



Exploring Gender-Biased Sex Selection in Bangladesh: A Review of the Situation



Department of Population Sciences
University of Dhaka

EXPLORING GENDER-BIASED SEX SELECTION IN BANGLADESH: A REVIEW OF THE SITUATION



Department of Population Sciences
University of Dhaka
Bangladesh

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Cover Design : Farjana Ahmed

ISBN: 978-984-34-6460-6

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Message



I am very delighted to know that the Department of Population Sciences, University of Dhaka in association with United Nations Population Fund and European Union has successfully completed a very important piece of research work on "Exploring Gender-Biased Sex Selection in Bangladesh: A Review of the Situation". Gender-Biased Sex Selection (GBSS) is well known in neighboring countries like India and China. Several other Asian countries are also now facing severe demographic as well as socio-economic consequences due to their GBSS practices at birth. Although the socio-cultural premise and different development policy situation in Bangladesh is quite different from those countries, there are some relevant emerging and existing socio-demographic context in our country which are likely to be favourable to generate a GBSS situation. Higher socio-economic position of women in society can promote a preventive environment to discourage GBSS. The Government of Bangladesh has formulated different policies, laws, programmes and strategies to protect and uphold the constitutional rights of women of all ages and backgrounds. Ministry of Education, along with different government bodies, is working hard to enhance women's socio-economic condition by spreading education among women. Removal of all forms of discrimination against girls and women through appropriate strategies is one of the main objectives of the National Education Policy 2010. Women's education is free up to 12th grade and it will become free up to degree level in the near future. Bangladesh has already achieved gender parity in the net enrollment of boys and girls in both primary and secondary levels. Different issues related to empowerment of women and girls are also addressed in policies like 'National Women Development Policy 2011', 'National Children Policy 2011', 'National Youth Policy 2017', 'Bangladesh Population Policy 2012', and 'National Health Policy 2011'.

All these efforts are reflected in the increased higher socio-economic condition of women in Bangladesh. Female life expectancy has increased from 59.7 years in 1997 to 73.5 years in 2017. Recently Bangladesh has topped in South Asian countries in gender equality for the fourth consecutive years and second among the Asian countries according to the 'Global Gender Gap Index' of World Economic Forum in 2018. It is observed that Bangladesh has improved gender parity for legislator, senior official and manager as well as professional and technical roles, in addition to estimated earned income and wage equality for similar work. I thank the Department of Population Sciences, University of Dhaka and our development partners UNFPA and EU for conducting such an important research. I have also heard that they are going to explore the situation of GBSS from the field level research. I hope it would be successful to explore the potential elements which may be related to generate a GBSS situation in Bangladesh and thereby contribute to facilitate the government and other development partners to initiate relevant policies and intervention in this regard.

Md. Sohorab Hossain
Senior Secretary
Secondary and Higher Education Division
Ministry of Education
Govt. of The People's Republic of Bangladesh

Message



I am delighted to know that Department of Population Sciences is going to publish their research report on Exploring Gender-Biased Sex Selection in Bangladesh: A Review of The Situation. As we know globally gender-biased sex selection (GBSS) has become an important concern among policy makers and development partners due to its socioeconomic and demographic implications. The existence of various elements of gender-biased sex selection at birth across the world, with substantial variations by countries are found. In Bangladesh, although a large number of studies have looked at many aspects of gender inequality, only a few studies have attempted to examine the dynamics of gender-biased sex selection at birth either using existing data sets or through minuscule studies. Aspects of gender-biased sex selection such as levels, patterns and trends, differentials, determinants, and consequences are yet to be explored through a specialized research. To generate appropriate and exact information to understand much more about Sex Ratio at Birth (SRB) imbalance and Gender-Biased Sex Selection (GBSS), nationally as well as the variations within countries and amongst different regions, between ethnic, religious, and income groups in Bangladesh, a collaborative effort has been initiated by UNFPA under its 9th Country Programme (CP9) where the Department of Population Sciences of the University of Dhaka has conducted his research.

This research on exploring gender-biased sex selection in Bangladesh bears greater significance in the context of achieving the sustainable development goals in general and eliminating discrimination against women and ensuring women empowerment in particular. The Government of Bangladesh is very committed to eliminate all kinds of discrimination against women and to facilitate their empowerment as well. For this reason, various initiatives have been taken by the Government of Bangladesh including free education for girls, stipend programmes for girls and promoting female employment. Findings of this study will help better understand the extent to which gender-biased sex selection exists in Bangladesh. This study will also facilitate in identifying factors that promote gender-biased sex selection in Bangladesh which will contribute to design effective policy interventions in Bangladesh to prevent gender-biased sex selection.

I would like to express my gratitude to the United Nations Population Fund (UNFPA) and European Union (EU) for providing financial support to conduct this study. I sincerely hope their commitment to the Department of Population Sciences in supporting population and development related programmes and activities will be continuing in future. I also congratulate the Department of Population Sciences for successful completion of this research.

A handwritten signature in black ink, appearing to read 'Akhtaruzzaman'.

Professor Dr. Md. Akhtaruzzaman
Vice-Chancellor
University of Dhaka

Message



Since the inception, the Department of Population Sciences is trying to produce experts in population areas and produce quality research on contemporary issues on population and development to meet national-level research gaps. Identifying the trends, patterns, scenarios, sources of gender biased sex selection is very important because it causes lifelong inequality in society. So the department took the challenge to conduct a unique research on Exploring Gender-Biased Sex Selection in Bangladesh: A Review of The Situation. Research on these issues based on the existing data sources (sample census data of BBS, BDHS, SVRS, and MICS)

are very complex in nature. Despite these complexities the department successfully completed the research for the first time in Bangladesh. Compared to the neighbouring countries such as India, China, Korea, Viet Nam, very limited attention has been given in these areas in Bangladesh. This is very basic and pioneering research work in identifying Gender-Biased Sex Selection in our society. The study will help eliminating discrimination against women in general and ensuring women empowerment in particular. The findings of this research would be very effective in achieving the Sustainable Development Goals and fulfilling the commitment of the Government of Bangladesh to eliminate discrimination against women that persists due to sex selection.

The output of this report and its policy recommendations will be very useful for the government, donor agencies, NGOs, and researchers to understand the complex dynamics of Gender-Biased Sex Selection and to design effective measures to reduce inequalities by sex. It will facilitate further research based on empirical data and will generate clear context for Gender-Biased Sex Selection in Bangladesh. We hope this study will provide more in-depth insights for future program formulation and effective implementation by academics, researchers, program personnel and the ministries of our government.

The successful completion of the Gender-Biased Sex Selection study was made possible by the contributions of a number of agencies and individuals. I would like to express my gratitude to the faculty members of the Department of Population Sciences, University of Dhaka for their every effort for the research. Special thanks to the Ministry of Education, University Grants Commissions for their extended hands in the process of approving the project. I sincerely appreciate the generous financial support provided by UNFPA, Bangladesh and EU to the Department of Population Sciences for this research and hope that their support will continue in the future.

A handwritten signature in black ink.

Professor Md. Aminul Haque, PhD
Chairman and Project Director
(11 March 2015 to 10 March 2018)
Department of Population Sciences
University of Dhaka

Message



I am pleased to see the research report on “Exploring Gender-Biased Sex Selection in Bangladesh: A Review of the Situation” is getting published. Although this research is a critical review of national level literatures on Gender-Biased Sex Selection (GBSS) and analysis of various dimensions of GBSS using major national data sets in Bangladesh, this exploration bears greater significance in achieving the Sustainable Development Goals (SDGs) in general and eliminating all forms of discrimination against women and ensuring women empowerment in particular.

We are confident that readers will gain important insights into GBSS, particularly on understanding the dynamics, the extent and the context of imbalanced sex ratio at birth in Bangladesh and its variations across socio-economic groups and regions.

In addition to grappling with today's challenges of GBSS across the Asia and the globe this research has given us a new and clear direction to conduct further research on GBSS in Bangladesh. Moreover, this publication will be an important reference work for other countries. The findings of this research will contribute to design effective policy interventions to prevent GBSS. In addition to the capacity enhancement of the DPSDU, this publication will contribute to the scholarship in the field of Population Sciences.

Since GBSS research involves a lot of documentation, lessons learnt from this study should be addressed in future studies. Although we have already achieved significant progress toward gender equality, we still need to recognize that there is more work—considerable work on the horizon to be done. And I hope that DPSDU will join this effort—by learning more evidence-based research in the next phase of work.

I wish to thank many individuals, organizations, and agencies that have invested their time and resources in our work; their commitments are both remarkable and humbling. My sincere thanks to the research team, colleagues and staffs of DPSDU who assisted to make this publication a reality. More specially, I would acknowledge the supports from Associate Professor Dr. Mohammad Bellal Hossain, Lecturer Mr. Shafayat Sultan and Lecturer Mr. Md. Zakiul Alam.

Lastly, I would like to express my sincere gratitude to the UNFPA Bangladesh and the European Union for providing financial and technical support to conduct this important study. I hope their generous support to the DPSDU will be continuing to address population and development issues in Bangladesh.

Mohammad Mainul Islam

Professor Dr. Mohammad Mainul Islam

Chairman (11 March 2018 –)

Department of Population Sciences

University of Dhaka



Women's equality and empowerment is one of the 17 Sustainable Development Goals (SDG) and an integral part of the inclusive and sustainable development. The SDG 5, in particular, strives for the elimination of gender based discriminations, which curtail women's rights in both private and public spheres, in all forms. Hence, the works in regard require continued attention to implementing outcomes of the Beijing Declaration and Platform for Action, and the Programme of Action of the International Conference on Population and Development, and sustained implementation of international human rights treaties.

The United Nations' estimates show that a number of 126 million women are currently believed to be "missing" around the world (unfpa.org), of which, more than 113 million women are "missing" in Asia, mostly because of the imbalanced sex-selective birth ratio, a manifestation of widespread gender discrimination and son preference (Gullmoro, 2015). Gender-Biased Sex selection (GBSS) has reached between 110 and 120 male births per 100 female births in many parts of the world. In some regions, birth masculinity reaches even levels above 120 or 130, pointing to the intensity of gender discrimination.

Gender- Biased Sex Selection (GBSS) Initiative is new for UNFPA, supported by the European Union (EU), where the interventions are carried out at the global, regional and country level. This report, "Exploring Gender-Biased Sex Selection in Bangladesh: A Review of the Situation," is a product of UNFPA's long-standing partnership with European Union Delegation (EUD). In conjunction with the Department of Population Sciences, University of Dhaka that facilitates deeper understanding to complex issue of son preference, low value of girls and other forms of gender inequalities through evidence-based research. The report also subsequently provides policy recommendations pertaining to the eradication of GBSS in Bangladesh.

I hope the study findings will help the Government of Bangladesh, academic institutions and development partners to further investigate and pursue efforts to ending the harmful practices.

I thank the research team of the Department of Population Sciences, University of Dhaka and the technical team composed of experts, academia, demographers, development partners, and sister UN entities for their contribution to the unique study in Bangladesh. I acknowledge the technical support of UNFPA Regional Office of Asia and the Pacific for making the study a success. Finally, I thank the EU for their financial support and confidence in us to carry out the Global Project on GBSS.

A handwritten signature in blue ink, likely belonging to Dr. Asa Torheimsson, is positioned above the printed name.

Dr. Asa Torheimsson
Representative, UNFPA Bangladesh



The European Union takes pride in its collaboration with the United Nations Population Fund (UNFPA) in producing the report “Exploring Gender-Biased Sex Selection in Bangladesh: A Review of the Situation,” prepared by the Department of Population Sciences, University of Dhaka.

Gender-Biased Sex Selection (GBSS) is essentially a violation of human rights that continues to jeopardize millions of women around the world, putting their health and in many cases, lives at risk. Moreover, GBSS fosters gender based inequalities to such a degree that it exposes girls to discriminatory social practices even before they are born. The Sustainable Development Goals (SDGs) envisage a world free of all gender based inequalities against women in order to empower them. Addressing structural issues like GBSS, which is illustrative of the unfair social norms and attitudes toward women and girls, therefore, require precedence from development stakeholders and states alike.

In order to develop frameworks and make renewed, and concerted efforts to address the deeply rooted gender discrimination against women and girls which lies at the heart of sex selection, reliable and comprehensive data on the magnitude of the problem and its multifaceted repercussion comes as a prerequisite.

The study report- Exploring Gender-Biased Sex Selection in Bangladesh: A Review of the Situation- has been developed as an exploratory response to the pervasive data vacuum in regard in Bangladesh. The study is a comprehensive one in that it provides a conceptual orientation of GBSS and points out the levels, trends and patterns of sex ratio at birth in Bangladesh, juxtaposing them with the manifestations of multi-faceted gender inequality and the consequences of sex-selective birth.

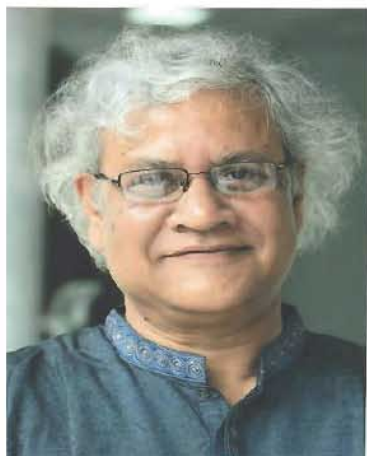
I believe the report will serve as an evidential tool for the effective planning and coordination of policy development and action to minimize the sex ratio gap in Bangladesh. More necessarily, I hope it will stimulate discussion and debate within social networks, and more broadly within civil society, in order to strengthen and expand consensus around the concept of the equal value of girls and boys.

I would like to take the opportunity to thank the research team of the Department of Population Sciences, University of Dhaka and the technical team consisted by the expert, academia, demographers, development actors, UN agencies for their contribution to the unique study in Bangladesh. I also extend my gratitude to UNFPA Bangladesh for making this study a success.

Rensfe Teeulink

Ambassador of the European Union to Bangladesh

Forewords by the Team Leader



'It is often said that women make up a majority of the world's population. They do not.' These are the very first two quite opposing statements of Amartya Sen's 'widely cited' article on 'More than 100 million women are missing' in The New York Review of Books on December 20, 1990 and it is very clearly indicating the apparent shortcomings of our general understanding about the gender dynamics and the necessity of further initiatives for a greater understanding of the gender dynamics. These findings reverberate some earlier studies on the skewed sex ratio due to high women mortality in some Asian countries and renewed the present global discourse on

gender-biased sex selection (GBSS) through prenatal sex detection and selective abortion of the female fetus.

In most countries, the biologically normal sex ratio at birth (SRB) is usually around 105 male per 100 female. But since the 1980s, an unusual SRB as high as 130 had been observed in some South Asian, East Asian and Central Asian countries and a number of 113 million 'missing women' was estimated in Asia which triggered the launch of the present global research initiatives and policy intervention on GBSS by international collaboration among some United Nations (UN) and European Union (EU) agencies.

GBSS is the consequences of the interactions among some deeply rooted socio-religious values and norms of the traditional patriarchal society where a usual son preference predominately prevails. New emerging economics and small family size values have added some extra impetus in the context. Advent of different modern technologies to detect the sex of the fetus prenatally as well as to abandon it has facilitated a more favourable situation in places where it could not happen earlier easily. The total GBSS context would generate more violence and discrimination against women and girls and create imbalances in the very basics of the socio-demographics of a society.

The present report on 'Exploring Gender-Biased Sex Selection in Bangladesh: A Review of the Situation' is the result of UNFPA's longstanding partnership with the EU in Bangladesh. As an extension of that collaboration, UNFPA and the EU jointly funded a project to explore the situation of GBSS at birth in Bangladesh. The Department of Population Sciences, University of Dhaka (DPSDU) was selected as an implementing partner (IP) under the 9th Country Programme between UNFPA and the Government of Bangladesh. This project was implemented in partnership with the University of Dhaka in line with Government of Bangladesh and UNFPA procedures to implement the activities defined in the university's approved annual work plan of 2017.

The current research on GBSS is very important as the major preconditions of creating a GBSS situation is very much present in the present context of Bangladesh society. It is of utmost importance to explore the demographic, socio-cultural and related policy context to review the situations. We hope this research would facilitate academics, policy makers, development partners with appropriate understanding of the issues related. It is very important to achieve the targets of Sustainable Development Goals(SDGs), specifically the targets related to achieving gender equality and women empowerment and ending all forms of discrimination against women and girls.

We would like to express our gratitude to UNFPA and EU for providing generous financial and technical support to conduct the research. Special mentions are due to Ms. Shamima Pervin, Senior Programme Officer, Gender, UNFPA Bangladesh; Mr. Mahboob E Alam, National Programme Officer (Population Planning & Research), UNFPA Bangladesh; and Prof. Dr. Mahmuda Khatun, Consultant, engaged for this research by UNFPA, for their relentless support, advice and feedback to make this research a success.

We must appreciate highly of the commitment and dedication shown and contributions made by the members of the Research Team of DPSDU. Also heartfelt thanks to all other members of the Academic Committee of the department (especially, Dr. Mohammad Bellal Hossain, Associate Professor; Mr. Shafayat Sultan, Lecturer; and Mr. Md. Zakiul Alam, Lecturer), members of the technical committee, staffs of DPSDU, authorities of BBS and NIPORT, and Dhaka University administration for providing necessary supports and assistance to complete the research.



Prof. Dr. AKM Nurun Nabi
Team Leader, GBSS Research on
Exploring Gender-Biased Sex Selection in Bangladesh: A Review of the Situation

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Acronyms

APRO	Asia and the Pacific Regional office
BBS	Bangladesh Bureau of Statistics
BFS	Bangladesh Fertility Survey
BDHS	Bangladesh Demographic and Health Survey
CEDAW	Commission on Elimination of Discrimination against Women
CPR	Contraceptive Prevalence Rate
CP9	UNFPA 9th Country Programme
CREHPA	Center for Research on Environment, Health, and Population Activities
CSR	Corporate Social Responsibility
CVS	Chorionic Villus Sampling
DPSDU	Department of Population Sciences, University of Dhaka
DSRB	Desired Sex Ratio at Birth
EECARO	Eastern Europe and Central Asia Regional Office
FSSP	Female Secondary - School Stipend Project
GBSS	Gender-biased Sex Selection
GHRCB	Gender, Human Rights and Culture Branch
HNPSP	Health, Nutrition, and Population Sector Programme
ICPD	International Conference on Population and Development
LBW	Low Birth Weight
MDGs	Millennium Development Goals
MICS	Multiple Indicator Cluster Survey
MOHFW	Ministry of Health and Family Welfare
MOWCA	Ministry of Women and Children Affair
MMR	Maternal Mortality Rate
MR	Menstrual Regulation
NIPORT	National Institute of Population Research and Training
OHCHR	Office of the United Nations High Commissioner for Human Rights (OHCHR)
OSRB	Observed Sex Ratio at Birth
SRB	Sex Ratio at Birth
SRLB	Sex Ratio of Last Birth
SVRS	Sample Vital Registration System
SVS	Sample Vital Statistics
TD	Technical Division
TFR	Total Fertility Rate
UNESCO	United Nations Educational, Scientific, and Cultural Organization
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
VAW	Violence Against Women
VGD	Vulnerable Group Development
WHO	World Health Organization

Executive Summary

Globally, gender-biased sex selection (GBSS) has become an important concern among policymakers and development partners due to its socioeconomic and demographic implications. Factors that might promote son-preference include patriarchy, stereotyped attitudes towards traditional gender roles, agrarian economic relations, pervasive poverty, a higher proportion of people employed in informal sectors, and lack of adequate social safety net protection for future security of older parents. All of these factors prevail in Bangladesh.

Though a number of studies examine GBSS in other countries, research to date has paid little attention to the extent and dynamics of GBSS in Bangladesh. To help fill this gap, the overall objective of the present study is to review the situation of GBSS in Bangladesh. Specific objectives are to describe levels and trends, explore differentials across background characteristics and identify the determinants of GBSS. In this study, the evidence is assessed in terms of desired sex ratio at birth (DSRB), observed sex ratio at birth (OSRB), son preference, parity-specific sex ratio at birth, use of contraception, total fertility rate and menstrual regulation (MR). This study also examines manifestations, consequences, laws and policies, and programme interventions to prevent GBSS in Bangladesh.

The research methodology included a critical review of global, regional and national level literatures on GBSS, and an analysis of various dimensions of GBSS using secondary data. The study analysed patterns, levels and trends in the sex ratio at birth (SRB) in Bangladesh by using data from the Bangladesh Demographic and Health Survey (BDHS), Multiple Indicator Cluster Survey (MICS), Sample Vital Registration System (SVRS) and Bangladesh Population and Housing Census. Three competing hypotheses, introduced by Guilimoto (2009), argue that adaptive behaviour, economic crisis and conflict, and specific sets of local factors are the germinators of GBSS. More specifically, availability of technology to determine the sex of a fetus, declining fertility rate, desire for sons, and sociocultural factors appear to be the determining factors of GBSS.

In Bangladesh, there is no conclusive evidence of GBSS based on the large-scale primary data; however, extensive review of literature and analyses of secondary data suggest that the desire for sons along with a small family size norm due to declining fertility could be factors contributing to GBSS in the country. In other words, when people decide to have fewer children, they prefer to have sons instead of daughters due to the existing sociocultural context and stereotyped gender attitudes. Preference for sons is also widely prevalent in Bangladesh due to the socioeconomic structure of society, cultural beliefs, cultural restrictions on women, traditional gender roles, male dominance, male validation as the income-earning head of household, kinship systems, and the expectation of support in old age coming only from sons.

Findings from different data sources used in this study showed the following situation in Bangladesh:

- The desired SRB (whether a boy or girl is preferred) has been consistently higher compared with observed SRB (the actual numbers) for at least two decades, suggesting son preference.
- Both sex ratios at birth had declined during the same period (observed SRB from 106 in 1993-1994 to 104.8 in 2014; desired SRB from 126.5 in 1993-1994 to 111.0 in 2014).

- Substantial differences by administrative boundary (divisional) in sex ratios at birth (both desired and observed) were also observed.
- The differentials in desired SRB and observed SRB were more pronounced in different regions. Differences in socioeconomic conditions and cultural factors including religiosity could be important reasons behind regional differences.
- Observed SRB was consistently higher in urban than rural areas.
- Parity-specific analysis showed that observed SRB was very high at first birth and thereafter started declining with increasing birth orders.
- Further, non-use of contraception to achieve the desired birth of a son appears to be evident in Bangladesh, a finding congruent with Bongaarts' argument (Bongaarts, 2013).

These findings indicate that sex-selection probably occurs at first birth to a large extent in Bangladesh. Based on the secondary analysis, however, it is not possible to draw conclusions regarding the extent to which GBSS exists in Bangladesh. Concerning manifestations of gender inequality, it was found that females have slightly higher neonatal and infant mortality rates than males. Females have higher life expectancy than males. The educational dropout rate among females in secondary level is much higher than males. Two thirds of women are still outside the labour market and female labour force participation rate is much lower compared with males.

The sociocultural context of Bangladesh is such that women are dependent on men in every stage of the life cycle, a situation that has been institutionalized through the patriarchal, patrilineal and patrilocal structure of the society. The agrarian economy of Bangladesh contributes to male dominance, as there is a high dependence on the male labour force. Thus, in most cases women in Bangladesh are characterized by lower educational and income attainment and occupational status. Finally, religiosity indirectly facilitates maintenance of the patriarchy, which eventually subverts the position of women.

A conceptual framework for understanding the dynamics of GBSS has been developed in this study. However, further research is required regarding the extent to which GBSS exists in Bangladesh. Two strategies could be considered in this regard: (1) Large-scale comprehensive research based on primary data from a wide range of people would enable researchers to comprehend the reality and dynamics of GBSS in Bangladesh; and/or (2) Inclusion of relevant questions in large population-based surveys (e.g. BDHS, MICS, SVRS, population census) would provide new data for analysis. Such research could help generate effective strategies for preventing GBSS as well as reducing the manifestation of gender inequality. Findings from a comprehensive survey on GBSS also could help modify the existing laws to prevent GBSS in Bangladesh.

Chapter 1

Introduction

CHAPTER 1: INTRODUCTION

1.1 Background

The sex ratio at birth (SRB) worldwide usually hovers around 105 male births per 100 female births (Chahnazarian, 1988). In general, more men are born than women, apparently as a result of natural processes. If the SRB rises above 107, however, it may be a sign of son preference. Using data from the Multiple Indicator Cluster Survey 2012-2013, the overall observed SRB in Bangladesh is estimated at 106.73, with the 2016 Sample Vital Statistics (SVS) showing divisional variations ranging from 101.4 to 114.5. Findings based on the data from the SVS show huge variations in observed SRB by division. For example, observed SRB in 2016 was the highest in Khulna division (114.5) which was followed by Chattogram division (112.2), Sylhet (110.1), Rangpur (106.7), Barishal (106.6), Rajshahi (104.2), and Dhaka (101.4). From these varied ratios, it is difficult to draw a firm conclusion on the existence of GBSS. The prevalence of excess SRB could be a sign of GBSS only when it is ascertained that excess SRB is due to termination of female fetuses.

For both biological and behavioural reasons, the sex ratio starts at 105 males per 100 females at birth, then drops to 100 during adulthood, and later shifts to inverse ratios beyond 50 years of age when there are more women than men (Guilmoto, 2015). Patriarchal and authoritative sociocultural structures reinforce son preference and perpetuate a fertile ground for violence and discrimination against women and girls in society. In some countries, symptoms of pervasive social, cultural, political and economic injustices against girls and women are reflected through the gender-biased sex selection in favour of boys. The number of “missing” women is increasing as a result of deliberate elimination via sex-selective techniques, mirroring a culture in which gender inequality is deeply rooted.

The combination of declining fertility and rapid developments in technology that allows parents to know the sex of the fetus have exacerbated this practice (UNFPA, 2012). The choices parents make have contributed significantly to the phenomenon of sex ratio imbalances in societies where sex-selection is practiced. It has been observed in the affected countries that as birth order increases, GBSS in favour of boys also increases. This means that the sex ratio is more skewed towards second, third or higher birth-order children compared with the first-borns. This indicates a strong desire for sons when the first-born children are girls.

United Nations’ estimates show that currently 126 million women are believed to be “missing” around the world (unfpa.org), of which, more than 113 million women are “missing” in Asia, mostly because of imbalanced sex ratio at birth, which has been considered as one of the manifestations of widespread gender discrimination and son preference (Guilmoto, 2015). Disaggregated analyses of the imbalance in SRB reveal that the number of “missing” girls in the Caucasus and Eastern Europe is 171,000, and it is projected to grow rapidly in the future (Guilmoto, 2009). Interventions have been taken to curb GBSS, but there is no sign of a sustained decline in affected countries. An alarm bell should be rung for countries like Bangladesh, where patriarchy is predominant, because a rise in GBSS cannot be ruled out as fertility rates are on the decline and the country has all of the other factors that tend to drive GBSS. While there are distinct variations across countries, socioeconomic quintiles and ethnic groups, Bangladesh society as a whole is vulnerable to GBSS.

If the current imbalance in sex ratio at birth is not properly addressed, it will create sustained wider negative consequences on the population dynamics in the affected countries. For instance, recent projections show that there will be a large number of males compared to females of marriageable age for at least the next two generations, which will eventually lead to a “marriage squeeze”. In addition, the number of potential grooms after 2030 might exceed the number of brides for extended periods of time (UNFPA, GBSS Annex I-Description of the action, HUM/2016/372-575).

1.2 Commitment of UNFPA to the Issue¹

Rapid action is warranted before GBSS causes long-term damage and the demographic deficit becomes unmanageable. Direct and indirect interventions can help prevent GBSS. Reducing the gender gap, among other things, is one of the priority areas of UNFPA, the United Nations Population Fund. UNFPA implements the Programme of Action of the 1994 Cairo Conference on Population and Development (ICPD), and has taken the lead in movements against gender inequality. UNFPA and the World Health Organization (WHO) released the first-ever UN-wide policy statement on gender imbalance in 2010. To provide clear directives to countries working on the issue, UNFPA has played a leading role in influencing global discourse on the topic, calling for partners to include the issues of harmful practices in the post-2015 development agenda. It has also contributed towards including the gender imbalance issue in reports of the UN’s Special Rapporteur on Violence against Women (VAW) and the Committee on the Elimination of Discrimination against Women (CEDAW) country reports.

At the regional level, UNFPA has convened conferences on sex ratio imbalance in the Republic of Korea in 1994, China in 2004, India in 2007 and Viet Nam in 2011 to sensitize, gather experiences and develop responses for countries in the region. UNFPA hosted a global meeting in Viet Nam in October 2011 that brought together high-ranking government officials, civil society practitioners, UN agencies and researchers from 12 countries to work together to address the issue.

UNFPA supports the efforts of countries to develop the capacities for conducting and analyzing population censuses and demographic health surveys, and to create reliable birth and death registries to eliminate the gap in availability of data. Through South-South development cooperation modalities, UNFPA is working closely with China, India and Viet Nam and also Albania, Armenia, Azerbaijan and Georgia.

1.3 Evolution of the Initiative in Bangladesh

The Governments, civil society organizations, communities and academia have taken many actions to halt the increasing sex ratio imbalance, and to address human rights, gender equality, social policy and public health dimensions in the affected regions. Nevertheless, documentation and analysis on the reasons for the success or failure of specific and collective interventions still remain limited.

UNFPA works by partnering with governments and other stakeholders in countries where gender imbalance is pronounced. For instance, UNFPA has supported efforts in Nepal to make its law on sex-selective abortions stronger and more effective. In Viet Nam, UNFPA has been working with the government and civil society stakeholders to build up an informed base for

¹ This section draws on the UNFPA, GBSS Annex I-Description of the action in HUM/2016/372-575.

GBSS prevention. UNFPA and the World Bank jointly conducted countrywide research in Georgia on “missing girls” and in Armenia on the prevalence of and reasons for sex-selective abortions. These studies are expected to generate interest in conducting research on GBSS in other countries (UNFPA, GBSS Annex I-Description of the action, HUM/2016/372-575).

In countries where the GBSS has emerged recently, or where all the elements are present in the sociocultural context (as in Bangladesh), the situation is challenging: there is little evidence to prove the existence of GBSS, and research that could provide answers is hindered by lack of access to and analysis of censuses, registration systems and other data sources at the national and sub-national level. Such information would provide a more complete and consistent picture of the situation and its complexities. Few studies explore the contextual realities that underlie sex-selection motivations and practices, and their effects on different age and population groups (UNFPA, GBSS Annex I-Description of the action, HUM/2016/372-575).

More research, based on reliable data, is needed on the extent and impact of this phenomenon. Despite providing a set of detailed data, population censuses are limited due to the long intervals between data-gathering periods. Most countries do not have reliable civil-registration systems that allow for monitoring annual changes in the sex ratio at birth. The public and policymakers need more precise information if they are to understand the SRB situation at the national level as well as the variations within countries and among different regions, and between ethnic, religious and income groups. Decision-makers need better data to provide a sound basis for understanding the actual situation and developing governmental policy and taking other actions.

Tools to monitor and evaluate the progress of specific policies, programmes and interventions should also be developed, along with a baseline for monitoring and evaluation, and plans for regular follow-up surveys and in-depth analyses. Monitoring and evaluation of policy initiatives will provide useful information for public and civil society organizations who engage in dialogue and experience-sharing across different regions. It will also support ongoing capacity development to help countries implement the policies.

UNFPA has a history of strong civil society collaboration and partnerships, including in this area of work. These partnerships can be leveraged to deliver on the proposed activities, including at the grassroots levels. Efforts to eliminate GBSS have been integrated into other gender discrimination and child protection concerns, especially at community levels where the practice co-exists with other harmful practices like child marriage or female infanticide. At national, regional and global levels, there are several opportunities for synergies, and efforts to address the practices together will be pursued as appropriate. Finally, campaigns that uphold the value of the girl child should be continued and complemented by social schemes.

The present report, “Exploring Gender-Biased Sex Selection in Bangladesh: A Review of the Situation”, is the result of UNFPA’s longstanding partnership with European Union Delegation (EUD) in Bangladesh. As an extension of that collaboration, UNFPA and the European Union jointly funded a project to explore the situation of GBSS at birth in Bangladesh. The Department of Population Sciences of University of Dhaka (DU) was selected as an implementing partner (IP) under the 9th Country Programme between UNFPA and the Government of Bangladesh. This project was implemented in partnership with the University of Dhaka in line with Government of Bangladesh and UNFPA procedures to implement the

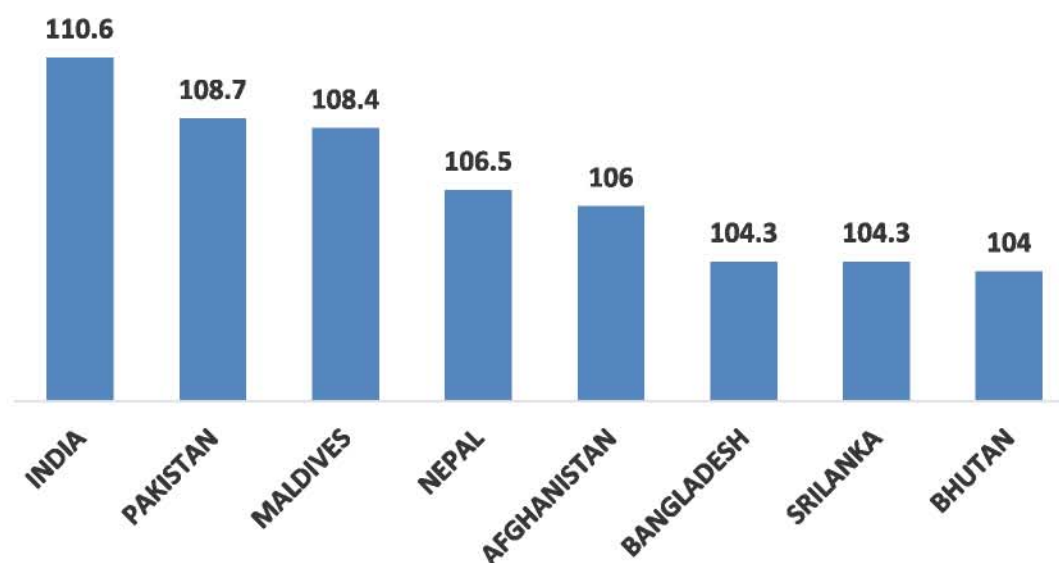
activities defined in the university's approved annual work plan of 2017. A seven-member research team was formed at the Department of Population Sciences to undertake a study to review the GBSS situation in Bangladesh based on the secondary analysis of major national data sets.

