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## 1.1 TERRITORY

The Republic of Armenia is a small, mountainous country, 90 percent of which is located more than 1,000 meters above sea level. The country is located in southwestern Asia, between the Caucasus and Near Asia (the area between the Kur and Araks rivers). The country is bordered by Georgia and Azerbaijan on the north and east and by Turkey and Iran on the west and south. The area of the country is 29,743 square kilometers, 46 percent of which is agricultural lands, 35 percent mountains and highlands, 13 percent forests, and 6 percent water surface. In Armenia, the largest lake is Sevan, which has a surface area of 1,260 square kilometers. The longest river is the Araks.

The highest point in the country is the peak of Aragats (4,090 meters); the lowest point is the Debet River (390 meters). The longest distance between the northwest and the southeast is 360 kilometers, and the longest distance between west and east is 200 kilometers.

The country is subdivided into 11 regions (marzes), which includes the region of Yerevan, the capital city of Armenia.

## 1.2 DEMOGRAPHIC CHARACTERISTICS

As of January 1, 2001, the official population of the Republic of Armenia was 3.8 million. The country's population is composed almost entirely of ethnic Armenians, although there are some Yazidis, Kurds, Russians, Ukrainians, Asserians, Greeks, and other national minorities.

Most ethnic Armenians live outside the borders of the republic (approximately 5 million Armenians live in 66 countries). The location and size of the various Armenian diaspora communities is related to the available living conditions and security of the given areas. The formation of the Armenian diaspora began during the First World War (1914-1918), when the territory of Armenia was divided between the fighting empires. The Ottoman Empire owned the largest part of the historical territory of Armenia—West Armenia—and the Russian Empire owned East Armenia.

## 1.3 HISTORY

The Armenian highland is one of the origins of civilization, where human beings have lived since the Stone Age. The Armenian nation is one of the oldest nations in the world. Its ancient history dates back almost 5,000 years, and the Armenian nation has long been famous for its material and spiritual culture. The most important two Old World trade and strategic routes connecting the East and the West went through Armenia, which made it an arena for war.

In the ninth through the sixth centuries B.C., the Urartu (Ararat) Kingdom, with its unique and ancient civilization, flourished in the Armenian highland. The ruins of Erebuni City, which was

founded by King Argishti of Urartu in 782 B.C., testify to this great culture. In the Ararat Kingdom, the construction of stronghold cities was very popular, as were handicrafts, blacksmithing, jewelry, stone and wood working, and other material cultures. The culture, architecture, theater, literature, and other arts were highly developed. After the collapse of Urartu, during the kingdom of King Tigran Mets (95-55 B.C.), Armenia continued to grow and develop.

The Armenian Church was established in A.D. 301 by Grigor Lusavorich and the center was located in the city of Echmiadzin, where it has remained until the present day. In 2001, Armenia celebrated the 1,700<sup>th</sup> anniversary of the adoption of Christianity as the official religion.

In 1375, the collapse of the Kingdom of Cilicia marked the end of Armenia's freedom. Survival in an alien empire was kept in the memory of the Armenian nation as a history of humiliating concessions, retreats, and pressures. In the nineteenth century, this memory served as the basis of a new ideological awakening. In 1827, East Armenia was unyoked from the Persians and incorporated into the Russian Empire

The First World War had a serious impact on the fate of the Armenian nation. Taking advantage of the war situation, in 1915, the Ottoman Empire committed genocide against the Armenians living in the territory. As a result, 1.5 million Armenians fell prey to that genocide, the rest became refugees and migrated to different countries. In fact, Turkey's governors were able to clear the Armenian people from the whole territory of West Armenia through genocide and migration.

As a result of assistance from the Russian Empire, Armenians had the opportunity to establish a free state in 1918. After the genocide, war, and revolution, Armenia found itself in a political crisis, with a collapsed economy, refugees, and unemployment. Furthermore, Armenia was without allies or a developed ideology. That republic endured for only two and a half years because national democratic values could not survive the period of ideological turmoil and the attack of the Red Army. This first Armenian republic, however, with all its weaknesses and disadvantages, became an important historical precedent by creating a system of democracy, from a national assembly and university to banking and an army.

