POPULATION AND FAMILY PLANNING RESEARCH IN SOMALIA

By

Anne R. Cross

Report Prepared for the U.S. Agency for International Development
Mogadishu, Somalia

Demographic Data for Development
Westinghouse Social Sciences International
P.O. Box 866
This report was researched and written during a visit to Somalia from 14 February to 8 March, 1984. The objectives of the visit were to produce: (1) a review of data sources to establish the most accurate figures possible for demographic parameters, (2) an assessment of needs to improve the quality of information and recommendations for appropriate research projects to upgrade the demographic data available, and (3) an assessment of the utility and specific applications for micro-computers, for input into the design of the project paper for a bilateral Family Health Services Project.
TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Sources of Data on Population &amp; Family Planning in Somalia</td>
<td>1</td>
</tr>
<tr>
<td>B. Plans for Future Research</td>
<td>5</td>
</tr>
<tr>
<td>C. Research Needs</td>
<td>7</td>
</tr>
<tr>
<td>D. Recommendations</td>
<td>9</td>
</tr>
<tr>
<td>E. Potential Uses of Microcomputers</td>
<td>12</td>
</tr>
<tr>
<td>F. Estimates of Demographic Parameters for Somalia</td>
<td>14</td>
</tr>
<tr>
<td>Appendix I. List of Persons Contacted</td>
<td>18</td>
</tr>
<tr>
<td>Appendix II. Configuration of Microcomputer at National Range Agency</td>
<td>20</td>
</tr>
<tr>
<td>Sources</td>
<td>21</td>
</tr>
</tbody>
</table>
A. SOURCES OF DATA ON POPULATION AND FAMILY PLANNING IN SOMALIA

The major sources of data on population and family planning in Somalia are summarized in Table 1. A brief description of each follows:

1. Census. In 1975, Somalia conducted its first census of population and livestock with assistance from the United Nations. Enumeration took place from 7-20 February at the culmination of the government's massive literacy campaign to teach Somalis the newly adopted script. The 25,000 secondary school students recruited for the campaign acted as census enumerators with 5,000 teachers as supervisors. Unfortunately, data collection also coincided with the devastating drought of 1974-75 which hampered operations, particularly with enumeration of nomads, which took place at waterpoints. There was also a shortage of maps, which could only be prepared for 27 of the 64 districts existing at that time.

Three types of questionnaires were used in the Census—one each for the settled, nomadic, and institutional populations. The former contained 17 questions—name, relationship, sex, age, place of birth, place of usual residence, literacy, educational attainment, marital status, number of children born alive, number of children still living, births, and deaths in the last 12 months, economic activity, occupation, industry and livestock reared. Nomads and institutionalized populations were not asked questions on fertility, mortality or labor force participation.

Two types of reports are forthcoming from the Census: a volume of basic tables has been at the Government Printer for some time and a volume of analysis with estimates of underenumeration, fertility and mortality is currently being cyclostyled and should appear by the end of March. The report gives an enumerated population of 3,253,024, a crude death rate of 13, a crude birth rate of 45 and a rate of natural increase of 3.2 percent (see Section F for a fuller description and analysis of Census data).

2. Survey of Population. In 1980 the Central Statistical Department launched a national-level demographic survey with UN assistance that covered approximately 7,500 households in urban, rural and nomadic areas. Because census results had not yet been tabulated for small areas, CSD developed a sampling frame for the settled population by compiling lists of the number of households living in small administrative areas in towns and villages. The lists were prepared by CSD staff who interviewed local officials. For interviewing nomads in the survey, a waterpoint approach similar to that used in the Census was adopted.

The questionnaire used in the Survey of Population closely resembled that of the Census. Six months after initial interviewing a second round was fielded to follow up all settled households (understandably, no attempt was made to re-interview nomads) to record births, deaths, and in-and out-migrations that occurred in the interim. Names of all family members from the
<table>
<thead>
<tr>
<th>SOURCE</th>
<th>DATE</th>
<th>GOVERNMENT AGENCY RESPONSIBLE</th>
<th>EXTERNAL FUNDING</th>
<th>SCOPE</th>
<th>SAMPLE SIZE</th>
<th>TYPE OF DATA</th>
<th>STATUS AS OF 1 MARCH 1984</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demographic Survey of Banadir, Bay and Lower Shebelle</td>
<td>1980/81</td>
<td>Central Statistical Department</td>
<td>USAID (through</td>
<td>3 Southern Regions</td>
<td>7651 Households</td>
<td>Literacy, Education, Fertility, Mortality, Labor Force, Marital Status, Migration</td>
<td>Report Published</td>
</tr>
<tr>
<td>Settlements Survey</td>
<td>1982</td>
<td>Settlement Development Agency</td>
<td>USAID (through</td>
<td>4 Settlement Areas</td>
<td>2000 Households</td>
<td>Socioeconomic, Fertility, Satisfaction with Camp, Type of Work, Income, Comparison with Former Way of Life.</td>
<td>Data not Processed</td>
</tr>
<tr>
<td>Family Health Survey</td>
<td>1983</td>
<td>Ministry of Health</td>
<td>USAID (through Westinghouse)</td>
<td>5 Urban Areas</td>
<td>3000 Households</td>
<td>Knowledge and Use of Family Planning, Availability, Fertility Attitudes, Female Circumcision, Marital Status, BF, Vaccinations</td>
<td>Data being processed in U.S.; Report Expected by July '84.</td>
</tr>
<tr>
<td>Civil Registration</td>
<td>1953- Present</td>
<td>District Offices</td>
<td>-----</td>
<td>National</td>
<td>-----</td>
<td>Births, Deaths, Migration, Marriages</td>
<td>Data grossly incomplete. Never compiled centrally.</td>
</tr>
</tbody>
</table>
first round were copied onto questionnaires for the second round to ensure more accurate follow-up. Due to data processing delays and the breakdown of the computer, the information has only been partially computerized. However, some hand tabulations from the first round, notably distribution of the sample population by age and sex, were prepared and were relied on rather heavily in the analysis of the Census data to circumvent shortcomings in the latter.

