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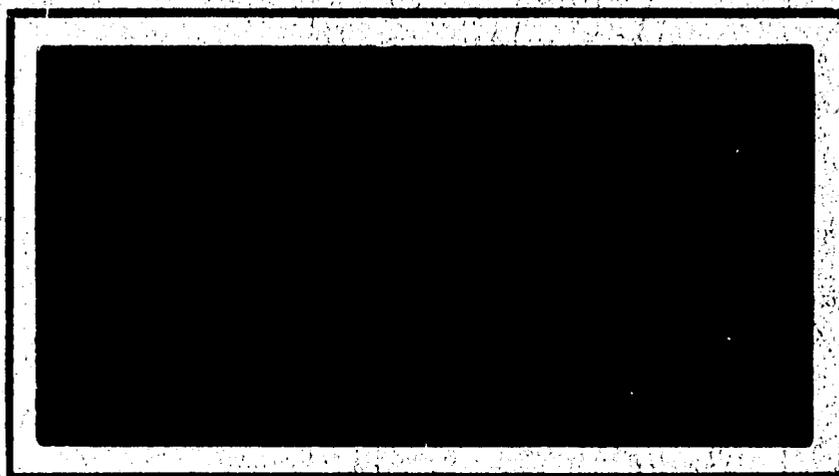


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AMERICAN PUBLIC HEALTH ASSOCIATION
International Health Programs
1015 Fifteenth Street, N.W.
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AN EVALUATION OF THE
POPLAB BIRTH AND DEATH DATA COLLECTION PROJECT
IN COLOMBIA, INDONESIA, AND SOMALIA

A Report Prepared By:
BENJAMIN GURA
CONRAD F. TAEUBER, Ph.D.
DENNIS P. HOGAN, Ph.D.

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EXECUTIVE SUMMARY

Summary

The International Program of Laboratories for Population Statistics (POPLAB) and the University of North Carolina (UNC) are conducting a project that will become a major source of information on the levels of and trends in fertility and mortality in developing countries throughout the world. The results of the demographic surveys that are part of the project will affect directly the population policies and family planning programs of the developing countries, as well as the programs which the Agency for International Development (AID) is funding.

The POPLAB project began in October 1978 and is scheduled to end in September 1983. Initially, it was planned that fourteen demographic surveys would be conducted during the five-year project. Arrangements for seven surveys were negotiated successfully, but only six surveys were approved by AID for implementation. These surveys, based on documentation provided by POPLAB and UNC, are now under way; all are in different stages. To date, the quality of the work has been satisfactory. POPLAB and UNC have provided high-caliber technical assistance. Generally, the host countries have provided competent staff.

The implementation plan calls for the initiation of three surveys by September 1981 and four others by September 1982. Arrangements for these additional surveys have not been negotiated because funds for this purpose are not available. Year 3 was under-funded and there is uncertainty about "forward" funding for Year 4.

Major Recommendation

The evaluators have recommended that AID take the necessary steps to enable POPLAB and UNC to negotiate subcontracts with developing countries for the three surveys which are to be initiated by September 1981. This will require an advance of funds for Year 4. The funds that were not provided for Year 3 should be restored. The scope of work will have to be modified if AID/W cannot fulfill these requirements.

ABBREVIATIONS

| | |
|---------|--|
| AID/W | Agency for International Development/Washington |
| APHA | American Public Health Association |
| BKKBN | National Family Planning Coordination Board |
| CBS | Central Bureau of Statistics |
| CCRP | Corporate Center for Regional Population Studies |
| CELADE | Latin American Demographic Center |
| COL | Colombia |
| CONCOR | Consistency and Correction |
| CPS | Contraceptive Prevalence Study |
| CTO | Cognizant Technical Officer |
| DANAL | Directorate of Design and Socioeconomic Analysis |
| DANE | National Administrative Department of Statistics |
| DAU | Data Analysis Unit |
| DEPRO | Directorate of Data Processing |
| DIDE | Publication Division of DINFO |
| DIMOG | Directorate of Demography |
| DINFO | Directorate of Technical Information |
| DIPROCE | Division of Census and Surveys |
| EJMRS | East Java Multiple Round Survey |
| EJSO | East Javan Statistical Office |
| LDC | Less Developed Country |
| MOH | Ministry of Health |
| MSSS | Multiple Subject Socioeconomic Survey |

| | |
|---------|---|
| NAS | National Academy of Sciences |
| OPLAN | Office of Planning |
| POPLAB | International Program of Laboratories for Population Statistics |
| PSU | Primary Sampling Unit |
| SPC | State Planning Commission |
| SUSENAS | First Round of the Multiple-Subject Socioeconomic Survey |
| UN | United Nations |
| UNC/CH | University of North Carolina, Chapel Hill |
| UNDP | United Nations Development Program |
| UNFPA | United Nations Fund for Population Activities |
| USAID | United States Agency for International Development |
| WFS | World Fertility Survey |

I. INTRODUCTION

Purpose of the Assignment

This report contains the findings and recommendations of three consultants who conducted an intensive mid-term evaluation of the five-year project "Birth and Death Data Collection," also known as the International Program of Laboratories for Population Statistics, or POPLAB.

The POPLAB project began on October 1, 1978; it is scheduled to terminate on September 30, 1983. Fourteen specially designed demographic surveys are to be conducted in developing countries before the end of the project. The University of North Carolina (UNC) at Chapel Hill is the contractor for the project. POPLAB, in the Department of Biostatistics, School of Public Health, University of North Carolina, is responsible for carrying out the project. As specified in the Cost-Reimbursement Contract negotiated by UNC and the Agency for International Development in Washington, D.C. (AID/W), the contract was to be evaluated after twenty-four months of activity.

Objectives

As indicated in the terms of reference for the evaluation, the evaluators were to feel free to investigate any aspect of the project which they deemed to be relevant and to recommend "reasonable" changes (i.e., changes that could be made, given the terms of the authorization documents). The evaluators' primary objectives were to:

- evaluate the contractor's progress in fulfilling the terms of the contract;
- assess the quality of the surveys by examining sampling procedures, the design and content of questionnaires, data processing, data analyses, and the dissemination and publication of data;
- determine what effect AID funding patterns have had on the ability of the contractor to plan and implement the project; and
- assess AID's need for the kinds of data that are being collected.

Composition of the Team

Three persons were selected for the evaluation team: Dr. Conrad F. Taeuber, Center for Population Research, Georgetown University; Dr. Dennis F. Hogan, faculty associate, Population Research Center, and assistant professor, Department of Sociology, University of Chicago; and Mr. Benjamin Gura, statistical consultant, who served as the team leader.

Dates and Locations of Evaluation

The evaluation began on March 2, 1981. In the first week, Mr. Gura reviewed the documentation in the files of the Office of Population at AID. The three team members first met on March 6 at the Office of Population, where they were briefed on the evaluation by Jack Lawson, the cognizant technical officer (CTO), and Judith Simmons, a technical assistant at the American Public Health Association (APHA). At that time, it was agreed that Dr. Hogan would give particular attention to, and report on, the quality of the demographic surveys. Dr. Taeuber was to address the question of AID's need for the kinds of data that are being collected by POPLAB staff. Mr. Gura was to be responsible for drafting the final report on the evaluation.

During the week of March 9-13, the team visited the office of the International Program of Laboratories for Population Statistics, University of North Carolina, Chapel Hill. The members of the team were given a large collection of documents on the project. These materials were the basis for meetings and discussions with the principal members of the POPLAB staff.

The evaluation team then separated to visit three sites overseas where POPLAB surveys are under way and in different stages of progress. Dr. Taeuber visited Somalia on March 15-21. Mr. Gura was in Colombia from April 26 to May 1. Dr. Hogan went to Indonesia on May 19 and returned on May 26. Each member of the team prepared a report on his visit (see Appendices A-C), in addition to contributing to the general report on the evaluation.

Methodology

Two approaches were taken to evaluate the POPLAB project. Pertinent documentation was compiled and reviewed, and briefings, discussions, and meetings were held with the officials of the AID, UNC, and developing countries who are involved in the POPLAB project.

A. Documentation

Most of the documents which were reviewed were provided by AID/W and POPLAB/UNC. The following documents were examined:

- Scope of Work for Evaluation of the University of North Carolina POPLAB Program Proposal Contract, and Funding Documents
- Birth and Death Data Collection Project Paper
- Cost-Reimbursement Contract, AID/DSPE-C-0025
- Supplement to Technical Proposal DSPE-1002
- Supplement to Business Management Proposal
- Financial Report of January 31, 1981
- Semiannual Reports, including reports for:
 - 1 October 1978 - 31 March 1979
 - 1 April 1979 - 30 September 1979
 - 1 October 1979 - 31 March 1980
 - 1 October 1980 - 31 March 1981
- Documents on Organizational Aspects, including:
 - Organization Chart of POPLAB
 - Curriculum Vitae of Technical Staff
 - Planning Schedule
 - Overseas Travel Report (Schedule)
- Special Correspondence and Memoranda on Funding, including:
 - Memorandum from Wells to Speidel, July 1, 1980
 - Memorandum from Wells to Speidel, November 21, 1980
 - Memorandum from Dean Greenberg, January 23, 1981
 - Memorandum from Abernathy to Speidel, March 5, 1981

- Technical Documents, including:

- Guidelines on POPLAB Country Publications

- Memoranda from Sullivan on Research of Mexican Technicians

- List of Computer Programs for Demographic Analyses at POPLAB

- Data Requirements for Monograph of Sampling Errors Computed from POPLAB Surveys, February 20, 1981.

- B. Briefings and Other Meetings

Briefings, discussions, and meetings were held with the officials and technicians at AID/W, in Washington, D.C., and at the offices of POPLAB, at Chapel Hill, North Carolina. (Meetings with developing country officials are noted in the three separate reports on site visits, Appendices A-C.)

The following persons were interviewed or otherwise assisted the evaluators:

- APHA

- Suzanne Olds, Chief, Technical Advisory Services

- Judith Simmons, Technical Assistant, Technical Advisory Services

- Maureen Doallas, Editor, International Health Programs

- AID/W

- Jack Lawson, Cognizant Technical Officer, AID/W

- POPLAB/UNC

- James R. Abernathy, Director, POPLAB

- Arjun Adlakha, Demographer

- Cynthia Coates, Editorial Assistant

Anne R. Cross, Demographer

William D. Kalsbeek, Sampling Statistician

Robert S. Krasowski, Analyst and Programmer

M. Nizamuddin, Demographer

Scott C. Puckett, Associate Director for Operations

Jeremiah M. Sullivan, Demographer.

II. BACKGROUND ON POPLAB/UNC

Description of the Project

POPLAB/UNC is a five-year, AID-sponsored project. It began on October 1, 1978; it is expected to be completed by September 30, 1983. It is being conducted by the International Program of Laboratories for Population Statistics, University of North Carolina.

The contract specifies that, before the end of the project, fourteen demographic surveys, seven "new" surveys and seven "add-on" surveys, are to be conducted in developing countries under the auspices of POPLAB. In all the surveys information needed to estimate the levels of and trends in fertility (including the number and timing of births) and mortality is to be collected.

Two of the seven "new" surveys are being expanded into broader surveys so that fertility variables can be studied in greater depth. In addition to data on fertility and mortality, supplemental information is being collected on the characteristics of individuals, households, the community, and the ecology.

The "new" surveys are being conducted in selected developing countries where there are no existing household-survey programs or survey programs that can be modified to include a demographic module. "Add-on" surveys are being conducted in selected developing countries where there are existing survey programs that can be modified to include a demographic module.

It is expected that "new" surveys will be completed in twenty-four months and "add-on" surveys in eighteen months. In each period, the initial site visit is to be made and the final report prepared.

POPLAB/UNC is expected to conduct site-assessment visits overseas; recommend specific survey projects and develop a detailed plan of technical assistance for each project; negotiate subcontracts with selected developing countries; monitor the fourteen in-country POPLAB projects; provide technical assistance in the different survey areas; prepare and conduct training programs for personnel from the less developed countries (LDCs), either in the countries or at the headquarters of POPLAB/UNC; and provide technical assistance and facilities to ensure the timely processing and analysis of data and dissemination of the findings.

Progress To Date

POPLAB/UNC staff have visited nine countries: Bolivia, Colombia, Ecuador, and Mexico in Latin America; Indonesia and Korea in Asia; Kenya and Somalia in Africa; and Jordan in the Near East. Subcontracts were negotiated with either statistical or family planning agencies in six of the countries: Bolivia, Colombia, and Mexico in Latin America; Indonesia in Asia; Somalia in Africa; and Jordan in the Near East. A subcontract was negotiated for Korea, but it was not approved by the AID. Negotiations are continuing with Ecuador and Kenya. Additional visits have been made to Mexico, where a second round of surveys may be undertaken, and to Indonesia to discuss a broad demographic survey.

