



Demographic and Socio-economic Changes in Bangladesh: Evidence from the Population Census in 2022

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ABSTRACT

Bangladesh is a developing country, so demographic and socio-economic characteristics are rapidly changing. The latest household and population census in the country was held in 2022. The study objective is to show the demographic and socio-economic status in Bangladesh based on the census data. Data have been collected from the website of the Bangladesh Bureau of Statistics. Urbanization in the country is growing although 68.34% of the 169.83 million population is living in the rural area. The literacy rate and dependency ratio of the country are 74.66% and 52.64, respectively, while the sex ratio at birth is 98.0. The toilet facilities of 9.38% of people are unhealthy while about 1.0% are living without electricity. The government of Bangladesh should arrange awareness campaigns to improve the use of healthy toilets, and it should allocate more funds in the energy sector to boost the renewable energy sector.

INTRODUCTION

Bangladesh is one of the South Asian countries suffering from overpopulation problems. Although its economy is showing moderate performance, the human rights situation of the country is worsening. Bangladesh showed an average annual gross domestic growth rate of 6.44% from 2017 to 2021 (Manik, 2023). The complaints, due to human rights violations, are gradually increasing at the National Human Rights Commission Bangladesh (Manik, 2023). There is a mutual dependency between economic development and modernization, though economic development depends on many factors. Urbanization has negative impacts on renewable energy consumption while it has a positive impact on non-renewable energy consumption (Islam *et al.*, 2022). Urbanization, economic growth, agricultural productivity, and energy use are increasing the CO₂ emissions in Bangladesh (Raihan *et al.*, 2022). Suburban poverty is mostly affected by the masculinization of poverty instead of the feminization of Poverty (Khan *et al.*, 2018).

South Asia is a region characterized by a culture of son preference at birth, severe discrimination against daughters, and excess levels of female mortality, leading to what Amartya Sen called the phenomenon of “missing women” (Kongar *et al.*, 2018). The estimation of global missing females was 23.1 million from 1950 to 2017 while missing females of China were 11.9 million and that was 10.6 million in India (Chao *et al.*, 2019).

There is a statistically robust and comparable interaction between sanitation and population density, and open defecation, such as without a toilet or latrine, externalities are important factors for child health especially where population density is high (Hathi *et al.*, 2017). In the long run, population density, energy use, and export adversely affect environmental quality (Rahman, 2017). Cropping, farming, and fishing have important value in the economy of Bangladesh as it is an agriculture-based developing country. Due to a lack of skilled manpower and enough funds, the country is not enough success to extract its marine resources from the Bay of Bangle (Manik, 2022).

The demographic and socio-economic characteristics of a community not only impact living standards and economic development but also influence the education system, food habits, and human rights. According to Thomas Malthus, population increases geometrically while food supply increases arithmetically. In 1990, Amartya Sen, Nobel Laureate Indian Economist, noticed approximately 100 million women are missing in Asia due to the culture of son preference at birth what he called the phenomenon of “missing women” (Association for Asian Studies, 2017). Due to son preference at birth, the estimated number of missing women in the Asian region, especially in India and China, was high compared to other territories. As a South Asian country, the sex ratio might be imbalanced because of son preference at birth in Bangladesh.

The objectives of the study are to show the major demographic changes in Bangladesh based on the latest census data published in 2023. Furthermore, the study depicts the recent socioeconomic status of Bangladesh depending on the same data source. This study may be helpful for national and international bodies

and researchers to understand the present demographic and socioeconomic status of Bangladesh.

METHODOLOGY

The study has been conducted based on the secondary data collected from the website of the Bangladesh Bureau of Statistics (BBS) of the Government of the People's Republic of Bangladesh. In Bangladesh, a population census is normally run every 10 years. The research has been conducted depending on the latest census conducted in 2022, but the summary report of the census has published in April 2023. However, the full report of the census has not been published yet. Population and housing census is the holistic approach to data collection activities of a country to depict the demographic, socio-economic, and other similar characteristics (United Nations, 2017).