1.4 Global Trends in Gender-Biased Sex Selection

Although the global sex ratio at birth is 105 males to 100 females, in recent decades sex ratios at birth have become imbalanced in favor of boys in some South, East and Central Asian countries. The reason behind this unwarranted sex ratio is the tendency to select sex of the child before birth, and as a consequence, the SRB has reached between 110 and 120 males per 100 females throughout the world with the increasing gender discrimination. Over the years, this trend has spread throughout in some Asian countries in the 1980s, followed by Caucasus countries in the 1990s, and has recently been found in Montenegro, Albania, and Viet Nam (UNFPA, 2012).

Recent data show that in 2017, China had the highest skewed sex ratio at birth (115 males to 100 females) followed by Armenia (113 males to 100 females), Azerbaijan (113 males to 100 females), India (111 males to 100 females), Georgia (110 males to 100 females), Viet Nam (110 males to 100 females), Pakistan (109 males to 100 females) and Maldives (108 males to 100 females). Figure 1-1 shows that among the South Asian countries, India had the highest skewed sex ratio at birth and Bhutan had the lowest (World Population Review, 2017).

Figure 1-1: Sex Ratio at Birth in South Asian Countries in 2017



Source: World Population Review, 2017

1.5 Context of Gender-Biased Sex Selection in Bangladesh

Bangladesh society is characterized by patriarchy, stereotyped attitudes towards traditional gender roles, agrarian economic relations, pervasive poverty, a high proportion of people employed in informal sectors, and a lack of adequate social safety net protection for the future security of older parents. These factors may play important roles in promoting GBSS in Bangladesh.

Hartmann (1981) defined patriarchy as the male-dominated structures and social arrangements where women are systematically excluded from the productive or economic spheres of life and women's sexuality is always a matter of scrutiny. Patriarchy is composed of six structures – paid work, the household, the state, male violence, sexuality and culture – to which special attention must be paid (Walby, 2010). At the family level, women are denied all access to paid employment and are directly oppressed by their fathers, brothers or husbands.

Although the constitution of the country ensures equal rights of man and woman, traditional patriarchal norms and values in parallel with a low level of education, widespread underdevelopment and poverty generally label a woman as inferior to a man and, taken together, ensure women are dominated, subjugated, exploited and manipulated in different forms at home, in the workplace and in society. Despite the existence of laws including the Women and Children Violence Protection Law 2000, Domestic-Violence Prevention and Protection Rules 2013, and Domestic Violence Act 2010, violence against women is very common in Bangladesh society. Women's inferior position in society pushes them into the trap of poverty, becoming economic and social liabilities to their families, further perpetuating the cycle of abuse and oppression.

Violence takes a variety of forms including domestic violence, rape, rape followed by death, forced or induced abortion, forced prostitution, dowry deaths, sexual harassment, suicide, child marriage, forced marriage, sexual harassment and assault (such as "eve-teasing"), trafficking, violence at the work place, and other forms of psychological and financial oppression. Perpetrators may include partners and non-partners at home and outside the home including, for example, the husband, ex-husband or intimate partner (Farouk, 2005). The rate of reported violent acts against women has risen consistently, especially since the early 1990's (Farouk, 2005). A national survey by the Bangladesh Bureau of Statistics (BBS) in 2015 reveals that 72.6 per cent of ever-married women experience violence by their husbands at least once in their lifetime and 27.8 per cent of women report lifetime physical violence by someone other than husband. The lifetime rates of emotional and sexual violence are 28.7 and 27.2 per cent, respectively. Economic violence has been experienced by 11.4 per cent of ever-married women during their lifetime (BBS, 2016).

Child marriage is common in Bangladesh. While the minimum official age at marriage for girls is 18 years, the Bangladesh Demographic and Health Survey 2014 finds that the median age at marriage for girls is only 16.1 years. Human Rights Watch (2015) provides an in-depth analysis of the contributing factors and harmful consequences of child marriage. Poverty, natural disasters, lack of access to education, social pressure, harassment, intimidation and dowry were found to be major causes for child marriage. Termination of education, early pregnancy, lack of access to family planning, health problems, domestic abuse, violence including rape, and abandonment were among the harmful consequences of child marriage. The study conducted by the Department of Population Sciences at the University of Dhaka

(DPSDU) in collaboration with UNFPA on the 'Context of Child Marriage and Its Implications in Bangladesh' also analyses the causes and consequence of child marriage and provides similar observations. In most cases, child marriage seems to be disguisedly coercive and forced due to societal pressures, which are much the same as those that seem to foster GBSS.

Traditional gender roles practiced in the country define women as child bearers and home-makers. Sarker et al. (2017) revealed that parents with a more traditional gender role attitudes were likely to have lower aspirations for higher education for their children, especially for girls. They added that parents socialized their daughters to be ideal caregivers in their home similar to their wives, rather than providing higher education to daughters. In a male-dominated society like Bangladesh, men are valued as more capable of performing tasks in every sphere; this value is maintained more strictly in rural areas. In this kind of society, parents aim to provide more education to their boys based on the belief that boys are more capable of educational performance and professional roles than girls (Sarker et al, 2017).

According to the World Economic Forum, Bangladesh ranks 47 in the Global Gender Gap Index 2017 among 144 countries in the world. the Global Gender Gap Report quantifies the magnitude of gender disparities and tracks their progress over time, with a specific focus on the relative gaps between women and men across four key areas: health, education, economy and politics. Although Bangladesh has made considerable progress in the political empowerment of women, the gap between women's labour force participation and estimated earned income has widened (World Economic Forum, 2017). Millions of women face different types of harassment and negligence in every sphere of life such as nutrition, education, work place, and decision-making process at the household level. Bangladesh is predominantly an agriculture-based country. A vast majority of the total population in Bangladesh is dependent on agriculture. The contribution of agriculture to the total GDP of Bangladesh was 15.3 per cent in 2015-16 and about half of the workforce is employed in agriculture (BBS, 2016). Traditionally, the demand for male labour force is very high in agriculture sector, which essentially leads to the preference for sons for continuation of agricultural production among vast majority of the rural population (BBS, 2016). Most importantly, more sons will earn more income, leading to a possible formation of wealthy household.

The prevalence of poverty also plays pivotal role in GBSS. Although Bangladesh has made a remarkable progress in reducing poverty over the last two decades, about one fourth of its population (23.5 per cent) currently live below the poverty line (BBS, 2017). Poor parents consider sons as assets for income-generating activities and future security. The higher value given to sons and the lower value given to daughters is a key driver of son preference. As noted above, all of the necessary factors required to escalate the GBSS in Bangladesh are already in existence. More specifically, two of Guilimoto's three preconditions gender-biased sex selection feature strongly in Bangladesh: (1) son preference and (2) declining fertility (Guilimoto, 2009 and 2015). The third factor is (3) modern technology for sex selection, notably ultrasonography. The technology is available in the country, but the extent of use, especially for sex-selective termination of female fetuses, is not yet reported. In addition, incidents of clandestine abortion through use of menstrual regulation and other means are suspected but not confirmed. More data is required before evidence-based advocacy can be undertaken to sensitize policymakers and decision makers in government agencies to GBSS.

1.6 Rationale of the Study

A large number of studies have examined various aspects of the GBSS such as levels, trends, patterns, differentials, determinants and consequences (UNICEF, 2014; Bongaarts, 2013; UNFPA, 2012; Chung and Gupta, 2011; Fuse, 2010). With few exceptions, the findings of these studies show that there is evidence of GBSS at birth across the world, with substantial variations by countries. In addition, these studies also identify certain crucial factors that promote GBSS such as wider availability of technologies for sex selection, strong patriarchal society, preference for sons ensuring security for the ageing parents, existence of low fertility, and wider scope to abort unwanted pregnancies. Another aspect examined in the literature is the manifestation of GBSS including differences in child mortality, educational attainment, employment status, income attainment, nutritional status, and access to health care and health status by gender (Bharadwaj and Lakdawala, 2013; Mukherjee, 2013). Some of these studies also report that son preference is more common in the countries of southern Asia, western Asia and northern Africa. In contrast, there is evidence of a tendency towards daughter preference in parts of Latin America and the Caribbean, Southeast Asia, sub-Saharan Africa and the Ukraine (Fuse, 2010).

Another strand of literature looks at laws and policies related to GBSS (Bongaarts, 2013; Abrejo, Shaikh, and Rizvi, 2009; Miller, 2001). The findings of these studies suggest that laws related to prevention of GBSS at birth are more restrictive in developing countries. Some countries ban sex screening using ultrasound scanners (e.g. China) and prohibit using amniocentesis for sex selection (e.g. some states in India). In some countries, abortion is illegal. In addition to laws and policies, studies have focused on different intervention programmes taken by governments, NGOs and development partners to prevent GBSS (Jejeebhoy et al., 2015; Population Council and CREHPA, 2015; WHO, 2011; Stromquist, 1998). The authors cite inadequacies in the intervention programmes, note considerable weaknesses in implementation, and recommend that well-recognized and broad categories of initiatives should be undertaken to better translate policies and legislation into action. Examples of well-recognized and broad categories of initiatives include the following:

- Educational entitlements and cash transfers for girls, and a strong community mobilization programme intended to change norms about son preference and raise awareness about the law and the prohibition of gender-biased sex selection.
- Laws for more equitable patterns of inheritance, and measures such as direct subsidies at the time of a girl's birth, scholarship programmes, gender-based school quotas or financial incentives, or pension programmes for families with girls only.
- Supportive measures for girls and women, including measures to ensure improved access to information, health care services, nutrition and education; measures to improve their security.

Although studies have looked at various aspects of gender inequality in Bangladesh, very few studies (e.g. Talukder et al. 2014; Bairagi, 2001) have examined the dynamics of GBSS at birth. Thus, various aspects of GBSS such as long-term trends, differentials, determinants and consequences have received very limited to no attention in previous research in Bangladesh. There is also scant literature examining the existing laws and policies related to GBSS in Bangladesh. Finally, previous researches have not focused on the evaluation of existing

programmes and interventions taken by the government, NGOs and development partners in reducing gender inequality and improving women's development in Bangladesh, and such evaluations deserve particular attention.

To date in Bangladesh, GBSS and son preference have not been considered by the public, policymakers or the government as national issues warranting further investigation. GBSS is not perceived as being a national problem now or in the near future. There is an environment of denial in the country (Draft Narrative Country office Report Template: Global Program to Prevent Son Preference and the Undervaluing of Girls, UNFPA, July 2017). Against this backdrop, this study on GBSS in Bangladesh is a modest attempt to address the gaps in the literature.

1.7 Objectives of the Study

UNFPA is working with other development partners to strengthen evidence-based national policies and programmes addressing son preference, low value of girls and gender inequalities in countries where the prevalence of GBSS is evident, towards the following objectives:

Objective Outcome 1: The existing knowledge base on sex ratio imbalance through demographic, sociocultural, operational and policy research at national and regional levels **expanded**.

Objective Outcome 2: Multi-stakeholder and multi-sectoral national and regional capacity for advocacy, development, implementation and monitoring and evaluation of policies and programmes to address sex selection **strengthened**.

Objective Outcome 3: An inter-regional mechanism to monitor trends, exchange information and tools, and maintain dialogue among countries of prevalence through south-south and triangular cooperation **established**.

Keeping in mind these outcomes, Department of Population Sciences of the University of Dhaka reviews the situation of GBSS in Bangladesh aimed to meet the following objectives:

- Analyse trends and patterns of sex ratio at birth in Bangladesh;
- Measure differentials in sex ratio at birth in Bangladesh by division, district, place of residence, education, employment and parity;
- Identify determining factors that promote GBSS;
- Explain the consequences of gender-biased sex selection;
- Identify manifestations of gender inequality in Bangladesh;
- Examine existing laws and policies to reduce gender inequalities;
- Evaluate existing government and non-governmental intervention programmes and strategies for prevention of gender inequalities in Bangladesh;
- Suggest future directions for addressing GBSS in Bangladesh.

1.8 Description Data Sources

This research was conducted using a critical review of literature to examine the existence of various aspects of GBSS both at national and international levels, and analyzing secondary data. Regarding the literature review, a significant literature search was carried out using relevant articles, reports, publications and materials about advocacy activities conducted by

The government, NGOs, civil society organizations and social activists. The aim was to find evidence on sex selection before birth, sex-selective abortion, missing girls, trends and levels of sex ratio at birth, and sex preference. Literature was also reviewed to assess the possible existence of sex-selective abortion in Bangladesh (if evidence shows existence of it) and the factors leading to it, as well as the legal policies, acts and interventions related to abortion in this country.

Regarding secondary data analysis, the study also analyzed the levels, patterns, and trends in sex ratios at birth (both desired and observed) in Bangladesh by using data from the Bangladesh Demographic and Health Survey (BDHS), Multiple Indicator Cluster Survey (MICS), Sample Vital Registration System (SVRS) and Bangladesh Population and Housing Census.

The Department of Population Sciences engaged demographers from EngenderHealth, Population Services and Training Center (PSTC), Bangladesh Bureau of Statistics (BBS), Department of Women and Gender Studies, Institute of Statistical Research and Training (ISRT) University of Dhaka, Directorate General of Family Planning (DGFP), National Institute of Population Research and Training (NIPORT), Ministry of Health and Family Welfare, Department of Women Affairs (DWA) and Population Council in Bangladesh.

- Observed SRB was measured using six questions from different datasets including BDHS such as: (i) How many sons live with you? (ii) How many daughters live with you? (iii) How many sons are alive but do not live with you? (iv) How many daughters are alive but do not live with you? (v) How many boys have died (born alive but later died)? (vi) How many girls have died (born alive but later died)?
- Desired SRB was measured using the question from BDHS: (i) How many children would you like to be boys, (ii) How many would you like to be girls? and (iii) How many would it not matter if it's a boy or a girl?

The report explored the current situation of gender inequality in Bangladesh by division, place of residence, education, district, employment and parity. After analyzing the secondary data, the report was extended to explain the overall consequences of gender inequality in Bangladesh. In addition, the study suggests policy recommendations to establish a society based on gender equality. The report is a contribution to changing the mind-set of people towards women in Bangladesh. To achieve this goal, it is worthwhile to carry out extensive research on GBSS to inform and generate effective policy strategies. This study supports a better understanding of the dynamics of GBSS and sets the stage for conducting a more comprehensive future study on the issue.

1.9 Availability of Datasets

In this study, data primarily from the BDHS, MICS, SVRS and population census were used to examine the existence of GBSS in Bangladesh. the variables, as available in the data sources, that were used for analysis are listed below:

Data sources and variables	
Bangladesh Demographic and Health Survey 1993-2014*	Multiple Indicator Cluster Survey 2012-2013
Observed SRB	Observed SRB
Desired sex ratio	Divisions
Menstrual regulation	Place of residence
Miscarriage	Religion
Contraception	Regions
Divisions	Wealth quintile
Place of residence	
Mother's education	Sample Vital Registration System 1981-2016
Religion	Sex of the child
Husband's education	Live birth or still birth
Mother's occupation	Still alive or not
Birth order/parity	Age of the mother
Sex of the children	Mother's education
Regions	
Wealth quintile	Bangladesh Population and Housing Census 2011
	Ethnicity
	Religion
	Total number of live births
	Observed SRB
	Live births during last 12 months
	Sex of the live birth
* In a broad sub-national level (divisional level), sample size is sufficient enough to be representative, but at the district and sub-district level, sample size is not enough to represent the SRB as a reliable estimate.	

Chapter 2

Conceptual Orientation

CHAPTER 2: CONCEPTUAL ORIENTATION

2.1 Three Competing Hypothesis on Gender-Biased Sex Selection

This section explores Guilmoto's three hypotheses related to GBSS: adaptive behaviour, economic crisis and conflict, and specific set of local factors. The pioneering work done by Guilmoto (2009; 2015) provides a framework for understanding the basic factors such as sex selection technologies, son preference, and low fertility that contribute to skewed sex ratio at birth. The author's analysis was based on data from the Demographic and Health Surveys and Sample Vital Registration System in Asian countries.

2.1.1 Adaptive Behaviour

While progress in technology has brought many positive changes, it has also provided a means for people to skew births in favour of boys. Guilmoto (2009) examines the technology driven-revolution in gender discrimination. In the past, some traditional methods also favoured the birth of sons. These methods include prayer, going to pilgrimage, following a specific diet, the timing and type of intercourse, metrological and astronomical circumstances and performing special puja called "Pumsavana" by Hindus to influence the sex of a child. In addition, contraception can be used to stop childbearing once the desired family composition and sex ratio has been achieved. The advent of modern technology (e.g. ultrasound) has enabled parents to choose the particular sex of a child efficiently (Guilmoto, 2009). While surgical abortion is still the most common practice to avoid unwanted births, the use of pharmaceutical drugs to induce abortion is also spreading rapidly (Bongaarts, 2013). Guilmoto also notes that another example of adaptive behaviour is related to the prevalence of low fertility in many countries. For instance, Jiang et al. (2016) finds that women in China with a preference for sons are less likely to have a second child. They turned to sex-selective abortion to ensure that their first child was a son, and reduced the likelihood of a second child.

2.1.2 Economic Crisis and Conflict

The second hypothesis argues that economic crisis and conflict often lead to GBSS. During economic crisis and conflict, parents become more dependent on their children in general and on sons in particular. Even in normal times in Bangladesh, daughters leave their parental home after marriage and sons remain as the sole providers of security and livelihood for their parents, especially in old age. Thus, parents rely on constant financial, emotional and other kinds of support from their married sons' families. This necessity of support is further warranted where pension benefits and social security are very limited. Sons are considered as a source of protection and special affection for their parents (Mukherjee, 2013; Bharati et al., 2011; Abrejo et al., 2009; Guilmoto, 2009; Hesketh and Xing, 2006). Economic crisis amplifies the traditional dependency on sons.

The perception of required support during economic crisis and conflict may motivate parents to prefer sons instead of daughters, which may eventually lead to GBSS. In developing countries like Bangladesh, this situation is even more acute where wealth flows from children to parents. This is consistent with Caldwell's (1982) intergenerational wealth flow theory related to fertility analysis. Caldwell's (1982) theory was supported by Hussain et al. (2000). In their study, it was observed that in both India and Pakistan, sons contributed towards meeting the economic, social and emotional needs of parents in their old age.

2.1.3 Specific Set of Local Factors

The third hypothesis related to GBSS demonstrates that the existence of certain local factors sets the stage for GBSS to a large extent, namely a strong patriarchal mind-set, rigid gender roles, patriarchal systems of inheritance, patrilocal living arrangements, exogamy² and hypergamy³ that apply largely to women (creating dowry as an incentive to gain the best groom). These factors create unequal power relations between men and women where women's access and control over resources are more limited than men's. The eventual outcome is the lower level of women's empowerment at all levels of the society, and consequently, family and parents of girls experience lesser power and status. Thus, on the demand side, there is a higher preference for sons and social disincentives to bear daughters (UNICEF, 2014). Using data from China, India, Korea and Taiwan, Gupta (2010) shows that patrilineal and patrilocal practices undermine the social and economic value of girls. Further, land and property inheritance in the communities studied were traced strictly through male lineage; therefore, raising daughters was not an investment for the future, but wastage of family resources. Higher practice of dowry, hefty marriage expenses, ambiguous abortion laws and liberal abortion laws are among other factors in GBSS (Bhagat et al., 2012; Abrejo et al., 2009; Guilmoto, 2009; Hesketh and Xing, 2006; Hussain et al., 2000).

Reading the three hypothesis described above, the relative importance of these factors in determining GBSS varies substantially. For instance, use of technology for desired sex selection is relatively lower in Bangladesh compared with other countries in South Asia (Talukder et al. 2014). Nevertheless, gender-biased inequality due to economic crisis and conflict exists in Bangladesh. More importantly, the role of a specific set of local factors are promoting factors for GBSS in Bangladesh.

2.2 Determinants of Gender-Biased Sex Selection

This section expands on issues briefly covered above. Research suggests that the determinants of GBSS that exist in Bangladesh could eventually lead to skewed sex ratio at birth.

2.2.1 Access to Sex-Selection Technology

To a large extent, availability of technology to determine the sex of a fetus has made possible elevated sex ratios at birth. Bongaarts (2013) argued that access to such technologies had become increasingly available and consequently, sex ratios rose to many countries in general and Asia in particular due to the existence of higher preference for sons. For instance, 3.1 per cent of Indian women went through induced abortion when the technology was available in 1992-93; however, as soon as the government imposed the ban on the use of prenatal diagnostic techniques for the purpose of antenatal sex determination, the rate came down to 2.6 per cent in 1998-99 (Agarwal, 2012). Kabeer et al. (2013) established that South Asia was characterized by a culture of son preference, severe discrimination against daughters, and patriarchal norms, values and practices eventually leading to the phenomenon of "missing women". Availability of amniocentesis and ultrasound scanning has facilitated prenatal sex determination allowing parents to use abortion to manipulate the sex composition of the live

2. Exogamy is defined as the preferred or prescribed practice of marriage outside the kin group, the boundaries of which are often defined by the incest taboo (Oxford Dictionary of Sociology, 1998).

3. Hypergamy is defined as the the marriage customs in which the partners are of different social statuses (Dictionary of the Social Sciences, 2002).

births. All of these factors have contributed to the skewed sex ratio in favour of male children in countries such as China and South Korea (Kabeer et al. 2013). Although female infanticide (the deliberate killing of newborn female children) was practiced in some societies in the past, it was never practiced in Bangladesh.

In Bangladesh, the first ultrasound machine was set up in 1982. Ultrasound is available technology for prenatal sex detection in Bangladesh both in government hospitals and in private sector health facilities. However, ultrasound is not widely used for sex determination in Bangladesh (Huq et al., 2012). In this way, the use of technology varies substantially in Bangladesh compared with other South Asian countries. In their study on GBSS in South Asia, Population Council and Center for Research on Environment Health and Population Activities (CREHPA) (2015) reported that health care providers in Bangladesh dissuaded pregnant women and their families from insisting on knowing the sex of the fetus, and emphasized counselling regarding care during pregnancy; this was done to prevent the risk of abortion of an unwanted female fetus. Despite their efforts, disclosures of the sex of the fetus through ultrasonography have increased in the study areas (Population Council and CREHPA 2015). The technology is being used for medical diagnostic and antenatal care purposes, though some of these ultrasonography tests may have been used for detecting sex of the fetus. In addition, there could be some instances of sex determination through ultrasonography, but the number is unknown. This could be an area for further research.

Advanced prenatal diagnostic techniques (such as DNA testing) for sex detection within the early gestational period are also available in many countries. To detect fetal abnormalities through DNA testing, many countries perform advanced medical technologies such as amniocentesis and chorionic villus sampling (CVS), but these technologies are not intended for use in finding out the sex of the fetus. No evidence has been found regarding the use of amniocentesis or CVS for sex selection in Bangladesh (Talukder et al., 2014).

2.2.2 Preference for Sons

Preference for sons has been widely depicted as a pivotal factor for highly skewed sex ratio at birth in the context of developing countries (Talukder et al., 2014; Bongaarts, 2013; Huq et al., 2012). Hesketh and Xing (2006) mention three reasons for son preference among couples: sons have higher wage earning capacity particularly in an agricultural society; sons continue the family line; and sons are generally the recipients of inheritance. Considering the global variations in desire for sons and imbalance in proportions of sons, Bongaarts (2013) categorizes populations into the following four groups, concluding that sex ratios at birth are only elevated in the last group:

- Little or no son preference, i.e. normal sex ratio at birth, sex ratio of last birth (SRLB), desired SRB (much of Latin America, Kerala);
- Son preference but little or no implementation, i.e. normal SRB and SRLB, high desired SRB (Mauritania, Senegal);
- Son preference and contraceptive stopping behaviour, but little or no sex-selective abortion, i.e. normal SRB, high desired SRB, high SRLB (Nepal, Bihar, Madhya Pradesh, Uttar Pradesh);
- Son preference and significant use of sex-selective abortion, i.e. high SRB, high desired SRB, high SRLB (Armenia, Azerbaijan, India, Haryana, Punjab).

According to various studies, son preference is more common than daughter preference in the countries of southern Asia, western Asia, and northern Africa (Fuse, 2010). The percentage of women with a son preference is highest in Pakistan, at 35.3 per cent; followed by Nepal (29.2 per cent), India (22.1 per cent), Bolivia (17.5 per cent), Honduras (16.9 per cent), Cambodia (14.5 per cent), Philippines (14.5 per cent) and Bangladesh (13.8 per cent). In societies where couples have the resources and means to achieve their reproductive goals (i.e. access to modern birth control methods and to sex-screening technology), son preference is likely to translate into behaviours such as the abortion of fetuses of the undesired sex, or the cessation of childbearing after the desired sex composition of children has been achieved. These behaviours are found in countries where the fertility level is comparatively lower and use of contraceptives is higher. For example, Chung and Das Gupta (2007) find that son preference has exerted a strong influence on the practice of induced abortion in South Korea.

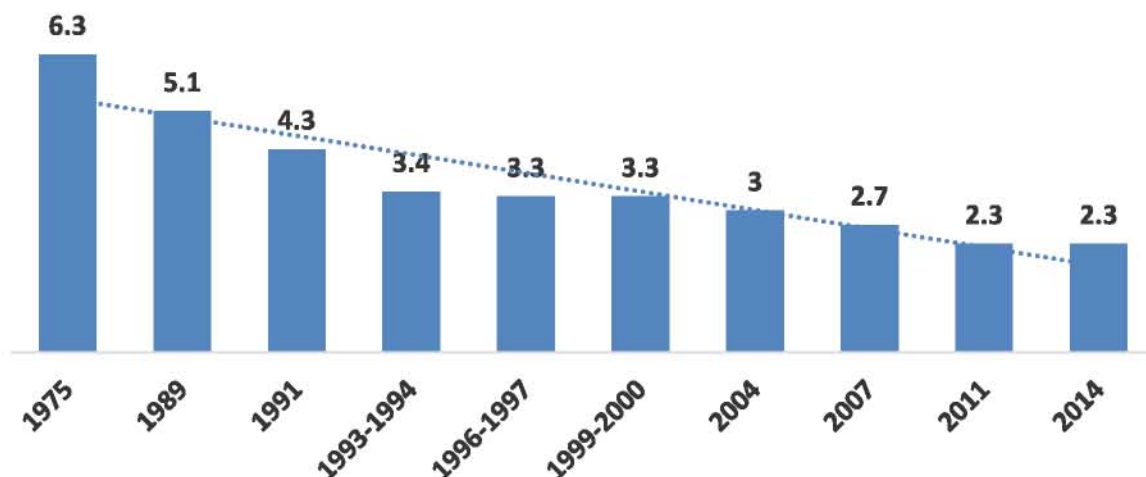
In connection with this, Talukder et al. (2014) says that to some extent religion promotes son preference for family inheritances because sons inherit twice the amount of assets than daughters. The differentials in son preference across religions (Muslims and Hindus) were not statistically significant, suggesting that sociocultural context, poverty and stereotyped attitudes towards gender roles are the major determinants of son preference in Bangladesh (Talukder et al., 2014).

With increasing socioeconomic development, there have been some positive changes in attitudes moving away from stereotyped gender roles and, at the same time, a declining trend in preference for sons over time in Bangladesh. The BDHS 1993-2014 shows evidence for the trend (figures 3-17 and 3-18). Findings from recent studies (Talukder et al., 2014; Huq et al. 2012) show that parents try to give equal attention to both sons and daughters when investing resources in health, education and human resources. Nevertheless, Talukder et al. (2014) argue that there is still a presence of son preference among couples in Bangladesh, because couples with two daughters and no son are more likely to have a subsequent pregnancy than couples with two or more children and at least one son.

2.2.3 Low Fertility

Low fertility, considered a benefit for countries struggling to meet the needs of rapidly growing populations, may contribute to GBSS. Globally, the total fertility rate (TFR) has declined from 4.5 children per woman in 1970-1975 to 2.5 children in 2010-2015 and further projections show that it will decline to 2.4 children by 2025-2030 (United Nations, 2015). Bangladesh is one of the most-cited countries for its success in achieving fertility decline. The TFR in Bangladesh has declined dramatically from a high level of 6.3 births per woman in the mid-1970s to 2.3 children in 2014 (figure 2-1).

Figure 2-1: Trends of Total Fertility Rate in Bangladesh: 1975-2014



Source: National Institute of Population Research and Training (NIPORT) et al., 2016

A strong family planning programme brought about significant fertility decline in Bangladesh, even at a time when social and economic development was at a low level and not showing many signs of improving (Khuda and Hossain, 1996). Against all odds, an intensive family planning programme was followed by a substantial increase in the use of contraception and the consequent fertility decline. The speed with which reproductive behaviour changed in Bangladesh, especially in the absence of changes in social and economic development, strengthens the argument that the family planning programme has had a considerable influence on fertility decline (Freedman, 1995). The argument is that when fertility is low, people desire to have sons when they plan to have fewer children.

Based on the results of a longitudinal study of Matlab in Bangladesh, Bairagi (2001) reported that the effect of son preference on abortion and fertility behaviour became stronger with declining fertility, because couples strive to have a certain number of sons and daughters within a smaller family size. Therefore, the use of prenatal strategies reflects higher sex ratios at birth, and women's fertility behaviour at low parities are also biased towards son preferences.

2.2.4 Wider Scope to Abort Unwanted Pregnancies

Since there is an unmet need for family planning commodities (12 per cent as per the BDHS 2014) coupled with indifference in communication between couples for childbearing, there are incidences of unintended/ unwanted/ unplanned pregnancies (0.7 children on average per woman as per the BDHS 2014). These unintended pregnancies, in many cases, result in either in unsafe abortion or clandestine abortion in the name of MR or illegally induced abortion. The availability of drugs over the counter for MR and the access to ultrasonography widens the scope for aborting the unintended/ unwanted/ unplanned pregnancies.

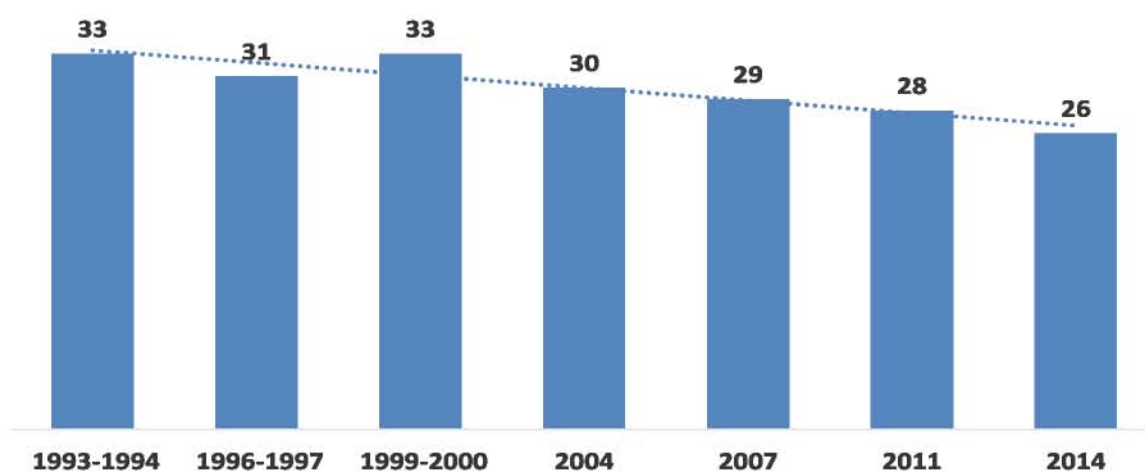
The prevalence of unwanted pregnancy is regarded as a serious public health issue both in developed and developing countries. Unwanted pregnancy has wide negative consequences on physical and psychological health both for mothers and infants, as well as impacts on various socioeconomic and cultural aspects of public health (Bahk et al., 2015; Brown and

Eissenberg, 1995; Barrett and Wellings, 2002). For this reason, unwanted pregnancy has received attention among policymakers and developing partners during last few decades. According to the Population Reference Bureau's estimate (2009), about 200 million cases of unintended pregnancies occur every year worldwide. A quarter of the unintended pregnancies end in unsafe abortion, which is one of the leading causes of maternal mortality globally (Zuehlke, 2009).

Findings from previous research show that unwanted pregnancies are associated with higher rates of abortion and obstetric complications, poor utilization of maternal healthcare services, and postpartum depression and stress. In addition, unwanted pregnancies are associated with significantly increased risk of low birth weight (LBW) and preterm births (PTB) among children and delayed and/or poor breastfeeding behaviour among mothers (Abbasi et al., 2013; Shah et al., 2011; Gipson, Koenig, and Hindin, 2008). Unwanted pregnancy and unsafe abortion pose significant barriers to achieving the Sustainable Development Goals related to maternal and child health (Bishwajit et al., 2017).

In the five years before the latest Bangladesh Demographic and Health Survey (BDHS, 2014), almost three in four births were planned, 15 per cent were mis-timed and 11 per cent were unwanted. The percentage of unwanted births decreased 12.12 per cent from 1993-94 to 2007 and 10.34 per cent from 2007 to 2014, while the percentage of planned births increased from 71 to 74 per cent in the same period. The percentage of wanted births decreases and the percentage of unwanted births increases with increasing birth order, a pattern similar to that found in previous surveys. Eighty-six per cent of first-order births are wanted at the time they were conceived, but 26 per cent of third-order births and 42 per cent of fourth and higher-order births were not wanted at all. Mis-timed births are most common among second-order births (21 per cent), and then decline with third- and fourth-order births (National Institute of Population Research and Training et al., 2016). Figure 2-2 illustrates the downward trend in unwanted births, with a decline from 33 per cent in 1993-94 to 26 per cent in 2014.

