order to reduce nonresponse; and out of scope sample units that were eliminated during the survey.

(8) Pretests, if any

Includes a discussion of selection of respondents, specific questionnaire items and procedures tested, experimental design used for tests, environment in which pretest was conducted covering possible social and economic impact on outcome of pretest, and results of pretest.

(9) Manual editing and coding procedures, if any

includes a discussion for each item of percent of the items recorded as result of failing edit or missing items and list of items coded by hand and discussion of problems encountered in editing and hand coding.

(10) Non-sampling errors

Discuss items such as the errors resulting from cultural bias; interviewer bias; incorrect procedures in coding, editing, or machine processing; etc.

(11) Data processing system

Includes a flow diagram of the programs in the system; number of cycles required for editing and number and types of changes at each stage.

(12) Analysis of results

A complete discussion covering the results in the statistical tables and tabulations, hypotheses testing, implications of results on socio-economic development and/or future planning needs for area in which survey was conducted.

D. PASAs for Specified Outputs and Cost-Reimbursement Completion Contracts

Due to the complexity of data collection activities it would be a mistake to require contractors to specify in detail the approach and plans to be used throughout the data collection activity. That would require the contractor to spend an inordinate amount of time preparing a proposal prior to the awarding of the contract. This might discourage contractors from responding to requests for proposals. Instead the contractor's proposal should specify the integral elements that will be submitted for approval as the data collection activity progresses. The contractor's proposal should also discuss suggested methodology to be used which could later be adjusted to fit the circumstances. The schedule of events and suggested methodological approach would demonstrate the contractor's knowledge. Federal agencies are used by AID for certain traditional categories of service for which the agency is the only source of competence or it is not feasible to use other sources. Thus, the language in a PASA for specified services can be treated similarly to that for cost-reimbursement completion contracts. In contracts, a request for proposal (RFP) and criteria for evaluating the proposals must be written. Of course, the RFP language and evaluation criteria does not apply to PASAs.

1. Language for RFP (for contracts only)

The language to be used in the request for proposal should include the expected outputs, accomplishments, and reports as well as the following statement:

"The contractor shall provide a schedule of operations to be followed during the data collection activity. This schedule of operations should include the dates for accomplishing the tasks that are considered milestones in accomplishing the data collection activity. Dates should be included for submission to and review by USAID mission or central office staff of various drafts of documents to be used in the data collection activity or final outputs."

2. Evaluation criteria (for contracts only)

Then included in the evaluation criteria under the category of "General Quality and Responsiveness of Proposal and Technical Approach" should be an item for Demonstrated Understanding of Data Collection Activity. The following description would be included under the sub-item:

"Demonstrated knowledge of data collection activities in schedule of operations included selection of respondents, questionnaire design, edit, quality control tabulations, training, resolution of non-response, pretest, and data processing. Method for collecting data information items and approach to be used in analysis were discussed in sufficient detail to demonstrate knowledge and purpose of the data collection activity."

3. Final Contract or PASA Language

a. Schedule of Operations

The contract or PASA must contain a schedule of operations including the following statement:

"The data collection activity will be completed according to the \_\_\_\_\_ (following schedule, attached schedule, or schedule in the Appendix). Any deviations from the schedule must be approved by AID or Mission personnel."

Example of a Schedule of Operations

Item	Elapsed Time in Months	Event or Material to be Submitted
1.	1-2	Proposed method of analysis, tabulations and other presentations
2.	2-3	Draft of questionnaire
3.	3-4	Proposal for selection of respondents
4.	4-5	Proposed edit and quality control procedures
5.	5	Proposed method of training interviewers and other staff
6.	5	Proposal for resolution of non-response cases - refusal, not home, unable to locate etc.
7.	6-7	Proposal for pretest (if any)
8.	7	Proposal for imputation
9.	8-9	Pretest (if any)
10.	10-11	Results of pretest (if any)
11.	12	Final questionnaire submitted and sent to print
12.	12	Final manuals submitted and sent to print
13.	13	Final training guides submitted and sent to print
14.	13	Final procedures for edit, quality control and non-response resolution submitted (included here if not to be covered by manuals).