The data collection technique in a census may be a *de jure*, *de facto*, or modified *de facto* approach. In the *de-jure* method, household members are counted only at their usual residence, while, in the *de-facto* approach, household members are counted in the place where they are at the census moment. On the other hand, according to the modified *de-facto* technique, household members are counted in the place where they are at the census moment, and members who are on journeys, in hospitals and hotels, or on duty at the census moment are counted in their usual residences. However, the modified *de facto* approach has followed to conduct the Population and Housing Census 2022 in Bangladesh.

RESULT AND DISCUSSION

According to the summary report of the population and housing census 2022 of Bangladesh, the population size in the country is 169.83 million. It is the 5th and 8th largest country in Asia and the world by population size. However, its area is small, only 1,47,570 square kilometers. It is one of the most densely populated counties in the world.

Table 1. Major Demographic Change Between Two Latest Census in Bangladesh

	Population and Housing Census 2022					Population and Housing Census 2011				
	Population Number (million)	% of Population	Dependency Ratio	Literacy Rate (%)	Average Household Member	% of Population	Dependency Ratio	Literacy Rate (%)	Average Household Member	
National	169.83	100.00	52.64	74.66	4.0	100	73.00	51.77	4.5	
Rural	116.07	68.34	56.09	71.56	4.1	76.70	77.00	47.16	4.5	
Urban	53.76	31.66	45.63	81.28	3.9	23.30	69.00	66.40	4.4	

According to Table 1, the rural and urban population of the country were 76.70% and 23.30%, respectively, in 2011. After 11 years, in 2022, the rural and

urban population of the country turned to 68.34% and 31.66%, respectively, which indicates the growing urbanization in the country.

The dependency ratio, an important economic indicator, of the country was reduced from 73.0 (77.0 in rural and 69.0 in urban) in 2011 to 52.64 (56.09 in rural and 45.63) in 2022. The literacy rate of the country increased to 74.66% in 2022 from 51.77% in 2011. The country is showing sound economic growth due to a decreased dependency ratio and increased literacy rate. The literacy rate of the country is increasing, but 25.34% of the population in Bangladesh is illiterate till now. The government of Bangladesh should emphasize more in the education sector. Although the dependency ratio in the country is decreasing, the ratio is 52.64 till now. The country is under a high climatic risk zone due to its geographical location. Climate change may affect agriculture and food security, so its dependency ratio may increase. Considering the future adverse effects of climate change on food security and dependency ratio on the economy, the country should develop and distribute drought-tolerant crop varieties (Manik, 2020). The country has 8 divisions, and Table 2 contains the division-wise distribution of population, dependency ratio, and literacy rate.

Table 2. Division-wise Population Distribution in Bangladesh in 2022

Division	Population Number (million)	% of Population	Dependency Ratio	Literacy Rate %
Bangladesh	169.83	100	52.64	74.66
Barishal	9.33	5.49	57.72	77.57
Chattogram	34.18	20.13	59.97	76.53
Dhaka	45.64	26.88	46.32	78.09
Khulna	17.81	10.49	48.00	75.02
Mymensingh	12.64	7.44	60.33	67.09
Rajshahi	20.79	12.24	48.89	71.91
Rangpur	18.02	10.61	53.09	70.75
Sylhet	11.42	6.72	60.10	71.92

According to Table 2, the highest number of the population, 45.64 million which is 26.88% of the total, live in the Dhaka division whereas the lowest number of the population, 9.33 million which is 5.49% of the total, live in the Barishal division. The highest dependency ratio, 60.33, and the lowest literacy rate, 67.09%, are in the Mymensingh division. On the other hand, the lowest dependency ratio, 46.32, and the highest literacy rate, 78.09%, are in the Dhaka division. There might be a statistically significant relationship between the literacy rate and dependency ratio. However, it is required a sound statistical test-based econometric inferential analysis before drawing a conclusion regarding this relationship.

Table 3. Sex-Wise Population Distribution in Bangladesh

Sex	Population Number in 2022 Census (million)	Percentage in 2022 Census	Percentage in 2011 Census
Total	169.83	100.00	100.00
Male	84.08	49.51	50.06
Female	85.65	50.43	49.94
Hijra	0.10	0.06	-

Table 3 contains the population number by sex. The male population of the country dropped to 49.51% in 2022 from 50.06% in 2011 while the female population increased to 50.43% in 2022 from 49.94% in 2011. Figure 1 shows the trend of the sex ratio at birth in Bangladesh from 1974 to 2022.