Following the signing of the subcontract, the Bolivian survey began in April 1980; it is scheduled for completion in September 1981. Survey activities were to have been completed in March 1981, but they were halted at one time because of unsettled internal conditions, and the subcontract was extended to September. The award for the subcontract was \$106,397; \$33,050 were contributed by the Bolivian government. The survey is national in scope, involving 10,000 households. Fieldwork was completed between October 13 and November 30, 1980. At last report, the data were being machine-edited. The data will be analyzed with the assistance of the Latin American Demographic Center (CELADE).

The Colombian survey, also a subcontract, began in September 1979. Activities were to have been completed by March 31, 1981. The introductory and analytic sections of the report were completed on time, but editorial review and publication have required the extension of activities through July 1981. The subcontract was for \$140,000, with the Colombian government contributing an equivalent amount. The survey is national in scope and involves a sample of 10,000 households.

The Mexican survey began in September 1979 and was extended from August 1980 to March 1981 to enable Mexican demographers to analyze in depth the results of the surveys. This work was done at Chapel Hill in collaboration with POPLAB staff. Fertility, adult mortality, and infant mortality were stratified by socioeconomic characteristics and analyzed. The reports on the results of the survey have been published. The subcontractor was awarded \$135,000; the Mexican government made a contribution on behalf of the POPLAB and Westinghouse projects. The survey, with a sample size of 18,000 households, was national in scope.

A subcontract was negotiated for a survey in Indonesia which began in August 1979. This project is expected to be completed in December 1982. Three survey rounds were contemplated: a preliminary round in 1980 and follow-up rounds in 1981 and 1982. As of May 1981, the data from the first round were ready for analysis. Fieldwork for Round 2 was

undertaken in June and July 1981. For this subcontract, \$143,246 were awarded; Indonesia contributed \$39,500. The survey has been confined to the province of East Java. Fewer than 20,000 households are included in the sample.

The Somalian survey began in January 1980. Its scheduled completion date is March 1982. The survey is not national in scope, although it covers the regions of Bay, Lower Shébelle, and Mogadishu. The settled and nomadic populations in these areas are being questioned. The settled populations--a sample size of 7,260 households--were interviewed in October 1980. At last report, the data were being keyed onto computer tape. The nomadic population was interviewed in March 1981. The director of statistics in Somalia will bring the computer tapes of the data from both surveys to POPLAB, where they will be analyzed. A total of \$113,700 was awarded for this subcontract; the Somalian government contributed \$38,608.

Survey activities began in Jordan in July 1980 and are to be completed by September 1982. Fieldwork is planned for November 1981. The survey is national in scope. It is anticipated that 21,000 households will be surveyed. The subcontractor was awarded \$122,760. Contributions from the Jordanian government totaled \$62,453.

POPLAB/UNC is considering a project in Ecuador in which Westinghouse would collaborate. The survey would be national in scope, with a sample of 9,000 households.

There is definite interest in conducting a survey on fertility, mortality, and contraceptive prevalence in Kenya. The project would involve Westinghouse and would be conducted in 1982 or 1983.

East Java has expressed an interest in a single-round, broad demographic survey in 1983. There is concern, however, that the East Javan Statistical Office (EJSO) would overextend itself in such a broad survey because it would have to overcome considerable logistical problems. The Central Bureau of Statistics (CBS) is not enthusiastic about the survey. As an alternative, a single-round, national demographic survey is being considered. But this survey to measure vital rates would not begin until 1983, one year after the POPLAB/UNC contract expires (December 1982).

Mexico is planning to conduct a national survey on fertility and mortality in the fall of 1981. The country is interested in receiving technical assistance from POPLAB for the project.

Organization and Activities of POPLAB/UNC

The headquarters of the Birth and Death Data Collection Project is the Department of Biostatistics, School of Public Health, University of

North Carolina, Chapel Hill. POPLAB/UNC is organized into offices and units, including the Office of the Director, the Office of the Associate Director for Operations, Administration, the Data Analysis Unit, and the Data Processing Unit. A resident adviser for Indonesia and a demographer also are employed.

The Office of the Director and the Office of the Associate Director for Operations are each staffed by a single person. Administration employs an office manager and four secretaries, one of whom is responsible for publications, and one of whom is employed half-time. The Data Analysis Unit (DAU) employs one person as the director and six others who are economists-demographers and demographers. In the Data Processing Unit are three persons: a director, an analyst-programmer, and a programmer. The director of POPLAB, the director of the Data Processing Unit, and the analyst-programmer are also listed as staff of the Data Analysis Unit. Those in the Data Analysis Unit devote approximately 78 percent of their time to the POPLAB project. The allocation of time ranges from 35 percent for the sampling statistician to 100 percent for several of the demographers.

Members of the Data Analysis Unit visit sites, conduct negotiations for subcontracts, monitor visits, and provide technical assistance. POPLAB/UNC has employed an outside consultant to assess activities in Colombia.

Between initiation of the project in October 1978 and July 1981, POPLAB/UNC staff have visited 63 countries to evaluate the progress of projects now under way or to develop new projects.

The staff at headquarters have a variety of important responsibilities, one of which is to design and test questionnaires and prepare manuals for the surveys. Under the contract, a Broad Survey Committee was formed. It is headed by the director of the Data Analysis Unit. In April 1981, this group began work on three basic questionnaires on fertility determinants, an interviewers' guide, and three optional modules. The work should be completed by August 1981.

DAU staff conduct their own research and collaborate with technicians from the developing-country projects in research on the levels of and trends in fertility and mortality. Technicians from Mexico recently worked with DAU staff on this research.

POPLAB publishes the results of its research and employs other professionals to prepare related research reports. For example, between October 1980 and March 31, 1981, POPLAB published three reports and distributed more than 2,400 publications to demographers and institutions in the U.S. and developing nations. The three reports are:

- Maria Helena F.T. Henriquez, Unioes Legais e Consenuais: Incidencia e Fecundidads na America Latina, Scientific Report Series No. 32 (in Portuguese)
- POPLAB, The 1979 Mexico National Fertility and Mortality Survey. A Summary of Results, Summary Series No. 2
- Arjun L. Adlakha, Jeremiah M. Sullivan, and James R. Abernathy, Recent Trends in Methodology of Demographic Surveys in Developing Countries, Scientific Report Series No. 33.

In addition, POPLAB staff attend seminars and meetings which are considered to be important for the development of their careers and which benefit POPLAB.

To fulfill the requirements of the AID contract, POPLAB/UNC issues semiannual reports on the project. The first report covered the period October 1, 1978 - March 31, 1979. The last six-month report covered the period October 1, 1980 - March 31, 1981. These reports contain comprehensive summaries of the entire POPLAB program.

Inputs

The budget negotiated for the POPLAB project can be broken down as follows:

| <u>Period</u> | <u>Contract Year</u> | <u>Budget</u> | <u>Funded</u> | <u>Unfunded Portion of Contract</u> |
|-------------------------------|----------------------|---------------|---------------|-------------------------------------|
| Oct. 1, 1978 - Sept. 30, 1979 | 1 | \$ 676,733 | \$ 676,733 | 0 |
| Oct. 1, 1979 - Sept. 30, 1980 | 2 | 1,281,707 | 1,281,707 | 0 |
| Oct. 1, 1980 - Sept. 30, 1981 | 3 | 1,439,569 | 1,025,560 | \$414,009 |
| Oct. 1, 1981 - Sept. 30, 1982 | 4 | 1,309,479 | None | All |
| Oct. 1, 1982 - Sept. 30, 1983 | 5 | 854,464 | - | - |

Year 3 was underfunded by \$414,009. Earlier, AID/Washington allocated funds to the POPLAB project one year in advance. It has not, however, advanced funds for Year 4.

III. PRINCIPAL FINDINGS

Progress of POPLAB/UNC

POPLAB/UNC has made excellent progress in fulfilling the terms of the contract. In accordance with the implementation plan, seven demographic survey projects were negotiated successfully by September 1980: three in Latin America, two in Asia, one in Africa, and one in the Near East. Of these, six were approved for implementation by AID/W. The exception was the Korean contract, which was not approved.

The results of the Mexican survey have been published. A draft of the introductory and analytic sections of the Colombian survey is being reviewed; it is expected to be published in June or July of 1981. The first round of the Indonesian survey is being analyzed; a second round will be undertaken in June and July of 1981. The report on the Bolivian survey is expected to be available by September 1981. The report on the Somalian survey is expected to be available by December 1981. Fieldwork for the Jordanian survey will begin in November 1981.

Depending on the results of site visits, new projects may be developed for Korea, Ecuador, and Kenya, and a second round may be started in Mexico (Mexico II). No new surveys have been negotiated since October 1980. There is uncertainty about the future of the POPLAB project; there was a shortfall of \$414,009 for Year 3 and no funds were advanced for Year 4.

POPLAB/UNC has prepared the basic documentation. This information has been used sensibly by the countries following pilot tests. The documentation includes a prototype questionnaire, manuals for enumerators and supervisors, and some specifications for tabulations. These are contained in POPLAB Manual No. 7, "A Basic Demographic Questionnaire: Data Collection and Analysis in Sample Surveys." The manual contains a supplement. The tabulation plan indicates what basic tables are needed to calculate indirect estimates of age-specific fertility and mortality rates; however, the format for all the tables required under the POPLAB contract is not provided. In his memorandum to POPLAB technical staff, dated November 21, 1979, H. Bradley Wells provided guidelines for the final reports, but the guidelines were not published as a POPLAB manual. Most, but not all, the staff and some subcontractors have seen the guidelines. The basic documentation for the broad survey should be completed by August 1981.

POPLAB/UNC has provided specialized technical assistance in sampling, fieldwork, data processing, and data analysis. POPLAB/UNC also has installed software programs in the countries and provided instruction in their use to facilitate data processing and analysis. POPLAB/UNC has arranged for follow-on collaborative research on survey data at Chapel Hill.

The semiannual and trip reports which POPLAB/UNC issues are excellent. They are a comprehensive summary of POPLAB activities and progress.

Quality of the POPLAB Surveys

In assessing quality, the evaluators examined staff from the host countries and from UNC, the sampling design and sampling procedures, preparation and use of documentation, field-training and organization, data processing, and the production of the final reports. Their observations and experiences during their overseas site visits are presented below.

Host Country Survey Staff

Generally, the host country survey staffs seemed to be technically competent and experienced in survey work. Competence, skill in a specialty, and experience among the technicians varied, depending on the country. In a lesser developed country, one was apt to find fewer highly skilled technicians. Many of the technicians have advanced degrees (masters and doctorates). They worked well together, combining their diverse skills (in demography, survey methodologies, fieldwork, data processing, etc.) to carry out the POPLAB surveys. There were technical gaps which had to be filled by outside technical experts.

During the surveys in some countries, a number of key staff left projects for one reason or another. The turnover of specialized personnel in sampling and in the application of software created problems, although other qualified technicians were recruited or subcontracted.

POPLAB/UNC Staff

The staff of the Data Analysis Unit have outstanding academic credentials. All have advanced degrees (most have doctorates; the others have masters). Many are fluent in a foreign language. Their continuing technical research in demography, economic demography, economics, and other specialties and their work overseas make them uniquely qualified to participate in the project.

POPLAB/UNC staff make overseas site-assessment visits, negotiate subcontracts with organizations in host countries, monitor the progress of surveys, provide technical assistance, and serve as resident advisers. They collaborate with host country technicians to analyze the results of the surveys. In addition, they conduct their own research.

POPLAB/UNC provides additional technical-assistance support in countries such as Somalia, where there are fewer trained and skilled survey technicians. In Indonesia, where it is more difficult to implement the surveys, a resident adviser from POPLAB is available for consultation.

POPLAB hires consultants with specialized skills for short-term assignments and contracts with other organizations with specialized capabilities to conduct overseas seminars (e.g., Delta Systems Consultants, Inc., which held seminars in data processing, and the National Academy of Sciences (NAS), which sponsored a seminar in demography).

Collaborative research for the Mexican survey was conducted at Chapel Hill and proved to be very useful. Remaining inconsistencies and errors in the survey data were identified and corrected. The effort is expected to result in in-depth analyses of fertility and mortality that will influence Mexico's population policies and family planning programs.

