

## 1.1 GEOGRAPHY, HISTORY, AND THE ECONOMY

### GEOGRAPHY

The United Republic of Tanzania is the largest country in East Africa, covering 940,000 square kilometres, 60,000 of which are inland water. Tanzania lies south of the equator and shares borders with eight countries: Kenya and Uganda to the north; Rwanda, Burundi, Democratic Republic of Congo, and Zambia to the west; and Malawi and Mozambique to the south.

Tanzania has an abundance of inland water, with several lakes and rivers. Lake Tanganyika runs along the western border and is Africa's deepest and longest freshwater lake and the world's second deepest lake. Lake Victoria is the world's second largest lake and drains into the Nile River and then to the Mediterranean Sea. The Rufiji River is Tanzania's largest river and drains into the Indian Ocean south of Dar es Salaam. Although there are many rivers, only the Rufiji and Kagera are navigable by anything larger than a canoe.

One of Tanzania's most distinctive geological features is the Great Rift Valley, which was caused by geologic faulting throughout eastern Africa and is associated with volcanic activity in the northeastern regions of the country. Two branches of the Great Rift Valley run through Tanzania. The western branch holds Lakes Tanganyika, Rukwa, and Nyasa, while the eastern branch ends in northern Tanzania and includes Lakes Natron, Manyara, and Eyasi.

Except for a narrow belt of 900 square kilometres along the coast, most of Tanzania lies 200 metres or more above sea level and much of the country is higher than 1,000 metres. In the north, Mount Kilimanjaro rises to 5,895 metres—the highest point in Africa.

The main climatic feature for most of the country is the long dry spell from May to October, followed by a period of rainfall between November and April. The main rainy season along the coast and the areas around Mount Kilimanjaro is from March to May, with short rains between October and December. In the western part of the country, around Lake Victoria, rainfall is well distributed throughout the year, with the peak period between March and May.

### HISTORY

Tanzania (then Tanganyika) became independent of British colonial rule in December 1961. One year later, on December 9, 1962, it became a republic, severing all links with the British crown except for its membership in the Commonwealth. The off-shore island of Zanzibar became independent on January 12, 1964, after the overthrow of the rule of the Sultanate. On April 26, 1964, Tanganyika and Zanzibar united to form the United Republic of Tanzania. Administratively, the Mainland of Tanzania is divided into 20 regions and Zanzibar is divided into five regions. Each region is subdivided into districts.

## ECONOMY

Tanzania has a mixed economy in which agriculture plays a key role. Agriculture—which comprises crop, animal husbandry, forestry, fishery, and hunting subsectors—contributes the largest share of any sector to the gross domestic product (GDP).

The GDP increased by 4.8 percent in 1999 according to the constant 1992 prices, compared with 4.0 percent recorded in 1998. However, this growth did not reach the target of 5.8 percent, which was predicted in the 1995-96 to 1997-98 Economic Recovery Programmes. The economic growth rate attained in 1999 is higher than the predicted population growth rate of 2.8 percent.

### 1.2 DEMOGRAPHIC STATISTICS

Table 1.1 gives the demographic indices as compiled from the censuses since 1967. The 1967 population census of Tanzania reported a total population of 12.3 million. According to the 1988 census, the population had increased to 23.1 million. Tanzania is still sparsely populated, although the population density is high in some parts of the country and has been increasing over time. In 1967, the average population density was 14 persons per square kilometre; by 1988, it had increased to 26 persons per square kilometre. Although the population is still predominantly rural, the proportion of urban residents has been increasing steadily, from 6 percent in 1967 to 18 percent in 1988. While the crude death rate in Tanzania has been decreasing for some time, the total fertility rate—among the highest in Africa—is only now beginning to decline.