On November 29, 1920, Armenia was incorporated into the USSR. Armenia remained in the Soviet Union for about 70 years, during which time the Armenians were able to develop in the spheres of culture, science, art, and economy within the territory of their historic homeland. From 1921 to 1991, Armenians in their second republic gained unique experience in self-governance and developed a national self-consciousness, without which the formation of the third republic would have been impossible.

#### **1.4 THE TRANSITION PERIOD FROM SOVIET REPUBLIC TO INDEPENDENT STATE**

On September 21, 1990, the Supreme Council of the Republic of Armenia adopted a declaration of independence. Three months later, Armenia became a part of Commonwealth of Independent States, and on March 2, 1992, it became a member of the United Nations. Armenia became a member of the European Council on February 18, 2001. The state language is Armenian, which belongs to the Indo-European language group; the national currency is the dram, which has been in circulation since November 1993.

The Republic of Armenia is a self-governing, democratic, social, and legal country (Constitution of RA, Chapter 1, Article 1). In the Republic of Armenia, authority belongs to the

people. The president of the country is responsible for the independence, the territorial integrity, and the security of the country. In the Republic of Armenia, the National Assembly is the legislative authority. People exercise their rights through free elections, as well as by state and local self-governance bodies and official bodies suggested by the Constitution (Constitution of RA, Chapter 1, Article 2). State authority is implemented according to the Constitution and laws based on the principle of distinguishing the legislative, administrative, and judicial authorities (Constitution of RA, Chapter 1, Article 5).

## **1.5 POPULATION MIGRATION BETWEEN 1988 AND 2000**

During the 1980s, large-scale migration began to occur in Armenia. The population movements were a result of interethnic fighting, the Karabakh crisis, a devastating earthquake centered in the north of the country, and post-Soviet political, social and economic transitions.

As a result of all of these factors, Armenia experienced net out-migration during the crisis period, especially from 1992 to 1994. Unfortunately, the current system of administrative registration of the population does not provide sufficient data on the migration that occurred during the 10 years preceding the survey; this is because some emigrants leave the Republic and live abroad for long periods of time without registering their departure. The porous borders between Armenia and other CIS countries, together with the lack of registration at border crossings, means that some population movements have not been included in the statistics on migration.

The above factors account for the fact that according to official statistics, during the 1992-2000 period, the Republic registered a net loss of 94,200. Other data, however, indicate that the real level of out-migration was higher. For example, according to the data on registration of passengers implemented by the General Department of Civil Aviation in the period 1992-2000 the cumulative net loss of people from the Republic comprised about 644,000. Furthermore, data collected at railway stations during May and June 2000 and data on border crossing by vehicles confirm that the current (available) population in the Republic is significantly lower because of out-migration. Thus, it is clear that the underregistration of migration has resulted in a paucity of reliable data on the current resident population. Furthermore, although some quantitative data on population movements by air, railway and vehicle transport are available, the age and sex structure of the migration streams is unknown.

As previously mentioned, the calculation of the resident population of the Republic is based on official statistical data. In turn, all demographic indicators are calculated using the resident population in the denominator. Data collected in the Population Census, conducted in October 2001, will be used to recalculate demographic indicators.

## **1.6 HEALTH CARE SYSTEM AND EPIDEMIOLOGICAL SITUATION IN ARMENIA**

Until recently, Armenia's health care system, which developed as part of the Soviet-planned system, could be seen as a planned public service provided by the state, with all health personnel being state employees. The system was highly centralized and standardized. Services were free to patients, provided in state-owned facilities, and financed mostly by the state budget. Heavy emphasis was placed on training large numbers of doctors and providing large numbers of hospital beds. The system was intended to provide comprehensive health coverage and universal access to services with a focus on disease prevention.

