Potential for further fertility decline in Bangladesh and the implications for the National Family Planning Program

Background

Bangladesh is one of the most densely populated countries in the world and is vulnerable to population pressures and climate change (United Nations [UN], 2022). The UN projects an increase from Bangladesh's 2019 population of 163 million to 200 million by 2050; however, this projection assumes that fertility will decline to 1.7 births per woman by 2030 (UN, 2022). In its fourth Health, Population, and Nutrition Sector Program (HPNSP), the Ministry of Health and Family Welfare (MOHFW) set a goal to achieve a total fertility rate (TFR) of 2.0 by 2022 (MOHFW, 2017), below the replacement TFR of 2.1. The HPNSP also aimed for a contraceptive prevalence rate (CPR) among married women of 75 percent in 2022 to reach the TFR goal (MOHFW, 2017). The TFR in Bangladesh was 2.3 and the CPR among married women was 62 percent according to the 2017/18 Bangladesh Demographic and Health Survey (BDHS) (National Institute of Population Research and Training [NIPORT] & ICF, 2020). Fertility will need to decline to well below replacement levels to align with UN projections and national health goals. What are the prospects for such a decline in Bangladesh?

Bongaarts Low Fertility Framework

In a 2001 article, John Bongaarts described a model for understanding fertility in contexts in which it has declined to relatively low levels, as has occurred in Bangladesh (Bongaarts, 2001). The framework is based on two components:

1. **Factors that increase fertility relative to the desired family size**

- Unwanted fertility
- Child mortality
- Sex preferences for children

2. **Factors that decrease fertility relative to the desired family size**

- Temporal shifts in the timing of childbearing
- Involuntary fertility limitation, (e.g., never marrying, spousal separation and death, infecundity)
- Competing preferences with childbearing, (e.g., education, career advancement, and economic goals)

Examining the prospects for future fertility decline

The Data for Impact (D4I) project conducted a primarily descriptive analysis of readily available data by: (1) reviewing long-term trends in desired and achieved fertility and the role of the factors associated with increased and decreased fertility relative to ideal family size from the Bongaarts low fertility framework in these trends, (2) identifying current differential patterns in regional and socioeconomic groups and exploring the role of the factors identified by Bongaarts in these differential patterns, and (3) analyzing the determinants of both desired family size and recent fertility.

The main data sources used were the eight BDHS conducted between 1993/94 and 2017/18 (ICF, n.d.). We examined trends in desired fertility and observed fertility, comparing these indicators among three regions and two socioeconomic groups. Regions were classified as Eastern (Chattogram and Sylhet), Central (Barishal, Dhaka, and Mymensingh), and Western (Khulna, Rajshahi, and Rangpur). Socioeconomic groups were defined by the household wealth quintile, grouped into two categories: upper three wealth quintiles and lower two wealth quintiles. We also examined trends in the contraceptive prevalence rate among married women ages 15–49 at the national level.

Trends in observed and desired fertility at the national level

Figure 1 shows the trend in TFR and mean ideal family size from 1993/94 to 2017/18. The TFR declined steadily from 3.4 births per woman in 1993/94 to 2.3 births in the 2011 BDHS. In the same period, the mean ideal family size declined slightly from 2.5 in 1993/94 to 2.2 in 2011. Since the 2011 BDHS, TFR has remained at 2.3 births per woman, approximately equal to the mean ideal family size, which increased slightly to 2.3 births in the 2017/18 BDHS.

