# Gender Implication of National BudgetEvidence from Bangladesh

# Nuren Nirvana Brishti

The Gender Responsive Budget (GRB) is widely recognized as an effective tool to study for gender inclusive development, which in turn will create an endeavor on the improvement of socio-economic factor, economic growth and a sustainable long-term development. Being a developing country, Bangladesh has overcome some major constrains in gender issues along with a spectacular progress in female education, maternal health, female participation in the labor force, mitigating poverty via empowering women, political and electoral participation of women; internationally which has been highly appreciated. The government of Bangladesh has highly prioritized the gender budgeting policy, which is thought to be one of the major causes behind this huge success. This study has worked out a splendid compatibility of national budget and gender budget. over the period and has concluded, that the government of Bangladesh is progressively turning pro gender. Moreover, based on the data on the category of female, primary school enrollment, life expectancy at birth, fertility rate and labor force participation; are examined with HDI (Human Development Index). Which suggests improvement in the gender budget may have a major impact onraising the value of HDI, as both are following an increasing trend.

**Keywords:** Gender Responsive Budget, Government Budget, responsiveness of Human Development Index (HDI) to gender development.

Field of Research: Economics

# 1. Introduction

The gender mainstreaming was initiated globally by calling for the integration of the gender perspective in budgetary policies and program, in, The Fourth World Conference of Women, organized by the United Nations (UN), in the year 1995 in Beijing. Since then, Bangladesh became one of the first 22 countries to endorse the Platform for Action (PFA) in that conference. Driven by the constitutional obligations and commitment to the international agreements, the Government has accorded special emphasis on the programs to promote women's development in the Perspective Plan, Fiveyear Plan andNational Women's Development Policy, 2011 (Gender Budget Report FY 2015-16, Bangladesh Ministry of Finance). Therefore, it signifies that government of Bangladesh has increasedinterest in making a gender responsive budget.

In many parts of the world, mostly the developing countries' women are still discriminated and deprived of their right to owning and managing property, conducting business, decision making, receiving right wages (despite their education and work experience compared to men). Moreover, women also remain vastly

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underrepresented in politics and policy making. Women of Bangladesh more or less face the same fate as mentioned above, although in the recent times Bangladesh has made some progress in gender issue. There is a growing perception that GRB has an impact on solidifying national human development index as well as achieving the national goal of gender equality.

It has already been proven by number of analysis that, improving the status of women or mitigating the gender inequality, impacts positively over the economic and socio-economic indicators and it has been mentioned earlier, that GRB is found to be the most effective way to improve the status of women or mitigate the gender inequality. Therefore, there are plentiful of scope and need of this study to be analyzed.

The national budget is considered to be the strongest policy tool to reflect national goals set by constitution and other national and international commitments. The Constitution of Bangladesh ensures equal right to all citizens and prohibits discrimination and inequality based on sex and strives to promote social and economic equality, which promotes a pathway for extensive focus and policy analysis of GRB.

Government has already provided some policy statements referring to GRB, although there are lot more remains to be done, which can be analyzed. Many of the civil society and academics argue that, it should be more transparent and analyzed whether the GRB is working equally on the section of population or female population who are lagging and extremely disadvantaged. Focus should also be given to the accountability and transparency of the GRB's building blocks and towards the more visible outcome from the overall GRB's activity.

This study examines the gender implication of national budget of Bangladesh, estimating ultimate fund disbursement of total sectoral expenditure to the female division. Moreover, this study is an analysis of the perspective that, gender budgeting is not only projected to analyze only on the programs that are exclusively targeted to females or to generate a separate "women's" budget, rather it is to examine the gender implication, of all the sectors which government is concerned for the budgetary expenditure.

The motivation of this paper is to identify the influence of the gender implication of the government budget on Human Development Index (HDI) of Bangladesh.

This paper is organized within five basic sections. Section 2 deals with the other researches related to the respective topic, therefore literature review. Section 3 highlights the process and procedures how the research is done i.e. methodology. The interpretation and findings of the whole research work are presented in section 4. Section 5 deals with the concluding remarks along with limitations.

## 2. Literature Review

A gender analysis of the government budget in the general administration sector of Bangladesh, covering only the public expenditure side, which has been worked out

by (Rahman, 2005) in the paper 'General Administration: Gender Sensitive Public Expenditure Analysis'. More precisely, the study makes a gender disaggregated beneficiary assessment of public expenditure and a gender analysis of the budget from the expenditure side of the General Administration to help the formulation of gender friendly budget policies and priorities. As gender budgeting became a concern on 2011, so this paper is one of the initial work regarding gender budget.