3. Demographic Survey of Banadir, Bay and Lower Shebelle. In 1980/81 the PoPLAB project at the University of North Carolina assisted the CSD in carrying out a demographic survey in three southern regions. These regions were selected for their importance as the capital city and two major agricultural regions nearby. The primary goal of the survey was to establish accurate measures of fertility and mortality, though questions on education, migration and labor force participation were included as well. The sampling frame prepared for the Survey of Population was used to select the sample of just over 7,000 households which were interviewed in September-October of 1980. Interviewing of nomads at waterpoints in March 1981 was hampered by an early start of the rainy season and only 400 households were enumerated instead of the expected 1,000. Data from the survey were entered and machine-edited on the CSD computer. The clean data tape was then taken to North Carolina for tabulation and analysis. The final report was published in December 1981.

4. Labor Force Survey. In 1982 the UN sponsored a labor force survey of roughly 8,000 settled households throughout the country. The sample was selected from an updated version of the sampling frame developed in 1979 for the Survey of Population. Although the major emphasis of the survey was employment, rather detailed questions on migration were also included (district of birth, length of time stayed in place of enumeration, district lived in previously, reasons for moving to place of enumeration), as well as background questions on marital status and education. Questions on births and deaths in the household in the previous 12 months were also included. The data have not been computerized, though some manual tabulations are in process.

5. Settlements Survey. In 1982 the University of North Carolina (under contract with Research Triangle Institute's Integrated Population Development Project), provided assistance to the Settlement Development Agency in conducting a socio-economic survey of approximately 2,000 households in 4 of the 6 main areas used for settling nomads after the 1974-75 drought. The project was designed to provide insight into the consequences of settlement in terms of demography (fertility and mortality), economics and general quality of life. The intent was to compare the demographic data with information from the nomadic component of the 1980 Demographic Survey (see No.3); however, the small sample size of nomads in the latter survey made adequate fertility and mortality estimation impossible.

Data from the survey were entered onto computer tapes by the CSD
(which also assisted in conducting fieldwork) and were transferred together with the questionnaires to North Carolina for further processing. Unfortunately, due to problems with the CSD computer, most of the data tapes were unreadable and further processing has been suspended indefinitely. The survey was part of a larger project to document the settlement process and a draft report describing the government's settlement policy as well as socioeconomic characteristics of both pre- and post-settlement populations has been prepared (Ragsdale, 1984).

6. Family Health Survey. Reflecting an increase in activity in the area of family planning in Somalia, the USAID Mission requested assistance from the Contraceptive Prevalence Survey Project at Westinghouse. Consequently, Westinghouse collaborated with the Ministry of Health (with assistance from the CSD) in conducting a survey in mid-1983 of roughly 3,000 ever-married women aged 15-49 living in the five major urban areas—Mogadishu, Hargeisa, Kismayo, Baidoa and Burao. These cities were selected because they were the initial target areas of the MOH's fledgling family planning program. The sample was selected from the updated CSD sampling frame except in Mogadishu and part of Baidoa, where the sample used in the 1980 Demographic Survey was utilized.

The survey covered a broad range of family health topics including knowledge and use of contraceptive methods, reasons for nonuse, intentions for future use, past fertility and desire for more children, breastfeeding and weaning of last child, knowledge of availability of family planning information and services, female circumcision (type, complications, attitudes towards), inoculation of children under three years of age, and housing characteristics. The intention of the survey is to provide baseline information against which changes can be measured in future surveys. The data are currently being processed by Westinghouse and a report is expected by June or July 1984. Preliminary manual tabulations indicate that less than two percent of currently married urban women are using family planning.

7. Civil Registration. In 1953 a law was passed to establish a registration system (UNFPA, 1979, p. 17) and a system does exist at the district level where a sheet is maintained for each family. Births, deaths and migrations are recorded by appropriately adding or deleting names. When a family moves to another district, it takes its family sheet to register at the new District Office. Despite the fact that birth certificates are required to register children in primary school, parents often delay obtaining the certificate until their children are of school age and the Director of CSD estimates that the registers are only 60 percent complete even in urban areas. In any case, data from the registers are not compiled at the national level. Several years ago staff from the former Vital Statistics Improvement Project (VISTIM) at the US National Center for Health Statistics visited Somalia to discuss the improvement of the system, including standardization of the forms; however, a formal project never materialized. The UN also funds a project to improve
civil registration (Westinghouse, 1984); however, implementation of the project appears to have been delayed.