15.	13	Final procedures for imputation
16.	13	Final data processing specifications
17.	14-15	Selection of respondents
18.	15	Recruit and train supervisors
19.	15-16	Recruit and train interviewers
20.	16	Begin collecting data
21.	16	Recruit and train editors, coders, and quality control staff
22.	16-17	Begin hand edit, coding, and quality control
23.	17	Complete collecting data
24.	17	Complete hand edit, coding, and quality control
25.	18	Begin data processing
26.	19	Complete data processing
27.	20	Complete analysis of data
28.	21	Final report and micro data set submitted

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b. Survey Documents Provided During Survey

The following list of documents the number required and the date to be provided should be included in the list of "Reports to be submitted to AID":

- (1) Final Sampling Procedures
- (2) Final Questionnaire
- (3) Final Clerical, Interviewer and Supervisor Manuals
- (4) Final Clerical, Interviewer and Training Guides
- (5) Final hand edit and coding procedures not covered by manuals
- (6) Final data processing specifications
- (7) Micro data set

(8) Statistical Tables and Tabulations

(9) Final Data Collection Activity Document

c. Outputs at the Conclusion of a Data Collection Activity

The same three basic outputs are required for completion type contracts and PASAs with specified outputs as were required for level of effort contracts and PASAs for long-term assistance. Use the same specifications as previously given in Section IV, Outputs at the conclusion of a Data Collection Activity under Part C, PASAs for Long Term Technical Assistance and Level of Effort Cost-Reimbursement contracts on page 17.

E. Fixed Price Contracts - Architectural and Engineer Contracts

Since in most cases, the data collection component of an Architectural and Engineer (A&E) contract is subcontracted, the details of the data collection activity are not specified in the contract. If this is the case then AID should specify that prior to selection of a subcontractor, the subcontractor must be approved by AID or the Mission personnel responsible for the project. Also the same requirements should be used for the subcontractor as were specified for PASAs with long term assistance and cost-reimbursement level of effort contracts with the following change in the beginning "Within the first 90 days after receiving a subcontract from an A&E firm, the subcontractor shall provide....(continue with requirements as given under schedule of activities and output requirements under PASAs for Long-Term Assistance and Level of Efforts Cost-Reimbursement Contracts on page 14).

## V. Further Studies

Contracts are just one link in the chain of a project involving a data collection activity. The process begins with the conceptualization of the project and its formulation in the Project Identification Document (PID). It continues through the Project Paper (PP), Preparation of PIO/Ts, Request for Project Proposal (RFP), the Response to the RFP, the contract, and the actual data collection activity with its products.

If the data collection activity is well conceived and formulated at all steps prior to the contract, then specific contracting language would most likely be contained in the contract's scope of work.

Thus, a study should be conducted on selected contracts to determine if a cumulative reinforcement process which delineates and specifically identifies the problems to be addressed by the project exists in the developmental steps that lead up to the contract. If a cumulative reinforcement process exists in well formulated contracts but not for contracts with poorly described data collection activities, this would be one key to developing better contracts. Another recommendation is that a study be conducted to analyze the relationship between the specificity of the contracts for data collection activities and the resulting quality of the products and information.

Such a study would have to consider the effect of the quality of contract monitoring on the quality of the final product. As mentioned earlier, it is very likely under the current circumstances that the quality of the products and information is independent of the contracts and relates to the professional integrity of the contractor. However,

with more specificity in scopes of work even contractors producing low quality products could be guided toward steps needed to improve the quality of their data collection activities. More specific contracting language would provide an early warning for project officers to use while monitoring contractors who cannot plan or conceptualize requirements.

