

# Azerbaijan - Demographic and Health Survey 2006

**State Statistical Committee (SSC)**

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# Sampling

## Sampling Procedure

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The sample was designed to permit detailed analysis, including the estimation of rates of fertility, infant/child mortality, and abortion, for the national level, for Baku, and for urban and rural areas separately. Many indicators are available separately for each of the economic regions in Azerbaijan except the Autonomous Republic of Nakhichevan (conducting the survey in Nakhichevan was complicated, since this region is in the blockade).

A representative probability sample of households was selected for the 2006 AzDHS sample. The sample was selected in two stages. In the first stage, 318 clusters in Baku and 8 other economic regions were selected from a list of enumeration areas from the master sample frame that was designed for the 1999 Population Census. In the second stage, a complete listing of households was carried out in each selected cluster. Households were then systematically selected from each cluster for participation in the survey. This design resulted in a final sample of 7,619 households.

Because of the non-proportional allocation of the sample to the different economic regions, sampling weights will be required in all analysis using the DHS data to ensure the actual representativity of the sample at both the national and regional levels. The sampling weight for each household is the inverse of its overall selection probability with correction for household non-response; the individual weight is the household weight with correction of individual non-response. Sampling weights are further normalized in order to give the total number of unweighted cases equal to the total number of weighted cases at the national level, for both household weights and individual weights.

All women age 15-49 who were either permanent residents of the households in the 2006 AzDHS sample or visitors present in the household on the night before the survey were eligible to be interviewed. In addition, all men age 15-59 in one-third of the households selected for the survey were eligible to be interviewed if they were either permanent residents or visitors present in the household on the night before the survey. Interviews were completed with 8,444 women and 2,558 men.

Note: See detailed description of sample design in APPENDIX A of the Final Report.

## Response Rate

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A total of 7,619 households were selected for the sample, of which 7,341 were found 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 interview. Of the households that were found, 98 percent were successfully interviewed.

In these households, 8,652 women were identified as eligible for the individual interview. Interviews were completed with 98 percent of the women. Of the 2,717 eligible men identified, 94 percent were successfully interviewed.

Note: See summarized response rates by residence (urban/rural) in Table 1.1 of the Final Report.

## Weighting

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Because of the nonproportional allocation of the sample to the different economic regions, sampling weights were required to ensure the actual representativity of the sample at the national level. The sampling weight for each household in cluster  $i$  of stratum  $h$  is the inverse of its overall selection probability.

# Questionnaires

## Overview

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Three questionnaires were used in the AzDHS: Household Questionnaire, Women's Questionnaire, and Men's Questionnaire. The household and individual questionnaires were based on model survey instruments developed in the MEASURE DHS program. The model questionnaires were adapted for use by experts from the SSC and Ministry of Health (MOH). Input was also sought from a number of nongovernmental organizations. Additionally, at the request of UNICEF, the Multiple Indicator Cluster Survey (MICS) modules on early child education and development, birth registration, and child discipline were adapted for the 2006 AzDHS instrument. The questionnaires were prepared in English and translated into Azerbaijani and Russian. The household and individual questionnaires were pretested in May 2006.

The Household Questionnaire was used to list all usual members of and visitors to the selected households and to collect information on the socioeconomic status of the household. The first part of the Household Questionnaire collected information on the age, sex, educational attainment, and relationship of each household member or visitor to the household. This information provides basic demographic data for Azerbaijan households. It also was used to identify the women and men who were eligible for the individual interview (i.e., women age 15-49 and men age 15-59). In the second part of the Household Questionnaire, there were questions on housing characteristics (e.g., the flooring material, the source of water, and the type of toilet facilities), on ownership of a variety of consumer goods, and other questions relating to the socioeconomic status of the household. In addition, the Household Questionnaire was used to obtain information on child discipline, education, and development; to record height and weight measurements of women, men, and children under age five; and to record hemoglobin measurements of women and children under age five.

The Women's Questionnaire obtained information from women age 15-49 on the following topics:-

- Background characteristics
- Pregnancy history
- Abortion history
- Antenatal, delivery, and postnatal care
- Knowledge, attitudes, and use of contraception
- Reproductive and adult health
- Vaccinations, birth registration, and childhood illness and treatment
- Breastfeeding and weaning practices
- Marriage and recent sexual activity
- Fertility preferences
- Knowledge of and attitudes toward AIDS and other sexually transmitted diseases
- Knowledge of and attitudes toward tuberculosis
- Hypertension and other

The Men's Questionnaire, administered to men age 15-59, covered the following topics:

- Background characteristics
- Reproductive health
- Marriage and recent sexual activity
- Attitudes toward and use of condoms
- Fertility preferences
- Employment and gender roles
- Attitudes toward women's status
- Knowledge of and attitudes toward AIDS and other sexually transmitted diseases
- Knowledge of and attitudes toward tuberculosis
- Hypertension and other adult health issues
- Smoking and alcohol consumption

Blood pressure measurements of women and men were recorded in their individual questionnaires.

# Data Collection

## Data Collection Dates

Start	End	Cycle
2006-07	2006-11	N/A

## Data Collection Mode

Face-to-face [f2f]

### DATA COLLECTION NOTES

#### TRAINING OF FIELD STAFF

All supervisors, field editors, interviewers, and quality control personnel attended the main survey training, which was conducted by the State Statistical Committee and Macro during a threeweek period from late June through July 2006. The training included lectures, demonstrations, practice interviewing in small groups, examinations, and practice in blood pressure measurement. Fourteen health technicians, people with medical backgrounds who were recruited by the Ministry of Health, were trained separately during the same period in the procedures for anthropometric measurement and anemia testing. All field staff participated in three days of field practice.

