Bangladesh - Demographic and Health Survey 2014

National Institute of Population Research and Training (NIPORT) - Ministry of Health and Family Welfare, Government of Bangladesh

Report generated on: May 23, 2017

Sampling

Sampling Procedure

Sample Design
The sample for the 2014 BDHS is nationally representative and covers the entire population residing in noninstitutional dwelling units in the country. The survey used a sampling frame from the list of enumeration areas (EAs) of the 2011 Population and Housing Census of the People's Republic of Bangladesh, provided by the Bangladesh Bureau of Statistics (BBS). The primary sampling unit (PSU) for the survey is an EA created to have an average of about 120 households.

Bangladesh is divided into seven administrative divisions: Barisal, Chittagong, Dhaka, Khulna, Rajshahi, Rangpur, and Sylhet. Each division is divided into zilas, and each zila into upazilas. Each urban area in an upazila is divided into wards, which are further subdivided into mohallas. A rural area in an upazila is divided into union parishads (UPs) and, within UPs, into mouzas. These divisions allow the country as a whole to be separated into rural and urban areas.

The survey is based on a two-stage stratified sample of households. In the first stage, 600 EAs were selected with probability proportional to the EA size, with 207 EAs in urban areas and 393 in rural areas. A complete household listing operation was then carried out in all of the selected EAs to provide a sampling frame for the second-stage selection of households. In the second stage of sampling, a systematic sample of 30 households on average was selected per EA to provide statistically reliable estimates of key demographic and health variables for the country as a whole, for urban and rural areas separately, and for each of the seven divisions. With this design, the survey selected 18,000 residential households, which were expected to result in completed interviews with about 18,000 ever-married women.

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

Response Rate

Among a total of 17,989 selected households, 17,565 were found occupied. Interviews were successfully completed in 17,300, or 99 percent of households. A total of 18,245 ever-married women age 15-49 were identified in these households and 17,863 were interviewed, for a response rate of 98 percent. Response rates for households and eligible women are similar to those in the 2011 BDHS. The principal reason for nonresponse among women was their absence from home despite repeated visits to the household. The response rates do not vary notably by urban-rural residence.

Weighting

Any analysis using the 2014 BDHS data requires that sampling weights be applied to ensure the actual representation of the survey results at the national and domain levels. Although the weighted distribution of urban-rural households in the survey was based on the urban-rural distribution in the 2011 population census, the sampling weights were adjusted to reflect a modified urban-rural household distribution recently reported by the BBS. After adjusting for undercount and including statistical metropolitan areas (SMAs) among the urban areas, the BBS estimated that the urban population was 28 percent (BBS 2014). The adjustment in the 2014 BDHS sampling weight was to generate a revised urbanrural population distribution and was not expected to lead to any significant differences in the overall survey indicators.

For further details on sampling weight calculation, see Appendix A.4 of the final report.

Questionnaires

Overview

The 2014 BDHS used three types of questionnaires: a Household Questionnaire, a Woman's Questionnaire, and a Community Questionnaire. The contents of the Household and Woman's questionnaires were based on the MEASURE DHS Model Questionnaires. These model questionnaires were adapted for use in Bangladesh during a series of meetings with a Technical Working Group (TWG) that consisted of representatives from NIPORT, Mitra and Associates, International Center for Diarrheal Disease Research, Bangladesh (ICDDR,B), USAID/Bangladesh, and ICF International. Draft questionnaires were then circulated to other interested groups and were reviewed by the 2014 BDHS Technical Review Committee. The questionnaires were developed in English and then translated into and printed in Bangla.

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 age, sex, education, current work status, birth registration, and individual possession of mobile phones. The main purpose of the Household Questionnaire was to identify women who were eligible for the individual interview. Information was collected about the dwelling unit, such as the source of water, type of toilet facilities, materials used to construct the floor, roof, and walls, ownership of various consumer goods, and availability of hand washing facilities. In addition, this questionnaire was used to record the height and weight measurements of ever-married women age 15-49 and children under age 6.

The Woman's Questionnaire was used to collect information from ever-married women age 15-49.

The Community Questionnaire was administered in each selected cluster during the household listing operation and included questions about the existence of development organizations in the community and the availability and accessibility of health services and other facilities. The Community Questionnaire was administered to a group of four to six key informants who were knowledgeable about socioeconomic conditions and the availability of health and family planning services/facilities in the cluster. Key informants included community leaders, teachers, government officials, social workers, religious leaders, traditional healers, and health care providers among others.