## Lists of Implementation Instruments Reviewed by Type

Agency, Grantee, Cooperating Recipient or Contractor	PASA, Grant, Cooperative Agreement or Contract Number
<b>1. PASA's</b>	
United States Department of Agriculture, Botswana	AG/BOT-0067-3-78
Bureau of the Census, Jamaica	CA/JAM-0000-2-79
<b>2. Grants</b>	
Asian American Free Labor Institute	NEB-0001-G-1012-00
Cooperative for American Relief Everywhere (CARE), Inc.	AID/NE-G-1655
Cooperative for American Relief Everywhere (CARE), Inc.	AID/NE-G-1641
<b>3. Cooperative Agreements</b>	
Johns Hopkins University	AID/DSAN-CA-0267
Trustees of Columbia University	AID/DSPE-CA-0043
<b>4. Contracts</b>	
Academy for Educational Development	AID/DSPE-C-0023
Accion International	AID/OTR-C-1828
American Foundation for the Overseas Blind Inc.	AID/TA-C-1321
Cornell University	AID/DSAN-C-0009
Development Alternatives, Inc.	AID/DS/OTR-C-0016
Johns Hopkins University	AID/DSPE-C-0055
Mass Media and Health	AID/DSPE-C-0028
North Carolina, University of	AID/CSD-2959
North Carolina, University of	AID/DSPE-C-0025
Pan American Health Organization	AID/TA-C-1341
Pan American Health Organization/INCAP	AID/TA-C-1224
Population Council	AID/DSPE-C-0084

Example 1 of Documentation for a Micro data set

Zimbabwe Census Format ← **A-Name of Project and Country**

Census Day 12/10/82 ← **B-Date data collected**

Susan Shepherd, U.S. Bureau of the Census ← **C-Name and Affiliation of Contract Person**

System Name \_\_\_\_\_

File ID \_\_\_\_\_

File Name \_\_\_\_\_

File Medium:

- Card
- Tape
- Disk

File Organization:

- Direct
- Sequential
- Indexed Sequential
- Partitioned

Record Type:

- Fixed
- Variable
- Undefined

**E-Location, it's description and possible codes**

**D-Record Type**

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60

Example 1, Continued

E-Location, it's description and possible codes

<u>Description</u>	<u>Values and/or Range</u>
Administrative Area	Manicaland: District Countries 001 Buhera 002 Chitepo 003 Gazaland 004 Inuanga . . 999 chitungruiza
Division	01-60
EA	01-43
Batch	01-99
H.H. No. Household Number	01-79 Private household 80-99 Institutions
Manual Total of Persons in Batch	01-999
Manual Total of Households in Batch	01-99
District of Enumeration (1969)	01-99
<u>Household Record:</u>	
Batch ID No.	Same as for Batch Header Record
Household Number (H.H.No.)	Same as for Batch Header Record
Language	01 Ndebele 02 Nyanja 03 Sera Chikunda . . 11 Other 99 Not stated
Religion	01 African Apostolic Church of Johna Marang

## Example 1, continued

	02 African Congregation
	⋮
	44 Traditional African
	45 None (including Atheists and Agnostics)
	46 Other
	99 Not stated
Radio	1 Yes
	2 No
	9 Not stated
Transportation Mode 1	Transport codes entered only for the following administrative areas:
	Greater Salisbury
	Bulaivayo
	Chitungviza
	Givera
	Mutare
	Kivekive
	3 Walking
	4 Bicycle
	5 Bus
	6 Car
	7 Other
	9 Not stated
Used by number of persons	01-20
Transport Mode 2	Same as transport mode 1
Tenure Status	1 Owner/purchaser

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## Example 1, continued

	2 Tenant
	3 Lodger
	4 In tied housing
	5 Squatter
	6 Other
	9 Not stated
Type of dwelling	Housing Other than Municipal
	01 Traditional
	02 Mixed
	03 Detached
	04 Semi-detached
	05 Flat/town house
	06 Hotel/lodging house
	07 Squater housing
	08 Other
	Municipal housing
	11 hostel
	12 Flat
	13 Core
	14 Extended core
	15 Ultra low cost
	16 Complete
	17 Other
	99 Not stated
Number of rooms	01-40