Health services were provided through a network of primary health care institutions, including ambulatories, polyclinics, hospitals, and doctor's assistant/midwife posts. For management purposes, the country was divided into health care delivery areas, each representing between 2,000 and 3,000 people. Specialized services were provided through secondary and tertiary health systems.

The Soviet health care system was successful in providing access to comprehensive health services for most of the country's population, including those who resided in rural and remote areas. However, maintaining such a system required substantial and continuous budgetary support and enormous manpower resources and managerial skills. Although the Soviet health care system met many of its goals, the system itself and the health of the population has deteriorated of late, largely due to the political and economic turmoil that accompanied the collapse of the Soviet Union.

As a result, Armenia inherited a health care system that was in a chronic state of disarray. Even in the years that preceded the collapse, the Soviet Union was the only major country where the percentage of the gross domestic product (GDP) going to health care decreased, and it was already in the range of just 3 to 4 percent. This percentage compares with average health care expenditures of 6 to 10 percent of the GDP in most developed countries. After the collapse of the Soviet Union, the GDP fell by as much as 50 percent and funding to the health sector in Armenia decreased to about 1 to 3 percent of the GDP. This has resulted in declines in life expectancy, increased morbidity, poor conditions in hospitals and other facilities, and overall public dissatisfaction with health services.

This situation, as well as the guarantee of free basic health care in the 1995 Constitution, prompted the country to search for other ways to fund health services. In 1997, the government-run health care institutions began a process of privatization, resulting in the re-registration of the state institutions into closed joint-stock companies, run as for-profit business organizations, but managed by the government. The network of pharmacies has now been completely privatized, while the dental service industry is almost completely privatized.

While searching for an efficient funding mechanism, the country took major steps in restructuring the health care system with the intent to redirect resources to the primary health care sector. Efforts to restructure the primary care delivery system in Armenia have focused on creating a network of doctor's assistant/midwife posts.

On the other hand, abrupt increases in the market price of medications coupled with the poor financial condition of the health care sector have made health care inaccessible to large portions of the population. Admissions to both ambulatory and stationary medical facilities have decreased significantly. In-patient occupancy rates rarely exceed 35 to 40 percent. House calls have decreased by more than 30 percent. These phenomena are not due to improvements in patient health; rather, there are increases in the incidence of illnesses and mortality rates.

From an epidemiological standpoint, Armenia has features of both developed and developing countries. The major causes of death are similar to those of industrialized countries: cardiovascular disease, cancer, and accidents. The decline in life expectancy is not due to infectious diseases, but to increases in cardiovascular mortality, accidents, and cancer. Infectious diseases account for a relatively low percentage of overall mortality, generally less than 20 percent.

At the same time, there is a rising incidence of tuberculosis, especially multi-drug-resistant forms. Because of its likelihood to consume a large proportion of the limited resources available to the health sector and its potential to spread to other countries, tuberculosis is of great public health

concern in Armenia. During the last 2-3 years, a slight increase in infant mortality has been observed. Among children, acute respiratory infections and childhood diarrheal diseases are the main causes of death.

The insufficiency of the health industry mirrors declines in the country's socioeconomic condition, as people are increasingly unable to pay medical costs. The search for alternative health care systems as well as a means to finance the health care system has become a difficult political issue; health care reform has become a priority issue for many.

In recent years, many international organizations have supported various public health initiatives including maternal and child health and immunization programs, programs aiming to decrease mortality due to acute respiratory infections and diarrheal diseases, breastfeeding promotion, family planning campaigns, primary health care reform, tuberculosis control, and preventive care for women.

## **1.7 FAMILY PLANNING POLICIES AND PROGRAMS**

Maternal and child health issues in Armenia are the responsibility of the government, as written into the republic's Constitution and legislation. National maternal and child health care strategy is based upon the state's health care model. The legislative bases for child health care, as well as for the population as a whole, are the Constitution of the Republic of Armenia, the Armenian Laws on Child Rights and the Health Care and Services of the Population, upon which the right to use reproductive and family planning services is based.