Table 1.1 Demographic characteristics

Selected demographic indicators, Tanzania: 1967-1996

Index	Year			
	1967	1978	1988	1996
Population (millions)	12.3	17.5	23.1	U
Intercensal growth rate	2.6	3.2	2.8	U
Sex ratio	95.2	96.2	94.2	93.2
Crude birth rate	47	49	46	41
Total fertility rate	6.6	6.9	6.5	5.8
Crude death rate	24	19	15	U
Infant mortality rate	155	137	115	88
Percent urban	6.4	13.8	18.3	19.8
Density (pop/km <sup>2</sup> )	14	20	26	U

U = Unknown (not available)  
Source: Bureau of Statistics, 1967; 1978; 1988; Bureau of Statistics and Macro International, 1997

Although many small-scale surveys have been conducted in the country, censuses and the 1991-92 and 1996 Tanzania Demographic and Health Surveys have been the only sources of demographic statistics in Tanzania. Civil registration has never been used as a source of demographic statistics because its coverage is incomplete.

### 1.3 POPULATION AND FAMILY PLANNING POLICIES AND PROGRAMMES

The population size of Tanzania has trebled from 7.7 million in 1948 to 23.1 million in 1988. It is estimated that the annual population increase is now more than 600,000 persons per year. It is projected that the population is now about 33 million. However, the national economy did not grow significantly in the past decade, owing to various constraints; therefore, the resources available per head increased by about 1 percent per annum between 1992 and 1999. During that period the economy grew at an average of 3.8 percent, while the per capita income increased by 0.38 percent. However, the population continued to grow at a high rate, the consequences of which are felt acutely and visibly in the public budgets for health, education, and related fields of human resource

development. It is evident, therefore, that improvement in the quality and expansion of these services is unlikely to happen without controlling rapid population growth and strengthening the national economy.

It is against this background that Tanzania adopted the 1992 National Population Policy. The principal objective of the policy is to reinforce national development through developing available resources to improve the quality of life of the people. Special emphasis is put on regulating the population growth rate, enhancing population quality, and improving the health and welfare of women and children. The primary concerns of the Population Policy are to safeguard, as much as possible, the satisfaction of the basic needs of the vulnerable groups in the population, and to develop human resources for current and future national socioeconomic progress. Since Tanzania was concerned with population and development issues before the adoption of an explicit population policy, the country has a tradition of taking into account population issues in its development plans.

With specific reference to family planning, the goals of the policy are to strengthen family planning services to promote the health and welfare of the family, the community, and the nation and eventually to reduce the rate of population growth. Other specific objectives related to population regulation include making family planning services available to all who want them, encouraging every family to space births at least two years apart, and supporting family life education programmes for youth and family planning for men and women.

The Family Planning Association of Tanzania (UMATI) introduced family planning services to Tanzania in 1959. During the early years the services were mostly provided in a few urban areas with little support from the government. With the expansion of UMATI in the early 70s, services were extended to cover more areas in the country. The government became actively involved in providing family planning services following the launch of the integrated Maternal and Child Health programme in 1974. At the 1994 International Conference for Population and Development in Cairo, Tanzania endorsed the comprehensive approach toward reproductive health. The government now aims at providing universal access to high-quality, affordable reproductive health services, including family planning. Currently, reproductive health services are provided by both governmental and nongovernmental organisations under the coordination of the Reproductive and Child Health Section of the Ministry of Health. Clinical services are complemented by community-based services.

There have been various national efforts to control the spread of HIV/AIDS since 1985. Initial efforts were mainly implemented by the Ministry of Health through the National AIDS Control Programme. Over time, involvement of other public sector, nongovernmental, and community-based organisations has occurred.

Population Services International operates a social marketing programme in Tanzania. Its purpose is to provide low-cost reproductive health, family planning, and child health products and services to low income people. The objective of the program, which has been in place since 1994, is to reduce disease and deaths by making health products accessible and affordable to low income Tanzanians, providing information, creating awareness, and promoting behaviour change through social marketing techniques. Social marketing of Salama condoms started in 1993 as part of the larger nationwide AIDS/STD control programme; social marketing of Care female condoms started in 1998. Social marketing of mosquito bednets and insecticide started in 1998.