Figure 2-2: Trends of Unwanted Births in Bangladesh, 1993-94 to 2014 (%)

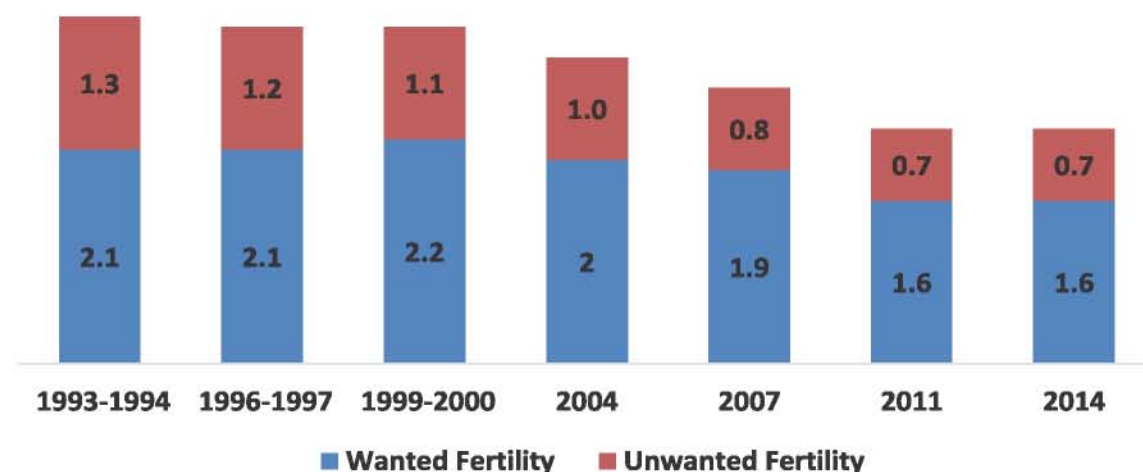


Source: National Institute of Population Research and Training (NIPORT) et al., 2016

The proportion of planned births in Bangladesh is the highest (78 per cent) among mothers who give birth before age 20. Mis-timed births are also more common among mothers who give birth before age 20 than among older mothers. The percentage of unwanted births

increases with mother's age at birth, rising from less than one per cent among mothers who give birth before age 20, to 40 per cent among mothers who gave birth at age 35 to 39 (National Institute of Population Research and Training, et al., 2016). Figure 2-3 shows the changing patterns of wanted fertility and unwanted fertility in Bangladesh from 1993 to 2014.

Figure 2-3: Trends of Fertility Patterns in Bangladesh, 1993-94 to 2014



Source: National Institute of Population Research and Training (NIPORT) et al., 2016

Since abortion is not legal in Bangladesh, prevalence of abortion cannot be identified directly, but it can be estimated using results from small-scale studies and discussion in some literature. It is widely perceived that a large number of abortions in Bangladesh are carried out under the name of MR (Hossain et al. 2012), within 8 to 10 weeks of the last menstrual period (LMP). Menstrual regulation is a procedure used to bring on menses in women who have missed their menstrual cycle. Existing government policy allows a woman to go through an MR procedure within 8 weeks from the first day of the last menstrual period by a paramedic (a trained family welfare visitor) or within 10 weeks by a trained medical doctor (Chowdhury and Moni, 2004). Findings from the 2014 BDHS showed that 45 per cent of ever-married and 46 per cent of currently married women know about MR. Among those who have ever heard of MR, 12 per cent of ever-married and 13 per cent of currently married women have ever used it. The use of MR increases among the ever-married and currently married women with the increase of age (National Institute of Population Research and Training, et al., 2016).

Contraception may also be used as a mechanism to have more sons than daughters. Bongaarts (2013) argues that the contraceptive use rate of couples could vary by the number of sons and daughters they already have. In countries with a son preference, the proportion of women using contraception is higher after the birth of sons than after the birth of daughters (Retherford and Roy 2003; Arnold 1997). Bongaarts (2013) adds that contraception could not change the sex ratio of all births in a population; however, it can help to ensure that a family has at least the number of sons desired while minimizing the total number of children the couple must bear to achieve its son preference.

2.3 Conceptual Framework for Understanding the Dynamics of Gender-Biased Sex Selection

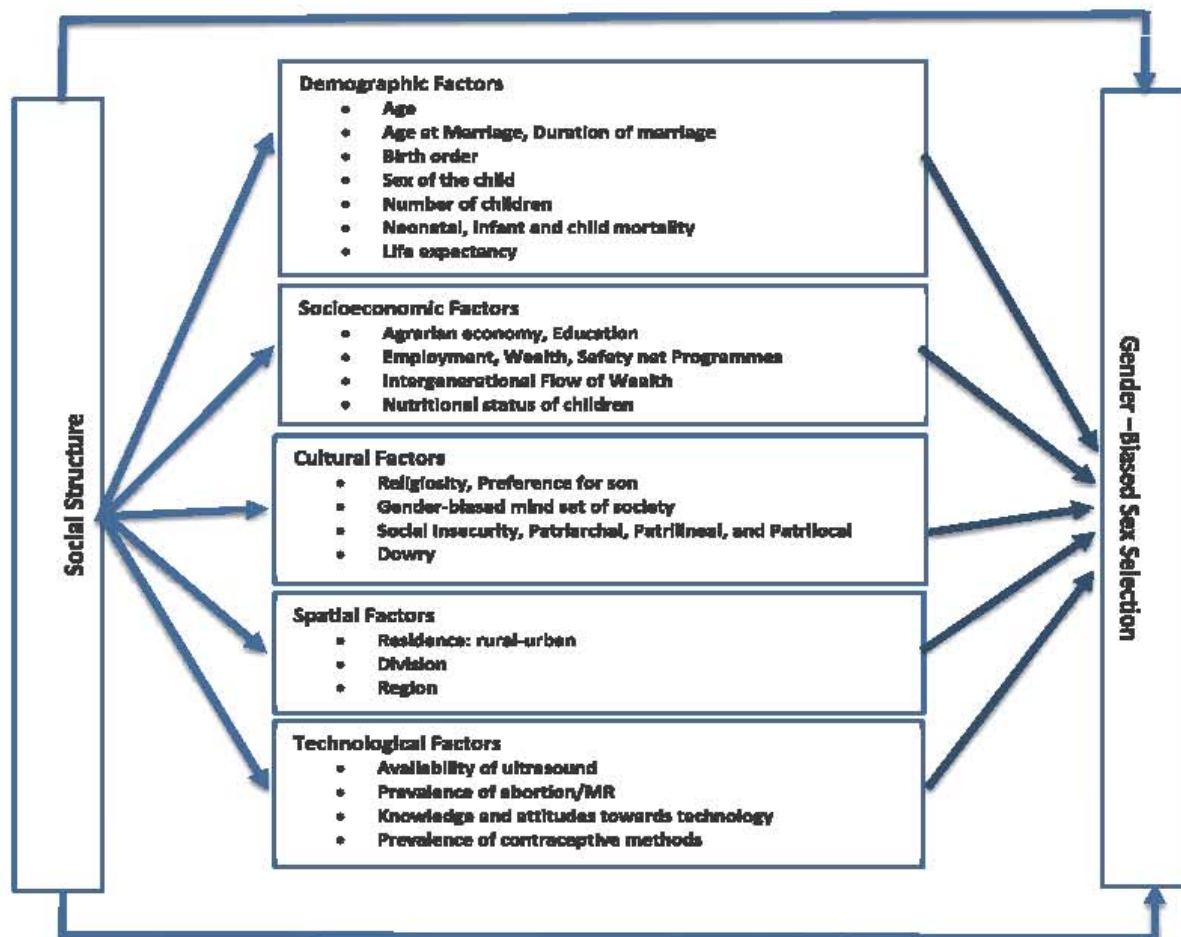
The discussion above presents an interesting story about the dynamics in society that may lead to GBSS. It provides context to improve understanding. Based on the review of literature, one can understand that the GBSS is the product of a multiplicity of factors. Attempts have been made to explain the phenomenon of GBSS in countries where the practice is the most prevalent.

Based on the literature review a conceptual orientation is proposed to formulate a framework. UNFPA and UNICEF (2014) developed a conceptual framework for examining GBSS by taking sociocultural and technological factors into account. The framework did not consider many other aspects of society, however. For the secondary analysis, a different approach is proposed, with the objective of offering a more meaningful and useful explanatory framework. The conceptual framework is centred around the three competing hypotheses proposed by Guilмото (2009 and 2015): adaptive behaviour, economic crisis and conflict and specific set of local factors (see section 2.1), which are operationalized into five components of social structure that lead to GBSS: demographic, socioeconomic, cultural, spatial and technological factors.

- Cultural factors that influence GBSS are son preference, religiosity, gender-biased mindset, social insecurity and a social structure that is patriarchal, patrilineal and patrilocal.
- Spatial factors include place of residence, administrative divisions and regions based on specific characteristics.
- Technological factors that could potentially lead to GBSS include availability of ultrasound, prevalence of abortion/menstrual regulation, contraceptive methods and knowledge and attitude towards technology.

This is a conceptual orientation based on the literature review, portrayed as a conceptual framework in a schematic diagram. Figure 2-4 is a schematic portrayal of an analytical model that explains the dynamics in a society that lead to GBSS.

Figure 2-4: Conceptual Framework for Understanding the Dynamics of Gender-Biased Sex Selection in Bangladesh



The conceptual framework assumes that demographic factors such as age at marriage, duration of marriage, sex of the child, birth order, child mortality and life expectancy play an important role in determining the extent to which GBSS will occur in the society. For example, men believe that girls married at younger ages may have a greater likelihood of giving birth to more sons, thus perpetuating son preference and appearing to fulfill the husband's desire. Longer duration of marriage and higher birth order also play significant roles in increasing a couples' desire to have more sons over daughters (Jennings et al., 2012). Biologically, women's life expectancy is higher than males, which might motivate women to desire sons rather than daughters, to reduce their vulnerabilities during widowhood (Case and Paxson, 2005; Kalben, 2000).

Regarding socioeconomic factors, Bangladesh society is characterized by poverty with agrarian economic relations, a low-income occupational structure where wealth flows from children to parents, lack of adequate social safety net protection, and insecurity during older ages (Caldwell, 1982). The conceptual framework assumes that unequal hierarchical relations and a sense of insecurity forces people to desire sons, especially among couples with lower socioeconomic status (Kabeer et al. 2013). Higher prevalence of stunting and wasting among females compared to males can be considered as one of the manifestations of son preference leading to GBSS (Hesketh and Xing, 2006; Bongaarts, 2013).

Concerning cultural factors, the assumption is of a society characterized by patriarchy with a male-dominated household system where women just move from one dominance to another (from father and brother to husband and in-laws), family names and property inheritance are maintained through men, and women's residence is selected in line with the husband's address (Huq et al., 2012). This patriarchy is translated into a greater emphasis on preference for sons over daughters (Singh-Sengupta, 2006). Moreover, religiosity could motivate couples to prefer sons to perform some religious rights and rituals. Stereotyped social attitudes towards women with the strong belief that sons are needed for smooth functioning of a society, dowry practices, and social insecurity for girls facilitate avoidance of births that are females which also shows preference for son in the society (Ferdaush and Rahman, 2012; Islam and Chowdhury, 2012).

Violence against women is still common in Bangladesh despite the existence of laws such as the Women and Children Violence Protection Law of 2000; Domestic-Violence Prevention and Protection Rules of 2013 and Domestic Violence Act of 2010. Women's inferior position in society may push them into the trap of poverty, where they become economic and social liabilities to their families, creating further cycles of abuse and oppression. Husbands, ex-husbands, intimate partner, non-partners at home and outside commit violence against women including physical abuse, rape, rape followed by death, forced or induced abortion, forced prostitution and sexual harassment (Farouk, 2005). The rate of reported violent acts against women has risen consistently, especially since the early 1990's (BBS, 2016, Farouk, 2005). While the minimum official age at marriage for girls is 18 years, the most recent Bangladesh Demographic and Health Survey finds that the median age at marriage for girls is only 16.1 years (NIPORT et al., 2014).

This conceptual framework also assumes that availability and knowledge of, and attitude towards, modern technology such as ultrasound to detect sex of the fetus enables couples to have the desired sex of the child through avoiding unwanted births by menstrual regulation or abortion (illegal in Bangladesh) or use of over the counter drugs (Noor, 2011). The use of modern contraceptive methods tends to facilitate higher observed son preference (Chung and Das Gupta, 2007; Talukder et al., 2014; Guilimoto, 2009). Finally, the conceptual framework is based on the premise that there are variations in demographic, socioeconomic, cultural and technological factors across administrative divisions, regions and place of residence (BBS, 2013; Bangladesh Planning Commission, 2015). The expectation is that there will be considerable variations in GBSSs in Bangladesh across divisions, regions and place of residence.

It should be noted that causal ordering of the factors has not been established at this time, because, as noted above, this is a conceptual orientation based on the literature review, portrayed as a conceptual framework in a schematic diagram. Causality has been assumed in a general form for the understanding of the phenomenon of GBSS. As the data examination and evaluation progress, the picture will become sharper. At that point, setting up a clear causal ordering of factors is possible. However, statistical causal ordering of the model will still be out of reach for this kind of situation analysis. Only when an empirical study is designed, based on the objectives of the study and operationalization of the factors, can the statistical causal analysis be ordered with the execution of structural equation modelling.

Chapter 3

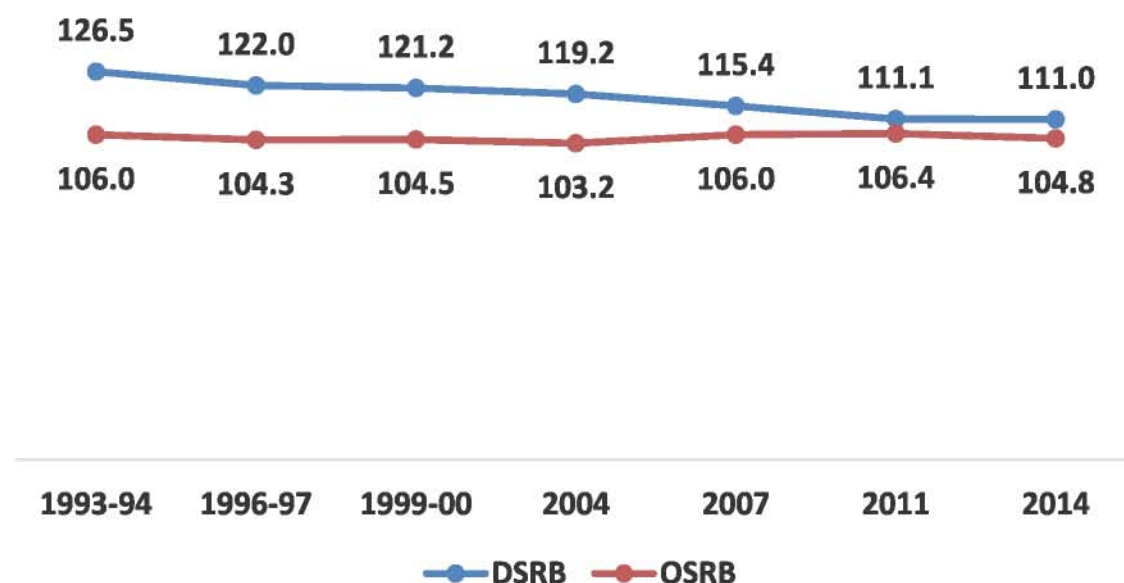
Levels, Trends and Patterns of Sex Ratio at Birth

CHAPTER 3: LEVELS, TRENDS AND PATTERNS OF SEX RATIO AT BIRTH

3.1 Trends in Desired and Observed Sex Ratios at Birth in Bangladesh

Sex ratio at birth indicates the number of male births per 100 female births. Findings from the Bangladesh Demographic and Health Surveys show that the desired SRB is consistently higher in Bangladesh compared with the observed SRB during the period of 1993-94 to 2014. Both sex ratios at birth declined during the same period: the desired SRB declined from 126.5 to 111.0 and the observed SRB declined from 106.0 to 104.8 (figure 3-1). The decline occurred due to reduction in fertility, poverty reduction, increase in education, women's development and empowerment, etc., which resulted from different initiatives taken by the government, NGOs and international development partners.

Figure 3-1: Trends in Desired and Observed Sex Ratio at Birth in Bangladesh: 1993-94 to 2014



Source: Analysis of BDHS Data, 1993-94 to 2014

3.2 Differentials in Sex Ratio at Birth in Bangladesh

3.2.1 Divisional Variations in Sex Ratio at Birth

Table 3-1 presents the divisional variations of trends in both desired and observed sex ratios at birth from 1993 to 2014. In the case of desired SRB, the overall trend has declined in all divisions. There were substantial differences in the sex ratios at birth (both desired and observed) by divisions in Bangladesh. Sylhet and Barishal divisions had the highest desired sex ratios at birth (114.9 and 114.3, respectively), and Rajshahi and Rangpur had the lowest (108.3 and 108.8, respectively) in 2014.

Table 3-1 : Trends in Desired and Observed Sex Ratios at Birth, 1993-1994 to 2014

Sex Ratio	1993-94	1996-97	1999-2000	2004	2007	2011	2014
Desired sex ratio at birth (DSRB)							
Barishal	133.0	129.0	126.8	124.2	119.7	113.6	114.3
Chattogram	131.4	127.4	122.3	122.6	120.2	112.8	112.1
Dhaka	129.1	120.0	122.4	119.2	115.2	111.9	110.0
Khulna	115.6	120.0	117.1	114.3	107.0	108.4	109.6
Rajshahi	123.2	117.7	118.2	116.1	113.5	107.1	108.3
Rangpur*	-	-	-	-	-	110.2	108.8
Sylhet		130.1	124.0	120.7	116.5	114.2	114.9
Number of cases (n)	9,630	9,126	10,537	11,439	10,995	17,839	17,863
Observed sex ratio at birth (OSRB)							
Barishal	108.7	106.8	102.1	98.9	107.1	107.0	105.6
Chattogram	108.5	104.5	108.7	102.9	105.0	104.5	106.4
Dhaka	107.4	102.9	103.3	103.6	106.4	106.0	106.6
Khulna	104.3	101.0	103.2	103.5	110.0	105.6	98.6
Rajshahi	101.9	103.1	103.9	106.0	102.1	105.2	102.6
Rangpur	-	-	-	-	-	107.0	105.5
Sylhet**		111.3	104.2	102.2	107.0	110.1	107.1
Number of cases (n)	8,550	8,102	9,371	10,146	9,849	16,025	16,079

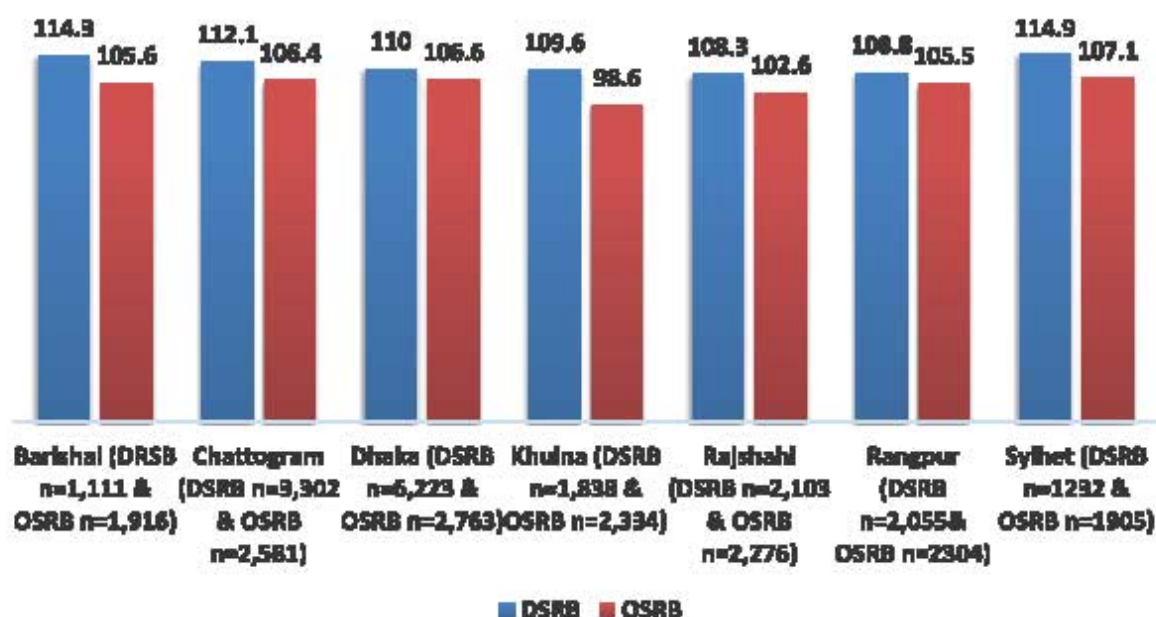
Source: Analysis of BDHS data, 1993-94 to 2014

* Rangpur was not a division before 2010.

**Sylhet division was formed in 1995; before that it was part of Chattogram division.

Sylhet and Dhaka divisions had the highest observed sex ratios at birth (107.1 and 106.6, respectively) and Khulna and Rajshahi had the lowest observed sex ratios at birth (98.6 and 102.6, respectively) in 2014 (figure 3-2).

Figure 3-2: Desired and Observed Sex Ratios at Birth in Bangladesh in 2014

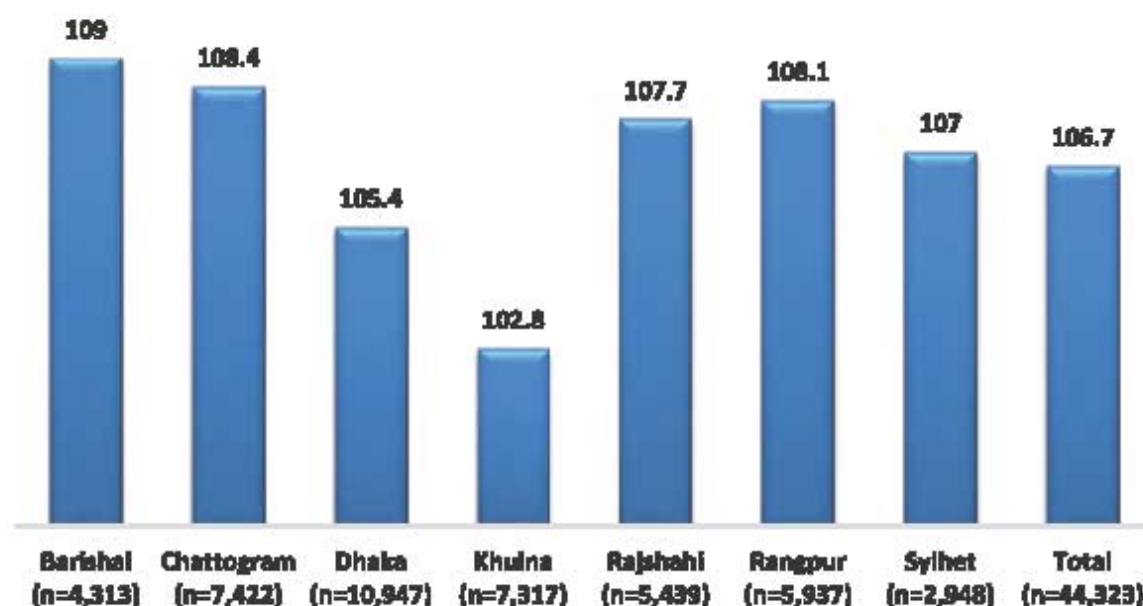


Source: Analysis of BDHS Data, 2014

Divisional Variations Based on MICS Data

Using data from the Multiple Indicator Cluster Survey 2012-2013, the overall observed SRB in Bangladesh is estimated at 106.73. Divisional variations show that Barishal had highest observed SRB (109.00) followed by Chattogram (108.42) and Rangpur (108.17). On the other hand, this sex ratio was lowest in Khulna division (102.88) followed by Dhaka (105.42).

Figure 3-3: Observed SRB by Division in Bangladesh in 2012-2013

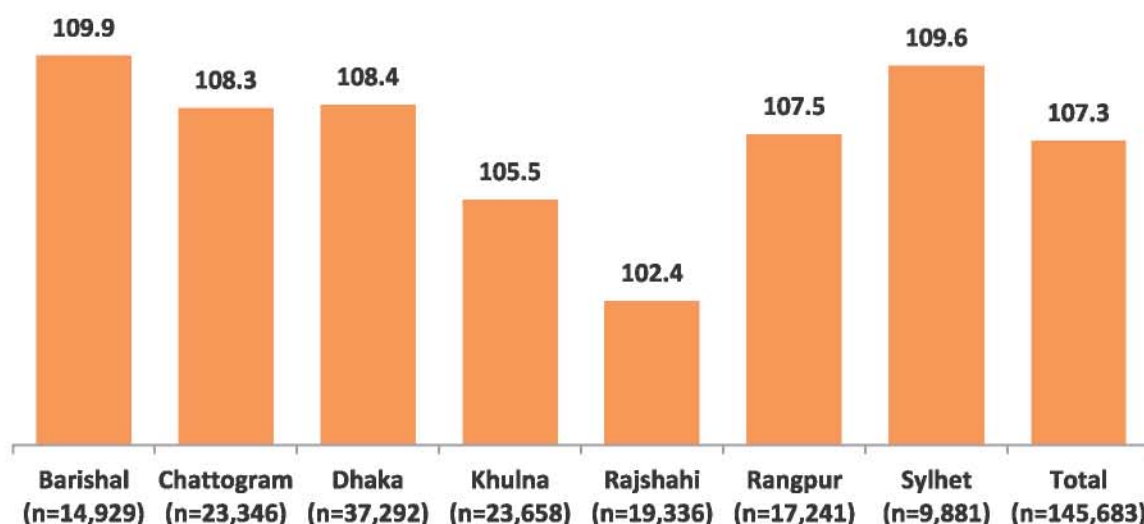


Source: Analysis of MICS Data, 2012-2013

Divisional Variations Based on Population Census of Bangladesh, 2011

Divisional level variations in sex ratio at birth were further confirmed by data from the Bangladesh Population and Housing Census of 2011. Findings from the census show an overall sex ratio of 107.3, with the highest observed SRB in Barishal division (109.9) and the lowest in Rajshahi division (102.4) (figure 3-4).

Figure 3-4: Observed SRB by Division Based on the Bangladesh Population and Housing Census 2011



Source: Analysis of Bangladesh Population and Housing Census 2011

Divisional Variations Based on SVRS Data

Findings based on the data from the Sample Vital Registration System show huge variations in observed sex ratios at birth by division. For example, observed SRB in 2016 was the highest in Khulna division (114.5) which was followed by Chattogram division (112.2), Sylhet (110.1), Rangpur (106.7), Barishal (106.6), Rajshahi (104.2) and Dhaka (101.4) (table 3.2). The divisional variations in observed SRB suggest that the factors associated with the skewed SRB operate differently across divisions. This finding is consistent with previous research conducted by Population Council and Center for Research on Environment Health and Population Activities (2015). In this study, the authors noticed considerable variations in SRB between Cumilla and Rangpur.

Table 3-2 : Observed SRB in Bangladesh Using SVRS Data: 2010-2016

Division	Sex Ratio at Birth						
	2016	2015	2014	2013	2012	2011	2010
Barishal	106.6	74.5	94.9	96.7	103.3	103.5	109.2
Chattogram	112.2	95.8	108.6	106.7	111.3	102.2	108.8
Dhaka	101.4	97.9	97.0	106.4	106.0	100.5	104.2
Khulna	114.5	107.6	101.4	110.2	104.1	104.8	107.0
Rajshahi	104.2	101.4	98.4	101.8	109.4	105.6	118.3
Rangpur	106.7	94.3	105.3	105.5	106.8	100.7	108.5
Sylhet	110.1	104.8	100.0	109.6	122.5	100.5	102.8
Total	108.1	96.5	100.6	105.8	107.5	102.5	108.1
Number of cases (n)	17,965	17,675	13,173	13,220	15,482	20,590	20,686

Source: Analysis of SVRS Data, 2010-2016

3.2.2 Regional Variations in Sex Ratio at Birth

Although Bangladesh is a small country, considerable variations exist between different regions in terms of socioeconomic conditions, religiosity, security issues and other cultural characteristics. For instance, Sylhet and Chattogram divisions are characterized by higher rates of religiosity (Islam, 2015). These factors could exert differential impact on the sex ratio at birth. For this reason, divisional variations were further categorized into three regions: Eastern (Sylhet and Chattogram), Middle (Dhaka and Barishal) and Western (Rangpur, Rajshahi, Khulna). Since the total fertility rate and the prevalence of child marriage differs between the Eastern and Western regions, this could be the possible cause of variation regarding observed SRB. Religious belief may be another explanation for the variation by region. For example, in Sylhet division, people are relatively more conservative than other parts of Bangladesh. Child marriage is low in Sylhet division, but TFR is high. Fluctuations of observed SRB by division are high. To have a better understanding of the fluctuations, and to aid the comparison of SRB, this study squeezes even (vs. odd) divisions into three regions (Talukder et.al. 2014). Table 3-3 shows the trends in desired SRB and observed SRB by region during two decades from 1993 to 2014. The differentials in SRB (both desired and observed) were even more pronounced by regions. In 2014, the Eastern region of Bangladesh (Sylhet and Chattogram) had much higher sex ratios at birth, both desired (113.3) and observed (106.7), than that of the Western region (Rangpur, Rajshahi and Khulna), 108.9 and 102.3, respectively (figure 3-5).

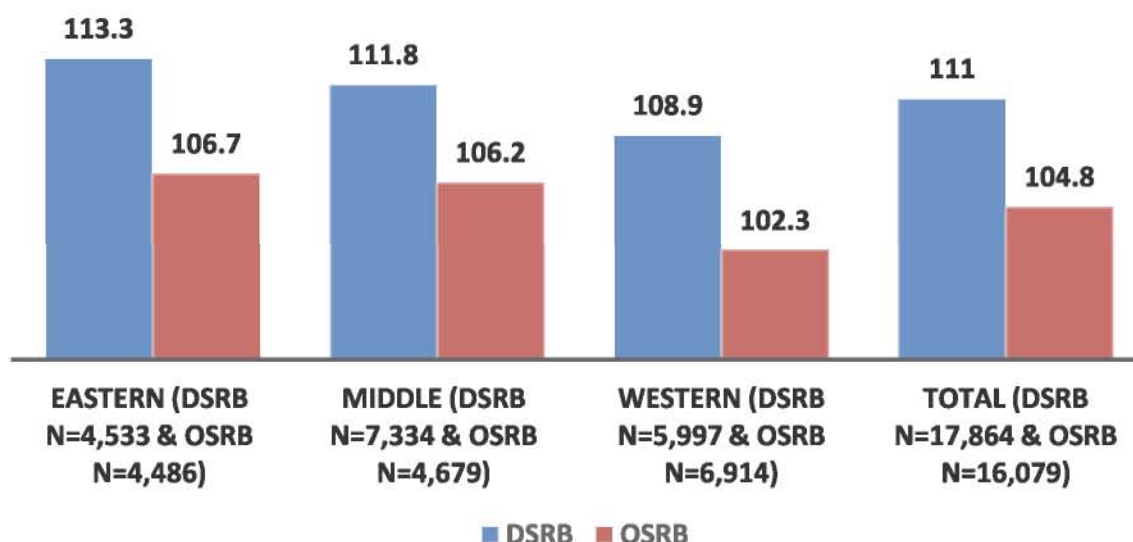
Table 3-3: Trends in Desired and Observed Sex Ratios at Birth by Region, 1993-1994 to 2014

Sex Ratio	1993-94	1996-97	1999-2000	2004	2007	2011	2014
Desired sex ratio at birth (DSRB)							
Eastern	131.38	128.42	122.97	121.94	118.55	113.34	113.25
Middle	130.12	122.33	123.61	120.84	116.88	112.57	111.75
Western	120.63	117.46	117.74	115.37	110.58	108.52	108.88
Number of cases (n)	9,630	9,126	10,537	11,439	10,995	17,839	17,863
Observed sex ratio at birth (OSRB)							
Eastern	108.54	107.23	106.99	102.65	105.89	106.97	106.72
Middle	107.74	103.91	102.98	101.88	106.66	106.39	106.16
Western	102.72	102.46	103.59	105.01	105.52	105.94	102.25
Number of cases (n)	8,550	8,102	9,371	10,146	9,849	16,025	16,079

Source: Analysis of BDHS Data, 1993-94 to 2014

(East: Sylhet and Chattogram; Middle: Dhaka and Barishal; West: Rangpur, Rajshahi, Khulna)

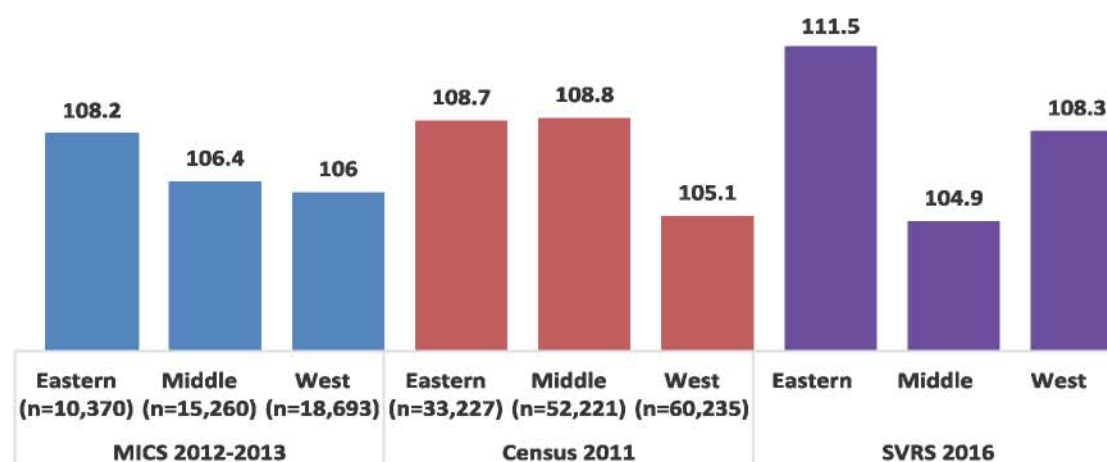
Figure 3-5: Desired and Observed Sex Ratio at Birth in Bangladesh in 2014



Source: Analysis of BDHS Data, 2014

The variations in desired and observed SRB by region were also confirmed by other sources of data for Bangladesh such as the MICS 2012-13, population census of 2011 and Sample Vital Statistics 2016. Findings from the MICS 2012-2013, showed that Eastern regions (108.2) had highest observed SRB compared to Western region (106.0) whereas there was mentionable difference between the Middle and Western regions (figure 3-6).