POPLAB/UNC has been cautious about monitoring surveys and providing technical assistance requested by host countries and USAID missions. Technical problems would be reduced, the evaluators believe, if POPLAB/UNC increased the number of monitoring and technical-assistance visits.

POPLAB activities have been directed skillfully, and the management of POPLAB affairs has been prudent.

Sampling Designs and Procedures

The multi-stage probabilistic samples are of sufficient size to provide accurate estimates of the characteristics under study. Generally, the surveys are national in scope and will provide information on both urban and rural areas. In Somalia, however, the survey is confined to a specified number of regions and the principal city. In Indonesia, the survey covers the province of East Java, which has a population of approximately thirty million.

In some of the countries, monitoring and technical-assistance visits may need to be increased to ensure that sample controls are used, and to provide assistance in the calculation of weighting factors, sampling errors, and expansion procedures. Generally, however, the sampling procedures recommended by POPLAB are being followed.

Documentation

The prototypical questionnaires and the instruction manuals are suitable for nationwide adaptation in the countries where POPLAB/UNC is

working. The adapted materials are pilot-tested and revised before they are used.

Completed questionnaires have been reviewed by the evaluators, and in some countries they have been subjected to limited field-checks. The results suggest that the enumerators understood the instructions in the manuals and followed them well.

In some countries, many more tabulations than are required have been made.

Fieldwork and Training

The key to successful fieldwork was the relatively small number of enumerators assigned to each field supervisor. For example, for the Colombian survey there were ninety enumerators and thirty supervisors, with each supervisor responsible for only three enumerators. Coverage was improved and the work generally was of higher quality.

Field supervisors and enumerators appear to have been trained sufficiently. The training seemed to have been well planned also. Initially, the supervisors for the Colombian survey received five days of training. Subsequently, they were joined by the enumerators for ten additional days of training in designing and using questionnaires and applying interviewing techniques. The supervisors and enumerators also acted out their respective roles in field exercises. Experienced interviewers were used in the Indonesian survey. The training sessions were adequate to acquaint the interviewers with the specifics of the POPLAB survey. Careful field supervision ensured the collection of higher-quality data.

Data Processing

POPLAB/UNC has made available a variety of software programs (e.g., COCENTS, CENTS, CONCOR, and CLUSTERS) to enable the countries to process the survey data. It also subcontracted with Delta Systems to conduct a workshop in Colombia to instruct data-processing and other personnel in the use of the programs. In countries (e.g., Somalia) where assistance is required, POPLAB/UNC will process the data at Chapel Hill.

In countries where there is a substantial turnover of data-processing personnel, follow-up technical assistance should be provided to ensure that data are processed, sampling errors are calculated, and other work is completed satisfactorily.

Final Reports

The final reports will contain a wealth of statistical and analytical detail on the age and sex distribution of the population, nuptiality, fertility, and mortality. Some of the country reports will also include sections on international migration and internal migration.

POPLAB/UNC has designed a tabulation guide and a format for a prototypical report. These are intended to be the basis of the country reports. Some tabulations are described in the supplement to Manual No. 7. Other tables are listed in the prototypical report. The prototypical report is comprehensive, covering all phases of the survey. The supplement to Manual No. 7 has been circulated widely. The format for the prototypical report is described in a memorandum that has been circulated to most POPLAB staff and to some subcontractors.

Undoubtedly, if the results of the POPLAB surveys are published in a format similar to the prototype, they can be expected to be useful in formulating population policies and family planning programs. POPLAB/UNC staff should devote special attention to the preparation of the final reports when making monitoring visits and provide technical assistance in the use of the prototype.

Implications of AID Funding Patterns

The uncertainties and confusion about and delays in funding the POPLAB contract have had a detrimental effect on the project. AID has yet to provide \$414,000 of the agreed-upon funding for Year 3. Funds for Year 4 have not been forwarded, although funds for Years 1 and 2, and part of Year 3 were advanced. Nor has any explanation been given. Lacking these funds, POPLAB/UNC is having difficulty recruiting additional countries in accordance with its implementation schedule. Steps should be taken to resolve this problem as soon as possible.

AID's Need for POPLAB Survey Data

POPLAB is an important project. It will establish or verify current fertility and mortality levels in the countries participating in the project. The results will be useful in estimating trends and revising population estimates and projections.

AID is supporting a number of projects that will yield information on fertility and mortality in developing countries. Much of the effort

involves the compilation and critical evaluation of existing data. The POPLAB project is unique, however, because it involves the collection of new data and will yield estimates of current levels. Both approaches are necessary to understand recent trends and to make projections for the near term. It is gratifying to have learned that the workers have cooperated on both kinds of projects.

IV. RECOMMENDATIONS

Progress of POPLAB/UNC

The AID should take the necessary steps to enable POPLAB/UNC to negotiate subcontracts with developing countries for the three surveys which are to be initiated by September 1981. This will require an advance of funds for Year 4, as was done for Years 1 and 2 and part of Year 3. Furthermore, the funds that were not allocated for Year 3 should be restored. If AID/W cannot fulfill these requirements, the scope of work will have to be modified accordingly.

The demographic survey in Korea, which will be conducted under the auspices of POPLAB, should be approved by the AID. The proposed project will extend the data series on population and development planning in Korea.

Quality of the POPLAB Surveys

Recommendations are presented below under the sections "Host Country Survey Staff," "POPLAB/UNC Staff," "Sampling Designs and Procedures," and "Final Reports."

Host Country Survey Staff

In some of the countries, the rate of turnover of key technical staff is high. To minimize the problems that occur as a result of constant turnover, POPLAB/UNC should organize a series of short-term seminars for the middle-level personnel involved in the project. The seminars should cover sampling procedures, data processing, and the preparation of data analyses.

POPLAB/UNC Staff

POPLAB should promote collaborative research with survey analysts from the developing countries. The research should yield in-depth analyses of fertility and mortality that can be used to formulate population policies and develop family planning programs.

Sampling Designs and Procedures

Generally, the sample designs are adequate, and the sampling procedures are being followed properly. Monitoring, however, should be improved and more technical-assistance visits should be made to ensure control over samples, the provision of assistance to calculate weighting factors and sampling errors, and the correct use of procedures for expansion.

Final Reports

POPLAB/UNC has prepared specifications for tabulations and a prototypical format for reports from each country. These materials are not available in a single source, and the memorandum describing the prototypical report has not been circulated widely. The format for final country reports affects directly population policy planning. POPLAB/UNC should, therefore, give special attention to the design of the final reports. It also should provide the technical assistance that is required to prepare those reports. It is recommended that a new and comprehensive manual be prepared that contains guidelines to preparing data for publication. The manual should be circulated to all POPLAB staff and subcontractors.

AID's Need for POPLAB Survey Data

The POPLAB project is an important effort, for it is yielding information on the levels of and trends in fertility and mortality. In some of the developing countries that were selected or considered for the POPLAB project, the fertility rate is high and population policies are needed. In other countries participating in the project, fertility is declining, but the resulting changes need to be measured continually. In recognizing the need for data, the regional offices have stated that surveys should be made in-country to document fertility levels and trends.

The POPLAB project should be continued; however, if funds are not available to fulfill the original terms of the contract, the program should be modified. Agreement on modifications should be reached as rapidly as possible to maintain momentum.

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ISN 695

REPORT ON A SITE VISIT TO COLOMBIA
(April 26, 1980 - May 1, 1981)

A Report Prepared By:
BENJAMIN GURA, Statistical Consultant

During The Period:
MAY 18-20, 1981

Under The Auspices Of The:
AMERICAN PUBLIC HEALTH ASSOCIATION

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EXECUTIVE SUMMARY

Summary

The 1980 Demographic Survey (EH-27) will yield important demographic statistics on Colombia. The survey is a high-quality product, which reflects the DANE's earlier experience in this area. The documentation is good, staff are capable and well prepared, and sound technical assistance is being provided.

Major Recommendation

To ensure the satisfactory completion of this project, an additional short-term monitoring visit is recommended. Also, the institutionalization of the lessons and techniques that have been learned would be beneficial. Short-term technical assistance in sampling and the application of software should be provided.

ABBREVIATIONS

| | |
|---------|---|
| AID/W | Agency for International Development/Washington |
| CCRPS | Corporate Center for Regional Population Studies |
| COL | Colombia |
| CONCOR | Consistency and Correction |
| CTO | Cognizant Technical Officer |
| DANAL | Directorate of Design and Socioeconomic Analysis |
| DANE | National Administrative Department of Statistics |
| DEPRO | Directorate of Data Processing |
| DIDE | Publication Division |
| DIMOG | Directorate of Demography |
| DINFO | Directorate of Technical Information |
| DIPROCE | Division of Census and Surveys |
| MOH | Ministry of Health |
| NAS | National Academy of Sciences |
| OPLAN | Office of Planning |
| POPLAB | International Program of Laboratories for Population Statistics |
| PSU | Primary Sampling Unit |
| UNC | University of North Carolina |
| USAID | United States Agency for International Development |
| WFS | World Fertility Survey |

I. INTRODUCTION

Purpose of the Site Visit

From April 26 to May 1, 1981, Benjamin Gura visited the DANE, the national statistical office of Colombia. This visit was made in connection with the intensive, mid-course evaluation of the Birth and Death Data Collection Project of the International Program of Laboratories for Population Statistics (POPLAB) of the University of North Carolina (UNC). The project is being conducted in different regions of the world under the auspices of the Agency for International Development (USAID). The principal project is referred to as POPLAB/UNC; the project in Colombia is known as POPLAB/COL. The contractor responsible for POPLAB/COL is the DANE.

In accordance with the scope of work for the assignment, the evaluator was permitted to investigate any aspect of the project which he deemed to be relevant, and to make any "reasonable" recommendations for change (i.e., changes permitted under the terms of authorization). In particular, the consultant was asked to evaluate:

- the progress of the contractor in fulfilling the terms of the agreement;
- the quality of the survey (e.g., sampling procedures, questionnaire design and content, data processing, data analysis, and data dissemination and publication);
- the effect of AID funding patterns on contract planning and project implementation; and
- AID's need for the kinds of data that are being collected.

Description and Purpose of POPLAB/UNC

POPLAB/UNC is a five-year demographic survey project which began in FY 1979 and has been in operation for more than two years. The purpose of the project is to collect, analyze, and report demographic and other data on the levels of and trends in fertility and mortality in selected developing countries. New demographic surveys were designed for this purpose and, in some cases, demographic questions were added to ongoing household surveys.

To date, POPLAB/UNC has completed two surveys, in Mexico and Colombia; four additional surveys, in Bolivia, Indonesia, Jordan, and Somalia, are in progress.

Demographic Information on Colombia

The DANE's current (1980) estimate of the population of Colombia is 27,326,463 persons. In terms of population, Colombia is the fourth largest country in Latin America. Only Brazil, Mexico, and Argentina have larger populations.

The intercensal rate, 2.78 percent, was used to project population between Colombia's last two censuses, in 1964 and 1973. As a result, it is expected that the estimates for the last five or more years will be revised downward. Recent demographic surveys do, however, tend to confirm that Colombia's population growth rate has declined markedly. The DANE's demographers believe that the current annual growth rate will be less than 2 percent when projections are revised.

Colombia's 1,141,748 square kilometers are divided into 23 departments (including Bogota, the capital), and the so-called National Territories, an area of five intendencias and five comisarias. The departments and National Territories are divided into 967 municipios. Approximately 50 percent of the area of Colombia is contained in the National Territories, although only 5 percent of the population resides there.

Description of POPLAB/COL

The DANE agreed to conduct a national demographic survey in 1980 following the successful negotiation of a subcontract with the University of North Carolina. The subcontract is identified by the title of the project, which also describes the purpose of the survey: Measurement of National Fertility Mortality Levels and Trends. The subcontract provided funds for different phases of the 1980 survey (also referred to as the National Demographic Survey, or EH-27, and the 1980 National Household Survey), which was to last nineteen months, from 1 September 1979, to 31 March 1981. The total cost of the survey was estimated at \$279,003, with the DANE contributing \$139,003 and the UNC contributing \$140,000.

It was planned that the 1980 survey would be implemented in five phases: Phase I would involve planning; Phase II, fieldwork; Phase III, data preparation and processing; Phase IV, analyses; and Phase V, report-writing and publication of results. Planning was to be completed in the nine-month period, September 1979 - May 1980; fieldwork was to be undertaken in June 1980. Data were to be prepared and processed between July and September 1980, and then analyzed between October and December 1980. The report was to be written and the results published between January and March 1981.