'Whispers to voice: Gender and Social Transformation in Bangladesh' World Bank issue of 2008 (Bangladesh Development Series, paper no. 22) sketched out an empirically grounded analysis of the changes in the gender issues, by the government, the women's movement and the civil society, which Bangladesh has witnessed in the last few decades. This paper is not concerned specifically on gender budgeting, but has provided an overall improvement in the gender issues.

Integration of Population and Gender Concerns into the National and Sectoral Policies and Programs: Current Status and Constraints' (Begum, et al 2011), a research report by Bangladesh Institute of Development Studies (BIDS), which emphasizedon, to what extent the country's development policies, plans or strategies have dealt with various population and gender concerns in the country. It also focuses on the issue of the National and Sectoral Policies and Programs. Although, it problems identified the kev and constraints into the policies/programs/activities, which hamper the integration of the concerns of this study and worked on the identification of the necessary corrective measures to overcome such constraints, but there is no such sectoral disbursement of budget are worked out as per the concern of gender budget.

'Gender Responsive Budgeting in Bangladesh: An Assessment of Challenges and Opportunities in Health Sector' (Baby Parveen, 2010) presents, the challenges and opportunities in gender responsive Budgeting in health sector, through analyzing the variables inside and outside government, therefore Ministry of Health and Family Welfare was selected to be worked out.

A slight detail of women's participation in the government projects under Gender Action Plan (GAP) and policy environment of the government of Bangladesh in the gender issues, are mentioned in the 'Strengthening Municipal Governance through Performance- Based Budget Allocation in Bangladesh' (ADB, 2015, Publication Stock No. ARM157795-2) and 'Bangladesh: Gender, Poverty and the MDGs' (Country Gender Strategy, Asian Development Bank, 2004). As this paper is not worked concerning the issue of gender budget.

Some other works are done, emphasizing generally on gender budgeting and macroeconomic policy. The concept of Gender-Responsive Government Budget (GRGB) and its distinct policy outcomes through efficient implementation of the GRGB, in both developed and developing countries are spectacularly analyzed in the paper, 'Gender-Responsive Government Budgeting' (Feridoun Sarraf, 2003, Fiscal Affairs Department, IMF Working Paper).

'Gender Budgeting' (Janet G. Stotsky, 2006, Fiscal Affairs Department, IMF Working Paper) examines how public processes can contribute to improving women's status. Moreover, this study attempts to show that gender budgeting is the budgeting that

properly accounts for the positive externalities that are derived from improving women's opportunities for health care, education, and employment.

Another paper 'Gender and its Relevance to Macroeconomic Policy: A Survey' (Janet G. Stotsky, 2006, Fiscal Affairs Department, IMF Working Paper) assessed, the relevance of gender differences to macroeconomic policy by stating, reducing gender inequality and improving the status of women may contribute to higher rates of economic growth and greater macroeconomic stability.

'Gender Budgets Make Cents: Understanding Gender Responsive Budgeting' written by (Budlender, et al 2002) presents the conceptual framework for the Commonwealth's work on GRB initiatives, pictures the evolution of work in this area, identifying the role of different stakeholders and highlighted the lessons learned. A profile of known activities at the country level shows how gender responsive budgets are being used as a pivotal tool to assess budgetary performance and impact. The Commonwealth Secretariat published another book named 'Gender Budget Makes MoreCents: Country Studies and Best Practice' (Debbie Budlender and Gye Hewitt) was compiled in response to the need to share goodpractice in gender budget work based on the documentation and detailed analysis of country studies.

In the paper 'Impact of Government Budgets on poverty and gender equality' (Simel Esim, 2000), identified other ways besides the expenditure sides of the gender sensitive budget initiatives, to establish more inclusive, negotiated and participatory budgetary processes and action agenda of gender sensitive budget initiatives.

The book 'Gender and Macroeconomic Policy' (Raj Nallari, Breda Griffith, 2011) issued by World Bank, turned out four broad themes: gender as a category of analysis in macroeconomics; the implications of gender for macroeconomic aggregates, in particular consumption and economic growth, the role of gender in the labor market, globalization and access to credit; and gender budgeting.