Figure 3-6: Observed SRB by Region Based on Different Data Sources in Bangladesh

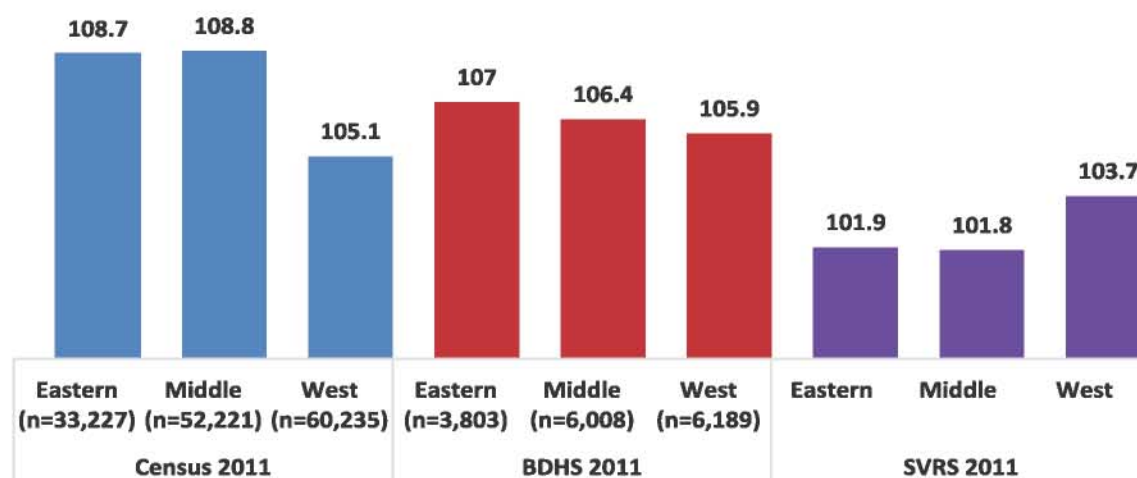


Source: Analysis of MICS 2012-2013; Census 2011; and SVRS 2016 Data Sets

Figure 3-7 presents the observed SRB in 2011 from the BDHS, SVRS and Bangladesh

Population and Housing Census. It should be mentioned that 2011 is the latest population census year. To ensure comparability, 2011 was taken as the base year. The Eastern region had the highest observed SRB according to the BDHS and census data, whereas the SVRS data shows that the observed SRB was higher in the Western region compared with other parts of Bangladesh.

Figure 3-7: Observed Sex Ratio at Birth in 2011 by Region Based on Different Data Sources in Bangladesh



Source: Analysis of Census, 2011; BDHS 2011 and SVRS, 2011 Data Sets

3.2.3 Variations in Sex Ratio at Birth by Place of Residence (Rural-Urban)

The trend in desired and observed SRB by place of residence during the period from 1993-94 to 2014 is shown in table 3.4. The desired SRB was consistently higher in rural areas, whereas the observed SRB was consistently higher in urban areas during the same period, with an exception in 1993-94. Generally, rural people are dependent on the agriculture-based economy and in this agrarian economy the demand for male labourers is comparatively

higher than for female. The common perception is that males are more productive for agricultural work than females and this might be a possible explanation behind the higher son preference among people living in rural areas. For instance, in 2014 desired SRB in rural areas was 111.96 compared to 109.08 in urban areas, whereas the observed SRB was 105.90 in urban areas compared with 104.27 in rural areas of Bangladesh (table 3-4).

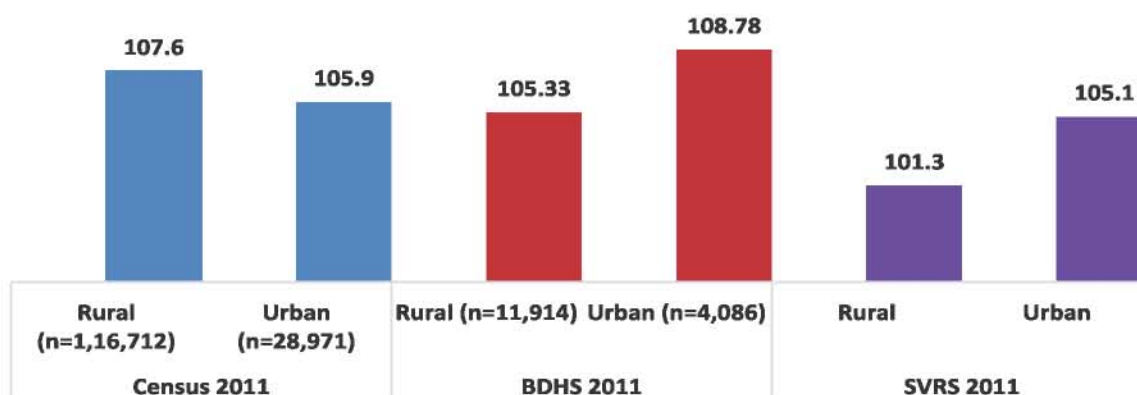
Table 3-4: Trends in Desired and Observed Sex Ratios at Birth by Place of Residence in Bangladesh: 1993-94 to 2014

Sex Ratio at Birth	Year						
	1993-94	1996-97	1999-2000	2004	2007	2011	2014
Desired sex ratio at birth (DSRB)							
Urban	122.35	118.55	116.35	114.38	110.82	108.49	109.08
Rural	122.60	122.60	123.16	121.63	117.88	112.33	111.96
Number of cases (n)	9,630	9,126	10,537	11,439	10,995	17,839	17,863
Observed sex ratio at birth (OSRB)							
Urban	104.38	106.98	107.48	101.60	108.09	108.78	105.90
Rural	106.28	103.93	103.39	103.89	104.97	105.33	104.27
Number of cases (n)	8,550	8,102	9,371	10,146	9,849	16,025	16,079

Source: Analysis of BDHS data, 1993-94 to 2014

Observed SRB by place of residence is shown in figure 3-8 using the same year (2011) with different sources of data, including the BDHS, SVRS and the population census. The observed SRB was higher in urban areas according to BDHS 2011 (108.78) and SVRS 2011 (105.1) than the rural areas. On the other hand, Bangladesh Population and Housing Census 2011 revealed the reverse pattern compared to other data sources.

Figure 3-8: Observed Sex Ratio at Birth in 2011 by Place of Residence Based on Different Data Sources in Bangladesh



Source: Analysis of Census 2011, BDHS 2011 and SVRS 2011 Data sets

3.2.4 Educational Variations in Sex Ratio at Birth

Table 3.5 shows the trend in desired and observed SRB by mother's education. Women with less education consistently had higher desired SRB than women with more education during the period 1993-94 to 2014. On the other hand, there was a U-shaped pattern in observed sex ratios at birth by mothers' education during the same period. The U-shaped pattern indicates the tendency of having higher prevalence in two extreme points compared to middle points. In 2014, for instance, the observed SRB among women with no education was 106.1, with primary education 104.7, with secondary education 102.6, and with higher than secondary education 108.48.

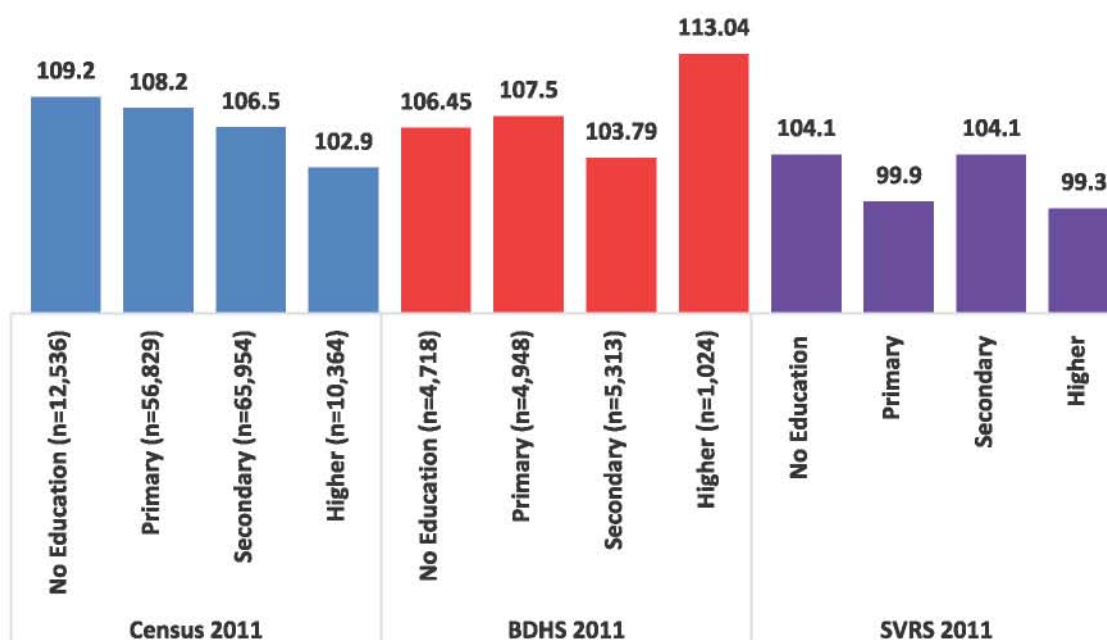
Table 3-5: Trends in Desired and Observed Sex Ratios at Birth by Mother's Education in Bangladesh, 1993-1994 to 2014

Sex Ratio at Birth	Year						
	1993-94	1996-97	1999-2000	2004	2007	2011	2014
Desired sex ratio at birth (DSRB)							
No education	129.06	124.23	125.24	123.82	119.73	115.66	115.75
Primary	126.62	122.09	121.67	119.25	117.21	112.11	112.51
Secondary	118.2	115.14	114.79	113.62	109.93	107.67	107.62
Higher	113.06	113.06	104.2	107.84	105.57	104.34	105.48
Number of cases (n)	9,630	9,126	10,537	11,439	10,992	17,839	17,863
Observed sex ratio at birth (OSRB)							
No education	106.01	104.53	104.36	103.98	105.40	106.45	106.11
Primary	105.77	103.39	103.79	103.17	107.61	107.50	104.74
Secondary	106.39	106.20	104.98	100.22	105.83	103.79	102.57
Higher	109.47	99.50	110.97	106.44	102.86	113.04	108.48
Number of cases (n)	8,550	8,102	9,371	10,146	9,849	16,025	16,079

Source: Analysis of BDHS Data, 1993-94 to 2014

For comparison, observed SRB by mother's education in the same year based on different data sources is presented in figure 3-9. Findings from the census and SVRS show that women with lower education are more likely to have higher SRB compared with their higher educated counterparts. However, BDHS data shows the opposite picture. None of these data sources provide explanations for the contrasting findings related to education and SRB. It should be mentioned that due to differences in sample size and methodology, it is not possible to draw conclusion based on the different data sources on the impact of education on SRB. Since the data sources do not provide any additional insight in the conflicting findings, further investigation is required that is specifically designed to find answers. It should be noted that in these studies, the objectives, unit of analysis, sample size and type of questions asked to the respondents are different in different data sources.

Figure 3-9: Observed Sex Ratio at Birth in 2011 by Mother's Education Based on Different Data Sources in Bangladesh



Source: Analysis of Census 2011, BDHS 2011 and SVRS 2011 Data Sets

Table 3-6 shows the trends in desired and observed sex ratios at birth by husband's education. The desired SRB has declined gradually over time across each category of husband's education. Husbands with higher education level had the lowest desired sex ratio during two decades. On the other hand, there was no consistent pattern over time in differences in observed SRB across various categories of husband's education.

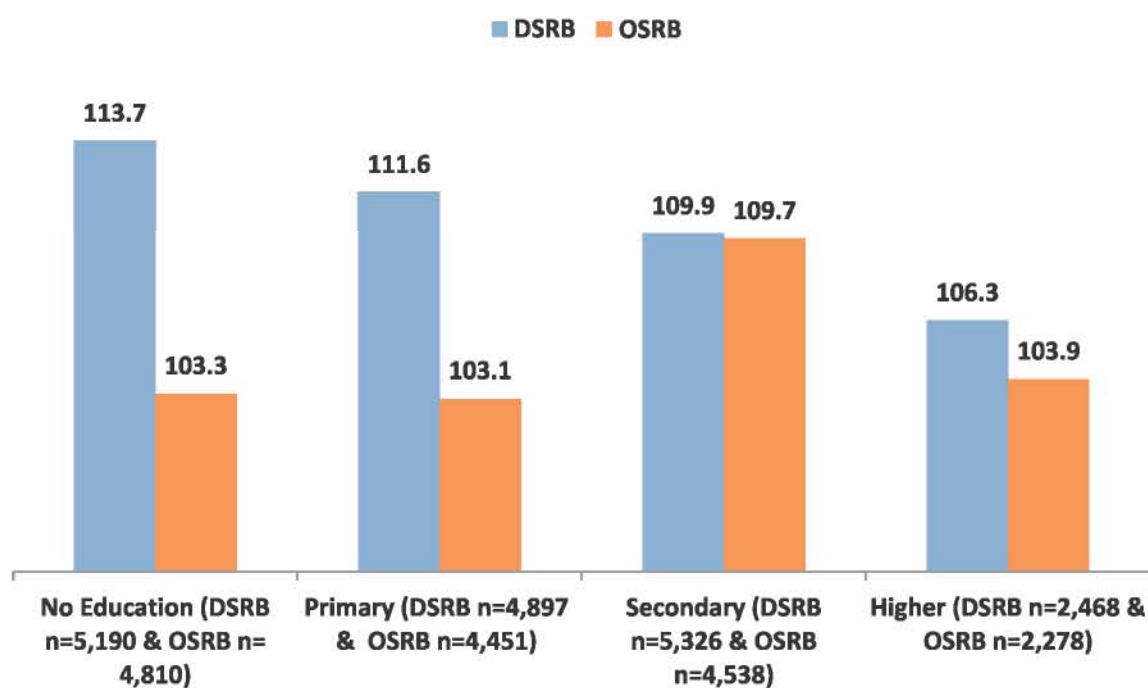
Table 3-6 : Trends in Desired and Observed Sex Ratio at Birth by Father's Education in Bangladesh, 1993-1994 to 2014

Sex Ratio at Birth	Year						
	1993-94	1996-97	1999-2000	2004	2007	2011	2014
Desired sex ratio at birth (DSRB)							
No education	129.66	123.55	124.69	122.94	118.19	114.24	113.66
Primary	126.18	124.39	122.08	119.82	116.45	111.11	111.59
Secondary	123.82	119.03	118.54	117.25	114.16	110.13	109.90
Higher	117.96	113.82	113.98	109.69	107.85	105.50	106.34
Number of cases (n)	9,625	9,112	10,524	11,429	10,980	17,830	17,860
Observed sex ratio at birth (OSRB)							
No education	107.87	102.22	104.51	106.07	107.53	106.24	103.33
Primary	103.41	109.44	104.15	99.93	101.81	107.43	103.07
Secondary	105.58	101.29	100.81	101.56	107.65	104.18	109.67
Higher	105.86	106.52	113.31	103.80	107.41	109.34	103.96
Number of cases (n)	8,550	8,102	9,371	10,146	9,849	16,025	16,077

Source: Analysis of BDHS Data, 1993-94 to 2014

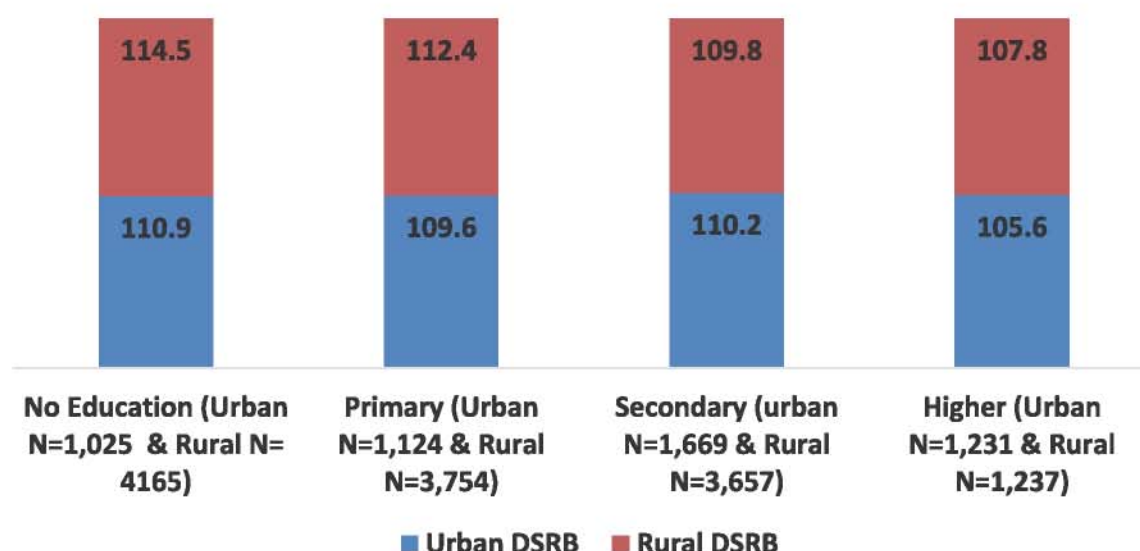
Figure 3-10 presents the observed and desired sex ratios at birth by husband's educational level in 2014. The difference between observed and desired SRB among husbands with no education was the highest compared with other categories of educational attainment. Overall, desired SRB was higher among husbands with no education compared with their counterparts with higher education. One plausible explanation might be that people with no education have a stronger preference for sons and higher stereotyped attitudes towards women, which eventually translate into higher sex ratio at birth. Nonetheless, there were no considerable differences in observed SRB among husbands with different categories of education except in the case of secondary education. More specifically, observed SRB was higher among the women whose husbands had completed secondary level of education (109.67) compared with women whose husbands have no education at all (103.33), primary education (103.07) and higher education (103.96). The pattern of desired SRB by education was similar both in rural and urban areas with slightly higher percentages showing in rural areas in each category of education (figure 3-11).

Figure 3-10: Desired and Observed Sex Ratios at Birth by Father's Education in Bangladesh in 2014



Source: Analysis of BDHS Data, 2014

Figure 3-11: Desired SRB by Father's Education Along with Their Place of Residence, 2014



Source: Analysis of BDHS Data, 2014

3.2.5 Variations in Sex Ratio at Birth by Mother's Employment

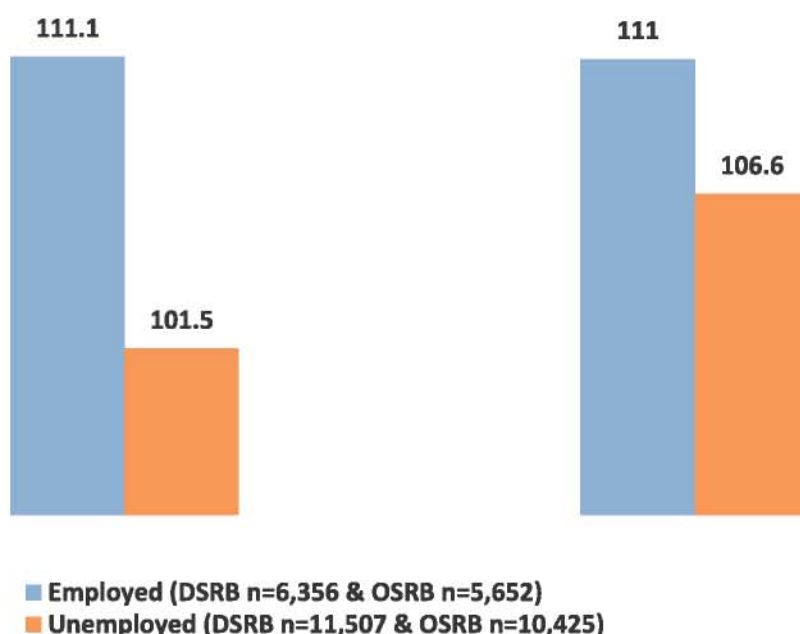
Table 3.7 presents trends in desired and observed SRB by mother's employment in Bangladesh. Considering mother's employment, there were no considerable differences in desired SRB between the employed and unemployed during the period of 1993-94 to 2014, with slight exceptions. However, observed SRB was found to be consistently higher among not employed women compared to employed women during the same period (Table 3-7). In 2014, observed SRB among not employed women was 106.55 compared with 101.47 among employed women (figure 3-12). This higher sex ratio at birth among not employed women is consistent with the argument that these women have no other alternative but to desire more sons to ensure income and future security.

Table 3-7 : Trends in Desired and Observed Sex Ratios at Birth by Mothers' Employment in Bangladesh, 1993-1994 to 2014

Sex Ratio at Birth	Year						
	1993-94	1996-97	1999-2000	2004	2007	2011	2014
Desired sex ratio at birth (DSRB)							
Employed	128.48	121.59	120.44	119.29	117.19	108.71	111.07
Not employed	126.17	122.23	121.37	119.13	115.05	111.45	111.00
Number of cases (n)	9,606	9,102	10,478	11,439	10,992	17,839	17,861
Observed sex ratio at birth (OSRB)							
Employed	102.64	100.95	100.78	100.49	101.22	98.55	101.47
Not employed	106.71	106.53	105.46	104.00	108.17	107.54	106.55
Number of cases (n)	8,550	8,102	9,371	10,146	9,849	16,025	16,077

Source: Analysis of BDHS Data, 1993-1994 to 2014

Figure 3-12: Desired and Observed SRB by Mother's Employment in Bangladesh in 2014



Source: Analysis of BDHS Data, 2014

3.2.6 Variations in Sex Ratio at Birth by Wealth Quintile

Bangladesh Demographic and Health Surveys provide respondents' wealth status by collecting wide range of information on their assets. Table 3.8 shows the desired and observed sex ratios at birth by wealth quintile in Bangladesh from 2004 to 2014. People who belong to lower wealth quintiles have a higher desired SRB compared with their wealthier counterparts. For example, in 2004, the desired SRB among the lowest wealth quintile was 124.05 compared with 113.27 in the highest wealth quintile. Consistently, in 2014, the desired SRB among the lowest wealth quintile was 112.41 compared with 107.89 among the highest wealth quintile. This can be explained by the intergenerational wealth flow where supports (financial and other) are transferred from children to parents mostly in developing countries. By having more children, parents ensure their future security and also receive continuous support (Caldwell, 1982).

As seen in table 3.8, the observed sex ratio is higher among people belonging to the higher wealth quintiles compared with their less wealthy counterparts, which indicates that richer people are more likely to avail themselves of available technologies for sex selection and thereby have the desired sex of the child through avoidance of unwanted births (Population Council & CREHPA, 2015). For instance, the observed SRB among the richest wealth quintile is 107.70 compared with 102.30 among their counterparts in the lowest wealth quintile. Over time, the observed SRB has increased among the richest wealth quintile compared with those belonging to the lowest wealth quintile. One possible explanation could be that people belonging to the richest wealth quintile have the information and access to sex selection technology and have resources to afford the related cost of using technology to have their desired SRB. This is consistent with the UNFPA study in the Indian context on gender, class and education (Kaur et al., 2017). The study found that GBSS is an aspirational strategy of the

rising middle class and once families are more secure, the practice declines. The upper class/higher educated people take the strategy of sex selection in favour of boys with the aid of technology available at their convenience.

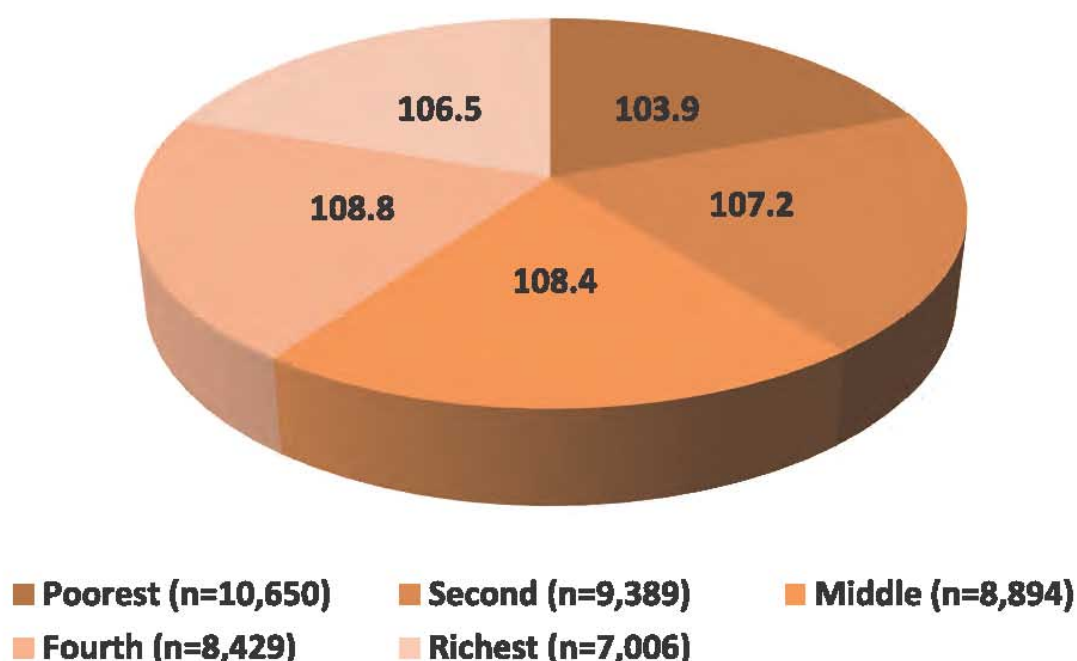
Table 3-8 : Trends in Desired and Observed Sex Ratios at Birth by Wealth Quintile in Bangladesh, 2004-2014

Sex Ratio at Birth	Year			
	2004	2007	2011	2014
Desired sex ratio at birth (DSRB)				
Lowest	124.05	120.32	113.91	112.41
Second	121.04	117.85	112.40	113.20
Middle	120.41	115.53	111.94	112.09
Fourth	118.97	115.07	109.33	109.65
Highest	113.27	109.95	108.43	107.89
Number of cases (n)	11,439	10,995	17,839	17,863
Observed sex ratio at birth (OSRB)				
Lowest	99.50	99.90	106.30	102.30
Second	103.90	110.10	106.9	107.10
Middle	107.80	107.00	104.50	104.00
Fourth	105.00	110.30	104.00	103.30
Highest	100.50	103.60	110.60	107.70
Number of cases (n)	10,146	9,849	16,025	16,079

Source: Analysis of BDHS Data, 2004-2014

Figure 3-13 shows that the observed sex ratio at birth was 103.9 among the poorest wealth quintile; 107.2 among women in the second wealth quintile; 108.4 among the middle wealth quintile; 108.8 among the fourth wealth quintile; and 106.52 among the richest wealth quintile. The unexpected pattern of observed SRB could be explained by the inconsistency in the data sets, as different data set has different objectives, and different time frame. Like the education data in table 3-5, which has a U-shaped pattern, the relationship is not yet clear. To establish a clear relationship between wealth, education and GBSS, research is needed to explore further in the context of Bangladesh.

Figure 3-13: Observed Sex Ratio at Birth by Wealth Quintile in Bangladesh in 2012-2013



Source: Analysis of MICS Data, 2012-13

3.2.7 Variations in Sex Ratio at Birth by Religion

Table 3-9 presents the trends in desired and observed SRB by religion in Bangladesh from 1993 to 2014. Over two decades, the desired SRB has gradually declined among Muslim and Hindu people compared with Buddhist and Christian people. In 2014, Buddhist people had the highest desired SRB (126.67) followed by Hindu (114.49), Christian (111.11) and Muslim (110.61). On the other hand, there is substantial variation in observed SRB by religion. For example, Christian people have the highest observed SRB (153.85) whereas Hindu people have the lowest (104.30).

Table 3-9: Trends in Desired and Observed Sex Ratios at Birth by Religion in Bangladesh, 1993-1994 to 2014

Sex Ratio at Birth	Year						
	1993-94	1996-97	1999-2000	2004	2007	2011	2014
Desired sex ratio at birth (DSRB)							
Islam	126.48	122.04	120.96	119.03	115.05	111.05	110.61
Hinduism	127.66	122.06	123.79	120.43	117.41	110.98	114.49
Buddhism	109.68	117.39	120.00	100.00	132.00	114.29	126.67
Christianity	105.88	91.67	100.00	125.64	148.00	116.22	111.11
Number of cases (n)	9,630	9,125	10,535	11,433	10,994	17,839	17,862
Observed sex ratio at birth (OSRB)							
Islam	105.53	104.50	105.07	102.85	106.15	106.39	104.60
Hinduism	110.53	103.68	101.17	105.93	104.13	106.56	104.30
Buddhism	83.33	91.07	106.15	63.64	134.38	117.07	129.52*
Christianity	100.00	71.43	59.18	122.58	100.00	94.74	153.85*
Number of cases (n)	8,550	8,102	9,371	10,146	9,849	16,025	16,078

Source: Analysis of BDHS Data, 1993-94 to 2014

* This is probably due to the small population size.

3.2.8 Variations in Sex Ratio at Birth by Birth Order

The trend in observed SRB by birth order in Bangladesh is presented in table 3-10. Parity-specific analysis showed that the observed SRB was very high at the first birth and thereafter starts declining with increasing birth order during the period of 1993-94 to 2014. In the case of first birth, observed SRB has increased over time from 110.02 in 1993-94 to 116.81 in 2014. On the other hand, the observed SRB from the second birth and above has declined during the same period (table 3-10). This situation indicates the existence of GBSS. To confirm the claim, we need to have information on whether this is happening due to termination of female fetuses through clandestine abortion or menstrual regulation. Therefore, further investigation is required through a separate study in Bangladesh.

Table 3-10: Observed Sex Ratio at Birth by Birth Order in Bangladesh: 1993-94 to 2014

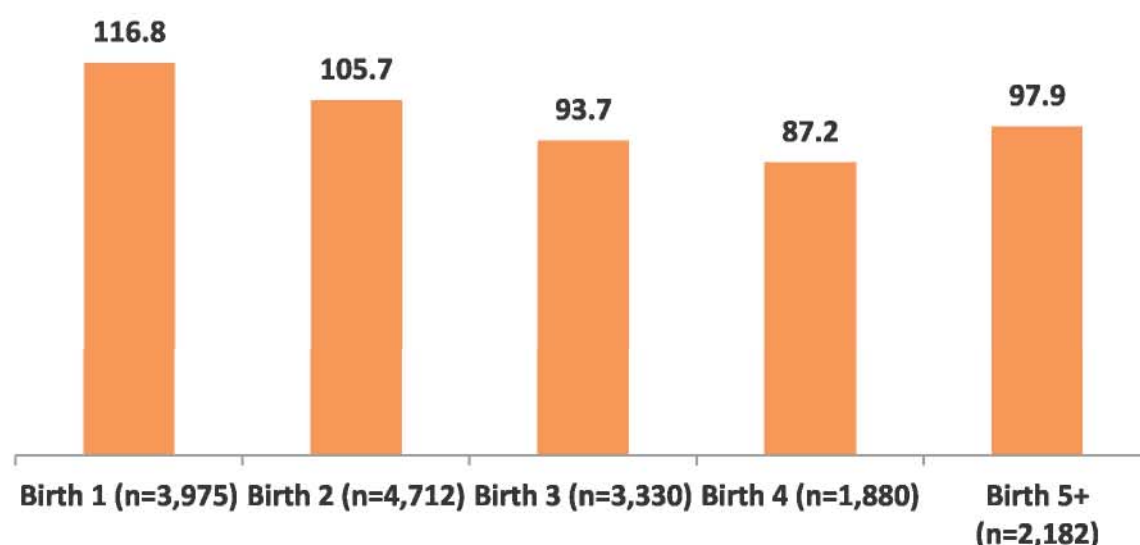
Year	Birth 1	Birth 2	Birth 3	Birth 4	Birth 5+	Number of cases (n)
1993-94	110.02	106.26	103.03	101.54	105.96	8,550
1996-97	106.21	108.32	99.47	98.42	105.39	8,102
1999-2000	112.49	108.49	101.77	94.80	96.73	9,371
2004	110.45	111.35	100.07	92.83	91.03	10,146
2007	114.34	108.82	100.42	95.87	98.70	9,849
2011	116.03	107.24	100.46	97.75	93.45	16,025
2014	116.81*	105.68	93.66	87.19	97.89	16,079

Source: Analysis of BDHS Data, 1993-94 to 2014

* Multiple factors such as inheritance, social security, patriarchy, etc. can be associated with this highly skewed sex ratio at first birth of the child.

Figure 3-14 depicts the comparison of observed SRB by parity in 2014. The highest observed sex ratio was found in the first birth order (116.8), followed by second birth order (105.7) and fifth birth order (97.9). On the other hand, the lowest observed sex ratio was found in the fourth birth order (87.2), followed by the third birth order (93.7). These findings show that sex ratio at birth is highest at the first birth. The reasons could not be ascertained from the data, however, as to whether this is natural or due to selection. For Bangladesh, a sex ratio above 107 may not mean that GBSS is occurring. These findings were further confirmed by the SVRS data shown in table 3-11. Similar findings were also found in the case of Viet Nam (General Statistics Office, 2011; UNFPA Viet Nam, 2009). The definition of GBSS needs to be revisited as the current definition of GBSS is not sufficiently flexible and broad enough to capture the real essence of the concept. If we consider the GBSS for prenatal conditions, then many in society may not come under the purview of the term. If we include the postnatal situation, then the issue of GBSS may become visible.