#### HEMOGLOBIN TESTING

Hemoglobin testing is the primary method of anemia diagnosis. Reliable measures are obtained using the HemoCue system. In all households selected for the 2006 AzDHS survey, women age 15-49 and children age 6 to 59 months were tested for anemia. A consent statement was read to the eligible respondent or to the parent or responsible adult for children and young women age 15-17. This statement explained the purpose of the test, informed them that the results would be made available as soon as the test was completed, and requested permission for the test to be carried out.

Before taking any blood, the finger was wiped with an alcohol swab and allowed to air dry. Then, the palm side of the end of a finger was punctured with a sterile, nonreusable, self-retractable lancet and a drop of blood was collected in a HemoCue microcuvette, which serves as a measuring device, and placed in a HemoCue photometer which displays the result. An informative brochure was given to each household explaining what anemia is, its symptoms, and measures to prevent anemia. Each person whose hemoglobin level was lower than the recommended cut-off point was given a written referral recommending immediate follow-up with a health professional.

#### FIELDWORK

Eleven teams collected the survey data; each team consisted of four female interviewers, a male interviewer, a field editor, and a team supervisor. A health technician was also assigned to each team. Fieldwork began in late July 2006 and was completed by early November 2006. Senior DHS technical staff visited teams regularly to review the work and monitor data quality.

# Data Processing

## Data Editing

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The processing of the Azerbaijan DHS results began shortly after the fieldwork commenced. Completed questionnaires were returned regularly from the field to SSC headquarters in Baku, where they were entered and edited by data processing personnel who were specially trained for this task. The data processing personnel included a supervisor, a questionnaire administrator, several office editors, 10 data entry operators, and a secondary editor. The concurrent processing of the data was an advantage since the survey technical staff was able to advise field teams of problems detected during the data entry using tables generated to check various data quality parameters. As a result, specific feedback was given to the teams to improve their performance. The data entry and editing phase of the survey was completed in late January 2007.

# Data Appraisal

## Estimates of Sampling Error

The estimates from a sample survey are affected by two types of errors: nonsampling errors and sampling errors. Nonsampling errors are the results of mistakes made in implementing data collection and data processing, such as failure to locate and interview the correct household, misunderstanding of the questions on the part of either the interviewer or the respondent, and data entry errors. Although numerous efforts were made during the implementation of the 2006 Azerbaijan Demographic and Health Survey (AzDHS 2006) to minimize this type of error, nonsampling errors are impossible to avoid and difficult to evaluate statistically.

Sampling errors, on the other hand, can be evaluated statistically. The sample of respondents selected in the 2006 AzDHS is only one of many samples that could have been selected from the same population, using the same design and expected size. Each of these samples would yield results that differ somewhat from the results of the actual sample selected. Sampling errors are a measure of the variability between all possible samples. Although the degree of variability is not known exactly, it can be estimated from the survey results.

A sampling error is usually measured in terms of the standard error for a particular statistic (mean, percentage, etc.), which is the square root of the variance. The standard error can be used to calculate confidence intervals within which the true value for the population can reasonably be assumed to fall. For example, for any given statistic calculated from a sample survey, the value of that statistic will fall within a range of plus or minus two times the standard error of that statistic in 95 percent of all possible samples of identical size and design.

If the sample of respondents had been selected as a simple random sample, it would have been possible to use straightforward formulas for calculating sampling errors. However, the 2006 AzDHS sample is the result of a multi-stage stratified design, and, consequently, it was necessary to use more complex formulae. The computer software used to calculate sampling errors for the 2006 AzDHS is a Macro SAS procedure. This procedure used the Taylor linearization method of variance estimation for survey estimates that are means or proportions. The Jackknife repeated replication method is used for variance estimation of more complex statistics such as fertility and mortality rates.

Note: See detailed estimate of sampling error calculation in APPENDIX B of the Final Report.

## Other forms of Data Appraisal

### Data Quality Tables

- Household age distribution
- Age distribution of eligible and interviewed women
- Age distribution of eligible and interviewed men
- Completeness of reporting
- Births by calendar year since birth
- Reporting of age at death in days
- Reporting of age at death in months
- Nutritional status of children based on NCHS/CDC/WHO International Reference Population

Note: See detailed tables in APPENDIX C of the Final Report.



## Related Materials

### Questionnaires

#### Demographic and Health Survey 2006 - Questionnaire

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Title Demographic and Health Survey 2006 - Questionnaire  
Author(s) State Statistical Committee of the Republic of Azerbaijan Macro International Inc.  
Date 2006-01-01  
Country Azerbaijan  
Language English  
Filename Azerbaijan\_DHS\_2006\_questionnaire.pdf

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### Reports

#### Demographic and Health Survey 2005 - Report

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Title Demographic and Health Survey 2005 - Report  
Author(s) State Statistical Committee of the Republic of Azerbaijan Macro International Inc.  
Date 2008-05-01  
Country Azerbaijan  
Language English  
Description This report summarizes the findings of the 2006 Azerbaijan Demographic and Health Survey (AzDHS) carried out by the State Statistical Committee of the Republic of Azerbaijan.  
Filename <http://www.dhsprogram.com/pubs/pdf/FR195/FR195.pdf>

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#### Demographic and Health Survey 2006 - Errate

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Title Demographic and Health Survey 2006 - Errate  
Author(s) State Statistical Committee of the Republic of Azerbaijan Macro International Inc.  
Date 2008-08-01  
Country Azerbaijan  
Language English  
Filename <http://www.dhsprogram.com/pubs/pdf/FR195/AzerbaijanERRATA8-08.pdf>

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