8. **Family Planning Service Statistics.** The Ministry of Health has instituted a record-keeping system of family planning users. The system, which was designed by a USAID consultant from the Center for Disease Control, consists of two parts -- a form to list all family planning patients with name, age, sex, status (new acceptor, active user, dropout, method changer) and dates of each visit, as well as a form to be filled monthly to summarize the above information for transmitting to the central office. In addition, most supply points keep a separate register of patients. The system as designed facilitates the identification of active users by method as well as the date when a patient needs to make a resupply visit. There is some question as to how accurately the forms are kept since in some cases the number of users from month to month do not correspond, i.e., number of active users in Month 1 plus number of new acceptors in Month 1, minus number of dropouts and change of method in Month 1 should equal number of active users at the start of Month 2. It is also difficult to define an active user in a given month, for example, if a pill user is due for a resupply visit on the 15th and has not returned by the end of the month, is she considered an active user for the month? Visits to two clinics (Insurance Clinic and the Boondheere MCH) indicated some minor problems in filling forms correctly, but, on the whole, the statistics are probably more or less accurate. They indicate a prevalence rate of about two percent of currently married women in Mogadishu in 1983 (see Section F for details).

In addition to these major sources of data, there are several smaller studies that deserve mention. A study of infant mortality was undertaken in 1977 by Dr. Khalif Bile, Dean of the Faculty of Medicine, and others, with financial assistance from UNICEF (UNICEF, 1983, p. 26). Several theses written by medical students as part of the requirement for graduation are concerned with measuring infant and neonatal mortality rates (Aadan, 1978 and Hassan, 1978). Though the studies are of necessity small-scale and only covered settled (and mostly urban) populations, the rates found are roughly in line with other estimates (see Section F). Unfortunately, the theses are written in Italian.

The Department of Community Health at the Faculty of Medicine has been conducting a research project in four southern villages to collect data on disease patterns and nutritional status of children (Haakonsen, 1983). Although birth and death registration started in January 1982, data have not been compiled and the quality of the data has not been determined.

A study of infant mortality involving 852 women in Mogadishu and Balad gives an extremely high rate of 255 per thousand live births (Aden, and Birk, 1981, cited in Haakonsen, 1983).

Hospital records are a source of data that has been exploited to some extent by medical students for their theses. Benadir
Maternity Hospital has recently introduced a form for women who deliver there. It contains detailed medical information about the mother but limited information useful for demographic research (age of mother, number of previous births, weight of current birth). Unfortunately, the forms are so long that they are not routinely filled for all deliveries. Also, since the hospital attracts mostly women with problem pregnancies, the population cannot be considered representative.

The Refugee Health Unit at the Ministry of Health maintains surveillance records of births and deaths in all refugee camps. However, due to the sensitivity regarding estimates of the population in the camps, no denominators are available for calculating rates, other than the infant mortality rate. The RHU also conducted a retrospective survey of about 4,000 households in 30 camps in January 1984 which collected information on weight for height and deaths of children under five.

Though research on female circumcision is not exactly within the scope of this report, it might be useful to mention several small-scale studies implemented in this area. In 1980 a survey of men and women in three districts in Mogadishu and four villages in Wenele Weyn and Qorioley Districts was conducted by the Faculty of Medicine. Another study in 1980 involved interviewing 70 women and 40 men in Mogadishu about their experience with and attitudes towards female circumcision (Abdalla, 1982). Finally, a study is currently being carried out with the Somali Democratic Women's Organization and the Somali National Academy of Sciences and Arts with assistance from SAREC, the Swedish research council. The study has several parts, including collecting case studies of women in hospitals and sending medical staff to perform circumcisions on pre-identified girls in Mogadishu. A survey of women, men and traditional midwives is planned for the near future.

B. PLANS FOR FUTURE RESEARCH

Plans for research in the area of population and family planning in Somalia include the next Census, which is scheduled for 1986, a second round of the Family Health Survey and a series of small studies to be conducted by the Somali Family Health Care Association.

Discussions are currently underway between the UN, USAID and the CSD concerning assistance for the 1986 Census. Although nothing is final yet, it appears that USAID might cover the cost of a new mainframe computer as well as per diems for interviewers while the UN would cover the cost of vehicles, cartographic supplies and some technical assistance.(1) The production of maps has just begun and no preparations for forming a census administrative committee or for developing a questionnaire have yet been initiated.

A second round of the Family Health Survey is envisioned as part
of the Family Health Services Project. The objective of the
survey is to measure change in women's knowledge and use of family
planning methods since the first round as well as to gather
baseline data for groups not covered in the first round. The
survey is tentatively planned for 1986 (see Section D for
recommendations regarding the survey).

During a recent visit to Somalia, a team from the University of
North Carolina which has a subcontract under the RAPID II Project
(Freymann and McDevitt, 1984), discussed providing financial and
technical assistance to the Somali Family Health Care Association
in the preparation of a set of small studies on a wide range of
topics. The papers resulting from these studies would be used by
the SFHCA in a series of awareness-raising seminars it plans to
conduct for government employees, as well as forming a core of
presentations for the Second National Population Conference
planned for late 1984 which will be hosted jointly by the
SFHCA and the Ministry of Education.

(1) The UNFPA is planning a Needs Assessment Mission in November 1984
which presumably will address these issues.
Several meetings have been held to discuss the content of these studies, and it was decided that interested researchers should submit to SFHCA formal proposals outlining the justification, objectives, data sources, methods, and budget to be used in their studies. Proposals are due by March 15 and, after perusal by SFHCA, presumably will be submitted to the RAPID II project for consideration.

Two of the studies were discussed at some length at a meeting at the SFHCA. One would involve a survey of a sample of 500 male government employees at all levels (from drivers to Ministers) to determine their attitudes towards family planning and female circumcision. The sample would be selected from a list of employees in each Ministry or agency. The questionnaire would cover background characteristics such as age and marital status as well as attitudinal questions.