Data Collection

Data Collection Dates

Start	End	Cycle
2014-06-28	2014-11-09	N/A

Data Collection Mode

Face-to-face [f2f]

DATA COLLECTION NOTES

Training and Fieldwork
Fifty-four people were trained to carry out the listing of households, to delineate EAs, and to administer Community Questionnaires. They were also trained in the use of global positioning system (GPS) units to obtain locational coordinates for each selected EA. The training lasted a total of five days from May 14-20, 2014. A household listing operation was carried out in all selected EAs from May 21 to August 17, 2014, in four phases, each about three weeks in duration. Initially, 20 teams of two persons each were deployed to carry out the listing of households and to administer the Community Questionnaires. The number of teams was reduced to 19 in the third phase and to 11 in the final phase. In addition, ten supervisors were deployed to check and verify the work of the listing teams.

Training for the fieldworkers of the main survey was conducted from June 1 to 26, 2014. A total of 164 fieldworkers were recruited based on their educational level, prior experience with surveys, maturity, and willingness to spend up to four months on the project. Training included lectures on how to complete the questionnaires, mock interviews between participants, and field practice. A former NIPORT staff member gave a talk about family planning methods and maternal and child health, including HPNSDP.

Fieldwork for the BDHS was carried out by interviewing teams, each consisting of one male supervisor, one female field editor, five female interviewers, and one logistics staff person. Data collection was implemented in four phases, starting on June 28, 2014, and ending on November 9, 2014. The number of teams declined with each subsequent phase, starting with 20 teams in the first phase and ending with 16 teams by the end of data collection.

Data Collectors

Name	Abbreviation	Affiliation
Mitra and Associates		

SUPERVISION

Data quality measures were implemented through several activities. There were four quality control teams from Mitra and Associates, each comprised of one male and one female staff person. They were sent to the field to visit the interviewing teams throughout the data collection period. Moreover, the professionals of the survey team made several visits to check the fieldwork.

In addition, NIPORT monitored fieldwork by sending two quality control teams, each comprised of three members. The teams went to the field for about three weeks in each phase. They oversaw use of the household listings and maps, observed one household and one individual interview of each interviewer, and spot-checked the completed questionnaires. The teams also revisited half of the households of one completed cluster for each survey team and checked whether selected households were visited and eligible respondents were properly identified and interviewed. Debriefing sessions were held between fieldworkers' tours to discuss problems encountered in the field, clarifications, and administrative matters. Data quality was also monitored through field check tables generated concurrently with data processing. The main purpose of the tables was to allow the quality control teams to advise field teams of problems detected during data entry. Representatives from USAID, The DHS Program, and NIPORT, and other Technical Review Committee members, also monitored fieldwork through several field visits.

Data Processing

Data Editing

The completed 2014 BDHS questionnaires were periodically returned to Dhaka for data processing at Mitra and Associates. The data processing began shortly after fieldwork commenced. Data processing consisted of office editing, coding of open-ended questions, data entry, and editing of inconsistencies found by the computer program. Eight data entry operators and two data entry supervisors processed the data. Data processing commenced on July 24, 2014, and ended on November 20, 2014. The task was carried out using the Census and Survey Processing System (CSPro), a software jointly developed by the U.S. Census Bureau, ICF Macro, and Serpro S.A.

Data Appraisal

Estimates of Sampling Error

The estimates from a sample survey are affected by two types of errors: non-sampling errors and sampling errors. Non-sampling 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 2014 Bangladesh DHS (BDHS) to minimize this type of error, non-sampling 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 2014 BDHS 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.

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 2014 BDHS sample is the result of a multi-stage stratified design, and, consequently, it was necessary to use more complex formulae. Sampling errors are computed in either ISSA or SAS, using programs developed by ICF International. These programs use the Taylor linearization method of variance estimation 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.

