

**Report on Bangladesh Sample Vital Statistics 2018**  
**Monitoring the Situation of Vital Statistics of Bangladesh (MSVSB) 2<sup>nd</sup> Phase Project**  
**Bangladesh Bureau of Statistics**

**Key Findings of Sample Vital Registration System, 2018**

Indicators	2018	2017	2016	2015	2014
<b>1. National Population (Estimated)</b>					
<b>Population(in million) : July 1</b>					
Both Sexes	164.6	162.7	160.8	158.9	156.8
Male	82.4	81.4	80.5	79.6	78.6
Female	82.2	81.3	80.3	79.3	78.2
<b>Intercensal Growth Rate</b>	1.37*	1.37*	1.37*	1.37*	1.37*
<b>2. Number of PSUs</b>					
Total	2012	2012	2012	2012	1500
Rural	1077	1077	1077	1077	801
Urban	935	935	935	935	699
<b>3. Sample population</b>					
Total	1259744	1252581	957913	939530	696170
Male	630605	627068	479446	470488	348901
Female	629139	625513	478467	469042	347269
<b>Population by Broad Age-groups (percent)</b>					
<b>Both Sexes</b>					
00-14	28.8	29.3	30.8	30.8	31.7
15-49	54.6	54.4	53.6	53.7	52.6
50-59	8.7	8.3	8.1	7.8	7.9
60+	7.9	8.0	7.5	7.7	7.8
Total	100.0	100.0	100.0	100.0	100.0
<b>Male</b>					
00-14	29.2	29.5	30.9	31.3	32.3
15-49	54.1	54.1	52.8	52.5	51.9
50-59	8.5	8.2	8.2	8.0	7.7
60+	8.2	8.2	8.1	8.2	8.1
Total	100.0	100.0	100.0	100.0	100.0
<b>Female</b>					
00-14	28.4	29.2	30.7	30.2	31.1
15-49	55.1	54.8	54.5	55.0	53.3
50-59	8.8	8.3	7.9	7.6	8.1
60+	7.7	7.7	6.9	7.2	7.5
Total	100.0	100.0	100.0	100.0	100.0

\*Based on the population census of 2001 and 2011

Indicators	2018	2017	2016	2015	2014
<b>4. Sample Population Characteristics</b>					
Rate of Natural Increase	1.33	1.34	1.4	1.37	1.37
Sex Ratio (M/F*100)	100.2	100.2	100.3	100.3	100.5
<b>Dependency Ratio (percent)</b>					
Total	51	53	54	55	57
Rural	55	57	58	59	60
Urban	46	47	49	49	50
<b>Child Woman Ratio (per 1000 women aged 15-49)</b>					
Total	304	310	320	325	355
Rural	332	336	347	350	367
Urban	273	279	289	290	319
<b>Population Density (per sq. km)</b>	1116	1103	1090	1077	1063
<b>5. Fertility</b>					
<b>Crude Birth Rate (per 1000 population)</b>					
Total	18.3	18.5	18.7	18.8	18.9
Rural	20.1	20.4	20.9	20.3	19.4
Urban	16.1	16.1	16.1	16.5	17.2
<b>Age Specific Fertility Rates (per 1000 women in the age group)</b>					
15-19	74	75	78	75	83
20-24	132	134	132	137	144
25-29	106	105	107	105	110
30-34	62	59	58	56	48
35-39	26	26	26	25	25
40-44	7	7	7	9	7
45-49	3	3	3	3	4
<b>Total Fertility Rate (per woman aged 15-49)</b>					
Total	2.05	2.05	2.10	2.1	2.11
Rural	2.38	2.37	2.38	2.3	2.22
Urban	1.68	1.68	1.68	1.72	1.77
<b>General Fertility Rate (per 1000 women aged 15-49)</b>					
Total	67	68	69	69	71
Rural	77	78	79	77	75
Urban	56	56	57	57	60