The 1980 survey was to be national in scope. Separate estimates were to be derived for urban and rural areas, and for each of the following five regions: Atlantic, Eastern, Central, Pacific, and Bogota, the capital city.

The Ministry of Health (MOH) of Colombia provided the sample for the 1980 survey. It was taken from a master area sample developed by that organization. In selecting the master area sample, 1973 data, by enumeration area, were used as measures of size. The master sample was constructed using a multi-stage probability design. It consists of 60,000 households distributed over 225 primary sampling units (PSUs). The master sample was divided into 6 subsamples, each containing 1,000 segments and approximately 10,000 households. A sample segment contains approximately 10 households. Each subsample is considered to be representative of both urban and rural areas, as well as the regions.

One of the six subsamples was used in connection with the 1976 World Fertility Survey (WFS), conducted in Colombia by the Corporate Center for Regional Population Studies (CCRPS). Subsequently, this subsample was updated and used by the DANE in the 1978 Demographic Survey (EH-19). A second subsample was used in the 1980 Demographic Survey (EH-27). The MOH used a third subsample in a survey on morbidity. The fourth and fifth subsamples were used by the CCRPS in the 1978 and 1980 Contraceptive Prevalence Surveys, which were sponsored by Westinghouse Corporation.

Within the DANE, certain divisions were responsible for the different phases of EH-27. The Directorate of Design and Socioeconomic Analysis (DANAL) was responsible for planning. The Directorate of Technical Information (DINFO) oversaw fieldwork with the help of six regional directorates. Data processing was handled by the Directorate of Data Processing (DEPRO). The Directorate of Demography (DIMOG), in collaboration with the DANAL, analyzed data. The Publication Division (DIDE), within the DINFO, was responsible for publication. Forms, manuals, and specifications were the responsibility of the Division of Census and Surveys (DIPROCE), part of the DANAL. The Planning Office (OPLAN) handled scheduling and reported to the director of the DANE.

The preparation of the analytic report which included the findings from the survey was subcontracted by the DANE to Myriam Ordonez of Javariana University in Colombia.

POPLAB/UNC agreed to provide a technical and scientific input to EH-27. A series of consultative visits, requiring twenty-four person-weeks, was scheduled. These visits coincided with the crucial decision-making phases of the survey. In addition, POPLAB/UNC was prepared to support one or two members of the staff of the DIMOG who wished to collaborate in research at Chapel Hill during Phase 4 and Phase 5.

POPLAB/COL agreed to provide a minimum of fourteen designated tabulations (the Basic Tabulation Plan), classified by residence (urban or rural). POPLAB/COL also agreed to provide a comprehensive, analytical

report on the findings of EH-27. The third product was to be an edited and fully documented data tape. This was needed to ensure that respondents' information remained confidential.

As the principal statistical agency of Colombia, the DANE is responsible for conducting a variety of censuses and surveys. The planning, data processing, analysis, and publication of results are carried out at the DANE's headquarters. Data are collected, edited, and coded by the regional offices, although these activities are planned by staff at headquarters.

In 1970, the DANE initiated a series of labor-force-oriented household sample surveys that covered both urban and rural areas. Two such surveys were made each year. In 1976, it was decided the surveys would be conducted each quarter and confined to urban areas. Of these surveys, two have covered seven large cities, including the five largest. The results were published in the DANE's monthly bulletin several months after the projects were completed.

In addition to detailed questions on labor-force participation, household survey questionnaires were used. The topics were varied. The June 1977 survey, for example, included a number of questions on fertility. The DANE replaced the June 1978 urban-survey round with a national urban and rural sample design, and it introduced a demographic module that covered both fertility and mortality, in addition to labor-force participation. The findings from the June 1978 National Demographic Survey were published by the DANE in Encuesta Nacional de Hogares, Junio 1978 (The 1978 National Household Survey). The DANE has used the same approach for the 1980 labor-force survey. The 1978 and 1980 surveys were conducted in collaboration with POPLAB/UNC.

Interest in population and demography has been increasing, as has the need for additional information on fertility levels and trends. Other survey efforts have been undertaken in Colombia as a result. In 1969 and 1976, Colombia administered the National Fertility Surveys, and in 1978 and 1980 it conducted the Contraceptive Prevalence Surveys.

Methodology

Two methods were used to evaluate the survey effort in 1980. The evaluators went to Bogota, Colombia, where they compiled and reviewed pertinent documentation, and they met with officials and technicians working with the project.

A. Documentation

Most of the documents that were reviewed were provided by USAID/Washington; by POPLAB/UNC, Chapel Hill, North Carolina; and by POPLAB/COL, Bogota, Colombia.

USAID/Washington and POPLAB/UNC provided the following documents:

- Subcontract, POPLAB/UNC and DANE, "Measurement of National Fertility and Mortality Levels and Trends"
- POPLAB/UNC Trip Reports to Bogota, including:
 - #10 (May 13, 1979 - May 19, 1979)
 - #16 (August 26, 1979 - September 2, 1979)
 - #22 (November 25, 1979 - December 1, 1979)
 - #30 (March 9, 1979 - March 15, 1979)
 - #47 (July 27, 1980 - August 1, 1980)
 - #50 (July 1980)*
- POPLAB/COL Activity Reports, including:
 - I (September 1979 - November 1979)
 - II (December 1979 - February 1980)
 - III (March 1980 - May 1980)
 - IV (June 1980 - August 1980)
 - V (September 1980 - November 1980)
- Urban and Rural Questionnaires
- Copies of the Publication, "The 1978 Columbia National Household Survey: A Summary of Results"

* Prepared by Delta Systems Consultants, Inc.

- Encuesta Nacional de Hogares, Junio de 1978.

POPLAB/COL made available the following materials:

- DIMOG #1 Report on the Evaluation of the Pilot Test for EH-27, 1980
- DIMOG #4 Manual of Basic Concepts for Data Collection
- DIMOG #6 Training of Personnel for the Survey
- DIMOG #7 Supervisor's Manual
- DIMOG #8 Tabulation Plan of the Demographic Part
- DIMOG #9 Manual on Survey Techniques
- DIMOG #10 Manual on Editing and Coding of General and Demographic Characteristics.

The following unnumbered documents were reviewed:

- Manual of Basic Concepts for Data Collection, Pilot Test, April 1980
- Instructions for the Pilot Test, April 1980
- Manual for the Correction of Inconsistencies, May 1980
- Manual for the Mechanical Detection (By Computer) of Inconsistencies, Chapters A-G, 1978 and 1980 Surveys
- Data Entry Formats for EH-27
- Preliminary Drafts of the Findings from EH-27, Myriam Ordonez
- Introductory Chapter of Report on Findings of EH-27, POPLAB/COL
- Organization Chart of the DANE.

B. Briefings and Other Meetings

Briefings, discussions, and meetings were held with the following officials and technicians:

- AID

Jack Lawson, CTO, AID/Washington

Marvin Cernik, USAID/Colombia

- POPLAB/UNC*

James R. Abernathy, Director

- DANE

Humberto Gallego, Director

Elizabeth Caicedo, Chief, DANAL

Regina Mendez Heilman, Chief, DIMOG

Juan Jose Obagi, Chief, DIPROCE

Claudio Pinto, Chief, OPLAN

Rafael Arenas, DIMOG

Cristina Jimenez, DIPROCE

Rafael Palacios, Chief, DIPROCE

Jairo Gomez, Chief, DEPRO

Hector Sanin, Cheif, DINFO

- Ministry of Health

Lionel Castillo, Chief, Survey Section, Information Division

Hernando Guerrero, Chief, Registration Systems,
Information Division.

* Meetings were held with other members of the POPLAB/UNC staff to discuss different aspects of the project, as well as the country surveys.

II. PRINCIPAL FINDINGS

Progress of POPLAB/COL

The different phases of the survey, up to the data-processing stage, were completed on schedule. Then, additional time was required to produce a clean data tape. Also, the publication of the final results of the 1973 population census was given first priority. Consequently, the tabulated data were not made available for analysis and preparation for the final report until December 15; the original date was October 15, 1980. A draft of the analytical section of the final report was completed by the end of March 1981. This draft is being reviewed carefully at this time, and the figures are being checked by the DANE. The introduction to the report also has been completed. The evaluator thinks the report will be published by July or August 1981. Given the need to check and edit carefully the final results, this delay in publication is not considered to be unreasonable.

Both POPLAB/UNC and POPLAB/COL have been providing excellent progress reports on the 1980 Colombian Demographic Survey.

Quality of the 1980 Survey

The quality of the 1980 survey is discussed below. In trying to assess quality, the evaluator examined the DANE staff, technical assistance, the sample design and procedures, documentation, field organization and training, data processing, and preparation and publication of the final report.

DANE Staff

The DANE staff participating in the 1980 survey have benefited from the experience they acquired while administering the 1978 survey. They are technically competent and experienced in survey work. Several members of the staff have advanced degrees (masters and doctorates). The DANE staff work well together, and they have combined their diverse skills in demography, survey methodologies, fieldwork, data processing, and the like to produce timely reports.

During the project, a number of key staff left the DANE for one reason or another. The turnover of specialized personnel in sampling, preparation of population estimates, and the applications of software has

created problems, although other qualified technicians have been recruited and subcontracts have been awarded.

Technical Assistance

The project has been monitored judiciously by two POPLAB/UNC representatives: J. R. Abernathy and Elisha Charlett. These persons have issued six reports, each of which covers approximately one week of activity in Bogota. The reports are well written and cover all salient points. The last visit to the DANE was made at the end of July 1980. At least one additional visit should be made in connection with the review and publication of the final report to ensure the satisfactory completion of the project.

After reviewing the results of the survey, the DANE decided that its population estimates and projections were too high and needed to be revised downward. The estimate for 1980 will be used to inflate the results of EH-27 (this was done also for the 1978 survey). The DANE may need assistance to prepare these revised population estimates and projections, although such help may not fall within the scope of the POPLAB project.

POPLAB/UNC arranged to conduct a week-long seminar in September 1980 at the DANE. The seminar, on indirect estimation techniques, was conducted by Hania Zlotnick and Kenneth Hill, from the National Academy of Sciences. The DANE was very satisfied with the results of the seminar.

In response to a request from the DANE for assistance in the use of computerized software, POPLAB/UNC also arranged for an in-house seminar in July 1980. Delta Systems Consultants, Inc. was contracted to install a number of different software programs (CONCOR, Own Children III, and CLUSTERS) and to conduct a workshop in their use. DANE staff were very satisfied with the workshop and were able to use the CONCOR program, as well as their own PULOIL Corrector program, to identify and correct inconsistencies in data. A group of programmers has since left the DANE, however, and the remaining staff would benefit from a refresher course in the software programs, particularly CLUSTERS, which will be used to calculate sampling errors.

Sample Design and Procedures

The area sample for EH-27 was provided by the Colombian Ministry of Health which earlier had designed a master sample. In selecting the master area sample, 1973 census data were used as measures of size.

In the documentation, the master sample is said to have contained 60,000 households which were divided into 6 subsamples of 1,000 segments, each geographically representative of the population. However, sampling technicians at the MOH report that the master sample contained 120,000 households subdivided into 12 subsamples of 1,000 segments each. These

figures are not inconsistent with the figures for the subsamples described in the documentation.

The DANE seems to have followed the different sampling steps with great care. Because the subsample was provided by the MOH, the DANE depended on the MOH for technical assistance in its use (e.g., the weighting factors). The DANE thinks that the staff would have been more knowledgeable about the detailed aspects of the subsample design if they themselves had developed it. The DANE recognizes that it needs to develop its own master sample. POPLAB/UNC should provide a short-term consultant in sampling to assist the DANE in institutionalizing the lessons and techniques that were learned.

One of the twelve subsamples was used in connection with the 1976 Colombian Fertility Survey, conducted by the Corporate Center for Regional Population Studies. Subsequently, this subsample was updated and used by the DANE in the 1978 Demographic Survey. A second subsample was given to the DANE for the 1980 Demographic Survey. These two subsamples, which were selected using comparable methods, are the basis for the analysis of trends.

Documentation

The documentation is extensive. Instructions and forms were provided to complete the various activities.

The manuals and forms were improved following the completion in 1978 of pilot-tests of similar materials. The questionnaire was well designed and successfully used in fieldwork.

The evaluator reviewed completed questionnaires from a sample segment and checked the results in the field. The results of this check suggest that the enumerator understood and followed the instructions in the manuals.