## 1.4 HEALTH PRIORITIES AND PROGRAMMES

The Tanzanian government emphasises equity in the distribution of health services and views access to services as a basic human right. To respond to the worldwide efforts to attain the social goal of “Health to All” by the year 2000, Tanzania’s health strategy focuses on the delivery of primary health care services. In 1991, a new Primary Health Care (PHC) strategy was developed by the Ministry of Health. The main objective of the PHC programme is to strengthen district management capacity, multisectoral collaboration and community involvement.

More than 60 percent of health services are provided by the government and the remainder are provided by nongovernmental organisations. With an extensive network of health facilities in the country, at the national level there are four consultant hospitals and two special hospitals, one of which is the university teaching hospital. Most regions have a regional hospital and there are a total of 195 hospitals in the country. There are 302 health centres and about 3,500 dispensaries. At the village level, village health posts have been established staffed with at least two village health workers. There are more than 5,550 village health workers in the country. Private institutions are increasingly playing an important role in the provision of health care, especially in urban areas. Recently, the government has undertaken a health sector reform programme, which emphasises decentralisation from the national to the regional and district levels.

## 1.5 OBJECTIVES AND ORGANISATION OF THE SURVEY

The 1999 Tanzania Reproductive and Child Health Survey (TRCHS) is the fourth in a series of national sample surveys. The first was the 1991-92 Tanzania Demographic and Health Survey (TDHS), which was followed by the Tanzania Knowledge, Attitudes and Practices Survey (TKAP) in 1994 and then by the 1996 Tanzania Demographic and Health Survey (TDHS).

The primary objective of the 1999 TRCHS was to collect data at the national level (with breakdowns by urban-rural and Mainland-Zanzibar residence wherever warranted) on fertility levels and preferences, family planning use, maternal and child health, breastfeeding practices, nutritional status of young children, childhood mortality levels, knowledge and behaviour regarding HIV/AIDS, and the availability of specific health services within the community.<sup>1</sup> Related objectives were to produce these results in a timely manner and to ensure that the data were disseminated to a wide audience of potential users in governmental and nongovernmental organisations within and outside Tanzania. The ultimate intent is to use the information to evaluate current programmes and to design new strategies for improving health and family planning services for the people of Tanzania.

The survey was undertaken by the National Bureau of Statistics in collaboration with the Reproductive and Child Health Section of the Ministry of Health. The survey was initiated and jointly funded by the U.S. Agency for International Development (USAID/Tanzania), UNICEF/Tanzania, and the United Nations Population Fund (UNFPA/Tanzania). Technical assistance was provided by Macro International Inc. as part of the worldwide MEASURE Demographic and Health Surveys (*DHS+*) project, which is designed to collect, analyse, and disseminate data on fertility, family planning, maternal and child health, and HIV/AIDS.

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<sup>1</sup> Data collection for the survey of health facilities was carried out as a separate but integrated operation, and the data will appear in a separate report.

## SAMPLE DESIGN

The TRCHS used a three-stage sample design. Overall, 176 census enumeration areas were selected (146 on the Mainland and 30 in Zanzibar) with probability proportional to size on an approximately self-weighting basis on the Mainland, but with oversampling of urban areas and Zanzibar. To reduce costs and maximise the ability to identify trends over time, these enumeration areas were selected from the 357 sample points that were used in the 1996 TDHS, which in turn were selected from the 1988 census frame of enumeration in a two-stage process (first wards/branches and then enumeration areas within wards/branches). Before the data collection, fieldwork teams visited the selected enumeration areas to list all the households. From these lists, households were selected to be interviewed. The sample was designed to provide estimates for the whole country, for urban and rural areas separately, and for Zanzibar and, in some cases, Unguja and Pemba separately. The health facilities component of the TRCHS involved visiting hospitals, health centres, and pharmacies located in areas around the households interviewed. In this way, the data from the two components can be linked and a richer dataset produced.