Indicators	2018	2017	2016	2015	2014
<b>Gross Reproduction Rate (per woman aged 15-49)</b>					
Total	1.00	1.02	1.02	1.05	1.05
Rural	1.16	1.14	1.15	1.16	1.09
Urban	0.83	0.84	0.84	0.88	0.91
<b>Net Reproduction Rate (per woman aged 15-49)</b>					
Total	0.99	1.00	1.00	1.00	1.04
Rural	1.15	1.09	1.10	1.10	1.08
Urban	0.82	0.80	0.80	0.84	0.9
<b>6. Mortality</b>					
<b>Crude Death Rate (per 1000 population)</b>					
Total	5.0	5.1	5.1	5.1	5.2
Rural	5.4	5.7	5.7	5.5	5.6
Urban	4.4	4.2	4.2	4.6	4.1
<b>Infant Mortality Rate (per 1000 live births)</b>					
<b>Total</b>					
Both sexes	22	24	28	29	30
Male	23	25	27	30	31
Female	21	23	28	28	28
<b>Rural</b>					
Both Sexes	22	25	28	29	31
Male	23	27	26	31	32
Female	21	23	28	28	29
<b>Urban</b>					
Both Sexes	21	22	28	28	26
Male	21	22	28	29	29
Female	21	23	28	28	22
<b>Neo-natal Mortality Rate (per 1000 live births)</b>					
<b>Total</b>					
Both Sexes	16	17	19	20	21
Male	17	18	18	20	22
Female	15	17	20	20	19
<b>Rural</b>					
Both Sexes	16	17	19	20	21
Male	17	18	17	21	22
Female	15	16	19	19	20

Indicators	2018	2017	2016	2015	2014
<b>Urban</b>					
Both Sexes	16	17	20	20	19
Male	16	17	20	19	21
Female	15	18	20	22	16
<b>Post-Neo-natal Mortality Rate (per 1000 live births)</b>					
<b>Total</b>					
Both Sexes	6	7	9	9	9
Male	6	7	9	10	9
Female	6	6	8	8	9
<b>Rural</b>					
Both Sexes	6	8	9	9	9
Male	6	9	9	10	9
Female	6	7	9	9	9
<b>Urban</b>					
Both Sexes	5	5	8	8	7
Male	5	5	8	10	8
Female	6	5	8	6	6
<b>Child Death Rate (per 1000 children aged 1-4 years)</b>					
Both Sexes	1.7	1.8	1.8	2.0	2.0
Male	1.9	2.1	2.1	2.3	1.8
Female	1.4	1.6	1.6	1.7	2.3
<b>Under 5 Mortality Rate (per 1000 live births)</b>					
<b>Total</b>					
Both Sexes	29	31	35	36	38
Male	31	32	35	39	38
Female	27	29	34	34	37
<b>Rural</b>					
Both Sexes	31	33	36	39	40
Male	34	36	36	42	40
Female	28	31	35	35	40
<b>Urban</b>					
Both Sexes	27	27	32	32	30
Male	28	27	32	33	34
Female	25	27	33	31	26

