Afghanistan - Demographic and Health Survey 2015

Central Statistics Organization (CSO) - Government of Islamic Republic of Afghanistan, Ministry of Public Health (MoPH) - Government of Islamic Republic of Afghanistan

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Sampling

Sampling Procedure

The sampling frame used for the 2015 AfDHS is an updated version of the Household Listing Frame, prepared in 2003-04 and updated in 2009, provided by the Central Statistics Organization (CSO). The sampling frame had information on 25,974 enumeration areas (EAs). An EA is a geographic area consisting of a convenient number of dwelling units that serve as counting units for the census. The sampling frame contained information about the location (province, district, and control area), the type of residence (urban or rural), and the estimated number of residential households for each of the 25,974 EAs. Satellite maps were also available for each EA, which delimited the geographic boundaries of the area. The sampling frame excluded institutional populations such as persons in hotels, barracks, and prisons.

The 2015 AfDHS followed a stratified two-stage sample design and was intended to allow estimates of key indicators at the national level, in urban and rural areas, and for each of the 34 provinces of Afghanistan. The first stage involved selecting sample points (clusters) consisting of EAs. A total of 950 clusters were selected, 260 in urban areas and 690 in rural areas. It was recognized that some areas of the country might be difficult to reach because of ongoing security issues. Therefore, to mitigate the situation, reserve clusters were selected in all of the provinces to replace the inaccessible clusters. The 101 reserve clusters that were preselected did not exceed 10% of the selected clusters in the province.

The second stage involved systematic sampling of households. A household listing operation was undertaken in all of the selected clusters, and a fixed number of 27 households per cluster were selected through an equal probability systematic selection process, for a total sample size of 25,650 households. Because of the approximately equal sample size in each province, the sample is not self-weighting at the national level, and weighting factors have been calculated, added to the data file, and applied so that results are representative at the national level.

All ever-married women age 15-49 who were either permanent residents of the selected households or visitors who stayed in the households the night before the survey were eligible to be interviewed. In half of the households, all ever-married men age 15-49 who were either residents of the selected households or visitors who stayed in the households the night before the survey were eligible to be interviewed.

During the household listing operation, more than 70 selected clusters were identified as insecure. Therefore, a decision was made to carry out the household listing operation in all of the 101 preselected reserve clusters, which also accounted for the possibility of identifying more insecure clusters during data collection. Household listing was successfully completed in 976 of 1,051 clusters. Overall, the survey was successfully carried out in 956 clusters.

For further details on sample selection, see Appendix A of the final report.

Response Rate

A total of 25,741 households were selected for the sample, of which 24,941 were occupied during the survey fieldwork. Of the occupied households, 24,395 were successfully interviewed, yielding a response rate of 98%.

In the interviewed households, 30,434 ever-married women age 15-49 were identified for individual interviews; interviews were completed with 29,461 of these women, yielding a response rate of 97%. In the subsample of households selected for the male survey, 11,778 ever-married men age 15-49 were identified and 10,760 were successfully interviewed, yielding a response rate of 91%. The lower response rate for men was likely due to their more frequent and longer absences from the household.

The response rates are lower in urban areas than in rural areas. The difference is more prominent for men than women, as men in the urban areas are often away from their households for work. Moreover, given the security situation in the country, the field teams could not carry out interviews in the late evenings when more men are at home.

Weighting

A spreadsheet containing all sampling parameters and selection probabilities was prepared to facilitate the calculation of the design weights. Design weights were adjusted for household nonresponse and individual nonresponse to obtain the sampling weights for households and for women and men, respectively. Nonresponse is adjusted at the sampling stratum level. For the household sampling weight, the household design weight is multiplied by the inverse of the household response rate, by

stratum. For the women's individual sampling weight, the household sampling weight is multiplied by the inverse of the women's individual response rate, by stratum. For the men's individual sampling weight, the household sampling weight for the male subsample is multiplied by the inverse of the men's individual response rate, by stratum. After adjusting for nonresponse, the sampling weights are normalized to get the final standard weights that appear in the data files. The normalization process is aimed at obtaining a total number of unweighted cases equal to the total number of weighted cases using normalized weights at the national level, for the total number of households, women, and men. Normalization is done by multiplying the sampling weight by the estimated total sampling fraction obtained from the survey for the household weight, the individual woman's weight, and the individual man's weight. The normalized weights are relative weights that are valid for estimating means, proportions, ratios, and rates, but they are not valid for estimating population totals or for pooled data. Special weights for domestic violence were calculated that account for the selection of one woman per household.

Questionnaires

Overview

Three questionnaires were used for the 2015 AfDHS: the Household Questionnaire, the Woman's Questionnaire, and the Man's Questionnaire. These questionnaires, based on the DHS Program's standard Demographic and Health Survey questionnaires, were adapted to reflect the population and health issues relevant to Afghanistan. Input was solicited from various stakeholders representing government ministries and agencies, nongovernmental organizations, and international donors. After all questionnaires were finalized in English, the questionnaires were translated into Dari and Pashto. The survey protocol and the questionnaires were approved by the ICF Institutional Review Board (IRB) and the Ministry of Public Health of Afghanistan.

Data Collection

Data Collection Dates

Start	End	Cycle
2015-06	2016-02	N/A

Data Collection Mode

Face-to-face [f2f]

DATA COLLECTION NOTES

Pretest
The fieldwork for the pretest was carried out in four locations in and around Kabul. There were four teams deployed: two teams for testing the Dari language questionnaires and two teams for testing the Pashto language questionnaires. Following the field practice, a debriefing session was held with the pretest field staff, and modifications to the questionnaires were made based on lessons drawn from the exercise.

