

Bangladesh - Sample Vital Registration Survey 2015

BANGLADESH BUREAU OF STATISTICS

Report generated on: October 15, 2020

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Overview

Identification

ID NUMBER
BGD-BBS-SVRS-2015-v01

Version

VERSION DESCRIPTION

PRODUCTION DATE
2016-07

Overview

ABSTRACT

Sample Vital Registration System was introduced by Bangladesh Bureau of Statistics in 1980 to determine the annual population change during inter-censal period. Initially its coverage was limited to 103 primary sampling units (PSUs) each comprising of about 250 contiguous households. Out of 103 PSUs, 62 were from rural area and 41 from urban area. To meet the data requirements of planners and policymakers and other users to have reliable estimate, the number of sample PSUs was raised to 210 in 1983. This increase in sample PSUs was expected to provide estimate at the divisional level.. At the same time its scope was raised with inclusion of marriage and migration Schedules. Considering the importance of the project it was transferred to revenue set up of BBS in 1991. At that time district (zila) became the focal point of development. To meet the users demand at the district (zila) level estimate, number of sample PSUs was further raised to 500 in 1995. The scope of the survey was also enhanced with the addition of a new module on contraceptive use. A household card was introduced for updating of household and population information. With the availability of the sampling frame from the latest Population Census 2011 the sample design was revised. An Integrated Multi-purpose Sample Design was introduced with effect from July 2002 and the number of PSU's was increased to 1000 to provide the estimate of vital events at the district level.

Dual Record System: To obtain data from field with extensive verification and to provide a better coverage of vital events Chandra Sekharan and Deming Dual Recording System was introduced from the very beginning of the project. Under System 1 there is a local registrar for each PSU who used to collect data about stipulated vital events as and when it occurs and record it in the pre-designed schedule and then send the filled-in schedules to the headquarters according to the time table set for each schedule. Under System 2 another set of enumerators (called supervisors) from the Upazila Statistical Offices visit the PSUs on a quarterly basis and collect retrospective data on all the events. The filled-in schedules obtained from both the systems are coded and matched at the headquarters and re-investigation is done whenever needed. After the cross verification of data estimates are prepared and published using the Chandra Sekharan and Deming Technique.

Schedule: To systematize collection of data from the field, a list of the schedules used which is provided below:

Schedule 1: House listing

Schedule 7: Out-migration

Schedule 2: Household card

Schedule 8: In-migration

Schedule 3: Birth

Schedule 9: Contraceptive use

Schedule 4: Death

Schedule10: Disability

Schedule 5: Marriage

Schedule 6: HIV/AIDS

Schedule 6: Divorced/Separated Objective of the Project To strengthen the Sample Vital Registration System in Bangladesh a project was undertaken in 2000 by the BBS. Two new schedules — one on divorce and separation and the other on disability were introduced.

The specific objectives of the project were —

(i) To develop an IMPS on the basis of Population Census 2001 sampling frame considered with 1000 PSUs so that reliable estimates on vital events such as birth, death, marriage, migration, contraceptive use, disability, divorce and separation can be provided at the zila level with urban- rural break- up;

(ii) To review and revise the schedules where necessary;

(iii) To provide extensive training to the local registrars and the upazila supervisors so that reliable data may be collected and sent to the headquarters in time;

(iv) To identify the causes of migration at the national, zilas, urban and rural level in Bangladesh.

(v) To prepare the report on the basis of IMPS in time. The project was completed in June 2007.

In continuation of this project another phase of the project was started from July 2007 for further strengthening the system. Under the new project the whole gamut of activities of the project has further been revitalized. A new project entitled Monitoring the Situation of Vital Statistics of Bangladesh (MSVSB) was undertaken with effect from July 2012 in order to provide accurate and reliable estimates of population changes and vital statistics at district level and number of PSUs was increased from 1000 to 1500 under newly formed IMPS design based on Population Census 2011. Data collection from 1500 PSUs was started from July 2013, till 2014. The 2015 rounds of data collection have been based on 2012 PSUs.