A second study would document migration into Mogadishu and would include the rate of immigration, the area of origin of immigrants and the reasons for their migration. The major source of data would be manual tabulations prepared from the Labor Force Survey conducted by the CSD in 1982. Data from several other sources like the 1975 Census, the 1980 Demographic Survey and the 1980 Survey of Population will be used for comparison.

Other topics for which proposals might be submitted are: documentation of the number of children abandoned in Mogadishu; estimates of the number of induced abortions using data from Banadir Hospital records; maternal mortality as related to parity and age; child spacing as related to child health; trends in age at marriage; and projections of future numbers of school-age children.

The National Research Council of the Somali National Academy of Sciences and Arts has received a proposal for a fertility study from a researcher at Victoria University in Canada. The study would focus on how urbanization affects fertility. The NRC has suggested that the researcher visit Somalia to design the study which would probably be submitted to IDRC for funding. Finally, the Director of the Population Education Unit indicated that MOE is considering conducting a survey of education.

C. RESEARCH NEEDS

There is a great need for basic data in Somalia which is reflected in almost every development planning report. Discussions with representatives from many organizations (see Appendix I) uncovered a wide range of suggestions for future research. Some do not fall directly under the topics of population or family planning but are nonetheless listed here:

1. Migration, both internal and external. This topic was mentioned by several people consulted, one of whom is interested
in the effect of nomadic outmigration on livestock production. One of the studies proposed under the RAPID II project should provide valuable information on migration into Mogadishu which probably accounts for a large proportion of internal migration other than seasonal movements. As far as external migration is concerned, consideration should be given to including a question in either the 1986 Census or in the second round of the Family Health Survey about family members who are outside the country.

2. Numbers of births and deaths and causes of death. The analytical volume of the 1975 Census provides information on national-level crude birth and death rates and further analysis of the 1980 Survey of Population will expand knowledge in this area. Information on cause of death is virtually impossible to collect in a survey and is better left to small-scale studies by medical professionals.

3. Consequences of settlement of nomads. The government intends to settle nomads in order to better provide them with services such as education and health. Indications are that nomads are subject to somewhat lower fertility and higher mortality than settled peoples. It is presumed that with better health services and reduced periods of separation of spouses, settlement would lead to lower mortality and higher fertility, thus increasing the national population growth rate. Data from the 1982 Settlements Survey should help answer some of these questions and, hopefully, the information will soon be analyzed.

4. Fertility differentials. The Canadian proposal submitted to the Somali Academy of Sciences should, if funded, shed some light on this subject. Data from analysis of the 1980 Survey of Population should also provide some information on broad differentials by urban, rural, nomadic and perhaps even by north-south residence.

5. Improvement of civil registration through a sample vital registration project. This would involve considerable financial and technical assistance inputs over a fairly long period.

6. Attitudes of government officials towards family planning. A study on this topic is planned under the RAPID II project (see Section B).

7. Effects of birth spacing on health of children. Although of obvious benefit in a country like Somalia, a study of this topic would involve either a prospective design (following a sample of births during the first year of life) or a retrospective design with collection of accurate dating of births and deaths with controls on parity, age and socioeconomic status, which is difficult to carry out in Somalia.

8. Family planning dropouts and reasons.

9. Infertility. An estimate of primary infertility (i.e., women with no children) is available from the 1980 Survey of Benadir,
Bay and Lower Shebelle.

10. Criminal abortion. A study on this topic is planned under the RAPID II project. This is, of course, a sensitive topic and is consequently difficult to measure.

11. Incidence of venereal disease among Somali women.

12. Hemoglobin levels of Somali women. This topic has repercussions for both the health of women and their children, since anemia during pregnancy leads to higher infant mortality.

13. Prostitution. This is a growing problem in Somalia.


15. Physical abuse of women (beating, rape).

D. RECOMMENDATIONS

Following are some recommendations for USAID/Somalia regarding future population and family planning research, most of which fall within the scope of the Family Health Services Project:

1. Given that up-to-date information will be needed both to evaluate the FHSP as well as to plan for a possible subsequent project, fieldwork for the second round of the Family Health Survey should take place no later than December, 1986, (or seven months prior to the end of the project). The scope of the second round should be enlarged to cover a minimum of 4,000 ever-married women 15-49, living in urban areas as well as villages throughout the country. Given the difficulties of obtaining reliable probability samples of nomadic households and the virtual impossibility of interviewing women using the customary waterpoint approach, some alternative method is indicated. One approach would be to administer the questionnaire to a relatively small (200-500) number of women in selected groups of temporary nomadic encampments. Another approach would be to abandon the questionnaire in favor of a more anthropological method of gathering data, such as discussion groups. Before either approach is adopted, it should be discussed with Somali researchers and pretested.

The CSD should play a major role in implementing the survey for several reasons: (a) it has been involved in virtually every large-scale survey operation conducted in Somalia outside of the refugee camps and has thereby developed a core of highly experienced personnel; (b) it possesses (or will possess) the infrastructure necessary for survey implementation including a national sampling frame, vehicles and a mainframe computer; (c) it is relatively efficiently managed (especially the procurement/financial section); and (d) given the lack of trained Somali professionals, USAID should concentrate on building one strong survey organization. Thus, while the Somali Family Health
Care Association and/or the Ministry of Health should definitely be involved in designing the questionnaire, analyzing the data and perhaps recruiting the female interviewers, the CSD should be given overall responsibility for the survey as well as specific responsibility in the areas of sample design, data collection and data processing.