Indicators	2018	2017	2016	2015	2014
<b>Maternal Mortality Ratio (per 1000 live births)</b>					
<b>Total</b>	1.69	1.72	1.78	1.81	1.93
Rural	1.93	1.82	1.90	1.91	1.96
Urban	1.32	1.57	1.60	1.62	1.82
<b>7. Life Expectancy at Birth</b>					
<b>Expectation of Life at birth (Years)</b>					
Both Sexes	72.3	72.0	71.6	70.9	70.7
Male	70.8	70.6	70.3	69.4	69.1
Female	73.8	73.5	72.9	72.0	71.6
<b>8. Nuptiality</b>					
<b>Crude marriage rate (per 1000 population)</b>					
Total	14.7	14.6	14.3	13.0	12.9
Rural	17.2	18.1	17.7	14.9	14.3
Urban	11.5	10.2	10.1	10.2	8.3
<b>Marital Status of Population Aged 10+ (percent)</b>					
<b>Male</b>					
Never Married	39.1	38.6	39.0	38.6	39.0
Currently Married	59.4	59.9	59.4	59.7	59.9
Widowed/ Divorced/ Separated	1.5	1.5	1.5	1.7	1.1
<b>Female</b>					
Never Married	25.6	26.2	26.3	26.1	25.5
Currently Married	63.6	63.3	63.5	64.1	65.4
Widowed/Divorced/Separated	10.8	10.5	10.1	9.8	9.1
<b>Mean Age at First Marriage</b>					
<b>Male</b>					
Total	24.4	25.1	25.2	25.3	24.9
Rural	23.9	24.5	24.7	24.8	24.7
Urban	25.2	26.2	26.3	26.4	26.4
<b>Female</b>					
Total	18.6	18.4	18.4	18.4	18.3
Rural	18.0	17.9	17.9	18.0	18.1
Urban	19.7	19.7	19.6	19.4	19.4
<b>Mean Age at Marriage</b>					
<b>Male</b>					
Total	25.5	26.2	26.3	26.4	25.9
Rural	25.0	25.7	25.8	25.9	25.7
Urban	26.3	27.3	27.4	27.2	27.1

Indicators	2018	2017	2016	2015	2014
<b>Female</b>					
Total	18.9	18.8	18.8	18.7	18.5
Rural	18.3	18.3	18.3	18.3	18.3
Urban	20.1	19.9	19.9	19.8	19.7
<b>Singulate Mean Age at Marriage</b>					
<b>Male</b>					
Total	26.0	25.6	25.7	25.8	25.4
Rural	25.3	25.0	25.1	25.3	25.2
Urban	26.7	26.4	26.5	26.5	26.0
<b>Female</b>					
Total	20.7	20.3	20.3	20.3	20.0
Rural	20.0	19.7	19.7	19.8	19.7
Urban	21.4	21.2	21.1	21.0	20.8
<b>Median Age at Marriage</b>					
<b>Male</b>					
Total	24	25	25	25	24
Rural	24	25	24	25	24
Urban	25	26	27	27	26
<b>Female</b>					
Total	18	18	18	18	18
Rural	18	18	18	18	18
Urban	19	19	19	19	19
<b>9. Internal Migration</b>					
<b>Migration Rate (Per 1000 population)</b>					
<b>In-migration Rate</b>	72.8	73.8	76.7	54.2	40.2
<b>Rural In-migration</b>	38.6	37.8	39.5	30.7	29.4
Rural to Rural	33.7	32.8	34.5	25.6	24.3
Urban to Rural	4.9	5.0	5.0	5.1	5.1
<b>Urban In-migration</b>	115.2	119.3	123.0	90.0	77.1
Rural to Urban	30.6	30.3	30.3	29.5	28.2
Urban to Urban	84.6	90.2	92.7	60.5	48.9
<b>Out-migration Rate</b>	72.4	74.3	78.5	54.4	43.1
Rural out-migration	39.5	43.5	47.5	35.1	34.0
Urban out-migration	113.1	113.3	117.2	83.8	74.4