The main objectives of the family planning programs in Armenia are to ensure safe motherhood among women of reproductive age, to decrease health risks during pregnancy, and to reduce reliance upon abortion as a method of family planning while promoting more modern and effective methods of contraception. In this respect, the legal right to terminate a pregnancy has been granted by both the Ministry of Health and the Ministry of Justice. The government of the Republic of Armenia has also legalized procedures for medical sterilization. A draft of a nationwide law on human reproduction has been developed and is under discussion. However, many issues concerning both legal and medical aspects of the reproductive health of women still need to be addressed.

Stemming from analyses of reproductive health data, there has been increasing demand to regulate family planning in Armenia. Networks of family planning services in Armenia had not been adequately developed until 1996 when the Reproductive Health Improvement national program was jointly implemented by the Armenian Ministry of Health, the World Health Organization (WHO), and the United Nations Population Fund (UNFPA). With the framework for family planning services now in place in every region, 77 family planning clinics were opened by 1997. In September 2000, the public relations department at Johns Hopkins University in the United States, with financial support from the U.S. Agency for International Development (USAID), implemented a media campaign called Green Road, designed to increase the public's knowledge of family planning issues.

In Armenia, abortion is a common method used to terminate unwanted pregnancies. Although originally outlawed in 1920, abortion was legalized by the Soviet Union in 1955 due to increases in mortality associated with illegal abortions. Today, abortion is legal during the first 12 weeks of pregnancy. In certain cases, it may be performed until 22 weeks of gestation if there are medical or social justifications. Abortions are performed in hospitals by trained medical staff. Despite decreases in recent years, the incidence of abortion remains an important issue for Armenian health care because of its negative effects on women's health.

The main barrier to the spread of family planning services and contraception is insufficient knowledge of modern family planning methods. There is also the lack of access to modern methods of family planning due to the changes in the Armenian health sector and underfunding of family planning services. Under the framework of the Reproductive Health Improvement Program, although contraceptives are distributed free of charge, medical consultations are not free. For many years, oral contraceptives were not commonly available in Armenia, due to the order “On the Side Effects and Complications of Oral Contraceptives” published by the Ministry of Health of the former Soviet Union in 1974. This document in effect banned the distribution and use of oral contraceptives.

## **1.8 FINANCING**

Due to the far-reaching nature of the Armenian health care system, and its principle of three stages of health care, maternal and child health care should theoretically be available to all. Specialized obstetrics and gynecological services are found primarily in the main cities and are administered through specialized medical genetics centers, family planning clinics, prenatal diagnostic laboratories, and maternity wards. Children’s health care is implemented through stationary and ambulatory polyclinics and boarding house health care services.

The collapse of the socialist system adversely affected the country’s maternal and child health care system. Socioeconomic crises have worsened these problems. The deterioration of the communications infrastructure has severely reduced access to health care: the three-stage principle of health care cannot effectively operate, it has become almost impossible to organize specialized health care outside the republic, and emergency health care can be organized only with great difficulty. The problems are most apparent with regard to diagnostics, child nutrition, medication, and vaccinations, which are currently imported primarily by humanitarian organizations.

No study has yet been conducted to calculate the cost of administering health care through separate services. Currently, however, economic reforms are being implemented by the Ministry of Health that would allocate funds to medical institutions on a per-patient basis.

Budget allocations for the health care system are conducted annually in the framework of the state’s goal-oriented programs. However, budget allocations for the health sector are decreasing (2.7 percent of the GDP in 1990 and 1.4 percent in 1999). In spite of the fact that 30-40 percent of the health care budget is allocated to maternal and child health, there still exists insufficient funds to cover many services; in 2000, the health care system overall received only one-half of its predicted budget. Budget shortfalls have limited access to and the quality of health care, resulting in increases in mortality and morbidity.