Statistical Techniques of Data Processing and Analysis Collection of data from the field was conducted over a period of one month. Local Female Registrars and Supervisors submitted their filled in schedule to the District Statistical Office. The DSOs submitted the schedules to the head office in Dhaka. Then data were edited and coded at the head quarter following a pre-designed editing and coding guidelines. Data processing and tabulation have been done in the computer section of the project. In presenting and computation various rates and ratios in this report, we have followed standard demographic and statistical procedures. In most instances, an up -dated versions of UN manuals, standard textbooks, journals and other demographic literatures and in some cases online materials have also been used. The operational definitions of various terms and variables employed in the report have been provided in the appendix.

KIND OF DATA

Sample survey data [ssd]

Producers and Sponsors

PRIMARY INVESTIGATOR(S)

Name	Affiliation
BANGLADESH BUREAU OF STATISTICS	STATISTICS AND INFORMATICS DIVISION, MINISTRY OF PLANNING

FUNDING

Name	Abbreviation	Role
Statistics and Informatics Division	SID	

Metadata Production

METADATA PRODUCED BY

Name	Abbreviation	Affiliation	Role
BANGLADESH BUREAU OF STATISTICS	BBS	STATISTICS AND INFORMATICS DIVISION (SID) MINISTRY OF PLANNING GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH	Documentation of the study

DATE OF METADATA PRODUCTION
2019-09-01

DDI DOCUMENT ID
DDI-BGD-BBS-SVRS-2015-v01

Sampling

Sampling Procedure

Bangladesh Bureau of Statistics (BBS) introduced the Sample Vital Registration System (SVRS) for the first time in 1980 to determine the population change during the intercensal periods. Initially, its coverage was 103 primary sampling units (PSU) each consisting of 250 households. Subsequently, the number of sample PSUs was raised to 210 in 1983, 500 PSUs in 1995 and further to 1000 in 2002. To meet the data need of the planners and policymakers, the number of PSUs was further increased to 1500 in 2013. An Integrated Multi-Purpose Sample (IMPS) Design, introduced in 2012 has also been followed since 2013 SVRS. As many as 11 data recording schedules are currently being used to collect data on household and population characteristics, birth, death, migration, marriage, disability, HIV/AIDS and contraceptive use. The vital events in the sample area are collected through a dual recording system known as Chandra—Deming technique proposed by Chandrasekaran and Deming. Under this system, vital events are collected as and when they occur by a locally recruited female registrar termed as Local Registrar (System I). On the other hand, under a second system (System 2), another group of officials from District/Upazila Statistical Office of BBS also collect the data independently from the same area on quarterly basis employing four schedules bearing numbers 3 (Birth), 4 (Death), 5 (Marriage), and 6 (Divorce/Separation) and half-yearly basis employing schedules 7 (Out-Migration) and schedules 8 (In-Migration). Having the filled-in questionnaires from the two systems, data are matched in the headquarters by a pre-designed matching criteria and the demographic rates and ratios are estimated following Chandrasekaran and Deming procedure. In order to find denominators for the demographic parameters, a detailed household survey is conducted at the beginning of every year covering basic household and population characteristics. The following and the subsequent sections of the present chapter are designed to provide an overview of such issues as coverage, schedules used, data collection procedure, estimation of missing events, data management and some other issues pertinent to the SVRS.

Response Rate

The IMPS frame developed from the 2011 census served as the sampling frame for the collection of data in the SVRS survey 2015. The master sample PSUs were used as the PSUs in the SVRS. A single—stage stratified cluster sampling methodology was adopted for the SVRS sample EAs. Prior to the selection, each of all EAs containing less than 40 households were combined with an adjacent EA to be comparable with the remaining EAs. Selection of EAs within the strata was performed with probability proportionate to the estimated number of households from a computerized list ordered alphabetically within the 64 districts. Once an EA was selected, all households within the EAs were brought under the purview of data collection for SVRS area. Each of the seven administrative divisions of the country was regarded as a domain of the study. These domains were divided into three residential categories, viz. rural, urban and City Corporation. Altogether, 21 domains were thus resulted in the design. In determining the sample size for each domain, standard formulas were adopted resulting in 2012 PSUs. In both 2013 and 2014 round of surveys, a total of 935 urban EAs and 1077 rural EAs were selected from the entire sample area comprising of 2012 PSUs. The allocations of the PSUs along with the associated number of households by strata in each domain of study are shown in Table 1.1 below