Indicators	2018	2017	2016	2015	2014
<b>10. Contraceptive Usage</b>					
<b>Contraceptive Prevalence Rate (percent)</b>					
Total	63.1	62.5	62.3	62.1	62.2
Rural	62.4	59.4	59.3	60.4	61.6
Urban	64.0	66.3	65.9	64.5	64.5
<b>Contraceptive Prevalence Rate by Method</b>					
Any Method	63.1	62.5	62.3	62.1	62.2
Modern Method	61.6	59.2	58.4	58.4	58.4
<b>11. Disability</b>					
<b>Crude Disability Rate (per 1000 population)</b>					
Both Sexes	8.5	8.9	9.0	8.8	9.0
Male	9.3	9.8	9.8	9.6	9.9
Female	7.7	8.0	8.3	8.0	8.2
<b>12. HIV/AIDS</b>					
Percent who know at least one mode of transmission of HIV/AIDS from mother to child	68.9	68.8	66.9	66.1	61.5
Percent who know all modes of transmission of HIV/AIDS from mother to child	34.6	33.5	29.1	25.8	21.0
<b>13. Household Characteristics</b>					
<b>Household Size</b>	4.2	4.2	4.3	4.4	4.3
<b>Headship (Percent)</b>					
Male Headed HH	85.8	85.8	87.2	87.3	87.8
Female Headed HH	14.2	14.2	12.8	12.7	12.2
<b>Access to Water (percent)</b>					
Drinking (Tap & Tube well)	98.0	98.0	98.0	97.9	97.8
<b>Source of Light (percent)</b>					
Electricity	90.1	85.3	81.2	77.9	67.8
Solar	4.8	5.8	5.6	5.4	NA
Kerosene	5.0	8.8	13.0	16.3	31.4
Others	0.1	0.1	0.2	0.4	0.8
<b>Toilet Facility (percent)</b>					
Sanitary	78.1	76.8	75.0	73.5	63.5
Others	19.9	20.6	22.3	23.2	34.4
None	2.0	2.6	2.7	3.3	2.1

Indicators	2018	2017	2016	2015	2014
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#### 14. Literacy

##### Literacy Rate of Population 7+ yrs (percent)

###### **Total**

Both Sexes	73.2	72.3	71.0	63.6	58.6
Male	75.2	74.3	73.0	65.6	60.7
Female	71.2	70.2	68.9	61.6	56.6

###### **Rural**

Both Sexes	67.6	66.5	65.5	57.2	55.2
Male	69.7	68.6	67.7	59.2	57.2
Female	65.5	64.4	63.3	55.1	53.1

###### **Urban**

Both Sexes	80.1	79.5	77.7	73.3	70.5
Male	82.0	81.5	79.6	75.3	72.6
Female	78.2	77.5	75.8	71.2	68.4

##### Adult Literacy Rate of Population 15+ yrs (percent)

###### **Total**

Both Sexes	73.9	72.9	72.3	64.6	61.4
Male	76.7	75.7	75.2	67.6	64.7
Female	71.2	70.1	69.5	61.6	58.2

###### **Rural**

Both Sexes	67.3	66.1	65.4	57.6	57.4
Male	70.3	69.0	68.4	60.6	60.7
Female	64.4	63.2	62.4	54.6	54.1

###### **Urban**

Both Sexes	81.7	81.1	80.7	74.7	74.6
Male	84.3	83.8	83.3	77.7	77.7
Female	79.2	78.4	77.9	71.8	71.5

#### 15. Religious Composition

##### **Religious Composition (percent)**

Muslim	88.4	88.4	88.4	88.2	89.2
Others	11.6	11.6	11.6	11.8	10.8

#### 16. National Population (Estimated): 1<sup>st</sup> January 2019 (in million)

Both sexes	165.57
Male	82.87
Female	82.70



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## **Executive Summary**

Bangladesh Bureau of Statistics (BBS) introduced Sample Vital Registration System (SVRS) for the first time in 1980 to study the changes in the demographic scenarios of Bangladesh during the intercensal periods. Initially, its coverage was limited to 103 primary sampling units (PSU) each consisting of 250 households. Subsequently, the number of sample PSUs was raised to 210 in 1983 and further to 1000 in 2002. To meet the data requirements of the planners and policy makers, the number of PSUs was increased to 1500 in 2013. An Integrated Multi-Purpose Sample (IMPS) Design, introduced in 2012, is being followed since 2013 SVRS, which is also applicable to the last four rounds of SVRS since 2014. As many as 11 data recording schedules are currently being used to collect data on household and household population characteristics, birth, death, migration, marriage, disability, HIV/AIDS and contraceptive use.