## **1.9 OBJECTIVES AND ORGANIZATION OF THE SURVEY**

The Armenia Demographic and Health Survey (ADHS) was a nationally representative sample survey designed to provide information on population and health issues in Armenia. The primary goal of the survey was to develop a single integrated set of demographic and health data, the first such data set pertaining to the population of the Republic of Armenia. In addition to integrating measures of reproductive, child, and adult health, another feature of the DHS survey is that the majority of data are presented at the marz level.

The ADHS was conducted by the National Statistical Service and the Ministry of Health of the Republic of Armenia during October through December 2000. ORC Macro provided technical

support for the survey through the MEASURE *DHS+* project. MEASURE *DHS+* is a worldwide project, sponsored by the USAID, with a mandate to assist countries in obtaining information on key population and health indicators. USAID/Armenia provided funding for the survey. The United Nations Children's Fund (UNICEF)/Armenia provided support through the donation of equipment.

The ADHS collected national- and regional-level data on fertility and contraceptive use, maternal and child health, adult health, and AIDS and other sexually transmitted diseases. The survey obtained detailed information on these issues from women of reproductive age and, on certain topics, from men as well. Data are presented by marz wherever sample size permits.

The ADHS results are intended to provide the information needed to evaluate existing social programs and to design new strategies for improving the health of and health services for the people of Armenia. The ADHS also contributes to the growing international database on demographic and health-related variables.

### ***Sample Design and Implementation***

The sample was designed to provide estimates of most survey indicators (including fertility, abortion, and contraceptive prevalence) for Yerevan and each of the other ten administrative regions (marzes). The design also called for estimates of infant and child mortality at the national level for Yerevan and other urban areas and rural areas.

The target sample size of 6,500 completed interviews with women age 15-49 was allocated as follows: 1,500 to Yerevan and 500 to each of the ten marzes. Within each marz, the sample was allocated between urban and rural areas in proportion to the population size. This gave a target sample of approximately 2,300 completed interviews for urban areas exclusive of Yerevan and 2,700 completed interviews for the rural sector. Interviews were completed with 6,430 women. Men age 15-54 were interviewed in every third household; this yielded 1,719 completed interviews.

A two-stage sample was used. In the first stage, 260 areas or primary sampling units (PSUs) were selected with probability proportional to population size (PPS) by systematic selection from a list of areas. The list of areas was the 1996 Data Base of Addresses and Households constructed by the National Statistical Service. Because most selected areas were too large to be directly listed, a separate segmentation operation was conducted prior to household listing. Large selected areas were divided into segments of which two segments were included in the sample. A complete listing of households was then carried out in selected segments as well as selected areas that were not segmented.

The listing of households served as the sampling frame for the selection of households in the second stage of sampling. Within each area, households were selected systematically so as to yield an average of 25 completed interviews with eligible women per area. All women 15-49 who stayed in the sampled households on the night before the interview were eligible for the survey. In each segment, a subsample of one-third of all households was selected for the men's component of the survey. In these households, all men 15-54 who stayed in the household on the previous night were eligible for the survey.

### ***Questionnaires***

Three questionnaires were used in the ADHS: a Household Questionnaire, a Women's Questionnaire, and a Men's Questionnaire. The questionnaires were based on the model survey

instruments developed for the MEASURE *DHS* + program. The model questionnaires were adapted for use during a series of expert meetings hosted by the Center of Perinatology, Obstetrics, and Gynecology. The questionnaires were developed in English and translated into Armenian and Russian. The questionnaires were pretested in July 2000.

The Household Questionnaire was used to list all usual members of and visitors to a household and to collect information on the physical characteristics of the dwelling unit. The first part of the household questionnaire collected information on the age, sex, residence, educational attainment, and relationship to the household head of each household member or visitor. This information provided basic demographic data for Armenian households. It also was used to identify the women and men who were eligible for the individual interview (i.e., women 15-49 and men 15-54). The second part of the Household Questionnaire consisted of questions on housing characteristics (e.g., the flooring material, the source of water, and the type of toilet facilities) and on ownership of a variety of consumer goods.