Field Organization and Training

The key to successful fieldwork was the relatively small number of enumerators assigned to each field supervisor. In Colombia, there were ninety enumerators and thirty supervisors, with each supervisor responsible for only three enumerators. The evaluator checked the work of a sample segment and found the coverage to be complete. Generally, the work was of higher quality where supervisors monitored fewer enumerators.

Field supervisors and enumerators appear to have been trained sufficiently, and the program of training seems to have been well conceived. Both supervisors and enumerators received ten days of joint training in the design and administration of questionnaires and the application of

interviewing techniques. Supervisors and enumerators also acted out their respective roles in field exercises.

Forty percent more field personnel than were needed were recruited. Recruitment was based on earlier survey experiences. At the time of the field enumeration, there were enough trained persons for fieldwork even though numerous staff had left the DANE.

Data Processing

The DANE is very satisfied with its computer ITEL AS/53 which, presumably, is similar to the IBM 370 models.

The DANE has made good use of the CENTS and CONCOR programs. A locally designed corrector program, called PULOIL, was used in place of the CONCOR version, which was not available. Delta Systems Consultants, Inc. installed the software. The DANE is looking forward to receiving and installing the CONCOR COBOL/ALC corrector program.

Final Report

The introductory and analytical sections of the final report have been completed. The data and the results of the analysis are being checked carefully for accuracy. The analysis is similar to that for the 1978 report, but it appears to be more comprehensive. There is more detailed information on nuptiality, fertility, and mortality. In addition, the more recent report contains chapters on international migration and internal migration.

Implications of AID Funding Patterns

The POPLAB/COL project is nearing completion. No change in the AID funding pattern is expected to alter significantly plans for the project. However, it is hoped that funds will be available for an additional monitoring visit and short-term technical assistance. One week would be needed for the monitoring visit and one to two weeks for assistance in sampling and the application of software.

AID's Need for POPLAB/COL Data

POPLAB/COL is an important project. It will verify and establish current fertility and mortality levels in Colombia and provide the data needed to estimate trends. On the basis of the results of the 1980

survey, the DANE is expected to revise downward its population estimates and projections.

III. RECOMMENDATIONS

DANE Staff

To reduce the rate of turnover, a program of in-house seminars and workshops should be organized and conducted for intermediate-level staff. These seminars should cover the functions and duties of the mid-level workers.

Technical Assistance

POPLAB/UNC should make an additional monitoring visit in connection with the review and publication of the final report.

To institutionalize the lessons and techniques learned during the project, POPLAB/UNC should provide to the DANE short-term technical consultations in sampling and software application.

Sample Design and Procedures

As the principal statistical agency for Colombia, the DANE should develop its own sampling frame for future household-survey activities. In this way, the DANE can be directly responsible for changing and improving the sample design.

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ISN 696

REPORT ON A SITE VISIT TO INDONESIA
(May 19-26, 1981)

A Report Prepared By:
DENNIS P. HOGAN, University of Chicago

During The Period:
MAY 25, May 29, and June 1, 1981

Under The Auspices Of The:
AMERICAN PUBLIC HEALTH ASSOCIATION

Supported By The:
U.S. AGENCY FOR INTERNATIONAL DEVELOPMENT,
OFFICE OF POPULATION

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ABBREVIATIONS

| | |
|---------|---|
| AID/W | Agency for International Development/Washington |
| BKKBN | National Family Planning Coordination Board |
| CBS | Central Bureau of Statistics |
| EJMRS | East Java Multiple Round Survey |
| EJSO | East Javan Statistical Office |
| MSSS | Multiple Subject Socioeconomic Survey |
| POPLAB | International Program of Laboratories for Population Statistics |
| SUSENAS | First Round of the Multiple-Subject Socioeconomic Survey |
| UNC | University of North Carolina |
| UNC/CH | University of North Carolina, Chapel Hill |
| UNDP | United Nations Development Program |
| UNFPA | United Nations Fund for Population Activities |
| WFS | World Fertility Survey |

I. INTRODUCTION AND BACKGROUND

The Indonesian component of the POPLAB Birth and Death Data Collection Project involves a multiple-round survey of more than 20,000 households in the province of East Java. In 1971, East Java had a population of 25,517,000; by 1980, the population had swelled to approximately 30,000,000 persons. East Java is rural, but it includes Surabaya, the second largest city in Indonesia. An intensive family planning effort has been initiated in the province and is cited widely as representative of the success of the Indonesian family planning program.

A review of family planning service statistics and of the results of various single-round demographic surveys in Indonesia (including the World Fertility Survey, or WFS) indicates that fertility is declining. This observation is based on own-children estimates of fertility and pregnancy histories--data which some demographic experts feel may be reported inadequately in Indonesia. Age-misstatement and failure to report small children are especially crucial problems. Although indirect estimates of mortality have been made in Indonesia, there is disagreement over the applicability of the estimation techniques to Indonesia. Despite claims to the contrary, the success of the Indonesian family planning program in promoting contraceptive use and reducing fertility in the 1970s has not been documented conclusively.

Preliminary tabulations have been made of the 1980 census data. The results suggest that the Indonesian population grew at an annual rate of 2.34 percent from 1971 to 1980. This rate is comparable to that for the 1961-1971 period. Pre-census projections of the rate of natural increase were approximately 2.0 percent per annum.

In examining the results of the census, the Indonesian public has called into question the successes claimed by the Indonesian family planning program. Professional population researchers recognize that the growth rate represents the decadal, and not the current rate, of increase, and that the higher-than-expected rate of natural increase may be the consequence of improvements in census coverage, unanticipated declines in mortality, or higher-than-expected fertility rates. But, given the demographic data available before the East Java survey, professional demographers cannot measure precisely birth and death rates, and thus they cannot validate or invalidate the claimed success of the family planning program.

II. STRUCTURE OF THE PROJECT

Purpose of The East Java Survey

The East Java Multiple Round Survey (EJMRS) is designed to provide valid and reliable estimates of age-specific birth and death rates in East Java, information to calculate errors in measuring fertility and mortality when indirect estimation techniques or data from a single survey are used, and data to improve the vital registration system of the country. While visiting Indonesia and POPLAB's office at the University of North Carolina (UNC), the evaluator discussed the objectives of the survey. AID/Jakarta and AID/Washington are interested primarily in the first goal. Indonesian family planning program officials also emphasize the first goal. Indonesian demographers mention the first and second objectives. POPLAB personnel emphasize the importance of the third goal especially, but they also mention the other two purposes of the survey. The differences in emphasis have important implications for the survey, affecting how it is administered. The effects of those differences are described below.

Selection of the East Java Site

Only East Java Province was selected to be the site of the survey, and not all of Java, Java and Bali, or some other, more comprehensive area of coverage. The selection, which followed discussions between the Indonesian Central Bureau of Statistics (CBS) and POPLAB, reflects both substantive and administrative considerations.

As the showcase for the Indonesian family planning program, East Java was the appropriate choice of site for an evaluation of the reputed successes of the program. The study of contraceptive prevalence, and of levels and trends in fertility in East Java, will provide the documented, objective evidence needed to confirm or refute the program's success in the province. Furthermore, it can be viewed as a means to improving vital registration procedures in the country. The provincial governor of East Java has emphasized the value of a vital registration system, and he has taken administrative action to strengthen that system. This is evidence of East Java's serious interest in achieving a goal to benefit the nation.

The Central Bureau of Statistics, located in Jakarta, is responsible for a large number of data-collection projects. To improve efficiency, the CBS decided to upgrade its provincial offices to enable staff there to pursue province-level research and to manage the participation of the provinces in nationwide studies. Before the EJMRS began, the provincial office in Surabaya budgeted money for a new office complex, a computer,

and computer facilities. Although construction of the offices was delayed, the computer facilities were completed. Personnel were transferred from CBS/Jakarta to CBS/Surabaya to upgrade the research capabilities of staff in Surabaya. The EJMRS was viewed as an excellent opportunity to use the staff's research capabilities. POPLAB also located a resident adviser in Surabaya to help upgrade the research capabilities of CBS staff.

All the persons who were consulted during the site visit agreed that it was correct to concentrate the survey in East Java alone. No one felt that the survey should have covered more than that province. Several said, however, that they hoped this kind of survey could be extended ultimately to other provinces.

Considering the goals of the survey and the desire of the CBS to upgrade the Surabaya office, the evaluator believes that it was appropriate to select East Java Province as the site of the survey. (It is important to remember that the province, with a population of approximately 30 million, is larger than many nations.)

The Multiple Round Feature

The East Java survey consists of three annual interview rounds. The first began in 1980. The households that were surveyed in the first round will be revisited in subsequent rounds, and demographic changes in the households during the interim will be ascertained. POPLAB will use a variety of direct and indirect methods of estimation. The retrospective data collected in the initial survey will be used to estimate vital rates. Information on changes in the demographic composition of households between survey rounds will be used to calculate age-specific birth and death rates. The survey takes into account the migration of sample households and the construction of new households in sampling units. The multiple-round data also will be used to calculate age-specific rates of migration, marital formation and dissolution, and school enrollment and dropout rates.

The EJMRS is of such magnitude that it could not be carried out in each of the major provinces in Indonesia. And, as a multiple-round study, it differs from earlier demographic surveys in Indonesia. It is believed that the EJMRS will provide accurate data on fertility and mortality levels and trends. Demographic processes will be observed directly and vital rates will be calculated. In earlier studies, indirect techniques were used to estimate mortality and fertility, and the resulting information appeared to conflict with the findings from recent censuses. The EJMRS will rely on direct, and not indirect, methods of estimation. It will, therefore, provide detailed data on fertility, mortality, and migration for demographers and policymakers in Indonesia. This is a key strength of the survey.

Officials at the Central Bureau of Statistics in Jakarta are keenly interested in using the direct estimates of fertility and mortality from the EJMRS to evaluate the validity of indirect estimation techniques. When the appropriate indirect techniques for estimating vital rates in Indonesia have been identified, they can be applied to the results of single-round surveys in other provinces, and with the knowledge that the data will be accurate.

Selection of the Subcontractor

POPLAB's decision to select the CBS to be the subcontractor for the survey was sound. The CBS is the only research organization in Indonesia capable of conducting a survey like the EJMRS. The organization is responsible for much of the demographic and socioeconomic data collected in Indonesia. It conducts the decennial census, and many demographic surveys as well. It has managed such important studies at the Indonesian World Fertility Study. The CBS has a trained and experienced professional staff, in addition to a staff of trained (male) interviewers. It also has developed a sampling frame suitable for use in the East Java study.

The National Family Planning Coordination Board (BKKBN) has the personnel and resources to conduct the EJMRS. But, because one of the goals of the project is to estimate age-specific vital rates to evaluate the success of the national family planning program, an independent, official research organization (such as the CBS) had to be selected to manage the survey. Public and professional acceptance of the findings will be enhanced because the survey was conducted by an agency independent of the BKKBN. Officials at AID/Jakarta, the CBS, and the BKKBN mentioned that this was an important consideration.

Negotiation of the Subcontract

In the subcontract POPLAB negotiated with the CBS, the production phase is described in detail, and tentative timetables are suggested. Nowhere in the subcontract is there a detailed description of the expected analysis. A specific project report is not required. In consultation with the CBS, POPLAB/UIIC has primary responsibility for the sample, design of the questionnaire and survey plans, and manual preparation of data. The CBS has primary responsibility for the collection, tabulation, analysis, and publication of the data, for which POPLAB is obligated to provide assistance. It was evident during the site visit that the CBS will issue a project report with the assistance of POPLAB. The requirement

of a report, including a specified date for publication, should have been written into the subcontract.

The CBS operates on a twelve-month budget cycle. Each quarter funds for activities are forwarded. Given the vagaries of international banking arrangements, this funding procedure can create problems. For example, the CBS received money to train interviewers but it did not receive money for scheduled fieldwork until three months later.

The total costs for the project, \$182,746, apparently were estimates based on Indonesia's experience with mid-decade demographic surveys. In informal conversations with the evaluator, officials indicated that costs have been considerably higher. Although the CBS has covered some of the additional expenditures, it is anticipated that all survey funds will be expended before the contract expires. Because funds for the project are forwarded quarterly, no formal request to amend the subcontract so that additional funds can be allocated will be made until funds are virtually exhausted. POPLAB should review the conditions for funding the subcontract. If necessary and if appropriate, the subcontract should be amended to provide additional funds.

Use of In-Country Personnel

The professional staff at the CBS have participated in most survey activities. CBS/Jakarta worked with POPLAB to design and pretest the sample and questionnaire. The East Javan Statistical Office (EJSO), the East Java branch of the CBS which is located in Surabaya, trained the interviewers, managed the fieldwork, and coded and edited data. Basic tabulations will be produced on the EJSO computer in Surabaya. An own-children analysis of the survey data will be done in Jakarta. The calculation of fertility rates using data on last live births will be done in Surabaya and at POPLAB.