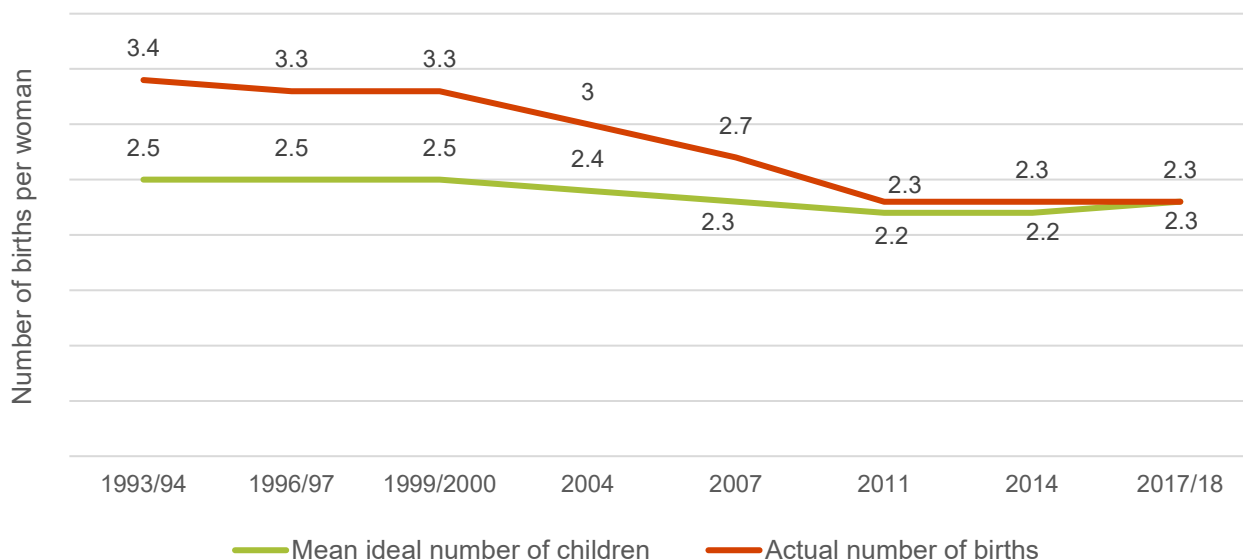**Figure 1. Bangladesh mean ideal family size and TFR (BDHS 1993/94–2017/18)**

Figure 2 shows the trend in the CPR among married women ages 15–49 over the same period. CPR increased rapidly from 45 percent in 1993/94 to 61 percent in 2011 but has since levelled off at 62 percent. This finding means that much of the decline in fertility from 1993/94 to 2011 has been associated with increased contraceptive use that allowed women to bring their observed fertility in line with their desired family size.

Figure 2. Percentage of married women ages 15–49 currently using any method of contraception (BDHS 1993/94–2017/18)
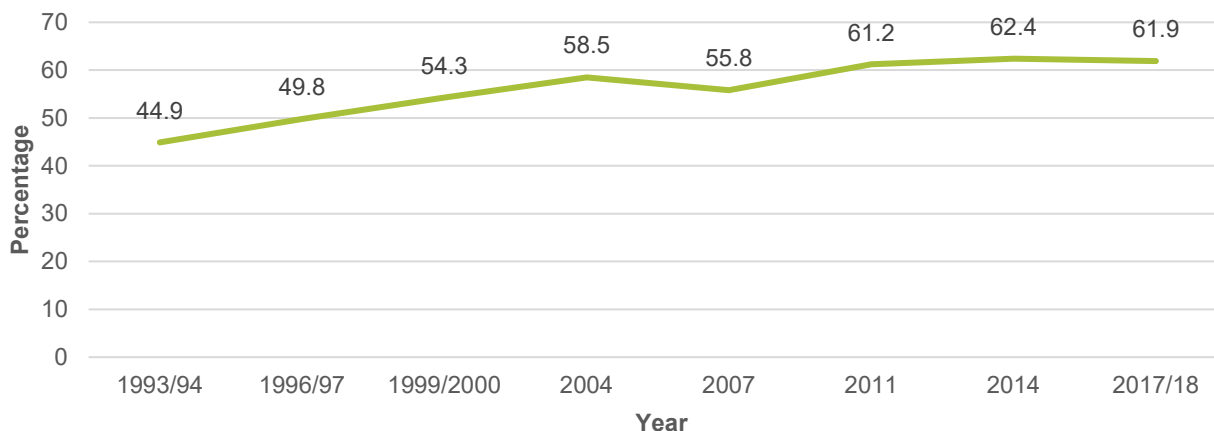
Regional and socioeconomic patterns of observed and desired fertility