Figure 3-14: Observed SRB by Birth Order in Bangladesh in 2014



Source: Analysis of BDHS, 2014

Table 3-11: Observed SRB by Birth Order in Bangladesh Based on SVRS Data, 2010-16

Birth Order	Sex Ratio at Birth						
	2016	2015	2014	2013	2012	2011	2010
1	106.3	96.2	95.7	103.8	103.8	102.0	107.9
2	108.3	97.1	101.9	109.3	109.3	113.1	105.5
3	110.4	109.7	101.6	103.7	103.7	104.2	105.4
4	112.4	180.0	115.4	107.4	107.4	164.7	145.3
5+	108.7	110.2*	111.7	104.6	104.6	106.96*	105.39*
Total	108.1	96.5	100.6	105.7	105.7	102.5	108.1
Number of cases (n)	17,965	17,675	13,173	13,220	15,482	20,590	20,686

Source: Analysis of SVRS and Sample Vital Statistics, 2010-2016 [* indicates predicted value]

Table 3-12 presents the findings related to parity-specific sex ratio at birth by region, wealth, mother's education and father's education in Bangladesh. In the cases of first and third births, sex ratios at birth are higher in rural areas, whereas it is higher in urban areas in the cases of second, fourth, and fifth and above births. In addition, women belonging to the richest wealth quintile have higher sex ratio at birth than women in the poorest wealth quintile (table 3-12). As noted above, part of the reason could be related to Caldwell's wealth flow theory.

Table 3-12: Parity-Specific Observed SRB by Region, Wealth, Mother's Education and Husband's Education in Bangladesh in 2014

Variables	Birth 1	Birth 2	Birth 3	Birth 4	Birth 5+
Residence					
Urban	115.1	109.3	91.0	89.2	97.6
Rural	117.7	104.0	94.8	86.5	97.3
Number of cases (n)	3,975	4,712	3,330	1,880	2,182
Wealth quintile					
Poorest	113.4	107.2	92.0	84.4	97.3
Poorer	121.0	108.6	97.1	90.0	99.0
Middle	110.9	105.8	102.7	89.4	92.2
Richer	120.9	98.4	86.9	82.6	100.6
Richest	118.1	108.9	88.3	90.9	100.0
Number of cases (n)	3,975	4,712	3,330	1,880	2,182
Mother's education					
No Education	117.7	108.2	99.7	95.6	100.2
Primary	117.7	105.6	99.5	84.4	93.6
Secondary	113.0	105.3	80.8	73.2	94.1
Higher	128.1	95.4	55.5	50.0	94.2
Number of cases (n)	3,975	4,712	3,330	1,880	2,182
Husband's education					
No Education	111.6	101.7	101.5	93.4	99.5
Primary	116.8	104.6	94.9	80.5	89.9
Secondary	123.9	111.2	85.1	91.0	104.0
Higher	114.7	108.5	77.6	64.8	104.7
Number of cases (n)	3,975	4,712	3,330	1,880	2,182

Source: Analysis of BDHS data, 2014

3.3 Son Preference by Background Characteristics in Bangladesh

3.3.1 Trends in Gender Preference at Birth

Table 3-13 presents sex preference at birth among women in Bangladesh from 1993-94 to 2014 based on data from the Bangladesh Demographic and Health Survey. "No preference" for having sons or daughters among women has increased gradually from 1.8 per cent in 1993-94 to 26.7 per cent in 2014. More than half of the women have balanced preference (one boy and one girl) during the same period. A small percentage of women have preference for two boys and two girls (about 5 per cent). There is clear evidence of a declining trend for

son preference in Bangladesh over these two decades. Some 22 per cent of women had son preference in 1993-94, but only 9.6 per cent in 2014. In addition, a small portion of women had daughter preference (2-3 per cent) (table 3-13).

Kabir (2012) argued that religious and cultural practices were barriers to women's mobility, necessitating greater involvement of men in maintenance of the family. As a result, men were advantaged in the cases of inheritance of property and employment. In contrast, women were dependant on men of the families in their whole life course: first, on their fathers and brothers, then on husbands and in-laws, and finally, on sons and relations. In addition, daughters were considered as an economic burden, to be married off as soon as possible, so that the costs of feeding them could be shifted to husbands. This situation has been exacerbated by the practice of dowry in Bangladesh, and the valuing of sons as insurance against poverty in old age persists. Similar findings were also reported by research conducted by Talukder et al. (2014), and Islam and Chowdhury (2012).

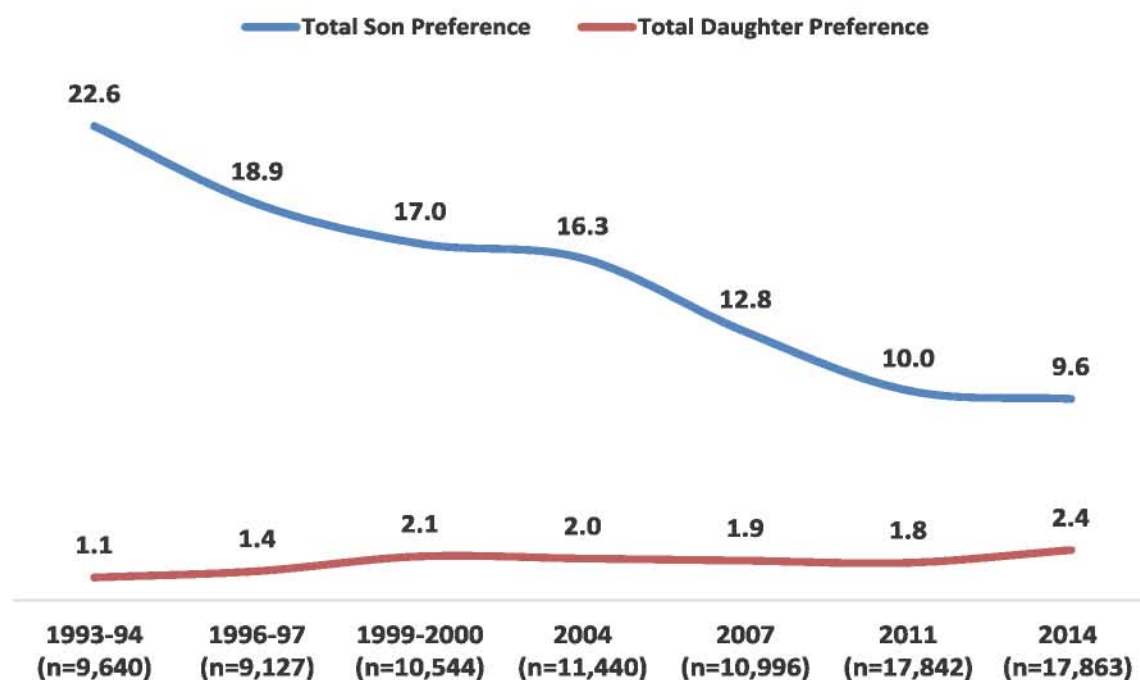
Table 3-13: Gender Preference at Birth among Women in Bangladesh, 1993-94 to 2014*(%)

Gender Preference	Year						
	1993-94	1996-97	1999-2000	2004	2007	2011	2014
No Preference	1.8	1.3	18.7	16.7	22.8	18.7	26.7
Balanced Preference (1 boy and 1 girl)	53.9	54.8	47.3	52.4	53.0	62.9	54.2
Balanced Preference (2 boys and 2 girls)	8.0	8.5	8.5	7.4	6.0	4.7	4.4
Son Preference							
Only Two Sons	0.8	0.6	0.7	0.6	0.5	0.5	0.6
Only One Son	0.8	0.7	1.2	1.3	1.2	1.5	1.7
Two Sons and One Daughter	21.0	17.6	15.1	14.4	11.1	8.0	7.3
Total Son Preference	22.6	18.9	17.0	16.3	12.8	10.0	9.6
Daughter Preference							
Only Two Daughters	0.1	0.0	0.1	0.1	0.2	0.1	0.2
Only One Daughter	0.0	0.2	0.3	0.3	0.3	0.5	0.7
Two Daughters and One Son	1.0	1.2	1.7	1.6	1.4	1.2	1.5
Total Daughter Preference	1.1	1.4	2.1	2.0	1.9	1.8	2.4
Others	12.5	15.1	6.4	5.2	3.5	2.0	2.7

Source: Analysis of BDHS Data, 1993-94 to 2014

Figure 3-15 depicts an overall picture showing the decreasing trend in son preference among married women in Bangladesh from 1993 to 2014. The rate is slightly slower in recent years compared with previous years. For instance, the difference of having son preference was 3.7 percentage points between 1993 and 1996, while the difference was only 0.4 percentage points between 2011 and 2014. The declining trend for son preference could be attributed to the social and economic development achieved during last few decades in general, and to the increasing trend towards women's education, employment and empowerment. Analysis of data from the BDHS shows that son preference has declined over time. Although the proportion of daughter preference has increased, this is not necessarily the result of declining son preference (figure 3-15).

Figure 3-15: Trends of Total Son Preference and Total Daughter Preference in BDHS: 1993-94 to 2014



Source: Analysis of BDHS Data, 1993-94 to 2014

3.3.2 Variations in Son Preference by Division, Region and Place of Residence

Although Bangladesh has made considerable progress in achieving the Millennium Development Goals, there remain variations in the socioeconomic indicators by divisions and regions. For example, Rangpur division has the highest rate of poverty compared with other divisions in Bangladesh (BBS, 2015). These differences in social and economic development by divisions could lead to wider variations by divisions on many indicators, including gender-biased sex selection (GBSS). Data sources used in this study show substantial variations in son preference by divisions and regions in Bangladesh from 1993-94 to 2014. For example, in 2014, Sylhet and Chattogram divisions had the highest percentages of son preference (12.1 and 11.5 per cent, respectively) and Rangpur and Rajshahi had the lowest percentages of son preference (7.4 and 7.5 per cent, respectively). Son preference was consistently higher in rural areas compared to urban areas during the same period. In terms of region, in 2014 the highest prevalence of son preference was observed in eastern region (11.8 per cent) compared to middle (10.2 per cent) and western (7.7 per cent) regions. Moreover, women living in rural areas preferred sons more (10.3 per cent) than that of urban women (8.2 per cent) (Table 3-14). Geographical skewing of SRB appears to be a signal of practice of GBSS in some regions. However, to have a firm conclusion, further research is required.

Table 3-14: Percentage Distribution of Son Preference by Division, Region and Place of Residence: 1993-94 to 2014

Categories	Year						
	1993	1996	1999	2004	2007	2011	2014
Division							
Barishal	27.1	23.3	19.7	19.0	15.2	11.2	11.0
Chattogram	23.3	22.2	17.1	19.5	16.8	12.1	11.5
Dhaka	25.0	18.6	17.6	16.8	12.7	10.2	9.7
Khulna	17.5	15.7	13.9	12.1	7.5	8.1	8.1
Rajshahi	20.3	16.9	17.0	14.5	11.5	8.0	7.5
Rangpur	--	--	--	--	--	8.9	7.4
Sylhet		18.8	18.3	16.2	13.0	11.4	12.1
Number of cases (n)	9,640	9,127	10,544	11,440	10,996	17,842	17,863
Region							
Eastern	23.3	22.2	17.1	19.5	16.8	11.8	11.8
Middle	25.5	19.8	18.2	17.6	13.7	10.6	10.2
Western	19.4	17.0	16.2	14.1	10.6	8.3	7.7
Number of cases (n)	9,640	9,127	10,544	11,440	10,996	17,842	17,863
Place of residence							
Urban	19.0	17.4	13.9	13.4	10.4	8.5	8.2
Rural	23.3	19.1	18.4	17.7	14.2	10.7	10.3
Total	22.6	18.9	17.0	16.3	12.8	10.0	9.6
Number of cases (n)	9,640	9,127	10,544	11,440	10,996	17,842	17,863

Source: Analysis of BDHS Data, 1993-94 to 2014

3.3.3 Variations in Son Preference by Education and Employment

As stated above, son preference has been declining over time in Bangladesh. Son preference was found to be higher among people with lower educations (both men and women) compared with those with higher education. In 2014, the prevalence of son preference was 13.2 per cent among women with education compared with only 5.9 per cent in the case of women who had higher than secondary education (table 3-15). Women outside of the employment market were found to have a slightly higher son preference compared to employed women in 2014 (9.7 per cent and 9.3 per cent respectively).

Table 3-15: Percentage Distribution of Son Preference by Mother's Education, Father's Education and Mother's Employment: 1993-94 to 2014

Categories	Year						
	1993	1996	1999	2004	2007	2011	2014
Mother's education							
No education	24.6	20.1	19.7	19.7	16.2	13.7	13.2
Primary	22.8	20.1	18.2	17.0	14.5	10.9	10.6
Secondary	15.9	13.6	12.8	11.9	8.9	7.4	7.4
Higher secondary	11.2	11.9	7.4	9.4	7.0	5.8	5.9
Number of cases (n)	9,640	9,127	10,544	11,440	10,993	17,842	17,863
Father's education							
No education	23.9	19.1	19.2	19.1	14.4	12.4	11.8
Primary	24.4	21.8	18.5	17.2	14.1	10.0	9.7
Secondary	19.9	17.5	15.3	14.7	11.5	9.0	8.5
Higher secondary	17.3	13.4	11.7	9.8	8.8	6.8	7.1
Number of cases (n)	9,632	9,113	10,530	11,430	10,981	17,833	17,860
Mother's employment							
Not employed	22.6	19.1	17.3	16.2	12.6	10.3	9.7
Employed	23.0	18.5	16.1	16.7	13.2	7.8	9.3
Total	22.6	18.9	17.0	16.3	12.8	10.0	9.6
Number of cases (n)	9,616	9,103	10,485	11,440	10,993	17,842	17,861

Source: Analysis of BDHS Data, 1993-94 to 2014

3.3.4 Variations in Son Preference by Wealth Index

As stated in the literature review section, son preference varies substantially by the wealth status of the respondents due to differential patterns of future dependence. For instance, poor people have higher dependency on their sons during old age compared with rich people. Table 3.16 presents the percentage distribution of son preference by wealth index from 1993-94 to 2014. Son preference is the highest among people belonging to the poorest wealth quintile compared with their counterparts in other wealth quintiles. For example, in 2014 son preference was 10.7 per cent among the poorest wealth quintile compared with only 7.8 among the richest quintile. The declining trend for son preference is evident across all categories of wealth quintiles. This might be due to the fact that society is advancing over time in terms of educational attainment, income level and women's empowerment, which eventually translates into equal preference for sex of the child (Chowdhury, 1994).

Table 3-16 : Per cent Distribution of Son Preference by Wealth Quintile: 2004-2014

Wealth Quintile	Year			
	2004	2007	2011	2014
Lowest	20.0	16.8	12.0	10.7
Second	18.0	13.9	10.0	11.3
Middle	17.3	12.9	11.4	9.7
Fourth	15.5	12.4	8.7	8.7
Highest	12.3	9.7	8.3	7.8
Total	16.3	12.8	10.0	9.6
Number of cases (n)	11,440	10,996	17,842	17,863

Source: Analysis of BDHS Data, 2004-2014

3.3.5 Variations in Son Preference by Total Fertility Rate (TFR)

Table 3-17 shows the relationship between TFR and son preference in Bangladesh in 2014. The finding suggests that there is a positive correlation between son preference and TFR in Bangladesh. A division with higher preference for sons had higher TFR. For instance, Chattogram and Sylhet have higher son preference compared with other divisions (12.1 per cent and 11.5 per cent, respectively). These two divisions also have higher TFR than other divisions in Bangladesh (2.9 and 2.5, respectively). The reasons for higher TFR in these two divisions might be due to a larger impact of religion and lower focus on family planning programmes compared with other divisions.

Table 3-17: Variations in Son Preference by TFR in Bangladesh in 2014 (%)

Division	2014	
	Son Preference	Total Fertility Rate
Barishal	11.0	2.2
Chattogram	11.5	2.5
Dhaka	9.7	2.3
Khulna	8.1	1.9
Rajshahi	7.5	2.1
Rangpur	7.4	1.9
Sylhet	12.1	2.9

Source: Analysis of BDHS Data, 2014

3.4 Gender-Biased Sex Selection and Contraception

Not using a modern method of contraception in order to achieve desired SRB is a practice clearly evident in BDHS data from 1993-94 to 2014, which is consistent with Bongaarts' argument (Bongaarts, 2013). Use of contraception is 55.2 per cent among those whose first birth was a female child compared with 57.1 per cent among those whose first birth was a male child (table 3-18); in other words, women who have a girl first are less likely to use contraception than those who have a boy.

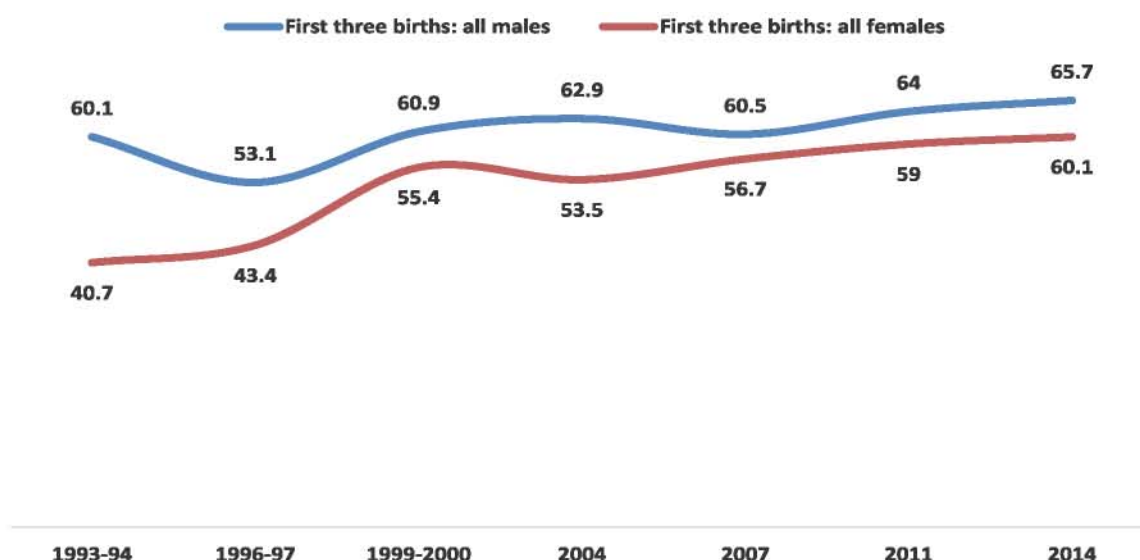
Table 3-18: Trend in Contraceptive Use by Sex Composition of Children in Bangladesh (%), 1993-94 to 2014

Year	Sex of First Birth		Sex of First Two Births		Sex of First Three Births	
	Male	Female	Both Males	Both Females	All Males	All Females
1993-94	34.3	30.2	50.1	38.2	60.1	40.7
1996-97	41.7	35.9	54.8	49.5	53.1	43.4
1999-2000	46.8	44.4	56.4	52.5	60.9	55.4
2004	52.2	49.8	62.3	54.8	62.7	53.5
2007	50.3	44.3	64.9	56.8	60.5	56.7
2011	55.7	53.4	69.7	60.9	64	59
2014	57.1	55.2	68.5	63.4	65.7	60.1

Source: Analysis of BDHS Data, 1993-94 to 2014

As shown in figure 3-16, the use of contraception was also consistently lower among women whose first two births were females (63.4 per cent) compared with those whose first two births were males (68.5 per cent). The pattern was even more pronounced among those whose first three births were females (60.1 per cent) than those whose first three births were males (65.7 per cent). Part of the reason behind this trend might be that couples who desire to have a son are motivated to try to have another child. Thus, women are not using contraception in order to have their desired number of sons (Bongaarts, 2013).

Figure 3-16: Trends in Contraceptive Use by Sex Composition of First Three Children in Bangladesh (%), 1993-94 to 2014



Source: Analysis of BDHS Data, 1993-94 to 2014

3.5 Gender-Biased Sex Selection and Menstrual Regulation (MR)

Menstrual regulation – a procedure to regulate the menstrual cycle when menstruation is absent for a short time – has been part of Bangladesh’s national family planning programme since 1979 (Guttmacher Fact Sheet, March 2017). Lack of adequate data precludes detailed analysis of menstrual regulation and its relationship with GBSS. The Bangladesh Demographic

and Health Survey contains only one question on MR, which is whether or not the respondents “ever had MR”. Additional questions would be required for further exploration.

Ministry of Health and Family Welfare (MoHFW) reports that approximately 200,000 MR procedures are performed using manual vacuum aspiration (MVA) each year, mostly by family welfare visitors (Hena et al., 2013). Hossain et al., 2012 suspected that actual MRs performed might be significantly underreported since only MRs performed at government facilities were accounted in this statistics. Indirect estimates suggest that more than 1.2 million MRs and induced abortions are conducted in Bangladesh each year (Hena et al., 2013).

Regarding the incidence of MR and abortion, recent research provides the following statistics (Singh et al. 2017; Hossain et al. 2017):

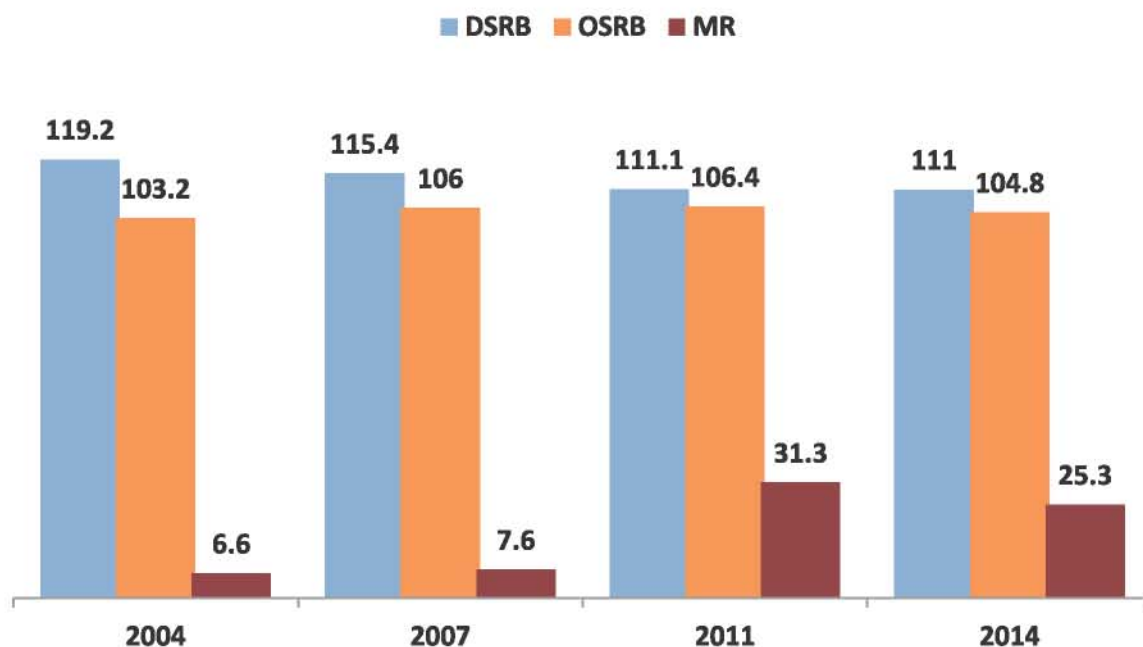
- An estimated 430,000 MR procedures were performed in health facilities nationwide in 2014, representing a sharp 34 per cent decline since 2010.
- An estimated 1,194,000 induced abortions were performed in Bangladesh in 2014, and many of these were likely to be done in unsafe conditions or by untrained providers.
- The annual rate of MR in 2014 was 10 per 1,000 women aged 15–49, down from 17 in 2010.
- The annual abortion rate in 2014 was 29 per 1,000 women aged 15–49. Because of changes to the methodology for estimating abortion incidence, this rate is not comparable to the rate estimated for 2010. The rate was highest in Khulna (39) and lowest in Chattogram (18) division.

While MR could be associated with GBSS, MR is performed for various reasons. Until and unless we know the reasons for all MR procedures performed, it is difficult to link the total number of MR procedures to GBSS.

Figure 3-17 presents trends in desired and observed SRB by prevalence of menstrual regulation in Bangladesh from 2004 to 2014. Although the MR rate increased four-fold over the decade from 2004 to 2014 (6.6 per cent to 25.3 per cent), it appears to have peaked in 2010 and then dropped significantly between 2010 and 2014. As shown in figure 3-17, it is evident that both desired and observed sex ratios have declined gradually over time, but the MR rate has increased during the same period. The lack of adequate questions in the BDHS precludes identifying the number of MR procedures that could be for purposes of abortion.

The increasing trend in MR is reported by other studies such as Hena et al. (2013) and Hossain et al. (2012). The Hena et al. (2013) study tested the feasibility of introducing medicinal MR in Bangladesh and found that women receiving medicinal MR were satisfied with their overall quality of care. Medicinal MR is performed using medication and is allowed up to nine weeks after last menstruation period (LMP) in contrast to MR using manual vacuum aspiration. The study noted that medicinal MR is non-invasive and is provided safely and confidentially at a health facility or at home, and recommended that medicinal MR services should be incorporated into the national family planning programme for the safety, health and well-being of Bangladeshi women. Like MR, medicinal MR services are part of the family planning programme, yet can be a contributing factor to GBSS.

Figure 3-17: Trends in Desired and Observed Sex Ratios at Birth by Prevalence of Menstruation Regulation (MR) in Bangladesh: 2004-2014 (%)



Source: Analysis of BDHS Data, 2004-2014

Table 3.19 presents MR by regional and background characteristics in Bangladesh in 2014. MR rate was found to be very high in Sylhet division (34.78 per cent) and Chattogram division (28.47 per cent). These two divisions are also characterized by highly skewed sex ratio at birth compared with other divisions. Among other divisions, Khulna, Barishal and Rajshahi had relatively lower MR rates. These three divisions also had relatively lower sex ratio at birth than other divisions. Underlying reasons behind the lower sex ratio at birth could be large-scale interventions by NGOs, intensive family planning programmes and cultural variations.

Rural areas were found to have higher MR rates than urban areas in 2014 (27.8 per cent and 22.8 per cent, respectively). This is because trained family welfare visitors (FWVs) are authorized to perform MR, and they visit rural households on a regular basis. Women in rural areas have access to MR in this way and, in addition, MR is performed in most of the Union Health and Family Welfare Centres (UH&FWCs) where there are trained personnel.

Recent studies report substantial improvements in increasing access to safe MR services in Bangladesh (Yasmin et. al., 2015). They also find that rural areas have a higher desired SRB than urban areas. MR rates are higher among women with lower education than their counterparts with higher education. But there is no clear pattern in establishing a relationship between educational attainment and sex ratio at birth. Not employed women have higher MR rates than employed women (26.5 per cent and 23.3 per cent, respectively). The higher MR rates by employment status are associated with higher sex ratio at birth. MR rates are higher among women belonging to the lower wealth index (table 3-19).

Table 3-19: Sex Ratio at Birth and Menstrual Regulation (MR in %) by Background Characteristics in Bangladesh in 2014

Characteristics	Menstrual Regulation	Desired SRB	Observed SRB
Division			
Barishal	20.42	114.28	105.55
Chattogram	28.47	112.10	106.42
Dhaka	24.63	110.00	106.62
Khulna	25.00	109.56	98.60
Rajshahi	22.52	108.31	102.55
Rangpur	26.98	108.80	105.54
Sylhet	34.78	114.90	107.07
Place of residence			
Urban	22.82	109.08	105.90
Rural	27.82	111.96	104.27
Mother's education			
No education	24.84	115.75	106.11
Primary	27.97	112.51	104.74
Secondary	24.65	107.62	102.57
Higher	23.03	105.48	108.48
Father's education			
No education	29.35	113.66	103.33
Primary	29.96	111.59	103.07
Secondary	22.02	109.90	109.67
Higher	22.26	106.34	103.96
Employment status			
Employed	23.30	111.07	101.47
Not employed	26.50	111.00	106.55
Wealth quintile			
Lowest	31.91	112.41	102.29
Second	33.59	113.20	107.06
Middle	25.00	112.09	104.04
Fourth	28.99	109.65	103.26
Highest	18.72	107.89	107.66

Source: Analysis of BDHS Data, 2014

Trends in selected measures of MR provision, by facility type, during 2010 and 2014 are shown in Table 3-20. Table 3-20 shows that a total of 653,078 MR procedures were performed in 2010 in Bangladesh, which has decreased to 430,183 in 2014. Among the MR procedures in 2014, 35 per cent were performed by NGOs, 32 per cent by UH&FWC, 23 per cent by Maternal and Child Welfare Centres (MCWC) and Upazila Health Complexes (UHC), 8 per cent by private hospitals and 2 per cent by public hospitals. There has been some decline in per cent of facilities providing MR for all of the above mentioned sources. Despite the declining trend, in 2014, MR services were provided by 84 per cent of MCWCs and UHCs, followed by UH&FWCs (48 per cent), public hospitals (29 per cent) and private hospitals (20 per cent).

Table 3-20 : Trends in Selected Measures of MR Provision, by Facility Type, 2010 and 2014

Facility Type	Number of MR performed		% distribution of total MR performed		% of facilities providing MR		Weighted counts of facilities providing MR*		Average annual caseload	
	2010	2014	2010	2014	2010	2014	2010	2014	2010	2014
All	653,078	430,183	100	100	57	42	3,010	2,300	158	121
Public hospitals†	14,097	9,064	2	2	37	29	40	40	542	232
MCWCs and UHCs	97,359	97,438	15	23	86	84	440	470	220	208
UH&FWCs	301,631	138,341	46	32	63	48	1,980	1,450	152	95
Private	59,755	34,649	9	8	36	20	540	340	110	101
NGOs	180,236	150,692	28	35	u	u	u	u	u	u

† District hospitals, public medical college hospitals and private medical college hospitals (the latter because they are similar to public medical college hospitals in service provision, size and access).

MCWC=Maternal and child welfare centre. UHC=Upazila health complex. UH&FWC=Union health and family welfare centre. u=unavailable.

Source: Health Facilities Survey (Cited from Hossain et al., 2017)

3.5.1 Abortion versus Menstrual Regulation

A distinction should be made between abortion and menstrual regulation. A termination of fetus is considered as an abortion, if it is done after 18-20 weeks of pregnancy. MR is legal while abortion is not. MR has been part of Bangladesh's national family planning programme since 1979. Singh and Hossain write:

“Government regulations allow for MR procedures up to 10 weeks after a woman's last menstrual period (depending on the type of provider), and MR using medicine is allowed up to nine weeks after a woman's last menstrual period” (Singh et al. 2017; Hossain et al. 2017).

“[Many] women resort to clandestine abortions, some of which are unsafe. In 2014, some 2.8 million pregnancies—48 per cent of all pregnancies—were unintended. Abortion and MR procedures accounted for close to three-fifths of unintended pregnancies” (Singh et al. 2017; Hossain et al. 2017).

A detailed description of low, medium and high estimates of the total number of induced abortions, abortion rate and abortion ratio by division in Bangladesh is presented in table 3-21. The table shows that the total number of induced abortion is 974,913 under low variant, 1,194,137 induced abortions under medium variant and 1,413,361 abortions under high variant. In terms of absolute numbers, estimates of induced abortions by division show that Dhaka has the highest number of abortions under medium variant, followed by Khulna; and Barishal has the lowest estimates of induced abortion. Comparison across divisions using abortion rate shows that under medium variant, Khulna had the highest abortion rate (39.3 per 1,000 women aged 15-49) followed by Sylhet (33.1), Rajshahi (31.9), Dhaka (31.5), Barishal (26.3), Rangpur (22.9) and Chattogram (17.6). The overall abortion rate in Bangladesh in 2014 was estimated to be 28.6 per 1,000 women aged 15-49 under medium variant. Estimates of abortion ratio (the number of abortions per 100 live births) show 35.5 abortions under

medium variant in Bangladesh in 2014. Variations in abortion ratios are evident across divisions, similar to abortions rates.

Table 3-21: Low, Medium and High Estimates of Total Number of Induced Abortions, Abortion Rate and Abortion Ratio by Division, Bangladesh, 2014

Division	Total Number of Induced Abortions*			Abortion Rate+			Abortion Ratio++		
	Low	Medium	High	Low	Medium	High	Low	Medium	High
Bangladesh	974,913	1194,137	1,413,361	23.4	28.6	33.9	29.0	35.5	42.0
Barishal	34,611	60,020	85,429	15.2	26.3	37.5	19.9	34.5	49.0
Chattogram	70,748	141,343	211,938	8.8	17.6	26.3	9.4	18.8	28.3
Dhaka	271,999	437,014	602,029	19.6	31.5	43.4	24.1	38.7	53.3
Khulna	121,069	182,893	244,717	26.0	39.3	52.6	38.7	58.5	78.3
Rajshahi	82,404	173,211	264,019	15.2	31.9	48.6	20.4	43.0	65.5
Rangpur	61,358	106,796	152,234	13.2	22.9	32.6	20.0	34.8	49.6
Sylhet	31,556	92,860	154,164	11.2	33.1	54.9	11.0	32.4	53.8

Source: Susheela et al. (2017:7)

*The total number of induced abortions is the product of the multiplier estimate and the total number of induced abortion complication cases treated in the health facilities.

+The abortion rate is the number of abortions per 1000 women aged 15-49.

++The abortion ratio is the number of abortions per 100 live births

3.6 Gender-Biased Sex Selection and Total Fertility Rate (TFR)

Table 3-22 presents the desired and observed sex ratios at birth by TFR from 1993-94 to 2014 in Bangladesh. A declining trend both in TFR and desired SRB from 1993 to 2014 is readily observed: TFR declined from 3.4 to 2.3 during this period, and observed SRB dropped from 106.0 to 104.8. For a closer look, findings at the divisional level are presented in table 3-23.