All the parties involved in the research appear to be satisfied with POPLAB's contribution to the survey. The arrangements to divide labor between the CBS and the EJSO seem to be working well. Information and data appeared to be moving fairly freely among the CBS, the EJSO, and POPLAB. (This is due to the presence of Steve Wilson, POPLAB's resident adviser in Indonesia.)

CBS personnel are experienced in administering demographic surveys, but the consensus is that the EJMRS could not have been conducted without POPLAB's assistance. The EJMRS required the collection of different kinds of data and a variety of analytical techniques that had not been used before in Indonesia. POPLAB's guidance was required to ensure that these techniques were applied correctly and successfully. The Indonesians also

were inexperienced with a multiple-round survey and needed assistance to design and implement it.

Officials at the CBS and POPLAB are confident that Indonesian personnel can conduct the third round of the survey with limited input from POPLAB. (POPLAB's resident adviser is scheduled to leave Indonesia before the third round begins.) The survey methodology is fully developed, and it is reasonable to expect the CBS and the EJSO to complete the collection of data. In all conversations with the evaluator, officials emphasized data production, and not data collection. There is concern that the CBS and the EJSO can analyze successfully the survey data. The CBS probably can complete an own-children analysis of data on households because it is experienced in the technique. The direct calculation of fertility and mortality using data from the second and third survey rounds is relatively straightforward and undoubtedly can be completed. It is less likely, however, that the analysis of indirect techniques of fertility and mortality can be completed without POPLAB's assistance. The subcontract contains a provision that permits CBS personnel to visit POPLAB if assistance in data analysis is needed.

Should the CBS decide to sponsor in other provinces surveys similar to the EJMRS, it should be able to use the experience it gained while administering the EJMRS to conduct reasonably high-quality surveys. Undoubtedly, periodic consultation with POPLAB or some other demographic center would be necessary, but it could be more limited than that required for the EJMRS.

Administration of a Broad Survey

POPLAB has discussed the possibility of conducting in East Java a broad survey that would be a component of the EJMRS. POPLAB reports that there is some enthusiasm in Indonesia for such a survey, but further consideration of the matter has been postponed until POPLAB clarifies with AID/Washington its problems with funding. The CBS does not seem to be enthusiastic about the broad survey, but the East Javan Statistical Office is interested. The CBS does not believe that the kinds of issues addressed in the broad survey are of particular importance in Indonesia at this time. It indicated that a broad survey would present logistical problems because it would require the hiring and training of female interviewers. The CBS maintains a staff of male interviewers. If POPLAB succeeds in involving the UNC in the effort, students could be used as interviewers. The EJSO is interested in undertaking another survey, independent of the CBS, but there is concern that such a survey might over-extend the organization.

A variety of social and economic data was collected in the SUSENAS (see Chapter III). The EJMRS respondents were drawn from the same sampling

frame as the SUSENAS respondents. SUSENAS respondents are a subset of EJMRS respondents. By matching data from the two interviews, a de facto broad survey could be made available. It is planned to do this.

Given the disagreement among Indonesians about conducting a broad survey at this time, and the possibility of creating a broad survey by matching the records of respondents to both the SUSENAS and the EJMRS, it may be appropriate for POPLAB to reconsider the selection of Indonesia, should funding for a broad survey be made available by AID/Washington.

III. DATA PRODUCTION

Sample

POPLAB's sampling experts considered a variety of alternative EJMRS sampling procedures. After a number of trips to Indonesia and considerable discussion of alternatives, it was decided to use the sampling frame developed by the CBS for its Multiple-Subject Socioeconomic Survey (MSSS), the first round of which was called SUSENAS. In 1979 census personnel mapped in detail the sample blocks for the MSSS. This activity coincided with the preparation of a map for the 1980 census. The sample is a three-stage random probability sample. Although designed to be approximately self-weighting, it includes weights that make it representative of the population.

At the sample block or village-level, interviewers followed the CBS practice of substituting a neighboring house for a sample housing unit that was empty. This practice can lead to problems. POPLAB, therefore, included an item on the survey screening sheet to indicate that the household being interviewed was either a sample household or a substitute. Apparently, it was difficult to get the interviewers to indicate a substitution because they were accustomed to substituting households without noting that they had done so. POPLAB personnel seem to think that, given the information available, substitution occurred infrequently.

POPLAB expended considerable effort to design the sample. In conformance with a requirement in the contract with AID, a representative random sample was used ultimately in the EJMRS. The sample is considered to be representative by prospective consumers of the data.

Questionnaire

Most of the basic questions in the POPLAB model questionnaire were used in the EJMRS. The model questionnaire includes an item on death in the household in the past twenty-four months. The CBS earlier tried to use a similar question and found that it would not work in Indonesia; it therefore excluded this kind of question from the EJMRS. Other items in the model questionnaire on infant mortality, widowhood, and orphanhood were included in the EJMRS; responses to these questions will be used to make indirect estimates of mortality. Direct estimates of mortality will be made using data on mortality collected between survey rounds. POPLAB's standard questions on fertility are included in the EJMRS.

In addition to ascertaining the date of the last live birth, interviewers will determine whether the last live birth occurred before the

next to last Lebaran. The Lebaran is a major religious holiday. It is believed that this information will be more useful than the date of birth data, which is subject to considerable misstatement in Indonesia. All the persons who were interviewed said this was a successful innovation.

The format of the POPLAB model questionnaire was not used. The format of the EJMRS questionnaire conformed to that of standard CBS surveys. Although it appears to an outside observer to be awkward, it presented no problems for the interviewers, who were accustomed to a questionnaire in this format. The design was sturdy, and the questionnaires were suitable for use in several rounds of interviewing.

The CBS was particularly interested in the value of the EJMRS as a tool to evaluate the family planning program and it insisted on the inclusion of three questions on contraceptive knowledge, practice, and method. POPLAB did not object to the inclusion of these questions, but it also did not encourage their use. Persons who were contacted during the site visit believe the questions on contraceptive prevalence will be extremely useful for policy analysis. The evaluator, too, believes they are a valuable addition to the survey instrument. (The staff for the Westinghouse Contraceptive Prevalence Survey were in Indonesia at the same time as the evaluator, but they were not involved in discussions about the inclusion of questions on contraceptive prevalence in the EJMRS.)

The questionnaire was pretested in Jakarta before it was used in East Java. Some minor problems were identified in the pretest and corrected.

Interviewers

The CBS maintains a staff of trained interviewers (the mantri statistik) who are used for mapping, identifying the sample households, and interviewing. The mantri statistik are experienced in the collection of demographic data. In earlier surveys and in the 1980 census, they asked limited questions about contraceptive prevalence. Their availability for the EJMRS gave the CBS an advantage as the subcontractor.

Approximately 700 interviewers were trained carefully in the specifics of the EJMRS for the first round of the survey. The classes, for approximately 35 persons, lasted one and one-half days. Field supervisors also were trained during these sessions. Manuals for interviewers were prepared. In the field, every mantri statistik was assigned to a supervisor from the regency office technical staff. The field supervisor sat in on at least two interviews by each mantri. Supervisors checked completed questionnaires in the field for deficiencies. Deficient questionnaires

were returned to the mantri for correction and, if necessary, reinterviews were conducted.

Standard procedures were followed in the field to produce sound demographic data. The EJSO plans to examine the data collected by different interviewers to assess the quality of the interviewing. No post-enumeration surveys or reinterviews were conducted to determine the validity and reliability of the data. Similar procedures are being followed in the second and third rounds of the survey.

Editing

A manual for editors was prepared for the EJMRS. The editors, many of whom were experienced, were educated in all aspects of survey interviewing and were trained with the editing manual. As data from the field arrived at the EJSO, they were edited for completeness, consistency, and acceptability. Editors were closely supervised in the early stages of data processing.

All questions were closed-ended and precoded. The edited data were entered directly onto discs using a keyboard-to-disc system. A number of checks were made while data were being entered to prevent the entry of illegal data codes.

The data were verified and then edited on the Surabaya computer. The editing program was written by the head of the Computation Center at the EJSO. Errors were corrected by referring to the questionnaire. The data-entry and editing process took longer than expected because EJSO staff were involved in the 1980 census. The schedule, consequently, was delayed approximately six months. This delay was unfortunate but unavoidable. By the time of the site visit, the data-editing process had been completed, and a clean data tape had been made available for processing.

Data Analysis

Data analysis had just begun when the evaluator arrived. The EJSO Computation Center was producing the tabulations needed to calculate indirect estimates of fertility and mortality. The COCENTS program was being used to produce the requisite cross-tabulations. Because the language of the IBM Fortran is incompatible with that of the EJSO ICL computer, the packaged programs for indirect estimates of fertility and mortality which POPLAB ordinarily uses have not been installed. The calculations will have to be done by hand using the computer-produced cross-tabulations. This is not a serious problem because the calculations are not complex.

Preliminary own-children estimates of fertility based on the EJMRS had been completed by the time of the site visit. The calculations were done at the CBS, where the East-West Population Institute's program for own-children analysis is available. A review of the preliminary calculations reveals a rapid decline in fertility in East Java over the last ten years. The estimates correspond closely to the own-children estimates based on the 1979 SUSENAS.

At the time of the site visit, Sri Poedjastoetic, chief of the Social Statistics Section of the CBS, was at the University of North Carolina at Chapel Hill. She brought a copy of the EJMRS data tape to POPLAB, where she worked with Jeremiah Sullivan on the analysis of the last live-birth data. An analysis of these data was also planned at the EJSO. Steve Wilson indicated that POPLAB also would produce the other indirect estimates of fertility and mortality in North Carolina to check the accuracy of the EJSO's figures.

All aspects of data production were planned carefully. POPLAB prepared manuals and memoranda to guide the discussions and guarantee the quality of the results. The analysis of the EJMRS has not been planned carefully. There is a general understanding of the kinds of analyses that will be undertaken, and the CBS is expected to issue a report documenting the technical aspects of the EJMRS and containing the initial results. No agreement has been reached on the division of labor. It is unclear who is responsible for producing the report on the first round of the survey. No decision has been made about the tabulations that will be used in the report. No outline of the topics to be covered has been written; nor has a list of the tabulations been prepared.

These shortcomings are the result of POPLAB's failure to prepare a manual of technical recommendations for data analysis. POPLAB did prepare a supplement to Manual 7, "A Basic Demographic Questionnaire: Data Collection and Analysis in Sample Surveys," which contains recommendations for certain tabulations. The recommended tables contain the base data for the analysis. However, the authors of the supplement do not explain how indirect estimation techniques can be applied to the base data to produce age-specific fertility and mortality rates. In a memorandum to POPLAB technical staff, dated November 1979, H. Bralley Wells suggested a format for a prototypical report. None of the persons contacted in Indonesia has ever seen this memorandum.

The staffs of the CBS, the EJSO, and POPLAB are capable, and they all are keenly interested in analyzing the data from the EJMRS. It is not unreasonable to expect that a report on the first round of the survey will be written. But the production and release of the first report may be delayed because the analysis of the data was not planned carefully in advance, the division of labor was not made clear, and POPLAB failed to provide guidelines to produce country reports.

Dissemination of Results

Policymakers are awaiting eagerly the results of the survey. Data on the level of fertility and contraceptive prevalence in East Java are needed to evaluate the effectiveness of the national family planning program. Persons at AID/Jakarta and at BKKBN offices in Jakarta and Surabaya are confident about the quality of the EJMRS and are eager to learn of the results.

Policymakers at the BKKBN mentioned that the EJMRS will be useful in obtaining accurate estimates of the number of currently-married women of reproductive age in each administrative district in East Java. These data and the information on fertility and contraceptive prevalence will be used to set family planning program targets for each district.

Michael Philley, AID/Jakarta, is interested in using the survey results to evaluate the comprehensive health care program to reduce infant and maternal mortality. This experimental program is under way in East Java. Although the standard errors will be large, it seems worthwhile to try to use the EJMRS data to measure the effects of the program.

Recently, development planners have become concerned about the rate of school enrollment and dropout. In the second and third rounds, the EJMRS will provide annual estimates of age-specific rates of school enrollment and dropout. These data will be a unique output.

The Central Bureau of Statistics plans to use the direct estimates of age-specific fertility and mortality rates to evaluate the validity of single-survey techniques for estimating fertility and mortality in Indonesia. It is hoped that the best single-survey estimation methods can be identified for use in future national surveys. The demographic capabilities of the CBS will be improved if this goal is realized.