## Example 1, continued

	88 Shared room
	99 Not stated
Water source	4 Piped water inside house
	5 Piped water outside house
	6 Well or borehole
	7 River or stream
	8 Other
Water location	1 Within 100 meters
	2 Beyond 100 meters
	9 Not stated
Cooking facilities	1 Wood
	2 Paraffin
	3 Electricity
	4 Gas
	5 Other
	9 Not stated
Locality Code	6000 - 7999
<u>Person Record:</u>	
Batch ID No.	Same as for Batch Header Record
HH No.-Household Number	Same as for Batch Header Record
Person Number	01-99
Relationship	1 Head
	2 Wife of head
	3 Son of Head
	4 Daughter of head

## Example 1, continued

	5 Other relative
	6 Not related
	9 Not stated
Sex	7 Male
	8 Female
	9 Not stated
Age	00-94
	95 Persons 95 and over
	99 Not stated
Ethnic group	1 African
	2 European
	3 Indian and other Asian
	4 Mixed race
	5 All others
	9 Not stated
Citizenship	Zimbabwean African's language
	01 Ndebele
	02 Nyanja
	.
	.
	09 Other
	60 Other Zimbabweans
	Non-Zimbabweans
	61 Botswana
	.
	.
	72 Other

Example 1, continued

Birthplace

99 Language of  
citizenship not  
stated

Districts

01 Buhera

•  
•  
•

Municipalities

81 Greater Salisbury

•  
•  
•

Outside Zimbabwe in  
Africa

87 Botswana

•  
•  
•

Other

93 United Kingdom

•  
•  
•

97 Other

98 Not applicable

(Under 1 yr. old.)

99 Not stated

Previous residence

Same as birthplace

Educational attendance

3 At school

4 Left school

## Example 1, continued

	5 Never been
	9 Not stated
Educational attainment	00 None
	01 Grade 1
	.
	.
	16 Form 6
	21 At University
	22 University graduate
	99 Not stated
Father alive	7 Yes
	8 No
	9 Not stated
Mother alive	Same as for Father alive
Marital status	1 Never married
	2 Married
	3 Divorced/Separated
	4 Widowed
	9 Not stated
Occupation	Blank persons under 10
	Otherwise
	011 Chemist
	.
	.
	.
	997 Disabled
	998 Other-including visitors from out- side Zimbabwe

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## Example 1, continued

	999 Occupation not stated or unidentifiable
Children here last night male	For males and girls under 12 leave blank  00-29  99 Not stated
Children here last night female	Same as children here last night male except female substituted for male
Children elsewhere last night male	Same codes as children here last night male
Children elsewhere last night female	Same codes as children here last night male
Children died male	Same codes as children here last night male
Children died female	Same codes as children here last night male
Age at 1st birth	For males and girls under 12 leave blank  00 No births  12-55  99 Not stated
Year of last live birth	00-98  99 year not stated
Month of last live birth	01-12  99 Month not stated

## Example 1, continued

Sex of last birth

- 1 Male
- 2 Female
- 3 Two males
- 4 Two females
- 5 One male and one female

Survival of last birth

- 6 More than twins
- 1 Yes
- 2 No
- 9 Not stated

## Appendix B

## Example 2 of Documentation for a Micro data set

Philippines Provincial Water Baseline ← **A-Name of Project and Country**  
 Dec. 79-Jan. 80 ← **B-Date data collected**  
 Jeffrey Buford, U.S. Bureau of the Census ← **C-Name and Affiliation of Contract Person**  
 Fixed length records ← **D-Record Type**  
 ← **E-Location, it's description and possible codes**