Fieldwork
Data collection was carried out by 33 field teams, each consisting of one team supervisor, one field editor, three female interviewers, and three male interviewers. However, the team composition had to be adjusted during the different phases of the fieldwork operation because of security challenges. Data collection took place from June 15, 2015, through February 23, 2016, although most of the teams completed the fieldwork by November 2015. The extension of fieldwork in some provinces was due to the ongoing unrest and insurgency in the provinces of Kunduz, Helmand, Faryab, Badghis, and Ghazni. In the case of Badakhshan, the team had to pass through Tajikistan to access the clusters; this entailed getting visa approval, which took more than 3 months. Despite substantial challenges in the field, the AfDHS field teams successfully completed the fieldwork.

Fieldwork monitoring was an integral part of the AfDHS, and five rounds of monitoring were carried out by the AfDHS core team and the 17 master trainers. Two levels of monitoring strategies were identified: technical monitoring and coverage monitoring. The technical monitoring was carried out by the AfDHS core team and the master trainers, while the coverage monitoring was carried out by provincial statistical officers (PSOs) and the Provincial Health Directorate (PHD) of MoPH. The monitors were provided with guidelines for overseeing the fieldwork.

Data Collectors

Name	Abbreviation	Affiliation
Central Statistics Organization	CSO	Government of Islamic Republic of Afghanistan

Data Processing

Data Editing

All completed questionnaires were edited in the field and dispatched to the data processing center at the CSO central office in Kabul. CSPro data processing software was used to enter the data. All the data were entered twice for 100% verification.

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 by either the interviewer or the respondent, and data entry errors. Although numerous efforts were made during the implementation of the 2015 Afghanistan Demographic and Health Survey (2015 AfDHS) 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 2015 AfDHS 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 among all possible samples. Although the degree of variability is not known exactly, it can be estimated from the survey results.

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% 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 2015 AfDHS sample is the result of a multi-stage stratified design, and, consequently, it was necessary to use more complex formulas. Sampling errors are computed by SAS programs developed by ICF. These programs use the Taylor linearization method to estimate variances for survey estimates that are means, proportions, or ratios. The Jackknife repeated replication method is used for variance estimation of more complex statistics such as fertility and mortality rates.

The Taylor linearization method treats any percentage or average as a ratio estimate, r = y/x, where y represents the total sample value for variable y, and x represents the total number of cases in the group or subgroup under consideration.

Note: A more detailed description of estimates of sampling errors are presented in APPENDIX B of the survey 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 years
- Reporting of age at death in days
- Reporting of age at death in months
- Sibship size and sex ratio of siblings

Note: See detailed data quality tables in APPENDIX C of the report.

Related Materials

Questionnaires

Afghanistan Demographic and Health Survey 2015, Household Questionnaire

Title	Afghanistan Demographic and Health Survey 2015, Household Questionnaire
Author(s)	Central Statistics Organization and Ministry of Public Health
Date	2015-06-01
Country	Afghanistan
Language	English
Filename	Afghanistan_2015_DHS_hh_questionnaires.pdf

Afghanistan Demographic and Health Survey 2015, Ever-Maried Woman's Questionnaire

Title	Afghanistan Demographic and Health Survey 2015, Ever-Maried Woman's Questionnaire
Author(s)	Central Statistics Organization and Ministry of Public Health
Date	2015-06-01
Country	Afghanistan
Language	English
Filename	Afghanistan_2015_DHS_woman_questionnaires.pdf

Afghanistan Demographic and Health Survey 2015, Ever-Married Man's Questionnaire

Title	Afghanistan Demographic and Health Survey 2015, Ever-Married Man's Questionnaire
Author(s)	Central Statistics Organization and Ministry of Public Health
Date	2015-06-01
Country	Afghanistan
Language	English
Filename	Afghanistan_2015_DHS_man_questionnaires.pdf

Reports

Afghanistan Demographic and Health Survey 2015, Report

Title	Afghanistan Demographic and Health Survey 2015, Report
Author(s)	Central Statistics Organization, Ansari Watt, Kabul, Afghanistan Ministry of Public Health, Wazir Akbar Khan, Kabul, Afghanistan The DHS Program, ICF, Rockville, Maryland, USA
Date	2017-01-01
Country	Afghanistan
Language	English

Table of contents

Filename http://dhsprogram.com/pubs/pdf/FR323/FR323.pdf

Afghanistan 2015 Demographic and Health Survey, Key Findings

Title	Afghanistan 2015 Demographic and Health Survey, Key Findings
Author(s)	The DHS Program
Date	2017-01-01
Country	Afghanistan
Language	English
Filename	http://dhsprogram.com/pubs/pdf/SR236/SR236.pdf

Afghanistan 2015 Demographic and Health Survey, Wall Chart

Title	Afghanistan 2015 Demographic and Health Survey, Wall Chart
Author(s)	The DHS Program
Date	2017-01-01
Country	Afghanistan
Language	English
Filename	http://dhsprogram.com/pubs/pdf/DM99/DM99.pdf

Fast Facts from The 2015 Afghanistan Demographic and Health Survey

Title	Fast Facts from The 2015 Afghanistan Demographic and Health Survey
Author(s)	The DHS Program
Date	2017-01-01
Country	Afghanistan
Language	English
Filename	http://dhsprogram.com/pubs/pdf/DM101/DM101.pdf

2015 Afghanistan Demographic and Health Survey (AfDHS) , Flyer

Title	2015 Afghanistan Demographic and Health Survey (AfDHS) , Flyer
Author(s)	The DHS Program
Date	2017-01-01
Country	Afghanistan
Language	English
Filename	http://dhsprogram.com/pubs/pdf/DM100/DM100.pdf