Table 3-22: Desired and Observed Sex Ratios at Birth by TRF (Per Woman) from 1993-94 to 2014

Year	TFR	DSRB	OSRB
1993-94	3.4	126.52	106.00
1996-97	3.3	121.98	104.30
1999-2000	3.3	121.23	104.50
2004	3.0	119.16	103.20
2007	2.7	115.43	106.00
2011	2.3	111.06	106.40
2014	2.3	111.03	104.80

Source: Analysis of BDHS Data, 1993-94 to 2014

Table 3-23 : Trends in TFR, Desired Sex Ratio at Birth (DSRB) and Observed Sex Ratio at Birth (OSRB): BDHS 1993-94 to 2014

Year		Division						
		Barishal	Chattogram	Dhaka	Khulna	Rajshahi	Rangpur	Sylhet**
1993-94	TFR	3.47	3.95	3.45	3.05	3.03	-	-
	DSR	133.0	131.4	129.1	115.6	123.2	-	-
	OSR	108.7	108.5	107.4	104.3	101.9	-	-
1996-97	TFR	3.31	4.06	3.18	2.52	2.78		4.2
	DSR	129.0	127.4	120	120	117.7	-	130.1
	OSR	106.8	104.5	102.9	101	103.1	-	111.3
1999-2000	TFR	3.26	3.96	3.21	2.7	3.02		4.08
	DSR	126.8	122.3	122.4	117.1	118.2	-	124.0
	OSR	102.1	108.7	103.3	103.2	103.9	-	104.2
2004	TFR	2.9	3.7	2.9	2.8	2.6		4.2
	DSR	124.2	122.6	119.2	114.3	116.1	-	120.7
	OSR	98.9	102.9	103.6	103.5	106	-	102.2
2007	TFR	2.8	3.2	2.8	2	2.4		3.7
	DSR	119.7	120.2	115.2	107	113.5	-	116.5
	OSR	107.1	105	106.4	110	102.1	-	107
2011	TFR	2.3	2.8	2.2	1.9	2.1	2.1	3.1
	DSR	113.6	112.8	111.9	108.4	107.1	110.2	114.2
	OSR	107	104.5	106	105.6	105.2	107	110.1
2014	TFR	2.2	2.5	2.3	1.9	2.1	1.9	2.9
	DSR	114.3	112.1	110	109.6	108.3	108.8	114.9
	OSR	105.6	106.4	106.6	98.6	102.6	105.5	107.1

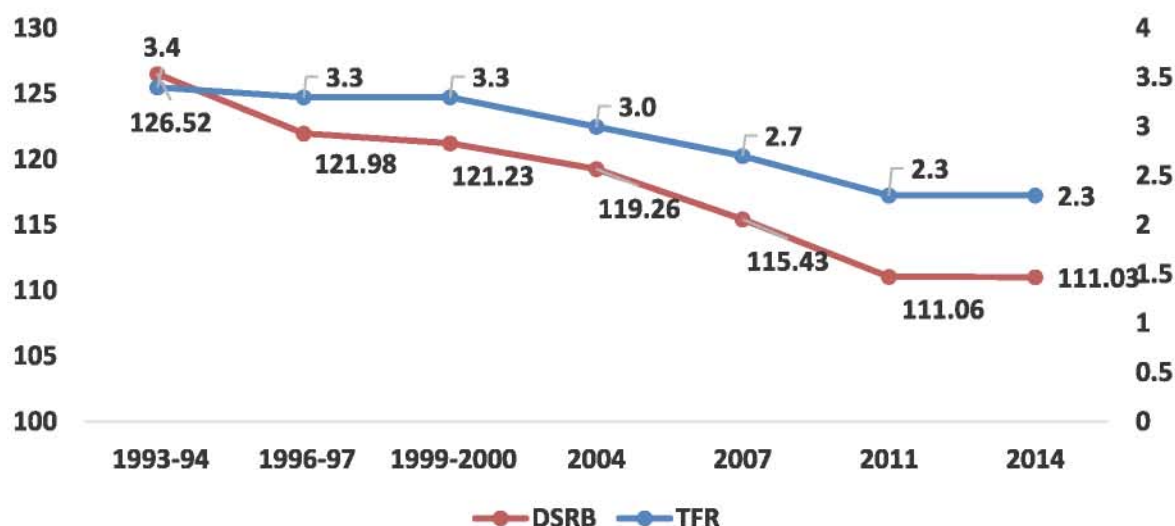
Source: Analysis of BDHS Data, 1993-94 to 2014

* Rangpur was not a division before 2010.

**Sylhet division was formed in 1995; before that it was part of Chattogram division.

The overall trends of TFR and desired sex ratio at birth from 1993-94 to 2014 clearly show that there was a positive relation between desired SRB and TFR: higher desired SRB is associated with higher TFR (figure 3-18).

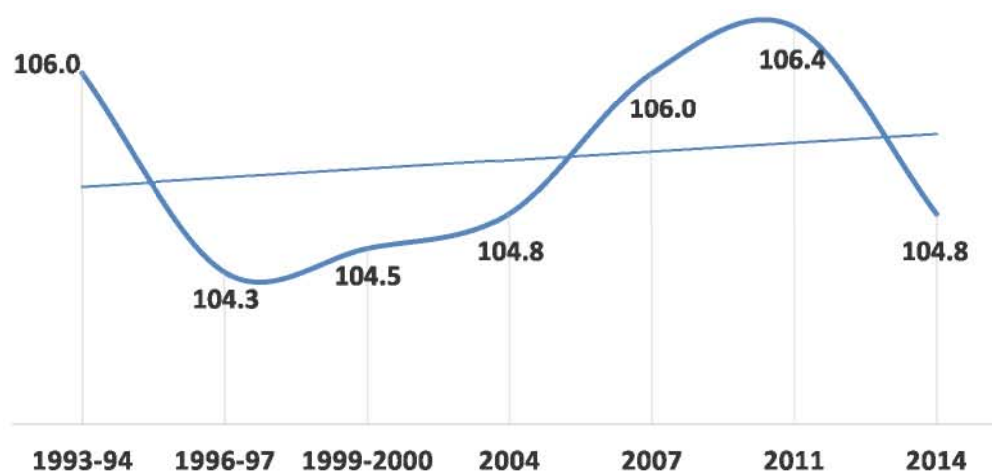
Figure 3-18: Trends in TFR and Desired Sex Ratio at Birth in Bangladesh: 1993-94 to 2014



Source: Analysis of BDHS Data, 1993-94 to 2014

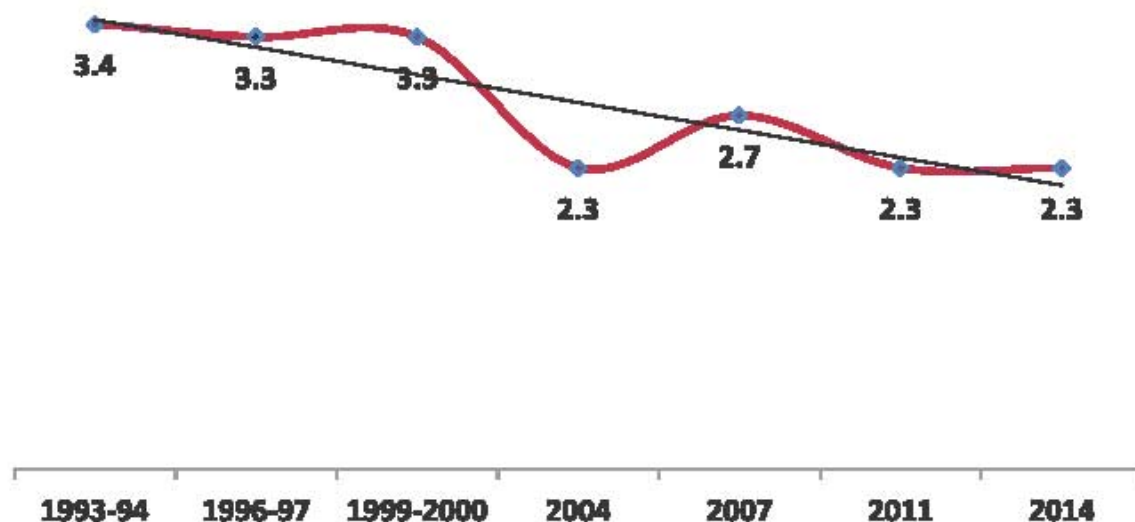
Regarding the observed SRB, figure 3-19 shows the overall trend of observed SRB for the period of 1993-94 to 2014. Observed SRB starts at 106.0, declines and then returns to this level in 2007. Then data show another increase and another decline. In an interesting contrast, figure 3-20 presents TFR in Bangladesh during the same period, showing an overall decline from 3.4 to 2.3. The key point is that while TFR declined from 2004 to 2014, observed SRB increased during this period with few exceptions. Overall, during the period of low TFR the observed SRB is found to be higher, which lends support in favour of Bongaarts' argument that low TFR could also lead to skewed sex ratio at birth. To better illustrate the trends, both figure 3-19 on observed SRB and 3.20 on TFR are presented together in figure 3-21. To draw reliable conclusions on this dynamic, however, rigorous testing and analysis of data are needed.

Figure 3-19: Observed Sex Ratio at Birth in Bangladesh: 1993-94 to 2014



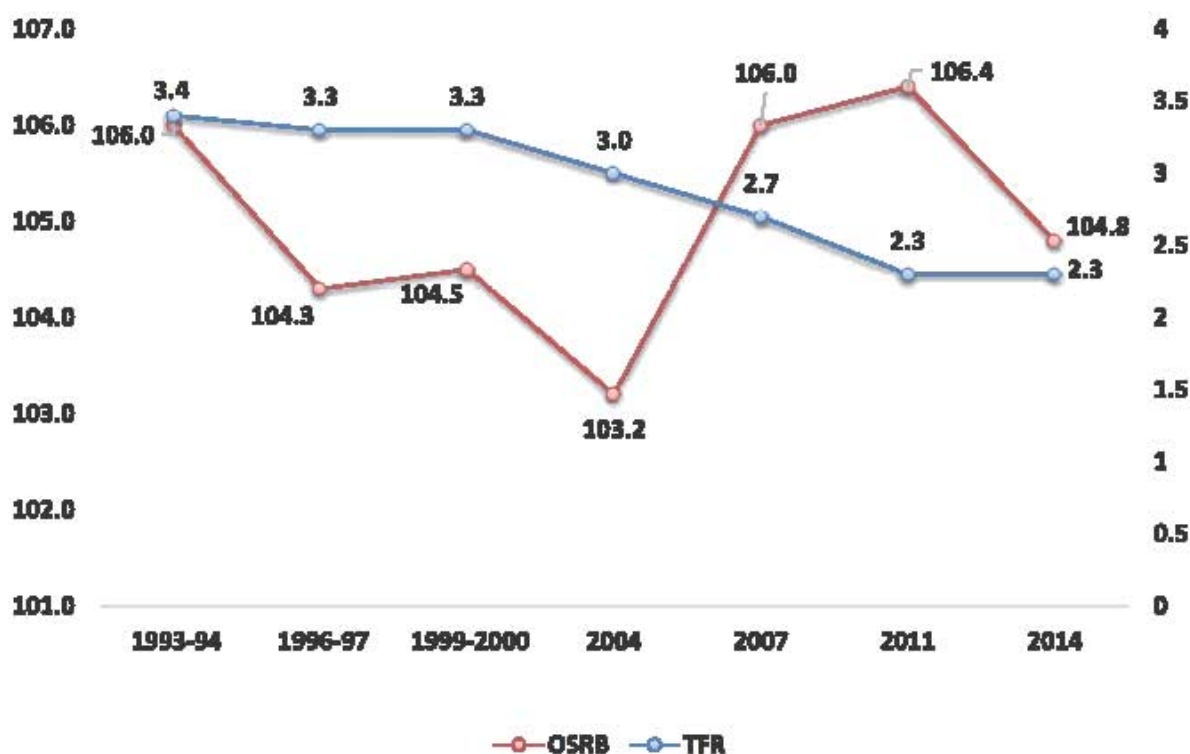
Source: Analysis of BDHS Data, 1993-94 to 2014

Figure 3-20: Trends of TFR in Bangladesh: 1993-94 to 2014



Source: Analysis of BDHS data, 1993-94 to 2014

Figure 3-21: Observed Sex Ratio at Birth and TFR in Bangladesh: 1993-94 to 2014



Source: Analysis of BDHS Data, 1993-94 to 2014

Divisional variation of observed and desired sex ratio is presented in table 3-24. The highest TFR is in Sylhet division (2.9), which is associated with the highest observed (107.1) and desired (114.9) sex ratio at birth compared with other divisions. On the other hand, both TFR (1.9) and observed SRB (98.6) are lower in Khulna division.

Table 3-24: Divisional Variation of Desired and Observed SRB by TFR in 2014

Division	2014		
	Total Fertility Rate	Desired SRB	Observed SRB
Barishal	2.2	114.3	105.6
Chattogram	2.5	112.1	106.4
Dhaka	2.3	110.0	106.6
Khulna	1.9	109.6	98.6
Rajshahi	2.1	108.3	102.6
Rangpur	1.9	108.8	105.5
Sylhet	2.9	114.9	107.1

Source: Analysis of BDHS Data, 2014

These findings show that sex ratios at birth (both desired and observed) vary considerably across divisions, regions and the socioeconomic background of women in Bangladesh. In addition, sex ratio at birth varies by use of contraception and level of TFR. The prevalence of MR also raises questions about the extent to which GBSS is performed under the name of MR for disguised abortion. This needs further investigation through a rigorous primary research specifically designed for exploring concrete data.

Chapter 4

Manifestations of Gender Inequality in Bangladesh

CHAPTER 4: MANIFESTATIONS OF GENDER INEQUALITY IN BANGLADESH

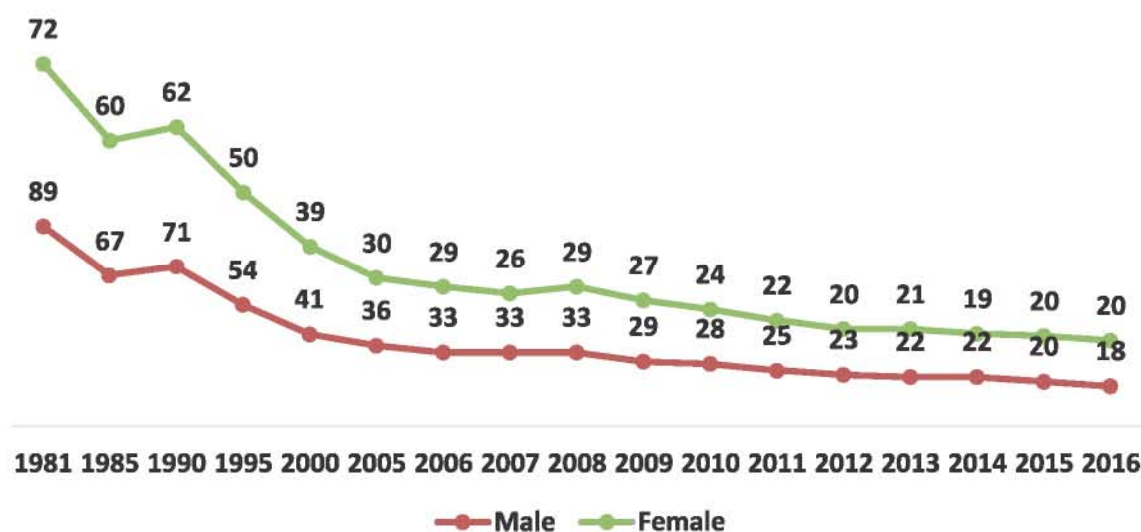
4.1 Manifestations of Gender Inequality in Bangladesh

Manifestations of gender inequality are measured in terms of child mortality including neonatal, post-neonatal and under-five mortality, under-five child sex ratio, life expectancy, educational attainment, labour force participation rate, nutrition status and health care utilization by gender.

4.1.1 Child Mortality

Figure 4-1 shows the neonatal mortality rate by sex from 1981 to 2016. Neonatal mortality rates for both male and female children decreasing over time, from 89 in 1981 to 20 in 2016 for males, and from 72 to 18 for females. The neonatal mortality rate (the death of a live-born baby within the first 28 days of life) for females was lowest in 2014 and up a point in 2015 and 2016, though data on a single point is not enough to provide any conclusion in this regard.

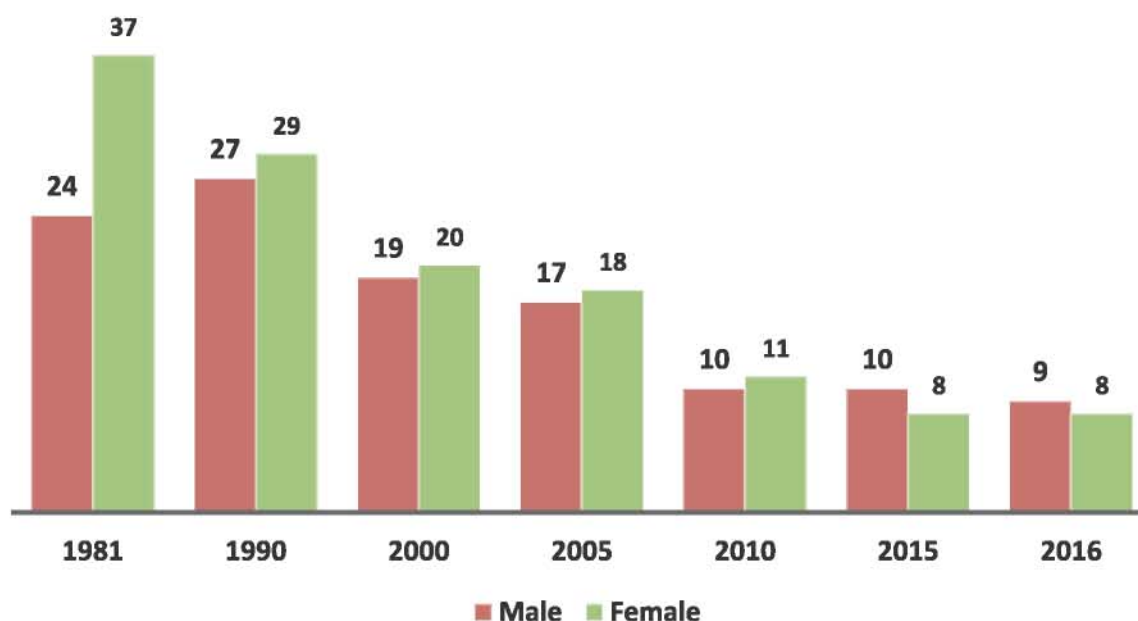
Figure 4-1: Neonatal Mortality Rates (per 1,000) by Gender in Bangladesh: 1981-2016



Source: Analysis of SVRS Data: 1981-2016

Consistent with the declining trend in neonatal mortality rate, post-neonatal mortality rate has decreased from 24 in 1981 and 9 in 2016 for males, and 37 to 8 for females. In 2015 and 2016, the rates are slightly lower for females than for males for the first time, though the difference is not statistically significant (figure 4-2).

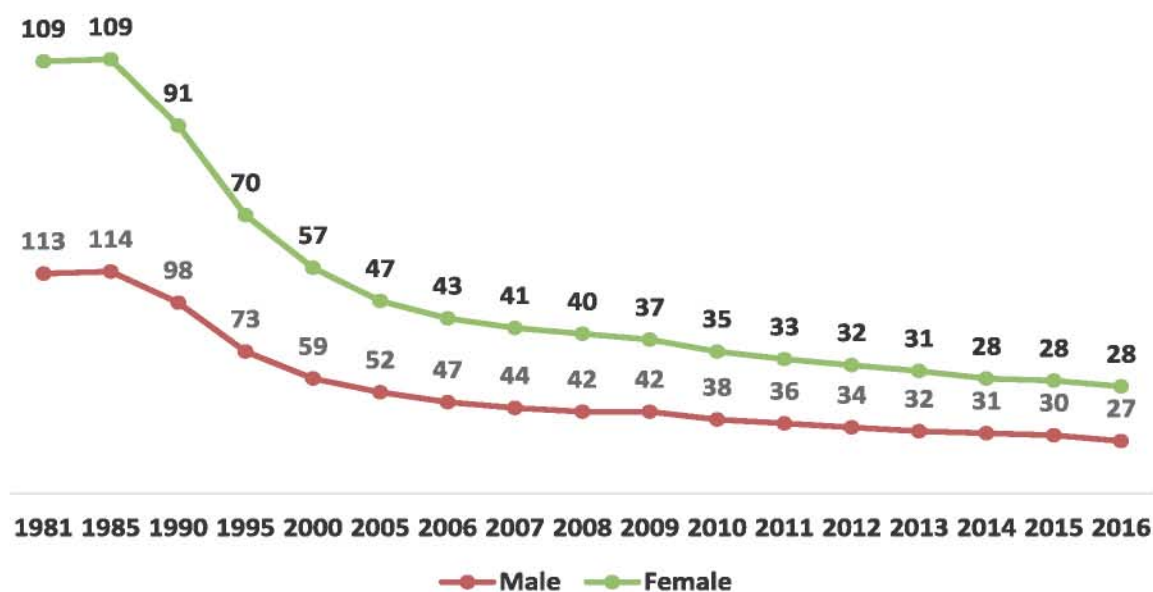
Figure 4-2: Trends in Post Neonatal Mortality Rates per 1,000 Live Birth by Gender in Bangladesh: 1981-2016



Source: Analysis of SVRS Data, 1981-2016

Bangladesh has achieved remarkable progress in its infant mortality rate. The male infant mortality rate was 113 deaths per 1,000 live births in 1981 and declined to 27 in 2016. Similarly, the female infant mortality rate was 109 deaths per 1,000 live births in 1981 and declined to 28 in 2016 (figure 4-3).

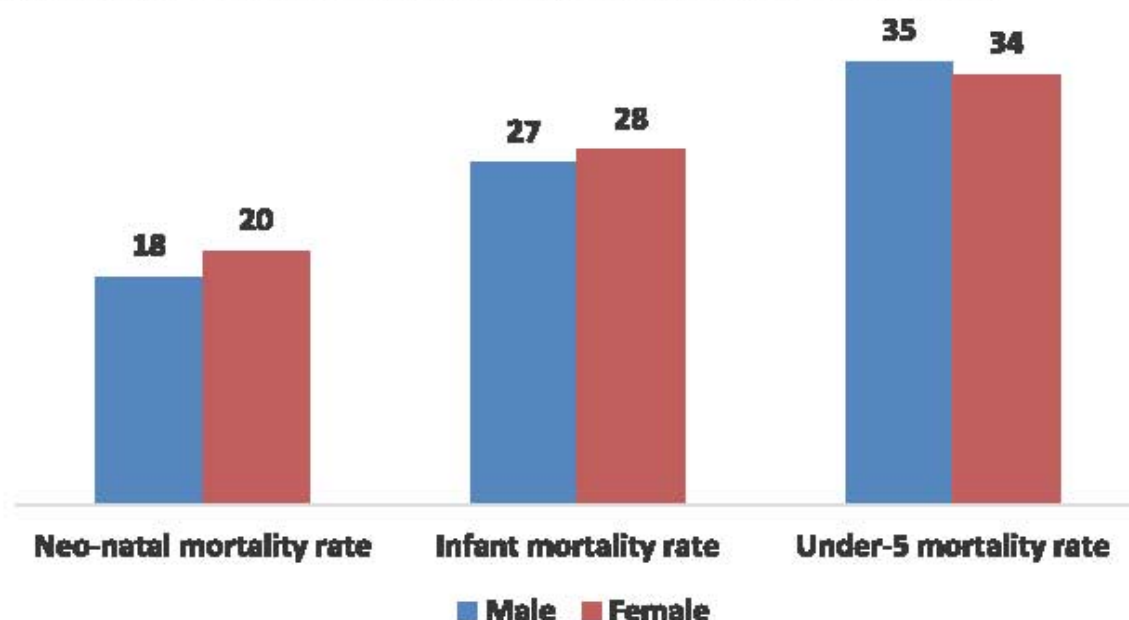
Figure 4-3: Trends in Infant Mortality Rates by Gender in Bangladesh: 1981-2016



Source: Analysis of SVRS and Sample Vital Statistics Data, 1981-2016

By using data from SVS, child mortality in Bangladesh by gender in 2016 is presented in figure 4.4. Neonatal and infant mortality rates are higher among female children than male children. In contrast, the under-5 child mortality rate is slightly higher for boys (35/1,000 males versus 34/1,000 females).

Figure 4-4: Child Mortality in Bangladesh by Gender in 2016 (per 1000 Births)

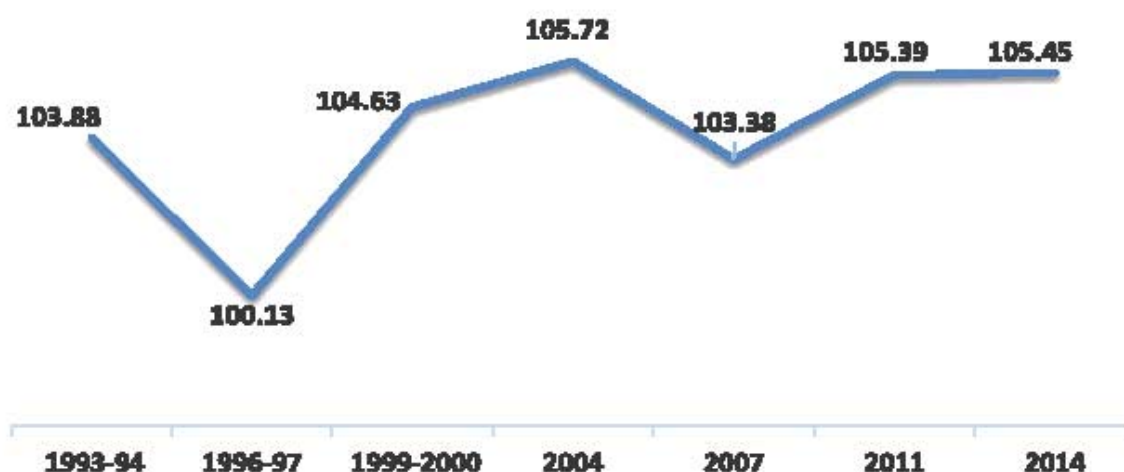


Source: Analysis of SVS Data, 2016

4.1.2 Under-Five Child Sex Ratio

Figure 4-5 shows a fluctuating trend of under-five child sex ratio from 1993-94 to 2014. Under-five sex ratio is defined as the number of boys born over 100 girls up to the age of five years. The under-five child sex ratio was 103.88 in 1993-94, went down to 100.13 in 1996-97, went up to 105.72 in 2004, went down to 103.38 and again rose to 105.45 in 2014. This is not unusual as we know that the sex ratio at birth is biased in favour of boys over girls and generally remains biased during childhood and levels off at adulthood.

Figure 4-5: Trends in Under-Five Child Sex Ratio: BDHS 1993-94 to 2014



Source: Analysis of BDHS Data, 1993-94 to 2014

Background characteristics provide insight into the under-5 child sex ratio (table 4-1). The under-five child sex ratio varied substantially across background characteristics. For example, the highest was observed in Rangpur division (110.90) followed by Barishal (110.73) and Khulna (104.99). On the other hand, Rajshahi division had the lowest under-five child sex ratio (100.54). In regional variation, the highest was found in Middle region (107.14), followed by the Western region (105.44) and Eastern region (104.14). Substantial variation was found in terms of place of residence. The highest under-five child sex ratio was observed in urban areas (108.63) compared with rural areas (104.02). The findings indicate a skewed distribution in favour of boys.

Table 4-1 : Under-Five Child Sex Ratio by Background Variables: BDHS 2014

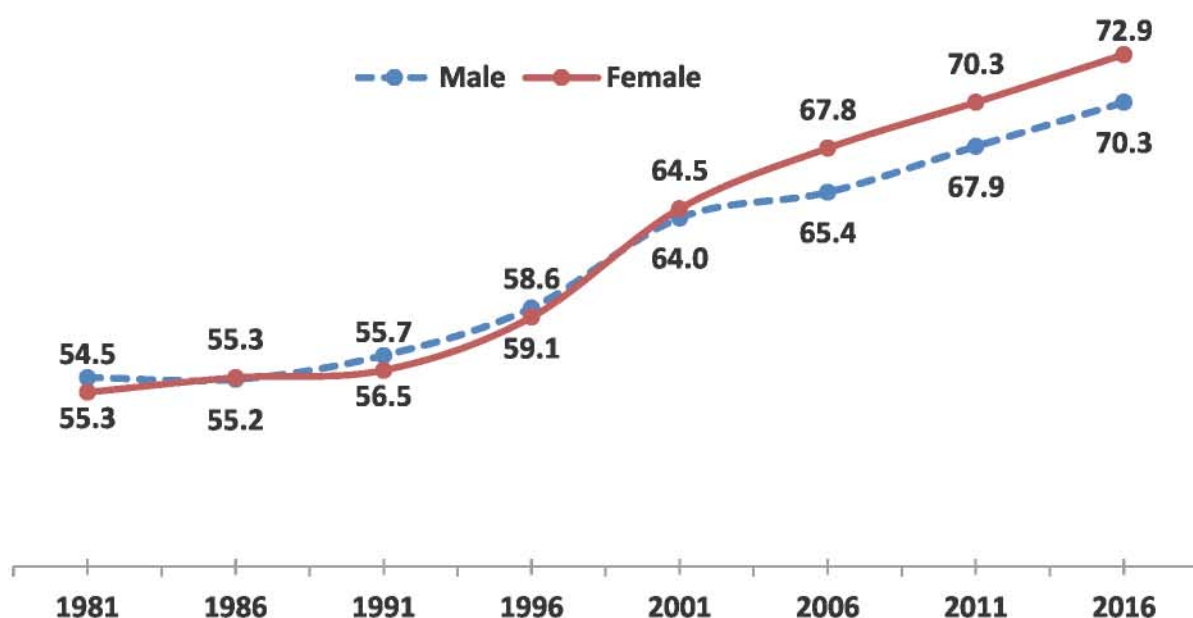
Background		Under-Five Child Sex Ratio
Division		
Barishal		110.73
Chattogram		103.65
Dhaka		104.84
Khulna		104.99
Rajshahi		100.54
Rangpur		110.90
Sylhet		104.68
Region		
Eastern		104.14
Middle		107.14
Western		105.44
Place of residence		
Urban		108.63
Rural		104.02
Total		105.45

Source: Analysis of BDHS Data, 2014

4.1.3 Life Expectancy by Sex

In the past, life expectancy for males was higher, but recently life expectancy for females has increased. Table 4-2 shows the trend in life expectancy by sex in Bangladesh from 1981 to 2016. In 1981, males and females had a life expectancy of 55.3 years and 54.5 years, respectively; by 2016, it had increased to 70.3 year for men and 72.9 years for women.

Figure 4-6: Trends in Life Expectancy by Gender in Bangladesh: 1981-2016



Source: Analysis of SVRS and SVS Data, 1981-2016

4.1.4 Educational Attainment by Sex

Table 4-2 presents educational enrolment by sex in Bangladesh from 2012 to 2015. Although there were no major differences in primary and secondary enrolment among males and females, the dropout rate among females at the secondary level was much higher than for males. In 2015, dropout in secondary level among females was 45.9 per cent compared with 33.72 per cent among males (table 4-3).

Table 4-2: Educational Enrolment by Sex in Bangladesh: 2012-2015

Education Enrolment	Year			
	2012	2013	2014	2015
Primary enrolment				
Male	95.4	96.2	96.6	97.1
Female	98.1	98.4	98.8	98.8
Secondary enrolment				
Male	46.7	46.8	46.8	46.7
Female	53.3	53.2	53.2	53.3

Source: Analysis of SVRS and SVS Data, 2012-2015

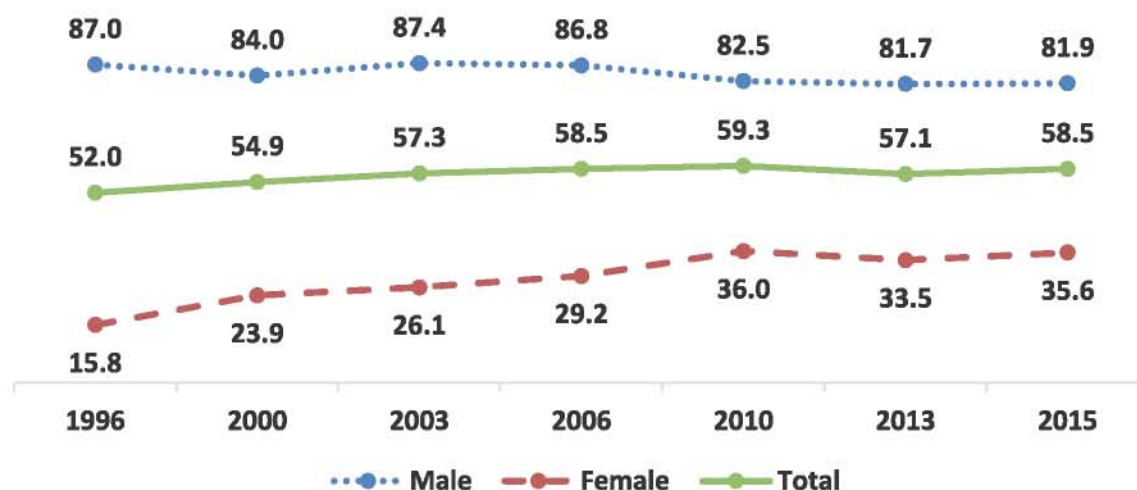
Table 4-3: Dropout from Education by Sex in Bangladesh: 2011-2015

	2011	2012	2013	2014	2015
Dropout in primary level					
Male	-	28.3	24.9	24.3	23.9
Female	-	24.2	17.9	17.5	17.0
Dropout in secondary level					
Male	46.73	34.9	34.18	34.52	33.72
Female	56.43	52.36	48.89	47.67	45.92
Dropout in higher secondary					
Male	26.34	20.31	20.31	25.32	16.83
Female	25.07	23.29	23.29	17.05	24.60

Source: BANBEIS, 2016

4.1.5 Employment Status by Sex

Figure 4-7 provides information on the trend in labour force participation rates by sex from 1996 to 2015. The rate of labour force participation is consistently higher for males than females. The labour force participation rate among females has increased from 15.8 per cent in 1996 to 35.6 per cent in 2015. Still, two thirds of women are outside of the labour market and at a much lower labour force participation rate compared with males (81.9 per cent in 2015).