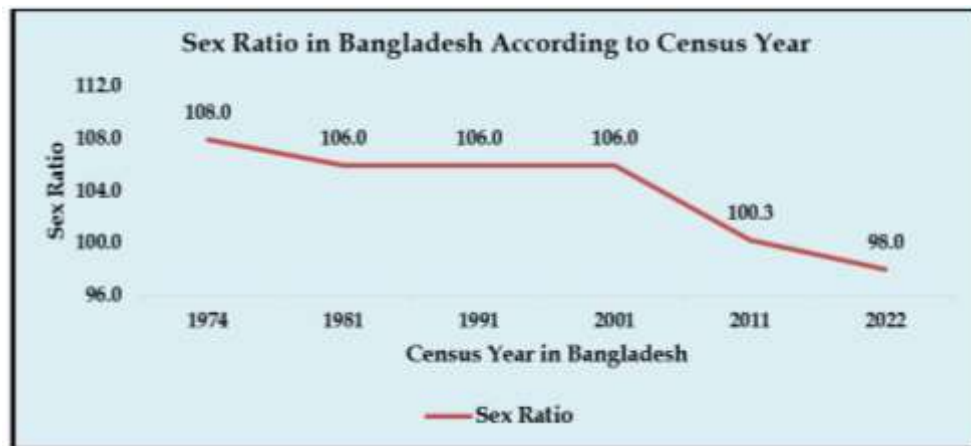


Figure 1. Sex Ratio in Bangladesh by Census Year from 1974 to 2022

The sex ratio at birth in Bangladesh was 108.0 in 1974 meaning, on average, 108.0 sons were born against 100 daughters at birth time. The sex ratio was at a constant level, 106.0, from 1981 to 2001. However, because of the continuous decreasing mode after 2001, the ratio reached 98.0 in 2022. The son preference at birth was so high up to 2001, and the phenomenon of “missing women” might be true before 2011 in Bangladesh. The sex ratio at birth was 98.0 in 2022 means, on average, 98 sons were born against 100 daughters, so the phenomenon of “missing women” is not valid in modern Bangladesh.

Table 4 presents the region-wise major drinking water sources in Bangladesh according to the census in 2022. In Bangladesh, 85.66% population depends on the tube-well for drinking water whereas 0.12% depends on spring. In the Khulna division, 3.76% of people depend on natural water sources like pond or river while 3.02% rely on rainwater as a drinking water source.

Table 4. Main Sources of Drinking Water (%) in Bangladesh in 2022

Division	Tape/Pipe (Supply)	Tube-well (Deep/Shallow)	Bottle/Jar Water	Well	Pond/River/Canal/Lake	Spring	Rainwater	Others
Bangladesh	11.74	85.66	0.59	0.35	0.89	0.12	0.42	0.24
Barishal	3.94	91.54	0.22	0.08	2.85	0.00	1.26	0.10
Chattogram	12.23	84.76	0.45	1.07	0.51	0.59	0.04	0.36
Dhaka	26.64	72.67	0.43	0.03	0.04	0.00	0.01	0.17
Khulna	3.38	86.53	3.14	0.04	3.76	0.00	3.02	0.12
Mymensingh	1.53	97.64	0.06	0.18	0.08	0.03	0.01	0.46
Rajshahi	6.42	93.23	0.07	0.08	0.02	0.00	0.00	0.18
Rangpur	1.00	98.83	0.03	0.02	0.01	0.00	0.00	0.10
Sylhet	5.50	87.56	0.17	1.98	3.78	0.10	0.19	0.71

Table 5 shows the toilet facilities in Bangladesh according to census data in 2022. About 56.0% of people use safe disposal toilets with flushing/pouring water in Bangladesh. However, toilet facilities are unsafe or unhealthy for 9.38%, 4.08%+4.07%+1.23%, people still who are using pit latrines without slabs or open latrines or open defecation which may create various health problems in the country. The government should launch different campaigns throughout the country to learn the importance of safe toilet use to maintain good health to improve the situation.