The Women's Questionnaire obtained information on the following topics:

- Background characteristics
- Pregnancy history
- Antenatal, delivery, and postnatal care
- Knowledge and use of contraception
- Attitudes toward contraception and abortion
- Reproductive and adult health
- Vaccinations, birth registration, and health of children under age five
- Episodes of diarrhea and respiratory illness of children under age five
- Breastfeeding and weaning practices
- Height and weight of women and children under age five
- Hemoglobin measurement of women and children under age five
- Marriage and recent sexual activity
- Fertility preferences
- Knowledge of and attitude toward AIDS and other sexually transmitted infections.

The Men's Questionnaire focused on the following topics:

- Background characteristics
- Health
- Marriage and recent sexual activity
- Attitudes toward and use of condoms
- Knowledge of and attitude toward AIDS and other sexually transmitted infections.

### ***Field Staff***

Thirteen interviewing teams were involved in data collection; each team consisted of four female interviewers, a male interviewer, a health technician, a field editor, and a team supervisor. The health technicians received special training in anthropometric measurement and anemia testing and were responsible for the collection of data on height and weight and anemia levels.

Training of the survey field staff occurred during a three-week period in September 2000. Training for all field staff, except the health technicians, was conducted by the National Statistical Service. Training for the health technicians was conducted by the Ministry of Health. Training

consisted of lectures, practice in the classroom, and two days of practice in the field. Field practice was conducted on a team basis with interviewers and health technicians working in the same households.

### ***Fieldwork and Data Processing***

The main fieldwork began in early October and was completed by early December. All callbacks and reinterviews were completed in early January 2001. Two special quality control teams, consisting of a female interviewer, a male interviewer, and a health technician, visited the teams in the field to check on the quality of the fieldwork.

After a team had completed interviewing in a cluster, questionnaires were returned promptly to the National Statistical Service in Yerevan for data processing. The office editing staff first checked that questionnaires for all selected households and eligible respondents had been received from the field staff. In addition, a few questions that had not been precoded (e.g., occupation) were coded at this time. Using the ISSA (Integrated System for Survey Analysis) software, a specially trained team of data processing staff entered the questionnaires and edited the resulting data set on microcomputers. The process of office editing and data processing was initiated soon after the beginning of fieldwork and was completed by the end of January 2001.

### ***Response Rates***

Table 1.1 presents household and individual response rates for the survey. A total of 6,524 households were selected for the sample, of which 6,150 were occupied at the time of fieldwork. The main reason for the difference is that some of the dwelling units that were occupied during the household listing operation were either vacant or the household was away for an extended period at the time of interviewing. Of the occupied households, 97 percent were successfully interviewed.

<u>Table 1.1 Results of the household and individual interviews</u>			
Number of households, number of interviews, and response rates, according to residence, Armenia 2000			
Result	Residence		Total
	Urban	Rural	
<b>Household interviews</b>			
Households sampled	3,629	2,895	6,524
Households occupied	3,386	2,764	6,150
Households interviewed	3,260	2,720	5,980
Household response rate	96.3	98.4	97.2
<b>Individual interviews: women</b>			
Number of eligible women	3,699	2,986	6,685
Number of eligible women interviewed	3,545	2,885	6,430
Eligible woman response rate	95.8	96.6	96.2
<b>Individual interviews: men</b>			
Number of eligible men	1,045	868	1,913
Number of eligible men interviewed	943	776	1,719
Eligible man response rate	90.2	89.4	89.9

In these households, 6,685 women were identified as eligible for the individual interview (i.e., age 15-49). Interviews were completed with 96 percent of them. Of the 1,913 eligible men identified, 90 percent were successfully interviewed. The principal reason for non-response among eligible women and men was the failure to find them at home despite repeated visits to the household. The refusal rate was low.

The overall response rates, the product of the household and the individual response rates, were 94 percent for women and 87 percent for men.