Figures 3 and 4 show the TFR and mean ideal family size by region and wealth quintile group from the 2017/18 BDHS. They reveal regional and socioeconomic differences in observed and desired fertility, which were both lower in the Western region than in the Central and Eastern regions, especially among the lower two wealth quintiles. The Western region was the only region where observed fertility was below replacement level (2.1) and was the only region in which observed fertility was lower than desired fertility. Poorer women in the Eastern region are the only group of women who still experience observed fertility that is substantially above their desired fertility.

Figure 3. Mean ideal family size and total fertility rate by region in the bottom two wealth quintiles (BDHS, 2017/18)
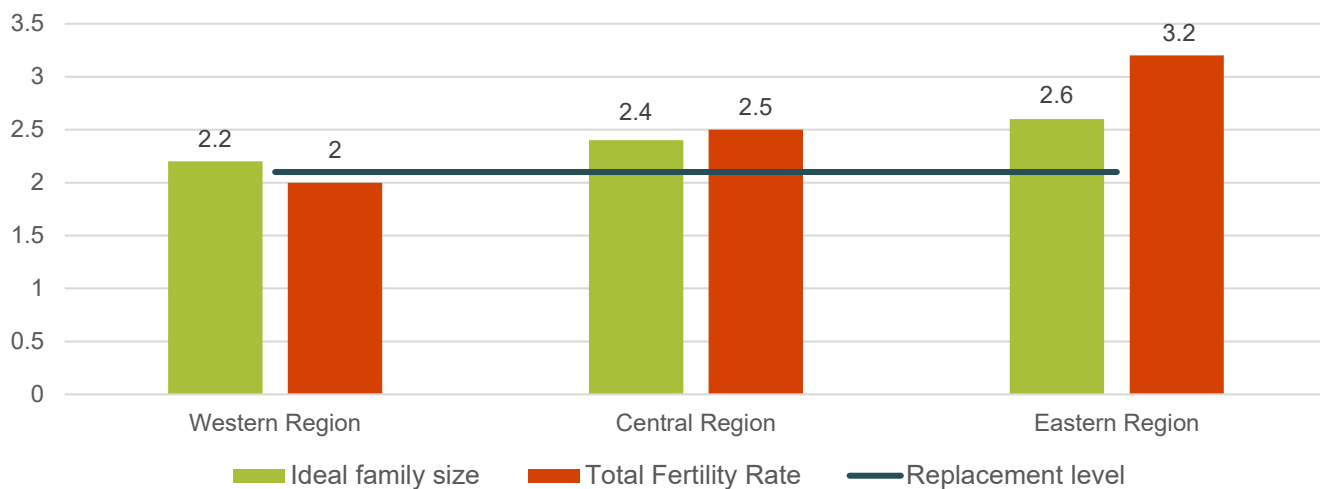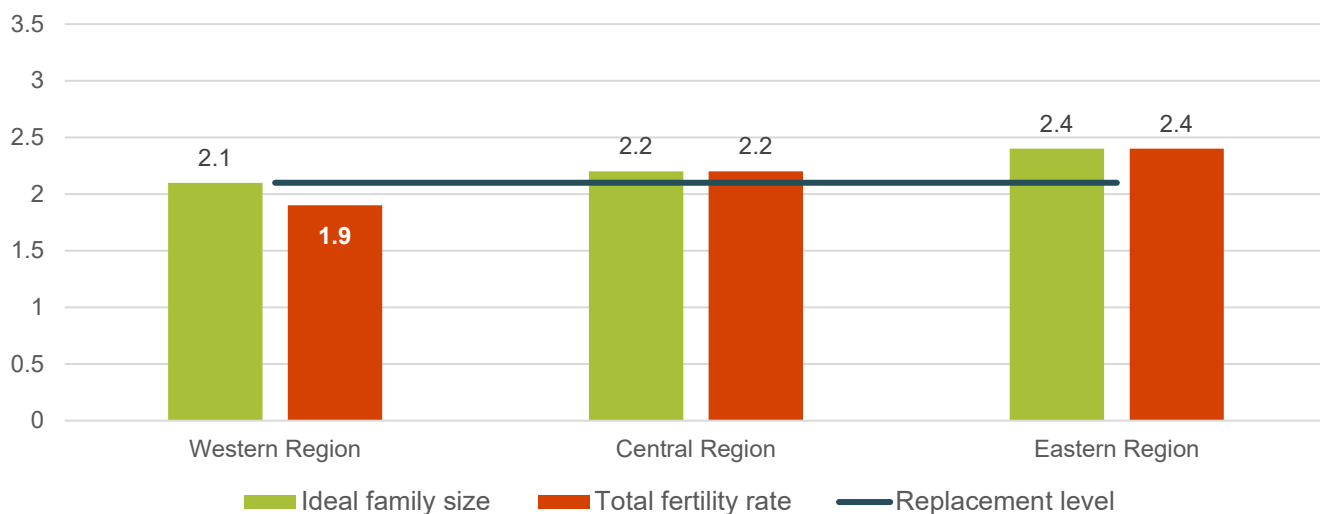