In order to maximize the comparative value of the survey, the questionnaire should be modelled on the one used in the first round with the following exceptions: (a) a shorter questionnaire would improve respondent cooperation, reduce the length of interviewer training and simplify data processing. Possible deletions might be questions on vaccinations of children, husband's attitudes towards family planning and female circumcision, weaning of the last child, and some of the questions on source of method for users; (b) because there is some doubt as to whether the questions on knowledge of specific contraceptive methods were fully understood by respondents in the first survey, special care should be given in the second survey to ensure accurate Somali translations of these terms. Consideration should be given to including short descriptions of each method in the questionnaire as is done, for example, in World Fertility Surveys (e.g., "there is something which a man can put over his penis before having intercourse in order to avoid pregnancy. This is called a condom or rubber. Have you ever heard of this?"); and (c) depending on the types of IEC activities introduced in the new project, this section should be expanded. Final determination of the questionnaire will depend on a full analysis of data from the first round.

Prior to developing the questionnaire, consideration should be given to conducting focus group discussions. Focus groups have long been used by marketing research agencies to gather data on attitudes and to refine questionnaires for subsequent sample surveys. This approach has more recently been applied in demographic research in developing countries (e.g., Mexico and Thailand) and has been found to provide a richer data source than can be collected in structured individual interviews, although, since the method does not rely on a probability sample, it should not be considered as a substitute for a survey, but instead as an adjunct. Focus groups may be particularly suitable in Somalia, where group discussion is an integral part of the traditional culture.

Consideration should also be given to collecting information from men. This could be accomplished either through focus groups or by implementing a small survey. The Westinghouse Contraceptive Prevalence Survey Project has developed a male questionnaire and has conducted male surveys in several countries in conjunction with female surveys. Experience has shown that surveys of male and female respondents are more efficiently implemented in separate stages of fieldwork. In order to keep inputs at a minimum, a male survey in Somalia should utilize a short questionnaire and should cover a sample of only 1000-1500 respondents.
External technical assistance will be necessary for the successful completion of the survey. The following consultant inputs will be required (dates are predicated on the assumption that the FHS project will end in July, 1987):

March, 1986 - Survey design visit - Monitor (2 weeks)

May, 1986 - Questionnaire design visit - Focus group expert
(4 weeks)
Monitor (2 weeks)

July, 1986 - Sampling design visit - Sampling Statistician
(3 weeks)

August, 1986 - Pretest visit - Monitor (3 weeks)

November, 1986 - Interviewer training and fieldwork inspection
visit - Monitor (4 weeks)

January, 1987 - Questionnaire coding & editing visit - Monitor
(2 weeks)

March, 1987 - Computer editing visit - Data Processing
Specialist (3 weeks)

May, 1987 - Analysis visit - Monitor (3 weeks)

The above schedule assumes that data can be completely processed on the CSD computer despite the fact that processing of 1986 Census data may take precedence. A survey among nomadic women may require an extra two-week visit by the monitor, and a survey of men would probably require two extra two-week visits by the monitor. All consultants should have considerable experience in Africa and the monitor should be a demographic and/or family planning survey generalist preferably with experience working in Somalia.

2. USAID should support the analysis and dissemination of data collected previously by the CSD that have not been fully processed or analyzed. A considerable body of data already exists that could potentially satisfy some of the needs mentioned in Section C. The 1980 Survey of Population can provide national-level estimates of fertility and mortality which are particularly important given the questionable quality of 1975 Census data. Indeed, the analytical volume of the Census repeatedly mentions the need to analyze the 1980 survey data in order to provide a fuller picture of demographic rates. The survey also contains the only data on fertility and mortality of nomads, since the Census did not include such data in the questionnaire used to enumerate nomads. As part of its Demographic Data for Development project, Westinghouse is currently considering providing assistance to the CSD in the analysis of this survey.

Data from the 1982 Settlements Survey could be extremely useful
to the Somali government in view of its policy to encourage further settlement of nomads. The USAID Mission should follow up plans for analyzing these data and, if necessary, should consider budgeting funds under the FHS project for this purpose.

3. USAID should continue its strong support of the small-scale studies planned under the RAPID II project. These studies have the potential for producing important information for government and donor planning purposes, as well as providing valuable experience for the researchers involved.

4. Since detailed plans for USAID support of the 1986 Census will be drawn up separately, only two minor recommendations will be mentioned here, namely: (a) that such support include appropriate computer software such as CONCOR for data editing, statistical and tabulation programs and the US Census Bureau's demographic analysis programs, all of which can be utilized in future surveys such as the Family Health Survey, and (b) that the mainframe computer to be purchased be capable of accepting a hard-wire cable from a microcomputer, in case such a link-up is desired in the future.

5. The Family Health Services project should contain plans for training MCH clinic staff in service statistics record keeping. With little additional input, the present system can yield accurate data. Consideration should also be given to conducting very brief surveys of family planning users to determine their satisfaction with services. Since the number of users in Somalia is low, collecting detailed information on this topic in a sample survey is inefficient. A follow-up study of dropouts might also be considered, though the number is small and locating them for interview may be difficult. If implemented, both studies should be extremely simple so as not to overload the staff and divert them from their primary task of service delivery.

E. POTENTIAL USES OF MICROCOMPUTERS

Five sites for potential placement of a microcomputer were investigated during this visit. None of them had a strong need for a microcomputer for population and family planning applications at the current time; however, future needs might justify placement of a micro in one or two organizations.