## QUESTIONNAIRES

The household survey component of the TRCHS involved three questionnaires: 1) a Household Questionnaire, 2) a Women's Questionnaire for all individual women age 15-49 in the selected households, and 3) a Men's Questionnaire for all men age 15-59. The health facilities survey involved six questionnaires: 1) a Community Questionnaire administered to men and women in each selected enumeration area; 2) a Facility Questionnaire; 3) a Facility Inventory; 4) a Service Provider Questionnaire; 5) a Pharmacy Inventory Questionnaire; and 6) a questionnaire for the District Medical Officers. All these instruments were based on model questionnaires developed for the MEASURE programme, as well as on the questionnaires used in the 1991-92 TDHS, the 1994 TKAP, and the 1996 TDHS. These model questionnaires were adapted for use in Tanzania during meetings with representatives from the Ministry of Health, the University of Dar es Salaam, the Tanzania Food and Nutrition Centre, USAID/Tanzania, UNICEF/Tanzania, UNFPA/Tanzania, and other potential data users. The questionnaires and manual were developed in English and then translated into and printed in Kiswahili.

The Household Questionnaire was used to list all the usual members and visitors in the selected households. Some basic information was collected on the characteristics of each person listed, including his/her age, sex, education, and relationship to the head of the household. The main purpose of the Household Questionnaire was to identify women and men who were eligible for individual interview and children under five who were to be weighed and measured. Information was also collected about the dwelling itself, such as the source of water, type of toilet facilities, materials used to construct the house, ownership of various consumer goods, and use of iodised salt. Finally, the Household Questionnaire was used to collect some rudimentary information about the extent of child labour.

The Women's Questionnaire was used to collect information from women age 15-49. These women were asked questions on the following topics:

- Background characteristics (age, education, religion, type of employment)
- Birth history
- Knowledge and use of family planning methods
- Antenatal, delivery, and postnatal care
- Breastfeeding and weaning practices
- Vaccinations, birth registration, and health of children under age five
- Marriage and recent sexual activity

- Fertility preferences
- Knowledge and behaviour concerning HIV/AIDS.

The Men's Questionnaire covered most of these same issues, except that it omitted the sections on the detailed reproductive history, maternal health, and child health. The final versions of the English questionnaires are provided in Appendix E.

Before the questionnaires could be finalised, a pretest was done in July 1999 in Kibaha District to assess the viability of the questions, the flow and logical sequence of the skip pattern, and the field organisation. Modifications to the questionnaires, including wording and translations, were made based on lessons drawn from the exercise.

## **TRAINING AND FIELDWORK**

Competency was the guiding factor in recruiting interviewers. As with 1991-92, 1994, and 1996 surveys, the Ministry of Health was requested to secure the services of trained nurses to be interviewers in the 1999 TRCHS. A similar request was made to the Zanzibar Ministry of Health to provide nurses to serve as interviewers.

The training of field staff for the main survey was conducted over a three-week period from mid-August to the first week of September 1999, at the Golden Rose Hotel in Arusha Municipality. A total of 100 nurses were recruited and trained by experienced statisticians and demographers from the National Bureau of Statistics, with support from staff at Macro International Inc. and guest lecturers from the Arusha Regional Hospital and staff from the Tanzania Food and Nutrition Centre. Trial interviews were conducted in the nearby villages and in some parts of Arusha Municipality. Trainees also visited day care centres to gain experience in measuring children. Data processing staff participated in the training to acquaint themselves with the questionnaires. The training course consisted of instructions in interviewing techniques and field procedures, as well as a detailed review of items on the questionnaires. It also covered use of salt testing kits, weighing and measuring children, mock interviews between participants in the classroom, and practice interviews with real respondents in and around Arusha Municipality. During training, a series of assessment tests were given to the class. These tests were graded, and the results were used to select interviewers. Those who showed a high level of understanding of the questionnaires and were also able to detect errors in completed questionnaires were later chosen to be field editors.