Figure 4. Mean ideal family size and total fertility rate by region in the upper three wealth quintiles (BDHS, 2017/18)

Multivariate analysis of 2014 and 2017/18 BDHS data confirmed a significant interaction between region and wealth quintile for both desired family size and having a birth in the three years before the survey. Mean ideal family size increased significantly with age, decreased significantly with education, and was lower in urban areas and among non-Muslim women.

Factors contributing to observed trends in fertility relative to desired family size

National trends in factors associated with higher and lower fertility than desired reveal:

- The percentage of women with two children who did not want more births increased steadily from 58 percent in 1993/94 to 82 percent in 2011, consistent with the establishment of a two-child family norm in this period. It has since declined slightly to 79 percent.

- The percentage of live births reported as unwanted declined from a high of 14 percent in 2004 to 8 percent in 2017/18.

- The percentage of women with two children who wanted more children declined consistently across all sex compositions until 2014, but increased slightly across all groups in 2017/18. Women with two daughters were the most likely to want to have another child, and women with one son and one daughter were the least likely to want to have another child in all survey years.

- The percentage of ever-married women who experienced the death of a child in the five years before each survey declined from 8.6 percent in 1993/94 to 1.7 percent in 2017/18.

- The percentage of ever-married women who had secondary or higher education or who were working for pay generally increased since 1993/94, and especially since 2004.

Several factors could contribute to the lower fertility preferences and lower observed fertility in the Western region. The analysis showed higher levels of women's labor force participation in the region, which could have contributed to lower fertility through higher competition with childbearing. The multivariate analysis supported this hypothesis as labor force participation was not associated with a significant difference in ideal family size, rather, it was associated with a lower probability of having a live birth in the three years before the DHS.

Few women in Bangladesh currently experience a child death in the five years before each DHS, although it likely played a slightly larger role in increasing women's fertility in the lower two wealth quintiles in the Central and Eastern regions since they experienced higher levels of child loss. The fertility effects of sex preferences for children were likewise declining but still pronounced and likely played some role in increasing fertility above two children, especially in the Eastern region. By contrast, the small but steady increases observed in age at first and second births exerted a slight downward influence on fertility, as did recent increases in the percentage of women living apart from their spouses due to labor migration, especially among women in the upper wealth quintiles in the Eastern region.