The 2015 round of survey also included the same number of EAs. In 2012 PSUs, a total of 298810 households were listed. The number of PSUs and the number of households thereof have been displayed in Table 1.1. An examination of the tabular data shows that there has been an increase of 1577 ((3.53%) households over a period of one year in the sample area, there being no change in the number of PSUs. This increase is more pronounced in the rural area than in the urban area, the increase being in the ratio: 2.14:1.00.

Questionnaires

Overview

Data Collection

Data Collection Dates

Start	End	Cycle
2015-07	2015-08	N/A

Data Collection Mode

Face-to-face [f2f]

Data Collection Notes

In the SVR system, data on vital events, such as, births, deaths, marriages, divorce/separation, in-migration and out-migration, contraceptive use and disability are collected through two independent systems. Under System 1, a local female registrar is engaged in each PSU to collect in prescribed schedules the occurrences of vital events as and when those occur. Under System 2 the officers (supervisors) collect retrospective data on birth, death, marriage, divorce and separation on quarterly basis, migration data on half yearly basis and contraceptive use, disability on the yearly basis and submit the filled-in schedules to Deputy Directors of District Statistical Office who in turn send those to the headquarters. The local registrars collect particulars of events on continuous basis and send those to the headquarters in the first week of the following month for birth and deaths, in the first week of the fourth month for marriage and in the first week of the seventh month for migration. Previously, the headquarters staff used to collect particulars of the events occurring during the preceding three months in the same (PSU) area independently on a quarterly basis. Now the responsibility of collecting data through System 2 has been transferred to the Deputy Directors of District Statistical Office who perform it with the assistance of the staff members of the district statistical offices and upazila offices. Staff members of SVRS Project and Demography and Health Wing of BBS at head office match and evaluate the work of these two systems and re-visit, wherever necessary. Updating of the sample population and household and matching of the vital events collected under the two systems are done according to predetermined criteria such as household number, mother's name, mother's relationship with the head of household, baby's name, date of birth, sex of the baby, age of mother, place of birth, name of the deceased, age of the deceased, date of death and sex of the deceased. The events are ultimately classified into matched, partially matched, non-matched and out of scope events. Partially matched and non-matched events are subject to further verification through field visits to ascertain the actual status of the events. These important tasks are done by the trained and experienced senior officers and staff members of the SVRS project and Demography and Health Wing through field visit. This helps to catch the events missed by both the systems. The process of matching greatly reduces the possibility of erroneous inclusion of out of scope events or exclusion of genuine events. After completion of the matching procedure, events are classified as follows:

Registrar (System 1) Supervisor (System 2) Recorded by Registrar Missed by Registrar Total Recorded by supervisor AI n2 N2 Missed by Supervisor 711 z V2 Total Nr vi

An estimate of z is then

x/n_2

An estimate of the total number of events is then arrived at as follows:

$St M + n_1 + n_2 + 5$

The completeness of enumeration for System 1 is $CI = \frac{M}{N_1}$, and for the System 2, it is $C2 = \frac{M}{N_2}$.

The following formula was used to estimate the standard error of the total events:

$SE = \sqrt{\frac{M}{n_1} + \frac{M}{n_2}}$

where

$pi = \frac{M}{N_1}$ and $p_2 = \frac{M}{N_2}$

where $p_1 + p_2 = 1$. Hence the 95% confidence interval is

$St \pm 1.96SE$,

Questionnaires

Data Collectors

Name	Abbreviation	Affiliation
STATISTICS AND INFORMATICS DIVISION	SID	MINISTRY OF PLANNING GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH

Data Processing

No content available

Data Appraisal

No content available