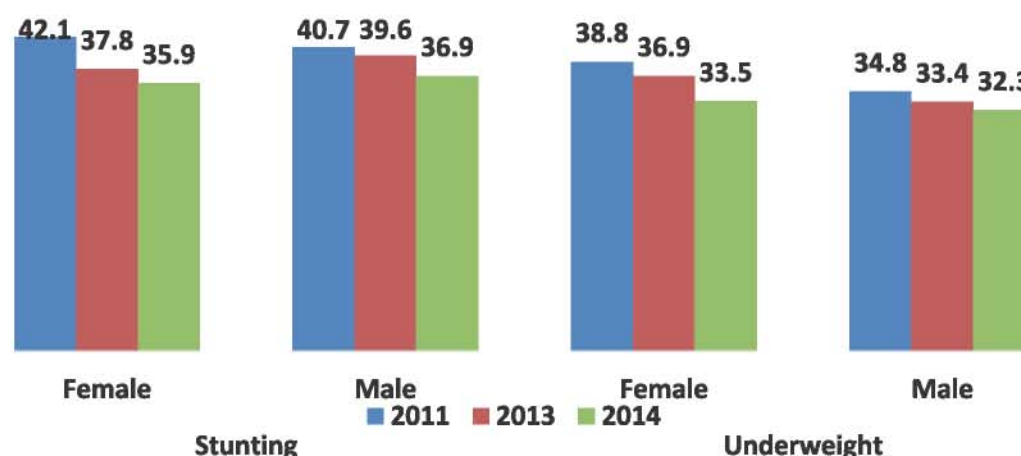
Figure 4-7: Labour Force Participation Rates by Sex in Bangladesh: 1996-2015

Source: Bangladesh Labour Force Surveys, 1996-2015

4.1.6 Nutritional Status of Children

Figure 4-8 shows the nutritional status of children in terms of stunting and under-weight by sex from 2011 to 2014. The prevalence of stunting and under-weight decreased both for males and females from 2011 to 2014. In the case of stunting, females had slightly lower prevalence rate than males in 2014 (35.9 per cent and 36.9 per cent, respectively). On the other hand, female children had higher prevalence of underweight than male children in 2014 (33.5 per cent and 32.3 per cent respectively).

Figure 4-8: Nutritional Status of Children by Sex in Bangladesh: 2011-2014

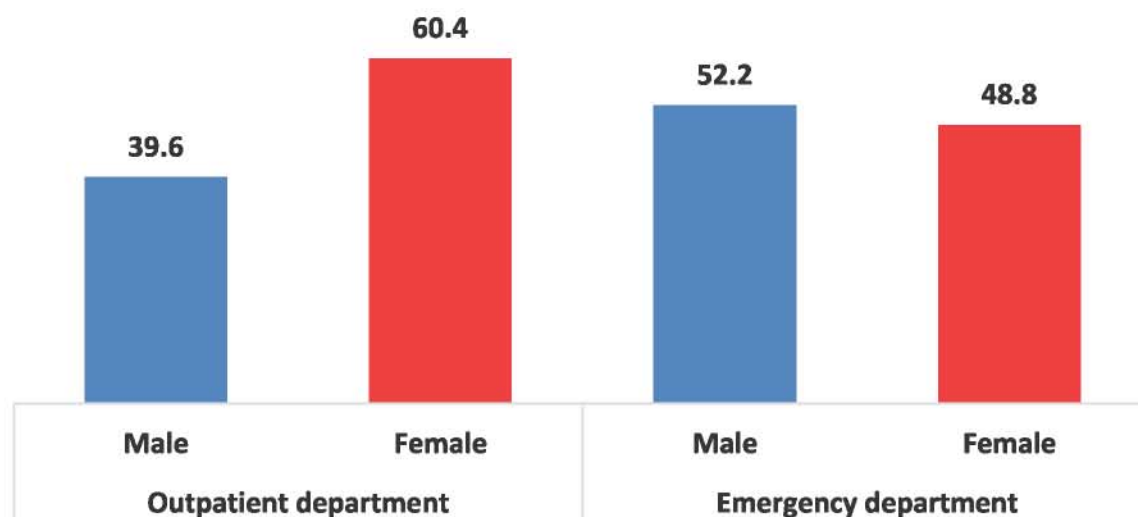


Source: Constructed from the Data Provided in the World Demographic Index, 2015

4.1.7 Health Care Utilization by Sex

Figure 4-9 presents health care utilization in Bangladesh by sex in 2015. Females have higher health care utilization in the out-patient department than males (60.43 and 39.57 per cent, respectively). On the other hand, health care utilization in the emergency department is lower among females than males (48.77 and 52.23 per cent, respectively).

Figure 4-9: Healthcare Utilization (%) in Bangladesh by Sex in 2015: Out-Patient Department and Emergency Department



Source: DGHS Health Bulletin, 2016

Concerning the manifestations of gender inequality in Bangladesh, it was observed that females are disadvantaged in areas of nutritional status (measured in terms of stunting and wasting), continuation of education at secondary level and labour force participation. These measures of gender inequality are important markers of the extent to which society ensures the development of women and women's empowerment. The development of women and women's empowerment are particularly important for prevention of negative consequences of gender-biased sex selection (GBSS). The consequences of GBSS are discussed in greater detail in subsequent sections.

Chapter 5

Consequences of Gender-biased Sex Selection

CHAPTER 5 CONSEQUENCES OF GENDER-BIASED SEX SELECTION

5.1 Consequences of Gender-Biased Sex Selection

Gender-biased sex selection (GBSS) leads to an excess of males over females. Hesketh and Xing (2006) anticipated that a large number of males will prevail over the next 20 years in major parts of Asia, and that both China and India will have a 12–15 per cent surplus of young men compared with other countries of Asia. The increasing number of males will have a wide range of demographic and social consequences for society (Guilmoto, 2015; Bongaarts, 2013; Bhagat et al., 2012; Das Gupta et al., 2003). In general, the findings of these studies showed that numerous direct and indirect costs are associated with gender-biased sex selection such as a marriage squeeze, polyandry and remarriage, divorce, reverse dowry system, heavy reliance on women in their traditional family roles, and violence against women and girls.

5.2 Marriage Squeeze, including Polyandry and Remarriage

Marriage squeeze is one of the demographic consequences of GBSS. Due to the imbalance in sex ratio at birth, there will be more males compared with females leading to oversupply of potential grooms and, consequently, the demand for potential brides in the marriage market will increase. This situation will create a “marriage squeeze” in the society, a situation where there are more boys than girls that eventually leads to decline in marriage rates; also, it leads to a “mismatch of marriage” in which there is either an imbalance in the number of brides and grooms in a society (Guilmoto, 2015; Bhagat et al., 2012; Guilmoto, 2012) or in the age of brides and grooms, among males and females. Postponement of marriage may become common to some extent and many men may not be able to find brides. Thus, in the future, a large proportion of males may live a life without wives and children.

In India and China, a marriage squeeze has already been observed. In India, brides are sometimes being purchased from other states when the number of males is greater than females (Guilmoto, 2015; Bhagat et al., 2012; Guilmoto, 2012). In addition, the incidence of polyandry may increase in the future. Polyandry is a form of polygamy in which a woman takes or has two or more husbands at the same time. Polyandry refers to the situation of having more husbands at a time for a woman. A skewed sex ratio is considered as the major factor contributing to polyandry. Due to the lack of potential grooms in the marriage market, it is likely that women will have more than one husband at a time and the probability of remarriage among women would increase (Bhagat et al., 2012).

5.3 Reverse Dowry System in the Marriage Transaction and its Negative Consequences

Gender biased-sex selection can also lead to bride price, an increased responsibility of women in the family. The dowry system is very common in many societies. Generally, the bride's family provides a dowry to the groom's family in Asian societies. In African societies, bride-price is an equally common practice. Dowry practice creates a platform for many social vices, including inequality, early marriage, violence against women, forced domination, trafficking and bride abduction; it cannot be accepted socially, ethically or economically (Bhagat et al., 2012; Das Gupta et al., 2003). A skewed sex ratio will create a large demand for brides among the eligible grooms. The situation may lead to a reverse dowry system in the marriage market where the groom will have to pay the equivalent of a bride price in cash or in kind to the bride's parents.

5.4 Women's Family Roles

Generally, skewed sex ratio in families implies significant demand for females compared to males to conduct the household activities. Due to excess demand for women in families, there will be an increase in the emphasis on a woman's family roles such as wife, daughter-in-law or mother. Child marriage is also more likely to occur if, for instance, there is an excess of boys in a family and child marriage is a way to bring in a woman to perform the household management. Due to child marriage, along with the full involvement in household chores, there will be less participation of women in work outside home (Bhagat et al., 2012).

5.5 Violence against Women and Girls

GBSS creates a surplus of men compared to women. This situation will increase the demand for women in a society at the time of marriage age. This situation will contribute to different types of violence and crimes against women and girls including trafficking, bride abduction, kidnapping, etc. (Bongaarts, 2013; Bhagat et al., 2012). The nature of female trafficking may take place with different purposes and directions. Female trafficking in conventional use of the term meets deviant needs such as prostitution, forced marriage, etc. In this case, however, due to a shortage of supply, women could be brought from other areas for marriage and family formation. The majority of this surplus male population may belong to low socioeconomic status, and as a consequence of lack of marriage, they may subsequently be involved with various anti-social behaviour and violence, threatening societal stability and security (Hesketh and Xing, 2006).

Prevention and mitigation of the negative consequences of GBSS requires relevant laws and policies. Effective government and NGO intervention programmes can help to ensure the prevention and mitigation of GBSS through the development and empowerment of women. Existing laws, policies and programmes have provisions that empower women and thereby prevent GBSS, and there are a number of interventions for changing women's status. The current status and issues related to existing laws and policies, and intervention programmes for changing the status and role of women are described in the next section.

Chapter 6

Laws and Policies

CHAPTER 6: LAWS AND POLICIES

6.1 Existing Laws and Policies for Prevention of Gender-Biased Sex Selection in Bangladesh

Since the emergence of Amartya Sen's 'widely cited' work *More than 100 Million Women are Missing*, in the 1990s, numerous researchers, policy makers and campaigners have moved to address gender-biased sex selection issues. New policies and laws deal with the issues, especially in countries such as China, India, Nepal, South Korea and Viet Nam, where abnormal imbalances in sex ratios have been found (European Parliament, 2012; Ganatra, 2008). Bangladesh also has several policies, strategies and laws related to empowerment and development of women.

Women's rights to equality are proclaimed in the Bangladesh Constitution. "All citizens are equal before law and are entitled to equal protection of law" according to Article 27 of the Constitution. Article 28(2) states that "Women shall have equal rights with men in all spheres of the State and of public life" (Ministry of Law, Justice and Parliamentary Affairs, 1972). There are always differences between the ideal and the realities. There are gaps between laws and implementation in the society that may contribute to women's inferior social, economic, political and legal status. This should be kept in mind while designing strategies for prevention and mitigation of GBSS. The Bangladesh Constitution has made special provision for women's representation in local government bodies and the National Parliament. Bangladesh signed and ratified (with some reservations) the Convention on the Elimination of all Forms of Discrimination Against Women (CEDAW) in 1984 and Beijing Platform for Action in 1995 (Ministry of Women and Children Affairs, 2009). It is evident from the Constitution that the State is constitutionally committed to establish women's rights. Some of the major policies, strategies and laws related to women's empowerment and development in Bangladesh will be discussed in the following sections.

6.2 Policies for Women Empowerment and Development

6.2.1 National Women Development Policy 2011

The 'National Women Development Policy 2011' was formulated to ensure the development and empowerment of women in Bangladesh. A National Women and Child Development Council headed by the Prime Minister as the chair of this council is proposed as a strategy to implement this policy (Ministry of Women and Children Affairs, 2011). This policy ensures women's empowerment and reduces manifestations of gender inequality. There are 22 objectives in this policy including the followings:

- Establish equal rights of men and women in areas of state and public life in light of the Constitution of Bangladesh, or;
- Ensure security and safety of women in all areas of state, social and family life, or;
- Ensure full and equal participation of women in the mainstream socioeconomic development;
- Bring up women as educated and skilled human resources;
- Remove existing male-female disparities;

- Establish gender equality in politics, administration, other areas of activity, socioeconomic activity, education, culture, sports and in all areas of family life;
- Ensure that appropriate steps are taken to ensure sound health and nutrition of women;
- Reflect gender perspective in the mass media including positive image of the women and female children;
- Assist women to realize their talent and other creative potentials.

Such objectives are a step towards achieving women's development and empowerment. A national action plan is formulated to measure results and progress periodically.

6.2.2 The National Children Policy 2011

The 'National Children Policy' was first formulated in 1994 and was later revised to the present 'National Children Policy 2011'. In this policy, particular emphasis is given to elimination of all kinds of torture and discrimination against female children. In addition, arrangements for a minimum six months maternity leave for working mothers, arrangement of separate toilets for the female child and female adolescent at educational and working place were secured. The following six initiatives are to be taken to eliminate the discrimination between male and female child (Ministry of Women and Children Affairs, 2011):

- Ensure necessary rights to achieve proper development of physical and mental health of the female child;
- Eliminate all types of discriminatory attitudes towards the female child and ensure gender-based equality in all spheres including family;
- Ensure regular presence of the female child at the educational institution;
- Ensure necessary arrangements in educational institutions and on the streets so that the female child will never be the victim of sexual harassment, pornography or any types of physical or mental torture;
- Ensure elimination of any discriminatory attitude towards the physically disadvantaged girl child and security everywhere;
- Facilitate development and empowerment of women in Bangladesh by ensuring the rights of female children.

The National Children Policy has given special attention to female children. The safe upbringing of female children at home and outside are mentioned in this policy with emphasis on elimination of all kinds of discrimination, including discrimination between male and female children in the existing socioeconomic context.

6.2.3 Bangladesh Population Policy 2012

The 'Bangladesh Population Policy 2012', formulated by the Ministry of Health and Family Welfare, emphasizes women's development and empowerment through reducing maternal and infant mortality, taking steps to improve health care for mothers and children by ensuring safe motherhood, ensuring gender equity and women's empowerment, and strengthening

care programmes (Ministry of Health and Family Welfare, 2012). Major strategies in this policy that are directly or indirectly related to ensuring gender equality and women's empowerment include the following:

- Formulate gender-sensitive strategies for both men and women in all government and non-government activities;
- Impart appropriate education and vocational training for women's skills development, and ensure their participation in economic activities;
- Encourage institutions/organizations involved in women's development to participate in activities pertaining to family planning and reproductive health;
- Eliminate women and child trafficking and all types of oppression and sexual abuse;
- Undertake an awareness campaign to make men more responsible regarding women's needs and requirements for family planning and reproductive health services;
- Create gender equality among boys and girls in terms of access to health services, nutrition, education and employment.

Thus, the population policy of Bangladesh is especially concerned with women's issues in general and their reproductive health and rights in particular. Proper implementation of the population policy will exert strong influence in achieving the desired goals of women's empowerment and development.

6.2.4 National Health Policy 2011

The Ministry of Health and Family Welfare formulated the 'National Health Policy 2011'. One of the main visions and specific objectives of this policy is to ensure that all people at all stages of life can access health care facilities on an equal basis. Emphasis was given to ensuring the constitutional rights of children and women in its main principles. Four aims of the policy are directly related to the empowerment and development of women: (i) to reduce child and maternal mortality rates; (ii) strengthening the family planning, health and reproductive health-related services to achieve replacement level of fertility; (iii) satisfactory arrangement to ensure better health of mother and child and to ensure safe maternity services facility in almost every village; and (iv) to ensure gender equality in the provision of health care services (Ministry of Health and Family Welfare, 2011).

6.2.5 National Youth Policy 2017

The Ministry of Youth and Sports formulated the 'National Youth Policy 2017'. In this policy, particular emphasis is given to issues related to women and girls such as ensuring gender-sensitive infrastructure provisions, showing respect to women, and inclusion of sex and reproductive health-related issues in the educational curriculum. In addition, inclusion of all young women into the banking and insurance system and marketing of the products produced by the young female entrepreneurs are mentioned, in order to create more employment and self-employment provisions for young women. Awareness-creation activities about sexual and reproductive health, encouraging women to participate in sports and treating them equally to ensure their participation in sports and recreation, as well as securing seats in public transportation, are mentioned. Measures are to be taken to ensure the security of young women and girls at all stages of society (Ministry of Youth and Sports, 2017).

6.2.6 National Education Policy 2010

The 'National Education Policy 2010' was formulated under the Ministry of Education with support from UNESCO. Among the 30 aims and objectives of this policy, Objective 7 advocates removal of "socioeconomic discrimination irrespective of race, religion, and creed and to eradicate gender disparity". Among the 28 chapters of this policy, Chapter 16 is titled 'Women's Education' and addresses issues unique to the education of girls and women. Fourteen strategies are mentioned to achieve the aims and objective of women's education. Strategy 7 includes gender studies and issues of reproductive health in the last two years of secondary level curriculum (Ministry of Education, 2010).

6.3 Laws for Empowerment and Development of Women in Bangladesh

6.3.1 Laws on Abortion in Bangladesh

Abortion is illegal in Bangladesh under the Penal Code of 1860 (Act XLV, Section 312-316, 6 October 1860), which was part of the British colonial law (Ministry of Law, Justice and Parliamentary Affairs, 2008). This 1860 law titled 'Of the causing of Miscarriage, of Injuries to unborn Children, of the Exposure of Infants, and of the Concealment of Births' states that "...if such miscarriage be not caused in good faith for the purpose of saving the life of the woman, be punished with imprisonment of either description for a term which may extend to three years, or with fine, or with both". This Act allows induced abortion only to save a woman's life (Act XLV, Section 312 of the Penal Code of 1860). Legal abortion can only be performed after the approval of two physicians and it must be performed by a trained physician in a hospital. This law was temporarily waived in 1972 for the women who were raped during the Liberation War of Bangladesh in 1971 (United Nations, 2001). A person who performs an illegal abortion in different contexts mentioned in the penal code is liable to be punished by imprisonment and/or fines (Ministry of Law, Justice and Parliamentary Affairs, 2008).

6.3.2 Legality of Menstrual Regulation (MR) in Bangladesh

Menstrual regulation (MR) is defined as the "procedure of regulating the menstrual cycle when menstruation is absent for a short duration". It was introduced by the government in a few urban government family planning clinics in 1974 (GoB, 1979). MR services were incorporated into the national family planning programme in 1979 and it was provided free of charge in all government hospitals, health and family welfare clinics. A 'Memorandum issued on MR program by GOB' (Memo no. 5-14/MCH-FP/Trg/79, Date: 06/12/79) from the Population Control and Family Planning Division, GOB, states: "...MR is one of the methods of the official FP program. It is included in the official policy, necessary budget provisions have been made for the methods and required equipment (MR syringes) are procured through the support of international agencies (GoB, 1979). Population Control and Family Planning Division also arranged training of medical and paramedical personnel through different projects supported by Pathfinder fund" (as cited in the Bangladesh National Menstrual Regulation Services Guidelines, pp. 55-56). MR is not abortion under the current abortion laws as pregnancy cannot be established (United Nations, 2001).

Recently, 'Bangladesh National Menstrual Regulations Services Guidelines' have been prepared by the Directorate General of Family Planning with technical support from the World Health Organization. This policy initiative contains norms, policy statements, regulations, performance descriptions and directives for providers, as well as technical

support to the providers in the practice of evidence-based clinical decision making and medical management of clients for MR procedures. Today MR services are provided as part of the family planning programme at all levels of the health care system by government, non-governmental and private facilities. A recent study has found significant positive impacts of MR in reducing maternal mortality and morbidity in Bangladesh (Singh, et.al. 2017).

6.3.3 The Dowry Prohibition Act

A dowry prohibition act was enacted in 1980 to prohibit exchanges of dowry during, after or before marriage as dowry exchanges promote violence against women. It had provision for penalties such as imprisonment and/or fines or both for giving, taking or demanding dowry. It was amended later in 1983, 1995 and 2000 and 'The Dowry Prohibition Act 2017' was enacted with increased scope to include more offences against women in the name of dowry to be punished, and increased scope to determine the level of punishment for different offences (GoB, 2018).

6.3.4 Child Marriage Restraint Act

The 'Child Marriage Restraint Act, 1929' was amended in 1961 and 1984 (Huda, 1997) and again in 2017. This Act has legally defined the age of a bride and bridegroom. It also defines different people involved in the arrangement of child marriage and provides punishment for doing so. It also suggests constituting different bodies composed of government officials, elected bodies and civil society member at different levels of society to prevent and take measures against child marriage (Bangladesh Government Press, 2017).

6.3.5 The Prevention of Oppression against Women and Children Act 2000

'The Prevention of Oppression against Women and Children Act 2000' was enacted by the Bangladesh Parliament to take strict punitive measures against the oppressors of children and women. The '*Nari O Shishu Nirjatan (Special) Ain 1995*' act was the predecessor of this present law (Ministry of Women and Children Affairs, 2000). This law has provisions to punish traffickers, kidnappers and ransom-takers of women and children. Rape, death in consequence of rape, dowry-related death and different sexual oppression acts are punishable under this law. If any child is born in consequence of rape, the person who commits rape is liable to provide maintenance cost of that child. To conduct the trial of the oppressor of women and children, 'The Nari O Shishu Nirjatan Daman Tribunal' was established (Ministry of Women and Children Affairs, 2000).

6.3.6 Domestic Violence (Prevention and Protection) Act, 2010

The 'Domestic Violence (Prevention and Protection) Act, 2010' was enacted under the Ministry of Women and Children Affairs. Domestic violence is defined in this act as "physical abuse, psychological abuse, sexual abuse or economic abuse against a woman or a child of a family by any other person of that family with whom victim is, or has been, in family relationship" (Ministry of Women and Children Affairs, 2010). Any action that causes or is likely to cause harm to the life, health, security or any organ of the body of a woman or child will constitute domestic violence. Verbal abuse, insult, ignorance, threat to any individual or making any words that may cause mental harassment and interference in individual's freedom of movement and opinion by any member of the family will also constitute domestic violence. The law ensures legal and medical support of the victims by the government service provider and punishment for the perpetrators.

6.3.7 The Prevention and Suppression of Human Trafficking Act, 2012

'The Prevention and Suppression of Human Trafficking Act, 2012' was enacted under the Ministry of Law, Justice and Parliamentary Affairs in 2013 (Bangladesh Government Press, 2017). The act has provisions to prevent and suppress human trafficking; ensure protection of the victims, their rights; ensure safe migration in accordance with international standards; and prevent and suppress the transnational crimes related with human trafficking. It has provisions to punish any person who is involved in using force or bringing any person to a place for the purposes of sexual exploitation or forced labour/service. It is a punishable act if any person tempts others by words, gestures or indecent personal exposure to bring that person into prostitution.

6.4 Strategies and Plans for Empowerment and Development of Women in Bangladesh

6.4.1 Strategic Plan for Health, Population, and Nutrition Sector Development Programme (HPNSDP)

The Ministry of Health and Family Planning, Government of the People's Republic of Bangladesh in 2011 formulated the 'Strategic Plan for Health, Population, and Nutrition Sector Development Program (HPNSDP), 2011-2016'. The goal of this plan is to ensure quality and equitable health care for all citizens in Bangladesh by improving access to and utilization of health, population and nutrition services. Many new elements have been added in this plan that are directly related to the improvement of maternal and child health such as increased number of skilled birth attendants to address preconception, pregnancy, childbirth and the immediate postpartum period; gradual development of 24/7 services to manage emergency obstetric care; prioritizing reduction of high maternal mortality; and providing special services to geographically and socially disadvantaged areas. This plan also emphasizes establishment of woman-friendly community clinics and domiciliary level services (Ministry of Health and Family Welfare, 2012).

6.4.2 Perspective Plan of Bangladesh 2010-2021

The 'Perspective Plan of Bangladesh (2010-2021): Making Vision 2021 a Reality' was prepared by the Planning Commission, Government of Bangladesh. One of the major visions of this plan is "promoting gender balance", which is a fundamental policy of the state. This perspective plan aims to increase reserved seats in the National Parliament and many similar measures like "institutionalization of gender responsive planning and budgeting" as well as arranging skill development training for women on priority basis at home and abroad. The plan proposes to increase women's participation in the labour force, and to review all laws related to gender inequality to ensure gender-sensitive good governance in order to "empower and mainstream women in national life" (Ministry of Planning, 2012).

6.4.3 Seventh Five-Year Plan

The country's Seventh Five-Year Plan FY2016-FY2020: 'Accelerating Growth, Empowering Citizens' was prepared by the Planning Commission of Bangladesh under the Ministry of Planning in 2015. The Seventh-Five Year Plan aims to raise female to male ratio in tertiary education from its current 70 per cent to 100 per cent; raise the ratio of literate female to male for age group 20-24 to 100 per cent from the current 86 per cent; and encourage female enrolment in technical and vocational education. The vision of this plan is to establish "a country where men and women will have equal opportunities and rights and women will be

recognized as equal contributors in economic, social and political development”. The plan sets four areas of strategic objectives: 1) Improve women’s human capabilities; 2) Increase women’s economic benefits; 3) Enhance women’s voice and agency and 4) Enhance women’s voice and agency (GED, 2015).

Table 6-1: Summary of Major Policies to Promote Women’s Empowerment and Development

Name of Policies	Issues Related to Women’s Empowerment and Development	Formulated by
National Women Development Policy 2011	<ul style="list-style-type: none"> The aim of the policy is to eliminate all forms of discriminations against women and ensure equality in all the areas of human rights and fundamental freedom, such as socio-political, economic and cultural freedoms. 	Ministry of Women and Children Affairs, Government of Bangladesh
The National Children Policy 2011	<ul style="list-style-type: none"> This policy is applicable for all citizen children of Bangladesh. But this policy has given special attention to the welfare of female children and female adolescents in its ‘Main Principle’. Among the aims and objective of the National Children Policy 2011, particular emphasis was given on the development of female children. The policy also discusses the six initiatives that will be taken to eliminate the discrimination between boys and girls in the existing socioeconomic context in Bangladesh. 	Ministry of Women and Children Affairs, Government of Bangladesh
Bangladesh Population Policy 2012	<ul style="list-style-type: none"> The policy adopts six strategies in order to establish better equality among men and women. Two objectives of this policy directly mention the reduction of maternal and infant mortality, and ensuring gender equity and women’s empowerment. 	Ministry of Health and Family Welfare, Government of Bangladesh
National Health Policy 2011	<ul style="list-style-type: none"> The policy has some aims related to women and children that focus on reducing child and maternal mortality rates, strengthening family planning, health and reproductive health services, providing arrangement to ensure better health of mother and child, ensuring safe maternity services facility, and ensuring gender equality in the provision of health care facilities. 	Ministry of Health and Family Welfare, Government of Bangladesh

National Health Policy 2011	<ul style="list-style-type: none"> The policy has some aims related to women and children that focus on reducing child and maternal mortality rates, strengthening family planning, health and reproductive health services, providing arrangement to ensure better health of mother and child, ensuring safe maternity services facility, and ensuring gender equality in the provision of health care facilities. 	Ministry of Health and Family Welfare, Government of Bangladesh
National Youth Policy 2017	<ul style="list-style-type: none"> “Women-youth” is one of the major types of youths among the 16 categories of youth. This policy emphasizes gender-sensitive infrastructure provisions, respect for women, and inclusion of sex and reproductive health related issues in the educational curriculum. This policy will provide more employment and self-employment provisions for young women. Ensuring 	Ministry of Youth and Sports, Government of Bangladesh

Table 6-2: Summary of the Major Laws to Promote Women Empowerment and Development Formulated by Ministry of Law, Justice and Parliamentary Affairs

Laws on Abortion	<ul style="list-style-type: none"> Abortion is illegal in Bangladesh. Legal abortion is only to save the life of a woman. Illegal abortion is punishable by imprisonment and/or fine.
Legality of MR	<ul style="list-style-type: none"> MR is one of the methods of the official family planning programme. MR is not legally abortion under the penal code of 312 as pregnancy cannot be established.
The Dowry Prohibition Acts (Act No. XXXV of 1980).	<ul style="list-style-type: none"> The penalty for giving or taking dowry or penalty for demanding dowry is five years imprisonment and shall not be less than one year, or with fine, or with both.
Child Marriage Restraint Act, 1929 (Act No. XIX of 1929); amended in 1961, 1984 and 2017.	<ul style="list-style-type: none"> This Act has a penalty system for persons involved in arrangement of child marriage. They shall be punishable with imprisonment, or with fine, or with both.
‘The Prevention of Oppression against Women and Children Act 2000’	<ul style="list-style-type: none"> This law states different punishment systems for persons who are involved with trafficking, kidnapping, taking ransom of woman and children. Rape or death in consequence of rape, dowry-related death and other sexual oppression are punishable acts according to this act.

Domestic Violence (Prevention and Protection) Act, 2010.	<ul style="list-style-type: none"> • Different types of domestic violence against women and children are defined. • Duties and responsibilities of different actors related to address the issues are determined.
The Prevention and Suppression of Human Trafficking Act, 2012	<ul style="list-style-type: none"> • The Act has provision to prevent and suppress human trafficking; ensure protection of the victims and their rights; ensure safe migration in accordance with international standards; and prevent and suppress the transnational international crimes related to human trafficking. • It has provision to punish any persons who are involved in action to force or bring anybody for sexual exploitation or prostitution or forced labour/service. • It is punishable act if any person tempts others by words, gestures or indecent personal exposure to bring them into prostitution.

The Government of Bangladesh has formulated policies, laws, programmes and strategies to protect and uphold the constitutional rights of women of all ages and backgrounds. The formulation resulted from a national demand for establishing social justice by reducing the gender gap (i.e. low status and related subjugation and exploitation of women) in the dominant patriarchal society. It is noteworthy to mention that there is a specific 'National Women Development Policy 2011' solely for the women's development and empowerment (see section 6.2.1). In other national policies, programmes and laws, women's development and empowerment issues are particularly noted. Although GBSS is not specifically spelled out, proper implementation of these government initiatives is expected to enhance women's status and position in the society, which in turn, would discourage GBSS.

Chapter 7

Intervention Programmes/Strategies

CHAPTER 7: INTERVENTION PROGRAMMES/STRATEGIES

7.1 Programmes, Strategies and Initiatives for Women's Development and Reducing Gender Inequality in Bangladesh

The Government of Bangladesh has initiated a wide range of interventions and programmes to ensure gender equality and women's empowerment and development. These measures include introducing new policies, laws, activities for ensuring more equitable opportunities in inheritance, direct subsidies at the time of a girl's birth, stipend/scholarship programmes, maintaining gender-based school and job quotas, providing financial incentives, and introducing pensions for parents with daughters only. There are also joint inter-agency commitments of OHCHR, UNFPA, UNICEF, UN Women and the World Health Organization that have encouraged and supported the efforts of the Government of Bangladesh.

Along with the government's initiatives, international and national non-governmental organizations, civil society and communities also contribute to upholding the rights of the girls and women and to ensuring gender equality. Advocacy, sensitization and awareness-raising programmes undertaken by the government and non-governmental organizations play an important role in changing people's mindset, attitude and behaviour towards women.

Providing women education, employment and access to health care; giving them a voice, and making them aware of their rights and responsibilities were the main focus of these programmes and strategies. Designated departments and ministries continue to fully engage their resources and strengths for the development of women in Bangladesh.

The Department of Women Affairs under the Ministry of Women and Children Affairs, Department of Social Welfare under the Ministry of Social Welfare, Ministry of Youth and Ministry of Home Affairs are primarily concerned for the well-being of the women of the country. With all the efforts, initiatives and programmes, Bangladesh has made considerable progress in the development of girls and women. For example, school enrolment rates, labour force participation, life expectancy of women, sex ratio and the mobility of women have improved remarkably. The development of women is a continuous process, and Bangladesh is progressing towards achieving its goals and targets set in the policies, programmes and the Constitution.

According to the World Economic Forum's Gender Gap Index Report 2017, Bangladesh has made considerable progress in ensuring gender equality. The country has improved its situation to such an extent that it has climbed up to the 47th position in reducing gender inequality among 144 countries in 2017, up significantly from the 91st position among 115 countries in 2006 (World Economic Forum, 2017). Bangladesh is also ranked number one among the South Asian countries in reducing the gap in gender inequality.

Despite gradual improvement in different gender indicators, there is still a wide range of needs to be fulfilled and issues to be addressed in order to eliminate gender inequality that obstruct women's rights and well-being. The government, NGOs, civil society, media, development partners and international agencies are working with concerted effort to achieve the goal of development of women in Bangladesh.

7.2 Different Programmes and Initiatives of the Government

7.2.1 Ministry of Women and Children Affairs

With the implementation of the policies, programmes and laws, development of women is expected to be ensured, which in turn will address many of the harmful factors that may be fostering an environment for gender-biased sex selection. The Ministry of Women and Children Affairs (MOWCA) in particular is directly working for women's development. Government programmes are clustered in six categories:

1. Human resource development and self-employment:
 - providing training
2. Poverty alleviation and creation of employment:
 - income-generating training
 - microcredit and job information
3. Socioeconomic development and social safety-net:
 - women entrepreneurship development programme –Joyeeta
 - registration and control of voluntary women association
 - sales and display centre – Angona
 - vulnerable group development/Income Generating Activity, Vulnerable Group Feeding
 - sewing machine distribution
 - lactating mother allowance and maternity allowance for poor mothers with children
4. Prevention of violence against women and children:
 - programmes for prevention of violence against women
 - programmes for helping women
 - safe home programme for women, children and adolescents
 - involvement of NGOs in preventing violence against women
 - national help line for prevention of violence against women and children
5. Infrastructure development and services:
 - hostel construction programme for women in services
 - day care centre for the children of working/professional/in-service mothers
 - fund for destitute women and children
 - e-service programme for women
6. Awareness building and gender equality programme:
 - gender-sensitive and awareness-building activities (e.g. training on sexual harassment at the workplace, women's health, violence against women, movement against dowry, child abuse, trafficking of children and women, food and disaster management, effect of tobacco, climate change risk reduction, training on behaviour change communication, income generating activities, human rights, etc.)
 - establishment of clubs for adolescents
 - observance/celebration of clubs for adolescents
 - training/seminars/workshops at the Department of Women Affairs

- observance of different national and internal days, e.g. International Women's Day, World Mother's Day, National Girl Child Day, Begum Rokeya Dibos
- international fortnight programme on violence against women

(Sources: <http://www.dwa.gov.bd/> and DWA Report, 2016)

Within each of these clusters are activities, projects and initiatives for the development of women. MOWCA is committed to implementing those initiatives and programmes to create opportunities for the elimination of vulnerability, inequality, injustice, violence against women and to develop a society with equal dignity for women in Bangladesh.