Programmatic considerations

Diffusion theory proposes that people imitate behavior by observing others (Lesthaeghe, 1978). Healthcare practices and family size norms are influenced by observing neighbors or other similar people if there is a supportive environment for information flow among similar or neighboring people (Basu & Amin, 2000). Studies among women in the Western districts of Bangladesh and the bordering West Bengal state of India showed that ideas around improved healthcare practices, small family sizes, and contraceptive use have been passed on from West Bengal to the bordering districts through information flow (Basu & Amin, 2000; Amin, Basu, Stephenson, 2002). It is plausible that low fertility preferences and other behaviors affecting the achievement of fertility desires in West Bengal influenced those behaviors in the Western region. Moreover, the Western region has benefited from the social consciousness and health awareness-raising activities of nongovernmental organizations (NGOs), which have historically played a large role in spreading primary health services, including family planning (FP), through successful community-based activities (Arifeen, et al., 2013). However, NGOs faced obstacles in other regions, especially in the Eastern region—notably religiosity and traditional medicine—and could

not reach women as effectively across socioeconomic groups (Ahmed, Evans, Standing, Mahmud, 2013; Haque, Chowdhury, Shahjahan, Harun, 2018; Mannan, 2010). Such historical differences in exposure to NGO activities could have contributed to the regional differences in fertility desires and behaviors observed in this study.

Further reductions may occur in the observed TFR through increased use of effective contraceptive methods to limit childbearing, especially among poorer women in the Eastern region. However, several gaps exist in Bangladesh's FP programming, such as:

- The percentage of currently married women ages 15–49 who reported being visited by a FP field worker in the past six months declined from 34 percent in 1993/94 to 15 percent in 2011. It has since increased to 20 percent in 2017/18 (NIPORT & ICF, 2016; NIPORT & ICF, 2020).

- Only 51 percent of health facilities were fully ready to provide FP services in 2017/18 and 22 percent did not have staff who had ever been trained in FP (NIPORT, ACPR, ICF, 2016).

- The median age at second birth in Bangladesh is now 23.9 years, meaning that most women have achieved their desired family size of two or three births by their late 20s. They will therefore need to use effective contraceptive methods for extended periods of time after achieving their desired family size to avoid unwanted births. However, access to and use of long-acting reversible contraception and permanent methods (LARC/PM) is low in Bangladesh (Rahman, Haider, Curtis, 2020).

- In its early years, the national FP program promoted smaller family sizes with slogans like "two children are plenty be they boys or girls," but these types of communication activities are no longer conducted. The percentage of women who reported hearing or seeing a FP message in the mass media in the past month declined steadily from 47 percent in 1993/94 to 26 percent in 2017/18 (NIPORT & ICF, 2016; NIPORT & ICF, 2020).

What does this data mean for the National FP Program?

Bangladesh has seen a substantial decline in fertility to a level just above replacement level, but it has not declined further in the past decade. Observed fertility is equal to desired fertility in most regions and socioeconomic groups examined. Further substantial decline in fertility will require further declines in desired fertility preferences or broader social and economic change that increases competition between childbearing and other life goals as well as the perceived benefits of very small families. Nevertheless, further fertility decline can potentially occur through:

- Revitalized behavior change communication activities, especially for LARC/PM and among poorer wealth quintiles in the Eastern region.

- Strengthened FP services such as systems strengthening to improve readiness of providers and facilities to offer LARC/PM, counselling tailored to couples' fertility preferences using a segmented counselling approach, and strengthened post-partum FP provision (Rahman, Haider, Curtis, 2020; Uddin, Ali, Das, Nahar, Rahman, 2020).

The findings presented in this brief can frame programming discussions by USAID and the MOHFW on fertility and FP in Bangladesh in a low fertility context. **The complete article, "Towards an Understanding of the Potential for Further Fertility Decline in Bangladesh," is pending peer review and publication.**

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