The recording of vital events in the sample area is made possible through a dual recording system proposed by Chandrasekaran and Deming. Under this system, vital events are collected as and when they occur by a locally recruited female registrar called Local Registrar (System 1). 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. Having gathered the filled in questionnaires from the two systems, data are matched in the headquarters by a pre-designed matching criteria by a group of trained officials and the demographic rates and ratios are estimated using the adjusted number of events. In order to find denominators for the estimation of demographic parameters, a detailed household survey is conducted at the beginning of every year covering basic household and population characteristics. The matching of the vital events suggested that about 1.57 percent of the births and another 1.6 percent of the deaths were missed by both the systems in 2018.

### **Quality of Age Data**

The data collected in SVRS have been evaluated to shed light on the quality of data. Particular attention has been given to assess the quality of age data, which are of primary importance in estimating most of the vital rates and ratios. Three popular indices viz. Myer's index, Whipple's index and UN Age-Sex Accuracy Index, also called UN Joint Score have been computed from reported age distributions for this purpose. These indices have pointed out the fact that the quality of age reporting in SVRS has improved over the last four years. The detailed results of this assessment have been presented in Chapter II of this report.

### **Socio-Economic Characteristics of the Households**

The enumerated population in the registration area shows a sex ratio of 100.2 resulting from a total 630605 males and 629139 females. The overall sex ratio has shown a moderate decline over the last five years, from 102.5 in 2014 to 100.2 in 2018. The age structure of the population is still conducive to high fertility with 28.8 percent of its total population being under age 15. The dependency ratio fell from 57 percent in 2014 to 51 percent in 2018. Dependency ratio recorded a notable fall from 80 in 2002 to 51 in 2018.

The average household size dropped from 4.3 in 2014 to 4.2 in 2018. Bangladeshi women are still dominated by their male counterpart. This has been reflected from a high male household headship rate of 85.8 percent in 2018. This rate was 87.8 in 2014 demonstrating a moderate decline over the last 5 years. Adult literacy rate for population aged 15+ has shown further increase from its 72.3 percent in 2017 to

73.9 in 2018. A similar increase was noted in literacy rate for population aged 7 years and above: from 72.3 percent in 2017 to 73.2 percent in 2018. In both cases, males are more in proportions to dominate over the females in literacy rates, the difference being 4 percentage points in the case of literacy rate of populations 7+ years and 5.5 percentage points in the case of adult literacy.

The survey findings on adult literacy (15+) further reveal that the urban residents are more than 21 percent more likely than their rural counterpart to be literate. This amounts to about 18 percent in the case of population aged 7 years and over. However, the rural population as opposed to urban population experienced more accelerated increase in the adult literacy since 2014. This is true for both the populations with respect to the defined age limits (i.e. 7+ and 15+).

### **Fertility**

Crude birth rate, the simplest measure of fertility has been estimated at 18.3 per thousand population in 2018 as compared to 18.5 in 2017. The CBR fell from 18.9 in 2014 to 18.3 in 2018, demonstrating an average decrease of less than one percent over the five years since 2014. The rural CBR, as expected, is higher than the urban CBR: 20.1 versus 16.1. The general fertility rate (GFR) worked out to 67 per thousand women with a much higher rate (77) in rural area as compared to 56 in urban area. This rate remained nearly constant over the last five years. The total fertility rate (TFR) remains in the neighborhood of 2.1 since 2014.

### **Mortality**

The crude death rate (CDR) was estimated to be 5.0 per 1000 population. This rate has declined from 5.2 in 2014 to 5.0 in 2018. In the rural area, the CDR is higher (5.4) than in the urban area (4.4). The rate was the same for both the areas during the last two years. The infant mortality rate (IMR) recorded a moderate fall from 24 per thousand live births in 2017 to 22 per thousand live births in 2018. Keeping consistency with the previous years, the IMR for males remained higher than their female counterparts. Female infants experienced somewhat steeper decline (8.7%) than the males (8.0%). Following the previous year's rate, urban infants were less in proportion (21 per thousand live births) to experience death than the rural infants (22 per thousand live births).