Note: A more detailed description of estimate of sampling error is 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
- Completeness of reporting
- Births by calendar years
- Reporting of age at death in days
- Reporting of age at death in months

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

Related Materials

Questionnaires

Bangladesh Demographic and Health Survey 2014, Household Questionnaire

Title	Bangladesh Demographic and Health Survey 2014, Household Questionnaire
Author(s)	National Institute of Population Research and Training, Ministry of Health and Family Welfare Mitra and Associates
Date	2014-06-11
Country	Bangladesh
Language	English
Filename	Bangladesh_2014_DHS_hh_questionnaire.pdf

Bangladesh Demographic and Health Survey 2014, Woman's Questionnaire

Title	Bangladesh Demographic and Health Survey 2014, Woman's Questionnaire
Author(s)	National Institute of Population Research and Training, Ministry of Health and Family Welfare Mitra and Associates
Date	2014-06-11
Country	Bangladesh
Language	English
Filename	Bangladesh_2014_DHS_woman_questionnaire.pdf

Bangladesh Demographic and Health Survey 2014, Community Questionnaire

Title	Bangladesh Demographic and Health Survey 2014, Community Questionnaire
Author(s)	National Institute of Population Research and Training, Ministry of Health and Family Welfare Mitra and Associates
Date	2014-06-11
Country	Bangladesh
Language	English
Filename	Bangladesh_2014_DHS_community_questionnaire.pdf

Reports

Bangladesh Demographic and Health Survey 2014, Report

Title	Bangladesh Demographic and Health Survey 2014, Report
Author(s)	National Institute of Population Research and Training, Ministry of Health and Family Welfare, Dhaka, Bangladesh Mitra and Associates, Dhaka, Bangladesh The DHS Program, ICF International, Rockville, Maryland, U.S.A.
Date	2016-03-01
Country	Bangladesh
Language	English

Bangladesh 2014 Demographic and Health Survey, Key Indicators

Title	Bangladesh 2014 Demographic and Health Survey, Key Indicators
Author(s)	National Institute of Population Research and Training, Ministry of Health and Family Welfare, Dhaka, Bangladesh Mitra and Associates, Dhaka, Bangladesh The DHS Program, ICF International, Rockville, Maryland, U.S.A.
Date	2015-04-01
Country	Bangladesh
Language	English

Table of contents

Filename	http://dhsprogram.com/pubs/pdf/PR56/PR56.pdf

Bangladesh DHS 2014: Three Qualitative Studies

Title	Bangladesh DHS 2014: Three Qualitative Studies

subtitle	Family Planning Needs among Women with a Migrant Husband, The Social Context of Early Childbearing, Perspectives on Antenatal Care
Author(s)	Kerry L.D. MacQuarrie Quamrun Nahar Rasheda Khan Marzia Sultana ICF International, Rockville, Maryland
Date	2016-03-01
Country	Bangladesh
Language	English
Table of contents	
Filename	http://dhsprogram.com/pubs/pdf/OD69/OD69.pdf

The Men Are Away: Pregnancy Risk and Family Planning Needs among Women with a Migrant Husband in Barisal, Bangladesh

Title	The Men Are Away: Pregnancy Risk and Family Planning Needs among Women with a Migrant Husband in Barisal, Bangladesh
Author(s)	Khan, Rasheda Kerry L. D. MacQuarrie Quamrun Nahar Marzia Sultana
Date	2016-03-01
Country	Bangladesh
Language	English
Filename	http://dhsprogram.com/pubs/pdf/FA98/FA98.pdf

Why So Young? The Social Context of Early Childbearing and Contraception among Young Women in Khulna, Bangladesh

Title	Why So Young? The Social Context of Early Childbearing and Contraception among Young Women in Khulna, Bangladesh
Author(s)	Khan, Rasheda Kerry L. D. MacQuarrie Quamrun Nahar Marzia Sultana
Date	2016-03-01
Country	Bangladesh
Language	English
Table of contents	
Filename	http://dhsprogram.com/pubs/pdf/FA99/FA99.pdf

What Motivates Women to Act? Perspectives on the Value of and Experiences in Using Antenatal Care in Khulna and Rangpur, Bangladesh

Title	What Motivates Women to Act? Perspectives on the Value of and Experiences in Using Antenatal Care in Khulna and Rangpur, Bangladesh
Author(s)	Khan, Rasheda Kerry L. D. MacQuarrie Quamrun Nahar Marzia Sultana
Date	2016-03-01
Country	Bangladesh
Language	English

Table of contents	
Filename	http://dhsprogram.com/pubs/pdf/FA100/FA100.pdf

Bangladesh 2014 Demographic and Health Survey, Wall Chart

Title	Bangladesh 2014 Demographic and Health Survey, Wall Chart
Author(s)	The DHS Program
Date	2016-03-01
Country	Bangladesh
Language	English
Filename	http://dhsprogram.com/pubs/pdf/DM79/DM79.pdf