Supervisors and editors participated in further training to discuss their duties and responsibilities. Ensuring data quality was emphasised. The supervisor was required to act as the leader of the field team and to be responsible for the well-being and safety of team members, as well as the completion of the assigned workload and the maintenance of data quality. Responsibilities of the editor included monitoring interviewer performance and checking all questionnaires for completeness and consistency. Close supervision of the interviewers and editing of completed questionnaires was emphasised to ensure accurate and complete data collection.

The fieldwork began the first week of September and continued until the third week of November 1999. Data collection for the 1999 TRCHS was implemented by ten teams, nine of which were composed of six female interviewers, one male interviewer, a field editor, a supervisor, and a driver. The tenth team was for quality control and was composed of a supervisor, two interviewers, and a driver. The list of persons who were involved in the survey is presented in Appendix D.

The quality control team visited all the teams to check the quality of their work by reviewing

completed questionnaires, observing interviews, and reinterviewing a subsample of households to check that the original interviews were completed and all eligible respondents were correctly identified. Problems found in one team were immediately communicated to other teams through the head office.

## DATA PROCESSING

All the questionnaires for the TDHS were returned to the National Bureau of Statistics for data processing, which consisted of office editing, coding of open-ended questions, data entry, and editing of computer-identified errors. All data were processed on microcomputers and a software programme developed for DHS surveys, called the Integrated System for Survey Analysis (ISSA). The data processing staff for the survey consisted of eight data entry operators, one editor and two supervisors who were staff of the National Bureau of Statistics. Data entry was 100 percent verified. Office editing and data processing activities were initiated immediately after the beginning of fieldwork and were completed in mid-January 2000.

## RESPONSE RATES

A summary of response rates from the household and individual interviews is shown in Table 1.2. In all, 3,826 households were selected for the sample, out of which 3,677 were occupied. Of the households found, 3,615 were interviewed, representing a response rate of 98 percent. The shortfall is primarily due to dwellings that were vacant or in which the inhabitants were not at home despite of several callbacks.

In the interviewed households, a total of 4,118 eligible women (i.e., women age 15-49) were identified for the individual interview, and 4,029 women were actually interviewed, yielding a response rate of 98 percent. A total of 3,792 eligible men (i.e., men age 15-59), were identified for the individual interview, of whom 3,542 were interviewed, representing a response rate of 93 percent. The principal reason for nonresponse among both eligible men and women was the failure to find them at home despite repeated visits to the household. The lower response rate among men than women was due to the more frequent and longer absences of men.

The response rates are lower in urban areas due to longer absence of respondents from their homes. One-member households are more common in urban areas and are more difficult to

**Table 1.2 Results of the household and individual interviews**

Number of households, number of interviews, and response rates, by urban-rural residence, Tanzania 1999

Result	Residence		Total
	Urban	Rural	
<b>Household interviews</b>			
Households sampled	1,304	2,522	3,826
Households occupied	1,233	2,444	3,677
Households interviewed	1,192	2,423	3,615
<b>Household response rate</b>	96.7	99.1	98.3
<b>Individual interviews: women</b>			
Number of eligible women	1,446	2,672	4,118
Number of eligible women interviewed	1,418	2,611	4,029
<b>Eligible woman response rate</b>	98.1	97.7	97.8
<b>Individual interviews: men</b>			
Number of eligible men	1,367	2,425	3,792
Number of eligible men interviewed	1,250	2,292	3,542
<b>Eligible man response rate</b>	91.4	94.5	93.4

interview because they keep their houses locked most of the time. In urban settings, neighbours often do not know the whereabouts of such people.