The neo-natal mortality rate fell from 21 deaths per 1000 live births in 2014 to 16 deaths per 1000 live births in 2018 revealing notable sex differentials in favor of females. Area of residence failed to record any difference in the neo-natal mortality rate (16 per thousand live births for both areas).

Post-neo-natal mortality rate in 2018 recorded a minor decline over the last one years: from 7 per 1000 live births in 2017 to 6 per 1000 live births in 2018. Our investigation reveals that the Post-neonatal mortality rate (PNMR) over the last 3 years remained static (9 deaths per 1000 live births) except that for urban population, where a notable decline was observed. Child (1-4 years) mortality has been estimated to be 1.7 deaths per 1000 children in 2018 suggesting no notable change since its previous year's rate. Under-five mortality has demonstrated a moderate decline of 24 percent over a period of last five years year: from 38 deaths per 1000 live births in 2014 to 29 deaths in 2018. In line with our previous findings on child and infant mortality, male children undergo more health hazard than their female counterpart. This is evident from the differential death rates by sex.

Maternal mortality ratio has shown a consistent fall over the last five years, from 1.93 maternal deaths per 1000 live births in 2014 to 1.69 in 2018, about 12 % decline in 5 years. Urban women are in an advantageous position with a lower maternal mortality rate (1.32) than their rural counterparts (1.93).

Life expectancy at birth has increased by a narrow margin of 0.4 years over the last one year: from 72.0 years in 2017 to 72.3 in 2018. Our analysis shows that the gain in life expectancy is somewhat

pronounced among the females (73.8 years) than those among the males (70.8 years) resulting from a higher survival advantage in favor of females.

### **Age at marriage**

Analysis of age at first marriage data reveals that in recent time mean age at first marriage specially of males by and large has gone down marginally. For example, the age at first marriage as computed in 2015 was 25.3 years, which decreased to 25.1 years in 2017 and further to 24.4 year in 2018. On the contrary, female age at first marriage remained static (18.3 years) since 2014 with a minor depression in 2015 (18.4 years). The overall impression from the survey findings is that the age at marriage has not changed over the last five years.

### **Contraceptive usage**

The overall contraceptive prevalence rate is 63.1 percent in 2018, which demonstrates a moderate increase of 0.6 percentage point over its rate in 2017. The rate reported in 2014 was about of the same magnitude 62.2 percent implying constancy in the rate during the last 5 years. As expected, the urban women as compared to their rural counterparts are more likely (64.0%) to adopt contraceptives than their rural counterparts (62.4%).

### **Migration**

Both in-migration and out-migration rates have exhibited an abrupt increase in recent time. For example, while the in-migration rate was 54.2 percent in 2015, it increased to 73.8 percent in 2017 with a moderate decline to 72.8 in 2018. The same feature is observed in the case of out-migration rate: from 54.4 percent in 2015 to 74.3 percent in 2017, which thereafter decreased to 72.4 percent in 2018. The migratory behavior of the population in the SVRS area thus reflects a somewhat balancing scenario. Urban in-migration rate was somewhat lower (115.2 percent) in 2018 compared to the previous year rate (119.3 percent). A similar decline is seen to be prevalent in the case of out migration rate. It is important to note that both these rates were showing a decreasing trend since 2017.

### **Disability**

The overall disability rate as estimated from the 2018 round of survey is 8.5 per thousand populations displaying significantly a higher risk (9.3) among the males than among the females with a risk of 7.7 per thousand population. The reported data further showed that the prevalence of disability remained stable over the last five years irrespective of sex.

### **Knowledge on HIV/AIDS**

It is for the fifth time that SVRS went on to gather data on the knowledge of the females of reproductive age on the modes of transmission of HIV/AIDS. The investigation showed that 68.9 percent of the respondents knew at least one mode of transmission of HIV/AIDS from mother to child in 2018. This is about one percentage points higher than its previous year's level. On the other hand 21.0 percent women knew about all modes of transmission of HIV/AIDS in 2014, which increased to 34.6 percent in 2018, a 65 percent increase in 4 years.