It is unclear how the data will be used to improve the registration of vital events in East Java.

The policymakers who were interviewed appear to be well informed about the EJMRS. The EJSO prepared a brief paper (in Indonesian) describing the survey and circulated it to appropriate officials throughout East Java and in Jakarta. The chief of the Bureau of Planning of the BKKBN has invited Dr. Sam Suharto and Steve Wilson to present the preliminary results of the survey during a seminar at the BKKBN's office in Jakarta. The EJSO plans to send to each administrative district official of the BKKBN a summary of the results of the survey.

There is every indication that the East Java Multiple Round Survey will produce data useful to policymakers. Family planning officials and demographers are fairly well informed of the progress of the survey.

There is keen interest in the results of the survey. If the first report, which is expected to be a high-quality analysis, is issued quickly, the principal goal of the survey will have been achieved. The quality of the second and third survey reports cannot be evaluated at this time.

The Role of POPLAB

Officials at the Central Bureau of Statistics and the East Javan Statistical Office speak highly of POPLAB personnel and their activities in Indonesia. They agree that POPLAB provided sufficient assistance in designing the survey, completing fieldwork, and producing data. The Indonesians seem to feel that their own capabilities have been used well and that their demographic survey capabilities have improved as a result of working with POPLAB on this project.

All officials speak highly of Steve Wilson, POPLAB's resident adviser in Indonesia. Wilson has excellent working relations with the staffs of the CBS and the EJSO. He is a valuable addition to the corps of short-term technical consultants who visit Indonesia. Wilson has assumed important training responsibilities in the EJSO, and he has helped also to ensure the success of the survey. His performance in Indonesia is commendable.

The trip reports and memoranda filed by POPLAB staff contain accurate and informative descriptions of the activities that are part of the Indonesian Birth and Death Data Collection Project.

IV. CONCLUSIONS

The East Java Multiple Round Survey is well designed to fulfill the requirements of the contract with the AID. The project meets Indonesia's need for policy-relevant data and is a useful training exercise. The quality of data production is impressive. The planning for data tabulation and analysis has been somewhat haphazard and needs to be improved. The subcontract needs to be examined to determine whether expenditures have increased and whether changes in forward-funding procedures are merited. The administration of a broad survey in Indonesia should be reconsidered if funds for such a project become available.

Appendix

LIST OF CONTACTS IN INDONESIA

Charles Johnson, Head, Population Division, USAID/Jakarta

Michael Philley, Population Division, USAID/Jakarta

Steve Wilson, Resident Adviser, POPLAB

Sam Suharto, Subcontract Principal Investigator, Head, Bureau of Social and Population Statistics, Central Bureau of Statistics

Madi Mamas, Chief, Population Division, Central Bureau of Statistics

Budi Soeradji, Chief, Policy Analysis Division, Central Bureau of Statistics

Haryono Suyono, Deputy Director, National Family Planning Coordination Board

Soetedjo Moeljodihardo, Chief, Bureau of Planning, National Family Planning Coordination Board

Jay Parsons, Coordinator, United Nations Fund for Population Activities, Indonesia

Fred Reed, Adviser, United Nations Development Program, Indonesia

Richard Sturgis, Population Council Representative, Indonesia

Soekajat, Chief, East Javan Statistical Office

Mahmudi, Deputy Chief, Technical Division, East Javan Statistical Office

Lukito, Staff, Technical Division, East Javan Statistical Office

Suharso, Head, Computer Division, East Javan Statistical Office

Kadang, Head, Data Entry Section, Computer Division, East Javan Statistical Office

Mrs. Suharso, Head, Computer Operations, Computer Division, East Javan Statistical Office

Pongestu Hadi-Soekarno, Director, East Java Branch, National Family Planning Coordination Board

E.G.P. Haran, Population Council Representative, East Java Branch,
National Family Planning Coordination Board

Dudy Sulaeman, Head, Programming Section, Computer Division, East Javan
Statistical Office

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REPORT ON A SITE VISIT TO SOMALIA
(March 15-21, 1981)

A Report Prepared By:
CONRAD TAEUBER, Professor of Demography

During The Period:
MARCH 30 AND 31 AND JUNE 17, 1981

Under The Auspices Of The:
AMERICAN PUBLIC HEALTH ASSOCIATION

Supported By The:
U.S. AGENCY FOR INTERNATIONAL DEVELOPMENT,
OFFICE OF POPULATION

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EXECUTIVE SUMMARY

The project in Somalia is on schedule and within the planned budget. However, although a set number of nomadic households was targeted for interviews, the rains came earlier than expected, before the interviewing could be completed. It is not possible at this time to describe the full effects of the shortfall.

The samples for the survey were drawn with great care, despite very real difficulties in the field and the lack of what were said to be the best maps available.

Much of the fieldwork has been completed. Remaining activities are well under way, and, at most, are no more than a week or two behind. The situation may change, however, with changes in the weather, for an end to the dry spell, or even a heavy rain, would enable the nomadic population to move out of areas where water is concentrated--the principal areas selected for sampling.

Completed questionnaires are legible and essentially complete. The computer check for inconsistencies and impossible entries has just begun. Few errors have been found. No major problems were reported following manual review by supervisors in the field and coding.

The sampling instructions seemed to have been followed carefully, and great care was taken to develop procedures that would ensure that the interviewers observed the requirements of the sampling staff.

The entire operation has been dependent upon AID funding. The Central Statistical Department in Somalia has been particularly active. Local staff, too, have been acquiring experience while helping to administer the survey.

Tabulation is expected to be a problem. In examining the age entries on the questionnaires, the evaluator noted that many respondents could not provide the information that interviewers were seeking. There is a substantial concentration of ages divisible by five and ten. To measure fertility and mortality in the survey area, it will be necessary to develop procedures that take into account this fact.

AID is interested in the health program proposed for the survey area, and in other population-related projects as well. The information being collected in the survey is needed. As baseline information, it can be used to plan and implement the proposed health program. It also can be used to measure changes that occur during the health project.

ABBREVIATIONS

| | |
|--------|---|
| GNP | Gross National Product |
| POPLAB | International Program of Laboratories for Population Statistics |
| PSU | Primary Sampling Unit |
| SPC | State Planning Commission |
| U.N. | United Nations |
| UNC | University of North Carolina |
| UNFPA | United Nations Fund for Population Activities |
| USAID | United States Agency for International Development |

I. INTRODUCTION

Somalia is one of the poorest countries in the world. The Gross National Product (GNP) was estimated to be \$110 per capita in 1977. Somalia contains approximately 3.5 million persons who are scattered over some 638,000 square kilometers. The average density is five persons per square kilometer. Statistics generally are lacking. A Census of Population was taken in 1975, but the data had not been released as of mid-1981. The birth rate is estimated to be approximately 47/1,000, and the death rate is approximately 21/1,000. The annual growth rate is between 2.5 percent and 3.0 percent.

It is estimated that, in normal times, food provides approximately 2,230 calories per person--approximately 80 percent of the estimated requirements. Approximately 83 percent of the labor force is engaged in agriculture. Livestock is a major agricultural product. More than half the population engaged in agricultural activities is reported to be nomadic, moving with herds of camels, cattle, sheep, and goats in search of water and forage. Both water and food were in critically short supply early in 1981, and the effects of these shortages were felt in the southern part of the country. The nomads altered their patterns of movement in response to the drought. Their new patterns again changed when the rains came, providing new sources of water for the animals.

None of the estimates includes the large number of refugees who have come into the country to escape from the continuing conflict with neighboring Ethiopia. The number of refugees--estimated to be 1.5 million early in 1981--continues to grow. Refugee camps are located primarily in northern Somalia.

The severe drought and the presence of refugees have become national problems, but the POPLAB project, located in the south, has been relatively unaffected by the influx of refugees.

II. THE PLAN FOR THE PROJECT

The Demographic Survey of the Bay and Lower Shebelle Regions is being administered under a contract between the University of North Carolina at Chapel Hill (POPLAB/UNC) and the State Planning Commission (SPC) of the Somalia Democratic Republic. The Central Statistical Department in the SPC is responsible for project operations.

The project officially began on January 1, 1980. It is scheduled to conclude on March 31, 1982.

Objectives

The objectives of the project are described in the contract, which reads:

The objective of this project is to conduct a demographic survey of the Bay and Lower Shebelle Regions. Specific goals are: a) to obtain reasonable, reliable estimates of current levels and trends of fertility, mortality, and migration for the three sectors of urban, rural-settled, and nomadic populations [and] b) to improve the capability of the Central Statistical Department for carrying out sample surveys.

After further negotiations, it was decided that the district including the capital city, Mogadishu, would be included in the geographic area for the survey.

It is stipulated in the contract that POPLAB/UNC will provide technical assistance, especially in sample design and selection, data processing, computer editing, interviewer-training, field operations, questionnaire design, and the analysis and presentation of survey data in written reports.

Methodology

It was specified that POPLAB/UNC staff would make short-term visits to Somalia to provide technical assistance or to consult with SPC staff who traveled to Chapel Hill. A member of the POPLAB staff was assigned responsibility for continuing project support.

It was specified that the State Planning Commission would have primary responsibility for administering the survey. Specifically, the SPC

was to be responsible for translating and printing the questionnaires and manuals for all three stages of fieldwork; producing a list of urban districts, villages, and water points in the Bay and Lower Shebelle to be used as a sampling frame; recruiting and training approximately thirty interviewers for the fieldwork scheduled for August 1980 and February 1981; providing a sufficient number of vehicles, in working condition, to pretest the mapping and house-listing operations and to conduct the main fieldwork; providing clerical staff to edit, code, and keypunch the data; providing computer-processing facilities and staff time for data processing to ensure the timely production of edited data tapes; publishing and distributing the final report, at least fifty copies of which were to be made available to POPLAB/UNC; and contributing all the necessary physical facilities, including adequate office space and furnishings.

Costs and Timephasing

Total costs were estimated to be \$152,308, with POPLAB/UNC contributing \$113,700 and the Government of Somalia, \$38,608.

By the time of the visit (March 1981), all the questionnaires from the settled areas were to have been collected, the data were to have been edited and coded, and keypunching was to be under way. Machine editing also was to have begun in March. The schedule was met. Questionnaires are being edited and keypunching is under way.

The director of the project, who is also the director of the Central Statistical Department, plans to come to Chapel Hill later in the year for the computer tabulation and analysis of the survey data. The standard prototypical procedures developed by POPLAB/UNC will be followed to tabulate and analyze the data. The computer equipment available in Mogadishu is adequate for editing, but it cannot be used to prepare the more detailed analytical tables.

III. EVALUATION OF THE SURVEY

At this time, the project is considered to be on schedule, and the work remaining to be done in Somalia is in hand. The survey of the nomads was to have been completed in February 1981, but the rains came earlier than expected, making it impossible to complete all the interviews. With the appearance of rain, the movement of the herds altered and this, in turn, changed the probabilities for the selected water points. Roads in the areas became impassable. The completed interviews of nomadic households must be studied before the effects of these developments can be assessed fully.

Methodology

After studying the distribution of the population in the country, officials decided that the enumeration should be conducted in stages. In the first stage, the settled population, estimated to be approximately 40 percent of the national population, was interviewed. The nomadic population within the defined geographic area was interviewed in the second stage. For the settled population, it was possible to develop a sampling pattern of clusters of housing units and to interview the occupants of these dwellings. It was reported that maps showing the location of each village had been prepared for the military. Unfortunately, the maps were not made available for the POPLAB survey. Thus, as the first step in drawing a sample, a complete list of villages in the districts included in the survey, and a map of each district, were prepared. The inadequate lists and maps which were available were the starting point for this work.

The nomadic population is so scattered and moves about so frequently that it is not possible to pin it down to one geographic area. The nomads can, however, be tracked to water points. These are places to which nomads bring their herds of camels, livestock, sheep, and goats for periodic watering. They are identifiable locations. In one area, one might find mechanized motor-driven wells and permanent tanks and troughs, in another, ponds where surface water collects. Some water points are holes dug in dry river beds. A list of water points was prepared and a sample was drawn, with the probability proportionate to size, size being a measure of the number of nomads who characteristically use the particular facility.

Field crews were sent to the sample water points with instructions to interview drovers with camels, drovers with cattle, drovers with sheep and goats, and drovers with mixed herds. Camels are said to require water every two weeks, whereas cattle, sheep, and goats are watered more frequently. Thus, the crews were less likely to encounter at a given water point a nomad with a herd of camels than a drover with only cattle, sheep, or goats. Interviews were conducted on the spot with whatever member of

the household was present. It was not feasible to go back to the households because, in many instances, the wives and children lived long distances away from the particular water points where drovers were found.