The Somali Family Health Care Association was created in August 1983 by special governmental decree and is in the process of becoming an affiliate of the International Planned Parenthood Federation. Its major objective is the dissemination of family planning knowledge. It is also serving as the coordinating body for the studies planned under the RAPID II project. Although most of these studies will require modest data processing inputs, the SFHCA is the most likely site for possible placement of a micro. It is also possible that when the Association's financial management system is established, a micro could be of assistance in monitoring accounts. The RAPID II project is considering placement of a micro at the SFHCA (Freymann and McDevitt) to be used for the proposed studies as well as for the RAPID II computer.
presentation to government officials. If the RAPID II plans change, USAID should consider providing SFHCA with a micro.

The Family Health/Family Planning Section of the Ministry of Health is responsible for keeping statistics on family planning users and for supplying MCH clinics with family planning commodities. Even if the number of service delivery points is considerably expanded in the next few years, the justification for placing a micro at the MOH seems slim.

The Population Education Unit at the Ministry of Education is involved with developing training guides for teachers and students in the school system with the objective of increasing the awareness of the impact of population on development. The Unit expressed an interest in obtaining a micro to assist with the compilation of data for its census of schools. This amounts to an annual survey of all schools in the country with a questionnaire that covers the number of students by age, sex and grade level, number of teachers and some information on physical facilities of the school. Data from about 1400 schools are processed manually and are compiled into a 200-page statistical yearbook. A microcomputer could certainly be justified to assist with this operation; however, since the product is not directly population related, placement of a micro at the MOE should be given lower priority.

The Central Statistical Department at the Ministry of National Planning probably has the greatest need for a microcomputer. Malfunctioning of its mainframe and data entry machines has led to long delays in processing several datasets which are too large to adequately process and analyze manually. USAID is currently proposing the purchase of a mainframe for CSD in connection with its support for the 1986 Census and there is a possibility that Research Triangle Institute may fund a micro for use in processing data from the Settlements Survey. Given that the mainframe may be tied up with the Census processing at the time of the Second Family Health Survey, a micro at CSD might be particularly beneficial.

Benadir Hospital has developed detailed forms for collecting information from gynecological patients and women who deliver there. While there might be a need for a micro to process these data in the future, the only plans for their analysis at this time fall within the scope of the RAPID II project, and thus, the micro at the SFHCA could be used.

If USAID should decide to purchase a micro, the machine should (a) have a configuration appropriate to its intended use; (b) be a model that can be efficiently serviced in Mogadishu or Nairobi; and (c) should preferably be a model that USAID has already supported in Somalia so that similar machines might be available in case of emergencies. Any micro must be kept in a cool, low-humidity and relatively dust-free environment, preferably with a backup power supply, so budgeting for a micro should include at least one air conditioner, a voltage regulator, a battery pack and
fabric to cover windows against dust. At a minimum, software for
database management, financial spreadsheets and word processing
should be provided. As for the brand of machine, the following
appear the most appropriate for Somalia:

1. Apple IIe. This model was purchased by USAID for placement at
the National Range Agency (see Appendix II for configuration).
NRA staff strongly recommend the Apple due to exceptionally good
service from a company in Nairobi (on one occasion, a part was
ordered via the Thursday flight to Nairobi and was shipped on the
next flight on Sunday).

2. WANG personal computer. The USAID Mission has purchased a
number of WANG PCs as part of its word processing system, and
there is a possibility that the company would provide a local
maintenance team for servicing.

3. IBM-PC. This would be the most appropriate machine for the
CSD for processing large datasets; however, no information is
available on potential servicing arrangements. The computer
purchased by RAPID II for the SFHCA is likely to be an IBM. Also,
the Refugee Health Unit is hoping to purchase a micro and is
considering the IBM-PC.

The CSD currently has an Osborne Executive micro which is
being used exclusively by a team of Swedish advisors. It is not
suitable for processing large datasets and is not recommended
for consideration by USAID.

Depending on the purpose of any micro purchased, assistance in
its installation and training in its use might be arranged through
any of several centrally funded projects, such as the RAPID II
project, the Demographic Data for Development project at
Westinghouse, or the Integrated Population Development Planning
project at Research Triangle Institute.

F. ESTIMATES OF DEMOGRAPHIC PARAMETERS FOR SOMALIA

Given the dearth of data available in Somalia, these estimates of
demographic parameters are little more than educated guesses:

1. Population, 1984
   Total 5008
   (in thousands)
   Urban 1591
   Rural 1691 (includes in-
   camp refugees)
   Nomadic 1726

2. Crude Birth Rate - 46 per 1000 population

3. Crude Death Rate - 20 per 1000 population

4. Infant Mortality Rate - 170 per 1000 live births

5. Rate of Natural Increase - 2.6% annually
6. Currently Married Women 15-49  
   Total  838  
   Urban  239  
   Rural  314  
   Nomadic  285  

7. Proportion of Currently Married Women 15-49 Using a Family Planning Method - Less than 1%  

8. Proportion of Urban Women 15-49 Who Have Heard of a Family Planning Method - 20-40%  

NOTES:  
1. The analytical volume of the 1975 Census gives the following enumerated and adjusted populations for 1975:

<table>
<thead>
<tr>
<th></th>
<th>Total</th>
<th>Urban</th>
<th>Rural</th>
<th>Nomadic</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Enumerated Population</td>
<td>3,253,024</td>
<td>792,568</td>
<td>1,015,791</td>
<td>1,444,665</td>
</tr>
<tr>
<td>b. Final Adjusted Population</td>
<td>4,089,203</td>
<td>1,037,465</td>
<td>1,172,089</td>
<td>1,879,649</td>
</tr>
<tr>
<td>c. (b)/(a)</td>
<td>1.26</td>
<td>1.31</td>
<td>1.15</td>
<td>1.30</td>
</tr>
</tbody>
</table>

Three major adjustments were made to the enumerated population count: (1) to correct for underenumeration of entire households, undercoverage factors of 13.6% for urban, 13.6% for rural and 16.8% for nomadic were derived on the following assumptions - a count of households conducted in Mogadishu for food-rationing purposes one year after the Census found 20% more households than the Census. Assuming an annual rate of natural increase of 3.2% and an in-migration rate of 3.2% in the intervening year, the remaining 13.6% was deemed to be due to undercoverage. The same rate was assumed to apply to other urban and rural areas, while nomadic areas were presumed to have no in-migration and therefore 16.8% undercoverage; (2) to correct for underenumeration of children 0-4 which was apparent from examination of the age distribution, an "implied" number of children in this age group was generated using fertility and childhood mortality rates estimated from Census and survey data; and (3) to correct for presumed underenumeration of people within households, the number of households estimated from adjustment(1) was multiplied by the average household size found in the 1980 Survey of Population.

The logic behind some of these adjustments appears faulty. It is generally acknowledged that incomplete maps and a last-minute decision not to pay per diem to enumerators in Mogadishu contributed to poor coverage in the capital, and an adjustment of 13.6% is not implausible. It is also plausible that other towns and villages suffered a similar rate of undercoverage, although there is no evidence to this effect since no post-enumeration survey was conducted. However, enumeration of nomads depended on estimated watering intervals of their herds that were substantially longer than those reported elsewhere (SDR, MONP. 1981) which conceivably could lead to over-counting of the nomadic population. With no evidence of undercoverage of nomads, the enumerated population should be
accepted as correct.

The adjustment for undercoverage within households may be faulty as well since the differences in average household size between the Census and the 1980 Survey may be due to the undercoverage of entire households that is corrected for separately. The large difference for urban areas (average of 4.8 in Census vs. 5.3 in Survey) could be due in part to the heavy in-migration during the intervening five years. Finally, another survey (SDR, MONP, 1981) gives average household sizes that are considerably lower than the 1980 Survey, which casts doubt on the validity of this type of adjustment.

Thus, the figures in Section F1 are based on a 1975 population that includes a 13.6% adjustment for undercoverage in urban and rural sectors and no adjustment in the nomadic sector, (3,498,961 total, 900,357 urban, 1,153,939 rural and 1,444,665 nomadic).

These base figures were projected to 1984 as follows:

a. The total population was projected using an annual growth rate of 2.6%, subtracting 100,000 Somalis estimated to be temporarily working in the Gulf states and adding 700,000 refugees (estimates from the UN High Commission for Refugees).

b. The urban population was derived assuming a 1984 population of Mogadishu of 800,000. This is the estimate given by the Water Development Agency and it is consistent with an estimate of 700,000 from the Statistical Department's 1982 sampling frame with a 7% rate of growth, and with the estimated 1975 population (380,000 enumerated x 1.136 undercoverage = 431,680) projected to 1984 with a 7% growth rate.

c. The rural population was derived assuming a 1975 base population of 1,153,939, a growth rate of just under 2% (assuming a birth rate of 49, a death rate of 22, and an outmigration rate of 1%), and a rough estimate of 350,000 refugees in camps.

d. The nomadic population was derived using the enumerated 1975 population as a base and a growth rate of 2% annually (assuming lower fertility and higher mortality than the national average). There is no information about net migration.

2. The Census volume gives a crude birth rate of 45 per thousand which was derived from applying Brass' P/F indirect estimation technique to data on age-specific fertility rates and average number of children ever born. Although there was gross underreporting of children ever born in the Census, the adjusted rates compare favorably with estimates from other sources. Because questions on fertility and mortality were not included in questionnaires used in enumerating nomads, the rates estimated for the rural sector were presumed to fit the nomadic sector as well. An unadjusted rate of 42 was derived from the 1980 Survey of Population from a question on births in the household during the preceding 12 months, a
procedure which often results in underestimates of births. A survey carried out in three southern regions in 1980 (SDR, MONP, 1981) gives a crude birth rate of 49; however, the population sampled represented slightly less than one-third of the national population and was heavily weighted toward urban areas. Given the problems with the basic Census data and the unrepresentativeness of the survey in the southern regions, a rate of 46 appears to be a plausible compromise.

The Census volume provides a crude birth rate of 13 which is based on data on deaths in the preceding 12 months as reported in the 1980 Survey of Population. This procedure is known to produce underestimates of deaths. In addition, a death rate of 13 appears extremely implausible given the level of infant mortality. The 1980 Demographic Survey of Benadir, Bay and L. Shebelle regions reported a similar infant mortality rate and a crude death rate of 18 (SDR, MONP. 1981). Since the latter survey covered a highly urbanized sample, and since mortality is presumed to be higher in rural and nomadic populations, an overall rate of 20 seems appropriate.