Women's participation in the labour force is now higher than ever before. Job opportunities in government and non-government sectors, including export-oriented industries, have opened up new livelihood opportunities for women in Bangladesh. The rise of garment industries since the 1980s has given the women to work and earn outside the home (Khosla, 2009).

There are several ongoing development projects under the Department of Women Affairs directly related to development of women and children. These include: day care centres for poor and lower middle class mothers; extension of training academy; establishment of a child and women cardiac unit at the national heart foundation; food and livelihood safety-net protection; establishment of hostel/training centre for working women in Nalitabari, an Upazila of Sherpur District in the newly created Division of Mymensingh; hostels for garment workers; advancement and promoting women's rights; vocational training for women working in the ready-made garments industry in Bangladesh; "generation breakthrough", a multiple approach to building healthy relationships for primary prevention of gender-based violence and meeting sexual and reproductive health and rights of adolescents in Bangladesh; and establishment of hospitals for women and children. Some of these initiatives and programmes are briefly described below.

7.2.2 Vulnerable Group Development Programme

The vulnerable group development programme (VGD) is the biggest social safety net programme of the Ministry of Women and Children Affairs (MOWCA, 2017). The goal of this programme is to bring food security and self-reliance to poor and vulnerable women in Bangladesh. The objective is food assistance and sustainable development. Under this programme, 30 KG rice or wheat is distributed each month to poor women in Bangladesh. About 1,000,000 beneficiaries were provided with 30 KG rice each month in FY 2016-2017 (MOWCA, 2017). The VGD programme is helping a large number of vulnerable women to reduce their poverty level and receive training on life-skill development and self-reliance.

7.2.3 The Maternity Allowance for Poor Mothers

MOWCA's 'Maternity Allowance for Poor Mothers' aims to improve health for women and children in Bangladesh. A maternity allowance is provided by the Government to pregnant women to ensure better nutrition for mothers and their children (MOWCA, 2015). This programme has a huge impact on the health and well-being of poor pregnant mothers and their children, and helps to reduce health disparity in Bangladesh.

7.2.4 Funds for Lactating Working Mothers

The programme on 'Funds for Lactating Working Mothers' has been operating under MOWCA since 2010 to help lactating mothers in urban areas. Lactating mothers in the ready-made garment industries (in Dhaka, Narayanganj, Gazipur) and lactating working mothers from 64 districts have been receiving a monthly allowance. Training related to health, nutrition and income-generating activities is also being provided by various non-governmental organizations (MOWCA, 2017).

7.2.5 Joyeeta Foundation

This MOWCA programme aims to economically empower women. The vision of this programme is to establish a separate supply chain of production and distribution of products of women entrepreneurs in Bangladesh. Almost 180 registered women's associations are involved under this programme, with about 14,000 women directly involved in these groups (MOWCA, 2015).

7.2.6 Multi-Sectoral Programme on Violence against Women

This programme is jointly run by MOWCA and the Ministry of Health and Family Welfare (MOHFW), as a collaboration between the Government and NGOs. This programme will help to prevent violence against women in Bangladesh. Providing services to women and child victims of violence in Bangladesh, there are eight one-stop crisis centres (seven at Divisional level and one in Faridpur), 60 one-stop crisis cells in the 40 district's city hospitals and 20 upazila hospitals (MOWCA, 2016). Upazila is an administrative region in Bangladesh. They function as sub-units of districts. The upazilas are the second-lowest tier of regional administration in Bangladesh.

7.2.7 Micro Credit Fund for Women

The Micro Credit Fund for Women programme is designed to help make poor and destitute rural women more self-reliant. Under this programme, US \$ 119 to US \$178 (with a 5 per cent service charge) are being provided through the Department of Women Affairs and Jatio Mohila Shangstha (MOWCA, 2016).

7.2.8 Child Day Care Facilities for Working Women

To achieve gender equality and women's empowerment, the government is trying to increase female labour force participation by providing 43 child day care centres run by the Department of Women Affairs for working mothers in Bangladesh (MOWCA, 2015). Though the number of child day care centres is very small, the government is strongly committed to increasing the number of centres in district and upazila levels, and has taken steps to expand coverage (MOWCA, 2017). Also, to prevent early marriage, awareness-building activities and life-skill development trainings have been provided under ongoing projects and programmes of government of Bangladesh to make the women more capable and self-reliant.

7.2.9 Female Secondary-School Stipend Project (FSSP)

The Bangladesh Ministry of Education (MoE) has introduced a financial incentive programme known as the Female Secondary-School Stipend Project (FSSP). The goal of this programme is women's advancement in education. The objective of this programme is to ensure gender

equality in education. The Ministry of Education has another stipend programme for female students at degree level, to ensure higher education for female students. Under this programme, almost 159,000 female students have received the stipend in the FY 2014-2015 (Ministry of Finance, 2016).

7.2.10 Conditional Cash Transfer (CCT)

Ministry of Education (MOE) has also introduced the conditional cash transfer (CCT) initiative to provide cash to families to delay their daughter's marriage. The objective of this programme is to reduce the dropout rate of female students. This programme and others, like the FSSP, have played an important role in reducing gender inequality in education and have increased girls' access to secondary education (Mahmud, 2003).

7.2.11 Maternal Health Voucher Scheme

The Bangladesh Ministry of Health and Family Welfare (MOHFW) provides services at maternal and child welfare centres in Bangladesh to ensure improved health care for mothers and children. Under these programmes, nutritional supplements and other maternity services to pregnant mothers (iron/folic acid, introducing skilled birth attendants, Emergency Obstetric Care service) are provided to ensure good health and welfare for the mothers and children. This programme served almost 522,000 women in FY 2015-2016 (Ministry of Finance, 2016).

7.2.12 Family Planning Programme

The family planning programme is one of the most successful programmes of the Ministry of Health and Family Welfare. As part of the Bangladesh Population Policy, with the objective to improve maternal and child health, the family planning programme has played a crucial role in enabling the women of Bangladesh to choose when and if to become pregnant, including for birth spacing. The major family planning activities include efforts to improve the contraceptive prevalence rate (CPR), enhance skilled attendance at birth, promote long-acting and reversible contraceptives, improve the quality of services and women-friendly and youth-friendly services, promote adolescent sexual and reproductive health services, secure the supply chain for family planning supplies, provide satellite clinic services, and increase the choice of modern methods of contraceptives and ensure access to menstrual regulation as part of comprehensive voluntary services.

The family planning programme has not only reduced the total fertility rate, maternal mortality rate and child mortality rate, but has played an important role in empowering women by reducing the burden of bearing more children, improved health conditions of women, increased labour force participation of women, helped have planned family, increased nutritional and educational level of children and many other ways in Bangladesh.

7.3 Impact of Government Programmes on Women's Development

The Government of Bangladesh has formulated measures to improve the status of women and children. To fulfill the goals and objectives of these policies, the government has also undertaken interventions and programmes with direct and indirect impact. Their aim is to ensure gender equality for women and girls in Bangladesh and, through them, women's advancement has been strengthened (GoB, 2010). The government has created an environment that will bring gender equality in norms, values, culture and society. Ultimately,

this has contributed in reducing gender bias in all spheres of life in Bangladesh. Women in Bangladesh have more access to education, health facilities and income opportunities than ever before. They are now living with improved gender laws, policies, strategies and programmes. With gradual ongoing improvement in women's development and empowerment, gender-biased behaviour like son preference and other contributing factors for potential gender-biased sex selection, will eventually be reduced in Bangladesh. Since GBSS is yet to surface on the policy agenda in Bangladesh, existing policies are focused on gender equality and development of women to establish an egalitarian status and role for men and women. Stakeholders are often not aware of concerns about GBSS in Bangladesh. Unless discussion of GBSS is brought to the forefront, based on the evidence and impacts in other countries and trends and enabling factors present in Bangladesh, it will not be possible to effectively campaign for laws banning use of ultrasound to detect the sex of the fetus, education for health professionals, and other measures that may reduce or prevent GBSS. With further research, evidence-based documentation on GBSS will create an enabling environment for the pursuit of these kinds of policies.

The manifestations of GBSS are embedded in differentials in infant mortality, child mortality, maternal mortality and access to health care by sex, which is why addressing GBSS would at the same time contribute to achieving the Sustainable Development Goals. Efforts to introduce appropriate laws, policies and intervention programmes deserve special attention in Bangladesh so that GBSS can be prevented well in advance of the shocking numbers in some other countries of the region. Similar to neighbouring countries, Bangladesh should introduce various direct and indirect intervention programmes to address issues related to GBSS such as creating awareness among people, sensitizing policymakers, introducing cash transfer programmes, providing quality education and ensuring women's empowerment. This study concludes with the recommendation that GBSS be raised as an important issue for discussion among the public and decision makers in Bangladesh, building on the positive impact of government programmes on women's development.

7.4 NGO's Role in Women's Development in Bangladesh

The role of NGOs in community activities/interventions is well known for reducing gender inequality in Bangladesh. National and international NGOs as change agents have played important roles in raising awareness of the women's issues in Bangladesh. A number of initiatives have been taken by NGOs and INGOs on education, employment and health services to improve the status of women and children in Bangladesh.

7.5 International Commitment to Women's Development in Bangladesh

Development partners, including United Nations agencies, bilateral donors and multilateral donors have a long history of collaboration with the Government of Bangladesh regarding women's development. The focus of each agency differs, but together they encompass all aspects of gender issues including health, education, nutrition, rights and empowerment. The combined efforts of international organizations have played an important role in reducing gender inequality which in turn is helping to reduce gender gap in Bangladesh.

7.6 Mass Media Campaigns

Mass media campaigns normally use radio, TV and billboards to reach a broad spectrum of people. Mass media exerts influence on people's attitudes, awareness and behaviours

regarding health and education through drama, movies, advertisements and educational and entertainment programming. Literature suggests that mass media plays an important role in motivating people and changing their behaviour, including towards women and girls. Bangladesh Television (BTV) broadcasts different awareness programs related to women's and children's health, education, rights, gender equality, etc. The message of the National Population Programme is "not more than two children; one is better" and it promotes the two-child norm in Bangladesh. There are also many cartoons, especially the Meena cartoon, which convey the message regarding elimination of discrimination against daughters. Private channels also convey information and messages raising awareness of women's issues.

In Bangladesh, policymakers and stakeholders consider that reduction of gender inequality and development of women in the broader context of the society are necessary preconditions for eliminating all sorts of discrimination. A summary description of intervention programmes by the government and NGOs are presented in the following table.

Table 7-1: Different Programmes, Interventions and Factors Related to Gender Equality in Bangladesh

Programme/intervention	Objects	Activities
VGD Programme, Ministry of Food and Disaster Management, Government of Bangladesh	<ul style="list-style-type: none"> VGD is the biggest government social safety net programme, to ensure socioeconomic development of rural poor women in Bangladesh 	<ul style="list-style-type: none"> The beneficiaries (poor rural women) get 30 kilograms of rice or wheat in each month.
Maternity Allowance for Poor Mothers, Ministry of Health and Family Welfare, Government of Bangladesh	<ul style="list-style-type: none"> To reduce the risks for pregnant mothers and their newborn babies 	<ul style="list-style-type: none"> Maternity allowance of US \$ 6 is being provided to poor pregnant mothers.
Supporting Funds for Lactating Mothers, Ministry of Health and Family Welfare, Government of Bangladesh	<ul style="list-style-type: none"> To provide financial support for the health of pregnant women in urban areas 	<ul style="list-style-type: none"> Lactating mothers of 64 district cities and some upazila levels are getting US \$6 per month in 24 months cycle.
Joyeeta Foundation, MOWCA, Government of Bangladesh	<ul style="list-style-type: none"> To promote products and services of women entrepreneurs 	<ul style="list-style-type: none"> Joyeeta arranges fair to market the products of its 180 registered women's associations from the remote areas of Bangladesh.
Multi-sectoral Programme on Violence against Women, MOWCA and MOHFW, Government of Bangladesh	<ul style="list-style-type: none"> To prevent and protect the women oppression in Bangladesh through Government-NGO collaboration in an integrated manner 	<ul style="list-style-type: none"> 60 One Stop-Crisis Cells have been established to provide services for the women and children victims of violence. National Trauma Counselling service for the gender violence victims. National Helpline Centre (10921) to provide psychic-social counselling for women and children. A National Forensic DNA profiling Lab to support women and children victim of violence.

Micro-credit, MOWCA, Government of Bangladesh	<ul style="list-style-type: none"> ▪ To make rural destitute women self-reliant 	<ul style="list-style-type: none"> ▪ It provides a rate of US \$119 to US \$178 with 5 per cent service charge through the Department of Women Affairs and Jatio Mahila Shangstha.
Government service quota for women	<ul style="list-style-type: none"> ▪ To enhance women's employment 	<ul style="list-style-type: none"> ▪ 10 per cent quota for women (in addition to merit) in all government ministries, directorates and autonomous bodies. ▪ 15 per cent quota in non-gazetted posts. ▪ 60 per cent of primary school teacher posts are for women.
National Population Programme, Ministry of Health & Family Welfare, Government of Bangladesh	<ul style="list-style-type: none"> ▪ To promote two-child norms 	<ul style="list-style-type: none"> ☒ It conveys the message: "Not more than two children; one is better." It is an awareness raising and voluntary campaign. It is not executed coercively like China, rather it is a voluntary choice by individuals.
NGO initiatives	<ul style="list-style-type: none"> ▪ Women's empowerment 	<ul style="list-style-type: none"> ▪ Development programmes in rural areas.
Corporate social responsibility (CSR)	<ul style="list-style-type: none"> ▪ To reduce gender inequality 	<ul style="list-style-type: none"> ▪ Private sector programmes and activities to reduce inequality in education, health and employment for underprivileged women in Bangladesh.
Programmes/initiatives from international agencies	<ul style="list-style-type: none"> ▪ Women's development 	<ul style="list-style-type: none"> ▪ Different organizations have different focuses, but they encompass all facets of gender issues, e.g. health, rights, education, justice, empowerment, etc.
Ready-made garments industry	<ul style="list-style-type: none"> ▪ To enhance women's employment 	<ul style="list-style-type: none"> ▪ About 4 million women working in the Ready-made garments industry.
Mass media campaigns	<ul style="list-style-type: none"> ▪ Women's empowerment 	<ul style="list-style-type: none"> ▪ 30 minutes daily TV programme (Government TV channel) ▪ 5 ½-hour radio broadcasts for women ▪ Meena (cartoon) drama to stop discrimination against daughters ▪ Documentaries, movies, art, music, street dramas, etc. that raise awareness about gender issues.

The Bangladesh Ministry of Women and Children Affairs has initiated a number of programmes/initiatives for empowering women and children. MOWCA is playing a leading role in this regard and coordinating programmes on income generating activities, food security, health, nutrition, housing, shelter, safety and security of women and children in Bangladesh. It also has special programmes targeted to the disabled, marginalized and minority groups. Different ministries and departments related to women's development have been working to implement the National Women Development Policy 2011 and the National Action Plan 2013. These initiatives and programmes enhance the status of women and ensure their rights. In regard to GBSS, these action would be translated into a context where GBSS would be discouraged.

Chapter 8

Discussions and Conclusion

CHAPTER 8: DISCUSSIONS AND CONCLUSION

8.1 Discussions

A review of literature and the analyses of data from BDHS, SVRS, SVS, MICS and the population census revealed three potential factors that might promote GBSS in Bangladesh: existence of son preference, prevalence of low fertility and use of technology to determine the sex of a foetus. The review also identified multiple reasons for the existence of son preference in Bangladesh.

Son Preference

Son preference is weakening in Bangladesh, but its roots are strong. The prevalence of son preference has declined over time in Bangladesh, indicating the positive impacts of socioeconomic development, including increased female education, female employment, and women's empowerment that have been achieved in recent decades. Although progress has been made by the government, international non-governmental organizations and NGOs, greater efforts are needed to ensure sustained decline in the preference for sons and to promote equal preference for sons and daughters.

Low Fertility

Prevalence of low fertility is another potential determinant of GBSS. Fertility levels in Bangladesh have declined drastically from 6.3 children per woman in 1975 to 2.3 in 2014. The declining trend in fertility is strongly associated with higher preference for sons, a combination of factors that can lead to a skewed sex ratio at birth, particularly at first birth. Research suggests that people desire to have sons when they are determined to have fewer children.

Sex Selection Technology

The literature review of previous studies showed that access to sex selection technology was an important factor that might have facilitated the occurrence of skewed sex ratio at birth. Some of the previous studies (e.g. Talukder et al. 2014; Kabeer et al. 2013) claimed that there was very limited use of technology in aborting a child through detecting sex of the fetus. Talukder et al. (2014) and Huq et al. (2012) argued that although son preference exists, other factors such as social and religious restrictions on aborting a child prevent people from using technology with a motive to abort child births including girls.

There is a lack of data in Bangladesh to determine the extent of induced abortions to avoid unwanted female births. However, the rate of menstrual regulation (MR) increased four-fold from 2004 to 2014 (6.6 per cent to 25.3 per cent), though it appears to have peaked in 2010 and declined since. This increase in MR could be partially attributed to abortion to avoid unwanted and unplanned childbearing. Even if the suspicion of Singh et al. (2012) is true, one cannot determine whether any proportion of it is performed for the termination of female fetus (the indicator of GBSS). To identify gender-biased sex selection in Bangladesh, it will be necessary not only to determine the actual number of MR performed, but also the proportion of MR for the purpose of sex selective abortion.

8.2 Conclusion and Future Directions

Gender-biased sex selection has become an important concern among policymakers and development partners due to its wide-ranging socioeconomic and demographic consequences. GBSS has become a major social, economic, cultural demographic issue for some nations. A review of the situation of GBSS in Bangladesh was carried out using the data from secondary sources, including the the Bangladesh Demographic and Health Survey, Multiple Indicator Cluster Survey, Sample Vital Registration System, Sample Vital Statistics and Bangladesh Population and Housing Census 2011.

The findings of this research show that all of the ingredients that drive GBSS in other countries already exist in Bangladesh. At the aggregate level, the observed SRB ranges from 104.8 (BDHS 2014) to 107.3 (Census 2011) with 95 per cent confidence intervals (102.8, 106.8) and (106.7, 107.9), respectively.

Factors that promote GBSS include patriarchy, stereotyped attitude towards traditional gender roles, agrarian economic relations, pervasive poverty, higher proportion of people employed in informal sectors, and lack of adequate social safety net protection for the future security of older parents. All these ingredients for GBSS exist in a transitional society like Bangladesh. Considering the situation, there could be a temptation to conclude that GBSS is established practice in Bangladesh. The existing research and available data, however, neither provides any support to the existence of GBSS in Bangladesh, nor does it provide any scope to explore the extent and dynamics of GBSS in Bangladesh. Given the incomplete research base, further investigation is needed in order to determine the trends and extent of the practice if and where it exists.

While examining the dynamics of GBSS, it was found that adaptation to technology (e.g. using ultrasound to identify the sex of fetus) could lead to skewed sex ratio at birth. Lack of adequate data precludes drawing conclusions on some important factors related to menstrual regulation and abortion. For example, in Bangladesh information about the extent to which ultrasound technology is used at district and upazila level is inadequate. In addition, there is no data on the number of private clinics that have access to this technology for sex selection of the fetus. Use of sex selection technology could vary among people due to ethical issues, social stigma and religious factors. For these reasons, appropriate quantitative and qualitative data are needed to explore issues related to availability, accessibility and attitude towards using sex selection technology. This is also true in the case of MR.

Son preference was evident in the high desired sex ratio in Bangladesh; further, the observed sex ratio was also very high across spatial and socio-demographic backgrounds. In other words, the sex ratio at birth was skewed at first birth in Bangladesh in favour of boys. Why is that? The present state of knowledge is insufficient to answer this question. This needs further exploration and analysis.

To prevent GBSS from happening or from escalating, initiatives should be taken to ensure higher levels of education, adequate employment opportunities, adequate social safety net protection programmes along with initiatives to change the mind-set of people about stereotyped gender attitudes. Future research should try to uncover the mechanisms through which social insecurity and inadequate social safety nets are leading to higher son preference and skewed sex ratio at birth in Bangladesh.

In Bangladesh, the punishment of crime related to abortion is regulated by the Penal Code 1860. Causing miscarriage, causing miscarriage without women's consent and death caused by the act done with intention to cause miscarriage are punished under sections 312-316. Abortion is only allowed when the women's life is in danger, which proves the ground to be circumscribed and confined.

Does it imply that: (i) abortions are performed under the name of MR, or that (ii) these cases were performed to terminate the female fetus? We do not have the answer to these questions. Independent research should be conducted to determine the answers.

Existence of high sex ratio at first or second order births does not necessarily mean existence of gender-biased sex selection, if not otherwise indicated. In most of the cases, it could be a result of natural selection. Therefore, describing the trends and patterns of GBSS and explaining their determinants required comprehensive data on the relevant topic, as available datasets in Bangladesh such as BDHS, MICS, SVRS, SVS and the population census were not designed particularly for exploring GBSS. These datasets had many other objectives and dimensions for which factors related to GBSS received no/limited attention.

A firm conclusion from this exercise is difficult to draw as different datasets have their differences in objectives, methodology, respondent types and timing of data collection. Considering these diversities, it is of a paramount importance to conduct a series of large-scale comprehensive research on understanding the dynamics of the mechanism through which GBSS may occur in Bangladesh, by collecting data from a wide range of respondents and stakeholders. Findings from the proposed study will enable the concerned authorities to generate effective policy interventions for prevention of GBSS in Bangladesh (if found in any form) and eliminating manifestations of all kinds of gender inequality.

Since the quality and coverage of data are diverse, the existing available data cannot furnish clear arguments for the prevalence of GBSS. It is also important to determine the definition of the existence of GBSS. Simply a number of 107 sex ratio at birth would be a mechanical way of defining GBSS.

The dynamics of a context of a society, culture, norms and values, attitude, beliefs and practices and the whole gamut of life-style along with other multidimensional aspects of looking at different issues are also very important.

To sensitize policymakers to understand the existence and dangers of GBSS, specific data are required. These data can be generated either by independent research specifically designed for exposing the dynamics of GBSS, or a separate module can be designed in the existing national-level population-based surveys. Since policymakers are not clearly aware of the existence of GBSS, there is every possibility that they may not agree to include a module in existing surveys. Therefore, it is necessary to conduct an independent study to provide inputs to the policymakers and stakeholders as a precondition to make them realize the gravity of the issue.

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Annex A: Observed Sex Ratio at Birth in Bangladesh Based on SVRS Data

Variables	Sex Ratio at Birth						
	2016	2015	2014	2013	2012	2011	2010
Division							
Barishal	106.6	74.5	94.9	96.7	103.3	103.5	109.2
Chattogram	112.2	95.8	108.6	106.7	111.3	102.2	108.8
Dhaka	101.4	97.9	97.0	106.4	106.0	100.5	104.2
Khulna	114.5	107.6	101.4	110.2	104.1	104.8	107.0
Mymensingh	113.4	97.3	95.3	107.0	106.1	104.0	108.5
Rajshahi	104.2	101.4	98.4	101.8	109.4	105.6	118.3
Rangpur	106.7	94.3	105.3	105.5	106.8	100.7	108.5
Sylhet	110.1	104.8	100.0	109.6	122.5	100.5	102.8
Region							
Eastern (Chattogram & Sylhet)	111.5	99.0	106.4	107.4	113.0	101.9	106.9
Middle (Dhaka, Mymensingh, and Barishal)	104.9	90.0	96.3	105.1	105.4	101.8	107.1
Western (Khulna, Rajshahi, and Rangpur)	108.3	100.6	101.6	105.5	106.8	103.7	110.1
Place of Residence							
Rural	107.4	97.1	102.6	106.9	108.2	101.3	108.6
Urban	109.2	95.4	93.5	102.0	105.8	105.1	107.0
Mother's education							
No education	107.0	93.9	101.9	109.0	103.1	104.1	107.3
Primary	107.7	90.8	102.9	103.7	108.5	99.9	108.2
Secondary	108.2	98.5	96.8	107.4	109.4	104.1	109.2
Higher Secondary	109.2	105.1	110.9	98.5	103.6	99.3	103.1
Birth Order							
1	106.3	96.2	95.7	103.8	103.8	102.0	107.9
2	108.3	97.1	101.9	109.3	109.3	113.1	105.5
3	110.4	109.7	101.6	103.7	103.7	104.2	105.4
4	112.4	180.0	115.4	107.4	107.4	164.7	145.3
5+	108.7	--	111.7	104.6	104.6	--	--
Total	108.1	96.5	100.6	105.7	105.7	102.5	108.1

Annex B: Availability of Datasets

Data Source		Variables	Coding
Bangladesh Demographic and Health Surveys, 1993-94 to 2014	Observed sex ratio at birth	Q.203=How many sons live with you? And how many daughters live with you?	Sons at home Daughters at home
		Q.205=How many sons are alive but do not live with you? And how many daughters are alive but do not live with you?	Sons elsewhere Daughters elsewhere
		207=How many boys have died? And how many girls have died? [Born alive but later died]	Boys dead Girls dead
	Desired sex ratio	Q.713= How many of these children would you like to be boys, how many would you like to be girls and for how many would it not matter if it's a boy or a girl?	Number: Boys Girls Either Other... (Specify)
	Menstrual regulation	Q.229C= In the last three years did you use MR?	Yes No
	Miscarriage	Q.230=Have you ever had a pregnancy that miscarried, ended using menstrual regulation, was aborted, or ended in a stillbirth?	Yes No
	Contraception	Q.303=Are you currently doing something or using any method to delay or avoid getting pregnant?	Yes No
	Division	Division	Barishal Chattogram Dhaka Khulna Rajshahi Rangpur Sylhet
	Place of residence	Place of residence	Urban Rural
	Mother's education	Q.105=Level of schooling	No education Primary Secondary Higher
	Religion	Q.113=Religion	Islam Hinduism Buddhism Christianity Others
	Husband's education	Q.804=What level of schooling did your husband last attend?	No education Primary Secondary Higher
	Mother's Occupation	Q.811= What is your occupation, that is, what kind of work do you mainly do?	Employed Not employed
	Parity	Q.212=Birth History Number	Birth order

	Sex of the Children	Q.213=Is (NAME) a boy or a girl?	Boy Girl
	Wealth quintile	Wealth	Lowest Second Middle Fourth Highest
Multiple Indicator Cluster Surveys 2012-2013	Observed sex ratio at birth	Q. CM5= How many sons live with you? How many daughters live with you?	Sons at home Daughters at home
		Q.CM7= How many sons are alive but do not live with you? How many daughters are alive but do not live with you?	Sons elsewhere Daughters elsewhere
		Q.CM9= How many boys have died? How many girls have died? [Born alive but later died]	Boys dead Girls dead
	Division	Q.HH7= Division	Barishal Chattogram Dhaka Khulna Rajshahi Rangpur Sylhet
	Place of Residence	Q.HH6= Area	Urban Rural
	Religion	Q.HC1A= What is the religion of the head of this household?	Islam Hinduism Buddhism Christianity Others
	Region	Region	Eastern=Chattogram and Sylhet Middle=Dhaka and Barishal Western= Khulna, Rajshahi and Rangpur
	Wealth quintile	Wealth	Lowest Second Middle Fourth Highest
Sample Vital Registration System, 1981-2016			
	Sex of the children	(V3.2.2) Sex of the child	Son Daughter

	Whether live or stillbirth	(V3.2.9) Whether live or stillbirth	Live Stillbirth
	Still alive or not	(V3.2.10) Still alive or not	Live Dead
	Age of the mother	(V 3.2.12) Age of the mother	Age
	Mother's education	(V3.2.13) Education of mother	Years of schooling
Bangladesh Population and Housing Census 2011	Ethnicity	Module 3: Q.10= Does your household belong to any ethnic community	Yes No
	Religion	Module 4: Q.29=Religion	Islam Hinduism Buddhism Christianity Others
	Total number of live births	Module 7: Q.55=Total number of live births	Numbers
	Observed sex ratio at birth	Q.56=Number of live births who usually live in the household	Son Daughter
		Q.57= Number of live births who usually live outside the household	Son Daughter
		Q.58= Number of children born alive who later died	Son Daughter
	Live births during last 12 months	Q.59=Have you had a live birth during last 12 months?	Yes No
	Sex of the live birth	Q.60=Sex of the live birth	Son Daughter

**Annex C : Trends in Son Preference (%), Desired Sex Ratio at Birth (DSRB) and Observed Sex Ratio at Birth (OSRB):
BDHS 1993-94 to 2014**

Divisions	1993-94			1996-97			1999-2000			2004			2007			2011			2014			
	Son Preference	DSRB	OSRB	Son Preference	DSRB	OSRB	Son Preference	DSRB	OSRB	Son Preference	DSRB	OSRB	Son Preference	DSRB	OSRB	Son Preference	DSRB	OSRB	Son Preference	DSRB	OSRB	
Barishal	27.1	133.0	108.7	23.3	129.0	106.8	19.7	126.8	102.1	19.0	124.2	98.9	15.2	119.7	107.1	11.2	113.6	107.0	11.0	114.3	105.6	
Chattogram	23.3	131.4	108.5	22.2	127.4	104.5	17.1	122.3	108.7	19.5	122.6	102.9	16.8	120.2	105.0	12.1	112.8	104.5	11.5	112.1	106.4	
Dhaka	25.0	129.1	107.4	18.6	120.0	102.9	17.6	122.4	103.3	16.8	119.2	103.6	12.7	115.2	106.4	10.2	111.9	106.0	9.7	110.0	106.6	
Khulna	17.5	115.6	104.3	15.7	120.0	101.0	13.9	117.1	103.2	12.1	114.3	103.5	7.5	107.0	110.0	8.1	108.4	105.6	8.1	109.6	98.6	
Rajshahi	20.3	123.2	101.9	16.9	117.7	103.1	17.0	118.2	103.9	14.5	116.1	106.0	11.5	113.5	102.1	8.0	107.1	105.2	7.5	108.3	102.6	
Rangpur	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.9	110.2	107.0	7.4	108.8	105.5
Sylhet**	-	-	-	18.8	130.1	111.3	18.3	124.0	104.2	16.2	120.7	102.2	13.0	116.5	107.0	11.4	114.2	110.1	12.1	114.9	107.1	
Region																						
Eastern	23.3	131.38	108.54	22.2	128.42	107.23	17.1	122.97	106.99	19.5	121.94	102.65	16.8	118.55	105.89	11.8	113.34	106.97	11.8	113.25	106.72	
Middle	25.5	130.12	107.74	19.8	122.33	103.91	18.2	123.61	102.98	17.6	120.84	101.88	13.7	116.88	106.66	10.6	112.57	106.39	10.2	111.75	106.16	
Western	19.4	120.63	102.72	17.0	117.46	102.46	16.2	117.74	103.59	14.1	115.37	105.01	10.6	110.58	105.52	8.3	108.52	105.94	7.7	108.88	102.25	
Place of Residence																						
Urban	19.0	122.35	104.38	17.4	118.55	106.98	13.9	116.35	107.48	13.4	114.38	101.60	10.4	110.82	108.09	8.5	108.49	108.78	8.2	109.08	105.90	
Rural	23.3	122.60	106.28	19.1	122.60	103.93	18.4	123.16	103.39	17.7	121.63	103.89	14.2	117.88	104.97	10.7	112.33	105.33	10.3	111.96	104.27	

Source: Analysis of BDHS data, 1993-94 to 2014

* Rangpur was not a division before 2010

**Sylhet division was formed in 1995; before that it was part of Chattogram division.

Annex D: List of Technical Committee Members (not according to seniority)

1. **Prof. Dr. Nitai Chakrabarty**, Department of Statistics, University of Dhaka
2. **Prof. Dr. Syed Shahadat Hossain**, ISRT, University of Dhaka
3. **Dr. Abu Jamil Faisel**, Former Country Representative of EngenderHealth
4. **Dr. Halida Hanum Akhter**, Chief of Party, NHSDP
5. **Ms. Mahmuda Rahman Khan**, Gender Advisor, USAID
6. **Mr. Rafiqul Islam Sarkar**, Director, Research, NIPORT
7. **Ms Reshma Jesmin**, Representative of DG, BBS, Ministry of Planning, GoB
8. **Ms. Neha Kapil**, Chief, Communication for Development, OIC, Gender Specialist, UNICEF Bangladesh
9. **Mr. Mohammad Abdul Salam Khan**, Deputy Chief Medical Education & Family Welfare Division, Ministry of Health & Family Welfare.
10. **Mr Masrurul Islam**, Managing Director, Marie Stopes Bangladesh
11. **Ms. Quazi Suraiya Sultana**, Executive Director, Reproductive Health Services Training and Education Program (RHSTEP)
12. **Mr Altaf Hossain**, Director, Association for Prevention of Septic Abortion, Bangladesh (BAPSA)
13. **Dr Sayed Rubayet**, Country Director, Ipas Bangladesh
14. **Ms. Shamima Pervin**, Representative from UNFPA, Dhaka, Bangladesh
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"The Global Programme to Prevent Son Preference and the Undervaluing of Girls" is generously funded by the European Union