Management of the Survey

The interviewers were recruited from government offices in the State Planning Commission, in particular, the Central Statistical Department, and from other ministries as well. As many women as men were trained as interviewers. Some secondary school students were hired to supplement the staff. It was decided that interviews would be conducted by teams and that each team would consist of five or six interviewers and a supervisor. The all-important driver was also a member of the team. The teams were dispatched by the Central Statistical Department to the sample points, where they camped until the interviewing in the particular areas was completed. Guest-house facilities were not available usually, and it was necessary to rent tents and carry some cots.

To maintain the crews of interviewers in the field, a variety of items which one would not expect to be needed was provided. Specifically, the contract provided for forty flashlights with batteries, fifty blankets, and four sets of cooking utensils.

Transportation to many watering places was particularly difficult. It was not feasible to have people go from their homes and back the same day. Nor was it practical to try to recruit local interviewers. Few persons owned automobiles. Therefore, a central pool of the Central Statistical Department provided transportation for the interviewers.

The government provided substantial support for surveys in settled areas, and particularly for the enumeration of nomads. It was necessary to purchase not only supplies, but also food for each team for the duration of the activity. The teams could not count on finding food in the areas where they were working. Exemption from gasoline rationing also was sought. According to those who were interviewed, the government was particularly cooperative, and all matters were settled expeditiously. There were no delays in releasing staff assigned to the project, or in securing transportation and necessary supplies, including supplies being rationed in the city and certain purchases that normally are limited to a specified quantity each day or every other day.

Conditions On Site

The conditions under which some of the work was done were best described by one of the technicians from POPLAB/UNC who was helping to draw

the sample. He wrote in his trip report: "The work in the villages was delayed by numerous vehicle breakdowns, heavy rains, and occasional sickness of team members. During the week of July 16 we were able to visit 17 out of some 90 sample villages."

It is difficult to prepare a list of the villages in a country, but the difficulty of this task pales in comparison with the problems of listing individual water points and their locations. Another consultant wrote in his trip report: "The information on items such as nomadic families using water points per day, and type of herds watered[,] is very rough and should be used with caution. I was told that many wells were either already dry or would be dry, as they did not have enough water in them by the time the nomadic survey [was] carried out in late February or early March. [The team developing a list of water points] was encountering some problems due to the gasoline shortage. The Bay team was also encountering problems due to gasoline shortage, but progress is being made in that region also."

The preparation of lists of villages that indicated sizes and locations and the identification of water points and their locations in relation to roads or villages were time-consuming and very difficult. Less government support than was desired was provided.

Team Assignments

The duties of the team supervisor were somewhat unusual. In addition to receiving specific training for his position, the supervisor helped to train the interviewers. In the field, he was responsible for transportation, for making sure a vehicle was available and in good condition. He was in charge of the food and other supplies for the team. He assigned households to each interviewer and reviewed every questionnaire before it was accepted. The enumeration in a sample segment was not considered to be complete until the supervisor himself approved the last questionnaire.

The surveyors faced numerous problems while working in the trackless, arid country, and particularly in the so-called rural areas, where eighty-three primary sampling units (PSUs) had been designated. Fieldworkers were unable to find seven of the PSUs. The village lists and maps available at the time the sample points were selected were inadequate. It was not possible to verify the existence of all the sample areas before the interviewers arrived. When the sample areas were selected, provision was made to offset the consequences of a shortfall.

Calculations

Local officials' estimates of the number of households in each village were exaggerated. In the rural sections, 3,527 households were reported to be included in the sample areas, but only 2,433 were enumerated.

The number of households in the sample areas in the city of Mogadishu was underestimated; 3,882 were found, and not 3,706--the estimate of local officials. The larger figure may reflect the rapidity with which the capital city is growing. In other urban areas, local officials overestimated the number of households. It was estimated that there were 8,833 households in the sample areas, but the enumerators found only 7,819.

Response rates for households in settled areas were uniformly high. For the entire survey, the response rate was 93 percent. It varied somewhat, but, even in the rural areas, averaged 90 percent; in one district, however, only 83 responses were reported.

Local officials' estimates of the number of herds at certain watering points varied considerably. There is little factual information on which one can base estimates for water points at which no charge for water is made. For the others, it is, perhaps, simpler to provide information in advance, although, in times of drought, the patterns of distribution of various herds change constantly. Even the best local informant may not be able to provide information to show how patterns deviate from the normal.

IV. OBSERVATIONS ON FIELDWORK

Adequacy of Instruments

The evaluator checked the suitability of maps one day when he and his driver, who knew his way about Mogadishu, traveled in the city. Using the maps showing the sample areas, they were able not only to identify the sample areas, but to spot their boundaries also, even where the street pattern became irregular. The maps were detailed enough that critical points, intersecting streets or byways, and other features could be verified. In the rural villages, the problem of mapping was particularly acute because the street patterns usually were not rectangular, and shops, hospitals, schools, government headquarters, and the like tended not to be located in clusters, as in cities. The evaluator was able to reconstruct the sample area in one of the small rural villages without great difficulty. The supervisor had selected the area carefully and correctly.

The evaluator examined various questionnaires completed by the settled population and the nomads. The questionnaires appeared to be legible and complete. The supervisors made few changes in the entries. Also, few changes were made in editing and coding procedures. Undoubtedly, inconsistencies and errors of various kinds will appear during computer-editing, but it is not likely that the timetable will have to be revised.

Methodological Problems

Project staff want to tabulate the data by age, but this is expected to be problematic. In Somalia, birthdays receive little attention, and a person's age in terms of numbers is not important. There seems to be a preference for numbers of years divisible by five and ten. For example, on one questionnaire, the ages of the members of the households were 50, 25, 15, 10, and 2. Such responses are not unusual, but they will make it difficult to analyze the survey. In some instances, respondents listed random numbers for ages. Had a reinterview been made, significant inconsistencies would have been revealed that could not have been reconciled. The standard method of tabulation will have to be modified to assess fully the deviations and variability in reports for the adult population. There is some evidence that respondents reported more often the correct ages of younger than older children. Six months after the enumeration was completed, the evaluator visited a rural village to identify several persons who had been included in the enumeration and to verify the information they had provided. The data on the number of children born alive who had

died, the number of children who were living with their mothers, the number of children who were living elsewhere, and the total of all children ever born were consistent with information provided during the re-interview. The reported age of the mother varied.

Originally, it was planned that the team supervisors would conduct a number of reinterviews. However, it was never made clear how many reinterviews were to be done and how the sample of households for reinterviews was to be selected. Few reinterviews were conducted.

To ensure quality-control in the field, the team supervisor reviewed each questionnaire, line by line.

V. CONCLUSIONS

Quality of Staff and Technical Assistance

POPLAB/UNC assigned Anne Cross to monitor the project for UNC. Ms. Cross has had extensive experience in Africa; she spent several years in Kenya before returning to Chapel Hill. She was present at the time the evaluator was in Mogadishu. The evaluator observed her while she worked with staff members at all levels. The staff were most cooperative. Ms. Cross was willing to tackle any problem and, without being overbearing, she clearly identified requirements and how they could best be fulfilled. Throughout the project, which has been in operation for fifteen months, Ms. Cross has been willing to go into the field with field crews, and she has adapted to rather difficult situations, taking in stride the problems of food and shelter at each location. Her contacts with the Somali staff and with staff at the AID mission have been most cordial. Relations with some of the advisers to the UNFPA survey have been strained, but no real problems have arisen.

Staff from POPLAB/UNC have made short-term visits to Somalia to provide technical assistance. To date, six different persons have gone at different times to help complete the assigned work. When asked whether it was more effective to send short-term technical consultants than to locate a resident adviser in the country, the Somalis who were interviewed replied affirmatively. POPLAB/UNC believes that in this approach the technicians are used more effectively when they can provide technical advice at specified times, and that local staff are stimulated to complete work so that they will be prepared for the consultants' next visits.

POPLAB/UNC believes that this project has been a model. Staff credit it with stimulating the UNFPA sample survey team to do more. They think that, because of its progress, data have been released earlier than could have been expected, given the initial slow pace of the UNFPA group.

A population and health officer at AID who has been following the project since it began commented that the assignment of specialists at various stages of the project has been beneficial. He noted that in this project the six technical consultants have supported each other, whereas in some other projects different specialists have spent considerable time challenging each other. Clearly, all the POPLAB consultants are working toward the same goal. From the comments of the Somali staff and others who have prepared trip reports, the evaluator has concluded that POPLAB/UNC staff have worked as a team and shown themselves to be alert to local needs and requirements and sensitive to the feelings and technical needs of their Somali counterparts.

Near the end of his visit, the evaluator met with the director of the AID program. He mentioned that he was still waiting to hear the first derogatory remark about the project. The director replied that that was a most unusual statement to make.

Turnover

Turnover among the Somalis in charge of the project has been unusually high, and POPLAB/UNC has had to assume more responsibility for some work (e.g., drafting questionnaires, manuals, and coding guides) than it had planned initially. The original director of statistics was promoted to director of the Ministry of Planning. Two of his successors at the Statistical Office received fellowships for additional training in the United States. The current acting director of that office is carrying forward the work. At this time, the project is on schedule.

Use of Survey Results

Somalia's first census of population was taken in 1975. The government rejected the early results of that survey. Not surprisingly, there were many difficulties, and the undercount was significant. The UNFPA has sent one of its experts to Somalia to analyze the available tabulations and to determine what, if anything, can be salvaged for publication. When asked about his work, the expert said that he had not had time to form any conclusions.

When POPLAB/UNC staff first visited Somalia negotiations were under way with the UNFPA to conduct a nationwide household survey to collect basic demographic data. Regional and other subnational estimates would not be provided. The director general of the Ministry of National Planning, the parent organization for the Central Statistical Department, explained that the government was willing to cooperate with both the UNFPA and POPLAB/UNC because it had a particular need for information about the areas which would be surveyed. The Central Statistical Department cooperated on both surveys, and enumerators and supervisors who worked in the field participated also. It should be possible to compare most of the data, at least on the settled population, from the two sample surveys. In each survey somewhat different sampling procedures were used for the nomadic population. Thus, there may be differences in the results for that segment of the sample.

Involvement of the UNFPA

For the UNFPA-sponsored survey, resident representatives were stationed in Mogadishu. In the time that has elapsed since the project began there have been changes in staff. It has been proposed that another household survey be made to collect labor-force statistics that are not available at this time. However, this proposed effort would not be viewed locally as part of the United Nations' program to build a capability for periodic household sample surveys throughout the world. Rather, it would be a one-time survey which would use to advantage the skills and experience acquired during preparations for the current demographic survey. Some officials in the Somali government have stated that the POPLAB/UNC cooperative project was needed because the country plans to develop a major health program for the areas that are included in that survey. It is felt that the specific information on the survey areas will be useful in planning and developing the health program and measuring subsequent changes. Any data on the composition and distribution of the population and data on mortality rates, birth rates, and infant mortality would be particularly valuable. It has been proposed that the health project be supported by the Agency for International Development.

AID Support

Without the support of the AID, the project would not have been developed. Moreover, had the AID not provided continuing support through POPLAB/UNC, the project would never have made such progress. At this time, it is almost completed.

Budgeting and Expenditure

Although the evaluator did not audit all expenditures, he has deduced that the project is within its budget and can be completed with the funds available. It may be desirable to monitor tabulation and report-writing and examine expenditures for these activities. If more computer and professional time than has been budgeted is required to tabulate data, some additional resources may be needed. At this time, additional programming may be necessary to ensure that the data coded on the tapes are used fully.

Appendix

LIST OF CONTACTS IN MOGADISHU, SOMALIA

Anne R. Cross, Project Director, POPLAB, University of North Carolina

Hussein Elabe Fahiye, Director General, Ministry of Planning*

Awil Maxamed Faarax, Acting Director of Statistics

Muzamil Hossain, Sampling Adviser, United Nations

Mohamed Afzal, Demographic Adviser, United Nations

Arjuna Abayomi-Cole, Population and Health Officer, USAID, Mogadishu

Mike Adler, Acting Director, USAID, Mogadishu

Abdullahi Mohamed Yahie, Data Processing Supervisor

Other Somalis who were working on the project were present during some of the discussions, but the consultant was unable to obtain their names.

* Initially, Mr. Fahiye was in charge of the project in Somalia.