There is perhaps more consensus regarding Somalia's infant mortality rate than on any other demographic parameter. The Census volume reports a rate of 146 in urban areas and 177 in rural areas, based on indirect estimation. Using similar estimation procedures, the Demographic Survey of Benadir, Bay and L. Shebelle gives an overall rate of 160 (147 for Mogadishu, 162 in other urban areas and 181 in rural areas). In a small study, Aadan (1978) finds a rate of 138 in urban areas and 193 in rural areas. Hassan (1978) finds a rate of 160-170 in urban areas and 180 in one village studied. Aden and Birk (UNICEF 1983) give rates of 255 for the urban and rural areas they studied. All in all, the often-cited figure of 170 appears plausible, on the assumption that infant mortality is higher among nomads than settled people.

The rate of natural increase = crude birth rate - crude death rate.

The estimates of currently married women of reproductive age were derived by multiplying the figures in 1. by the proportion of married women in these ages from the 1980 Survey of Benadir, Bay and L. Shebelle (15.0% urban, 18.6% rural and 16.5% nomadic).

Preliminary hand tabulations from the 1983 Family Health Survey indicate that only a very small proportion of currently married urban women are using family planning (3.4% in Hargeisa, 0.3% in Kismayo and 0.3% in Burao). Service statistics indicate a rate of 2% for Mogadishu (2442 users divided by 120,000). Presumably, use in rural and nomadic areas is much lower.

Hand tabulations from the 1983 FHS indicate that about 40% of women 15-49 in Hargeisa and Burao and 20% of women in Kismayo have heard of a family planning method.
APPENDIX I. LIST OF PERSONS CONTACTED

USAID Mission

Lou Cohen, Director
Margaret Neuse, Population Advisor
Fred Witthans, Economist
Ali Shirie, Program Officer

Other Members of the Project Paper Team:

Barbara Kennedy, Regional Pop. Officer, REDSO/EA, Nairobi
William Jeffers, Design Officer, REDSO/EA, Nairobi
Guy Roppa, ILC Consultant to Johns Hopkins University
Scott Radloff, Policy Section, AID/W
Suzanne Bacon, Data Processing Advisor, BUCEN
Sandra Rowland, Census Advisor, BUCEN

Ministry of Health

Rukiya Mohamed Seif, Head of Family Health Unit
Abuker Hassan Guled, Head of Statistics Section
Asha Mohamed Haaji, Deputy Director of Family Health Unit
Mohamed Hassan Qassim, Deputy Director of Refugee Health Unit
Mac Otten, Advisor, RHU

Ministry of National Planning

Hussein Elabe Fahie, Director General
Awil Mohamed Farah, Director of Statistics
Hassan Aboker, Head of Data Processing
Ulf Olsson, Sampling Statistician
Seetharam, Head of Human Resources Department

Ministry of Education

Abdi Ibrahim Awaleh, Head of Population Education Unit
Ali Hassan Gaal, Head of Statistics Unit

Faculty of Medicine

Abduraxman, Acting Director of Community Medicine Department

Benadir Hospital

Mohamed Warsame Ali, Director
Faduma Mohamed Hussein, Gynecologist

National Research Council

Farah Aboker Kheyre, Secretary

Somali Family Health Care Association
Raqiya Haaji Duale, Director
Abduraxman Mahamud Mohamed, Information Officer

Water Development Agency
Alfred Laszlob, Economist

Somali Unit for Research on Emergencies and Local Development
Hussein Adan, Director

UNICEF
Noreen Mariano, Assistant Program Officer
Paula Roark, Sociologist

WHO
Ataollah Amini, Resident Representative

UNFPA
Luigi D'Angelli, Project Development Officer

UN Economic Commission for Africa
Roger Hare, Reg. Advisor in Census Cartography

Other
B.J. Amini, Consultant in Health Education
APPENDIX II. CONFIGURATION OF MICROCOMPUTER AT NATIONAL RANGE AGENCY

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>AMOUNT IN US$</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Apple Ile 64KB, 220v.</td>
<td></td>
</tr>
<tr>
<td>1 Monitor 12&quot;</td>
<td></td>
</tr>
<tr>
<td>1 Disk Drive with Interface</td>
<td></td>
</tr>
<tr>
<td>1 80 Column Ext. Text Card</td>
<td></td>
</tr>
<tr>
<td>1 Stand</td>
<td></td>
</tr>
<tr>
<td>1 Microline 84 Printer and Interface</td>
<td>1,400</td>
</tr>
<tr>
<td>1 Numeric Keypad</td>
<td>130</td>
</tr>
<tr>
<td>1 Power Bank 250 VAX (also regulates voltage)</td>
<td>788</td>
</tr>
<tr>
<td>1 Disk Drive</td>
<td>305</td>
</tr>
<tr>
<td>1 Apple Writer Ile</td>
<td>180</td>
</tr>
<tr>
<td>1 Quick File Ile</td>
<td>85</td>
</tr>
<tr>
<td>1 Visicalc</td>
<td>200</td>
</tr>
<tr>
<td>1 Clean Kit</td>
<td>64</td>
</tr>
<tr>
<td>1 Dust Cover</td>
<td>20</td>
</tr>
<tr>
<td>1 Apple Case</td>
<td>35</td>
</tr>
<tr>
<td>1 Diskette Boxes of 10</td>
<td>150</td>
</tr>
<tr>
<td>1 Ribbons</td>
<td>100</td>
</tr>
</tbody>
</table>

\[5622\]

Freight & Insurance 600

\[6222\]

Ordered in August 1983 from:

Mayfield Ltd.
96R Walton Road
East Molesey, Surrey, KT8 ODL

Maintenance from:

Comp-Rite Microcomputer, Ltd.
P.O. Box 41043
Nairobi, Kenya

Cable: COMPRITE
TELEX: 22883

-20-