CELL	QUESTION #	NAME	VALUE
1	On front cover	R (ID)	0001-2000 Respondent number for Cagayan 2001-3200 Respondent numbers for Bacolod
2	"	Barangay	1, 2, 7, 8, 10, 12-15, 17-22, 25, 26, 28-36, 39-56, 67 are Barangay numbers for Bacolod
3	"	Block	5-7, 9-11, 13, 16, 18-20, 25-26, 29, 32, 34-36, 40-42, 44-50, 54, 57-58, 64-65, 71, 78, 94, 107-108, 111, 119-120, 122-123, 125, 127-13, 135-136, 138, 140, 144, 146, 149, 152, 161, 163, 167, 172, 174, 181, 184, 201-202, 205, 215-219, 222, 223
4	"	Sample Stratum	1-Households with (connected to) city water system
5	"	City Number	1 - Cagavan 2 - Bacolod
6	"	Experimental Stratum	1 - Household with any water source connected to city water system (sample Stratum I)

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Example 2, continued

RECORD LAYOUT FOR PHIL. PROV. WATER

CELL #	QUESTION #	NAME	VALUE
266	31b.	Waited in line for water	1 - Yes 2 - No 3 - Don't know
267	31c.	Time spent fetching: Hrs.	00-24 Hours (24 hour clock) spent fetching water
268	31c.	Time spent fetching: Min.	00-59 Minutes (24 hour clock) spent fetching water
269-272		Second Member	Same as above (Cells 265-268)
273-276		Third Member	Same as above (Cells 265-268)
277-280		Fourth Member	Same as above (Cells 265-268)
281-284		Fifth Member	Same as above (Cells 265-268)
285-288		Sixth Member	Same as above (Cells 265-268)
289-292		Seventh Member	Same as above (Cells 265-268)
293	32	Containers used - type	00 - glass gallons 01 - plastic pails or buckets 02 - plastic gallons 02 - kerosine cans 04 - clay jar 05 - plastic basin 06 - tin gallons 07 - drums 08 - bottles 09 - steel pots 10 - steel buckets 88 - others
294	32	If tin, rusty?	1 - Yes 2 - No 3 - Don't know 4 - Not applicable
295	32	Covered	1 - Yes 2 - No 3 - Don't know  00 - 99 Number of gallons

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Example 2, continued

In addition to the values expressly listed on the record layout, each cell may, with some exceptions, contain the value 999999. This number was used as a replacement for any value which was omitted, illegal and inconsistent with other data. This value is not listed on the record layout except for those cells where its inclusion aids clarity.

The following cells may not contain 999999: Cells 1, 2, 4-47, 500 and 786.

## References

1. Abt Associates Inc.; "Inventory of A.I.D. Micro Data Sets for Developing Countries;" Economic and Social Data Services Division, Development Information Utilization Service, Bureau for Science and Technology, Agency for International Development, Washington, D.C. 20523; May, 1982.
2. Hermann, Chris; "Quantitative Data for Rural Development: Options for Improvement in A.I.D.;" January, 1982.
3. AID, "Guidance Pertaining to Nature and Content of Scopes of Work for AID PIO/Ts and Resultant Contracts"; AID Project Officers Guidebook, Management of Direct AID Contracts, Grants and Cooperative Agreements, Supplement to Handbook 3; Prepared by the Emay Corporation for the U.S. Agency for International Development; June, 1980; Appendix C.
4. A.I.D. Handbook 12, Use of Federal Agencies, United States Agency for International Development
5. Ibid, pg 1-6.
6. A.I.D.; Handbook 1, Supplement B, Procurement Policies: Integrated Statement of Procurement Policies for Commodities and Services, pp. 25-3.
7. A.I.D. "Guidance Pertaining to Nature and Content of Scopes of Work for AID PIO/Ts and Resultant Contracts"; AID Project Officers Guidebook, Management of Direct AID Contracts, Grants and Cooperative Agreement, Supplement to Handbook 3; Prepared by the Emay Corporation for the U.S. Agency for International Development; June, 1980; Appendix C.
8. A.I.D. Handbook 13, Grants, United States Agency for International Development, October, 1974.

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