Table 5. Type of Toilet Facilities (%) in Bangladesh in 2022

Division	Safe Disposal with Flushing/Pouring Water	Unsafe Disposal with Flushing/Pouring Water	Pit Latrine with Slab/Ventilated Improved Latrine/Composting Latrine	Pit Latrine Without Slab/Open Pit	Kutcha/Open/Hanging Latrine (Permanent/Temporary)	Open Defecation/No Latrine Available
Bangladesh	56.04	12.86	21.72	4.08	4.07	1.23
Barishal	38.16	12.51	41.95	5.27	1.81	0.3
Chattogram	59.05	13.65	20.35	3.71	2.35	0.9
Dhaka	69.35	11.77	15.00	2.17	1.43	0.28
Khulna	55.03	11.44	24.90	3.79	4.51	0.34
Mymensingh	38.73	18.19	26.01	8.65	6.87	1.55
Rajshahi	55.34	11.36	22.67	4.01	5.07	1.56
Rangpur	43.77	11.62	27.45	4.21	8.64	4.31
Sylhet	46.35	17.97	15.00	8.37	9.66	2.65

The sources of the electricity consumption are presented in Table 6. The electrical grid is the way or line through which power is generated, transmitted, and distributed to the end user. As the economy of the country is expanding, its energy and electricity consumption are increasing day by day.

Table 6. Main Sources of Electricity (%) in Bangladesh in 2022

Division	Grid	Solar	Others	No Electricity
Bangladesh	97.61	1.45	0.19	0.75
Barishal	96.66	2.30	0.24	0.80
Chattogram	93.37	5.06	0.34	1.23
Dhaka	99.30	0.31	0.13	0.25
Khulna	99.04	0.34	0.10	0.53
Mymensingh	98.67	0.39	0.20	0.74
Rajshahi	98.30	0.83	0.09	0.78
Rangpur	97.73	0.88	0.20	1.20
Sylhet	97.75	0.71	0.32	1.21

Approximately 1.0% of people in the country are not under electricity. Bangladesh is a climate-hazardous country, so it should encourage its population towards solar power instead of the national grid because the electricity supplied by the national grid is mostly generated by fuel making the climatic hazard in the country. Moreover, the country imports most of its required fuel, so it must spend a significant amount of foreign currency from reserves which may cause future economic shock in the country. To overcome these issues, the country should emphasize on renewable energy sector like solar, but only 1.45% electricity of the country comes from the solar sector. The country allocates nearly 4.0% of its national budget to the energy and power division (Manik, 2023). To boost the solar and other renewable energy sectors, Bangladesh should allocate more funds to renewable energy sectors during making the fiscal policy.

CONCLUSIONS

Although Bangladesh is developing economically, its human rights conditions are deteriorating. The last population and housing census in Bangladesh was held in 2022, but the summary report of the census was published in April 2023. The country has 169.83 million population, and it is urbanizing. The dependency ratio and literacy rate of the country are 52.64 and 74.66%, respectively. In Bangladesh, 25.34% of the population is illiterate still, so the policymakers of the country should emphasize the education sector. The phenomenon of “missing women” might be true up to 2011 in Bangladesh, but the phenomenon is invalid in modern Bangladesh.

The toilet facilities of 9.38% of Bangladeshi are not safe or healthy till now, and this lack may cause different health problems in the country. Policymakers of the country should allocate more budget to sanitation projects, and the government should introduce various public awareness campaigns throughout the country highlighting the health and environmental risks of unhealthy toilets to improve the situation. Almost 98.0% of electricity is supplied by the national grid where electricity is generated mostly by fuel worsening the climatic risk in the country. The country should emphasize solar and other renewable energy sources to overcome any environmental and economic shock in future Bangladesh. A major limitation of this study is highlighting limited demographic and socio-economic variables as the study is conducted based on the summary report of the census in 2022. However, after publishing the full report, further studies are required to cover other demographic and socio-economic indicators.

FURTHER STUDY

This research still has limitations, so further research needs to be carried out related to the topic of Demographic and Socio-Economic Changes in order to perfect this research and increase readers' insight.

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