Most of the reviewed papers has worked out the general perspective of gender budgeting or has analyzed the impact on a specific sector. Although some papers has theoretically analyzed gender budgeting via socio-economic perspective, but has lagged behind the statistical justification.

# 3. Methodology

The research method which will be applied to compile this paper is mostly quantitative in nature besides some descriptive analysis. This work is intended to find out a relationship between the total government budget and gender budget of the respective fiscal year, from the perspective of Bangladesh. Moreover, another study will be worked out to find the responsiveness between Human Development Index (HDI) with primary school enrollment, life expectancy at birth, fertility rate and labor force participation, from the year 2000 to 2014; except HDI the data of other variables will be taken from the female category, as this work is actually intended to find out gender implication.

The statistical data which are secondary data, mostly taken from Gender Budgeting Reports issued by Bangladesh Ministry of Finance; specifically, from, Gender Budget

Report 2014-15 and 2015-16. Other data is taken from, Gender Statistics of Bangladesh 2012, Labor Force Survey Bangladesh 2013, and Statistical Year Book Bangladesh 2014; published by Bangladesh Bureau of Statistics (BBS), Statistics and Informatics Division, Ministry of Planning. The data are mostly time series in nature.

To assess the sectoral and gender allocation, correlation coefficient between total ministry budget and total ministrybudget for women development will be made to estimate associationship between these two variables to assume gender target and gender allocation and to shed light on the nature of budget dependency. Although, the gender budgeting has formally started from the FY 2009-2010 with four ministries, but the major work of this study will be concentrated on FY 2013-14, FY 2014-15 and FY 2015-16. Because, from FY 2013-14 governments has taken the initiative to impact the gender budget, all through the 40 ministries, the previous other gender budgets were financed partially as provided below:

The correlation coefficient of total national budget and total budget allocation for women development for all the budgetary sessions from which gender budget has formally started, i.e.FY 2009-10 to 2015-16, will be also worked out.

Ordinary Least Square (OLS) regression will be run to observe correlation coefficient between HDI with the other indicators, i.e. primary school enrollment, life expectancy at birth, fertility rate and labor force participation; on the basis of the data on the category of female. The selected data are from 2000 to 2014. The regression will be of five variable linier regression models, the variables are provided below:

# **Dependent Variable:**

HDI: Human Development Index.

## **Independent Variable:**

FR: Fertility Rate.

The total fertility rate (TFR), sometimes also called the fertility rate, absolute/potential natality, period total fertility rate (PTFR) or total period fertility rate (TPFR) of a population is the average number of children that would be born to a woman over her lifetime.

#### LEB: Life Expectancy at Birth.

Life expectancy is a statistical measure of the average time an organism is expected to live, based on the year of their birth, their current age and other demographic factors including gender.

LFP: Labor Force Participation.

The participation rate is a measure of the active portion of an economy's labor force. It refers to the number of people who are either employed or are actively looking for work.

PSE: Primary School Enrollment.

Gross primaryschool enrolment ratio is the number of children enrolled in a level (primary), regardless of age, divided by the population of the age group that officially corresponds to the same level.

et: Error term.

HDIis a composite statistic (composite index) of life expectancy, education, and per capita income indicators, which are used to rank countries into four tiers of human development.

According to the definition it could be easily understood that this index is based on the fundamental idea that is necessary for a better life. HDI measures a country's average achievement in three dimensions of human development, including long life with health, knowledge and standard of living. Long life with good health is measured through life expectancy at birth, knowledge (a combination of adult literacy rate and combined net enrollment ratio for primary, secondary and higher education), for which primary school enrolment is considered and standard of living (by gross domestic product [GDP] per capita), which in turn is related with labor force participation rate. Although HDI is influenced by the male and female date of the respective category, but this paper will only work with the dates of female, to look for how does it influence HDI.

# **Regression Equation:**

$$HDI=b_0 + b_1(FR) + b_2(LEB) + b_3(LFP) + b_4(PSE) + e_1$$

# 4. Findings and Observations of the Study

# 4.1 Correlation Coefficient of Total Ministry Budget and Total Ministry Budget for Women Development:

Equation:

$$Correl(X,Y) = \frac{\sum (x-x)(y-y)}{\sqrt{\sum (x-\bar{x})^2 \sum (y-\bar{y})^2}}$$

By executing this equation to find out, how strongly the relationship between total ministry budget and total ministry budget for women development persist, we have found these results which are provided below:

Table 1: Correlation Coefficient Analysis between Total Ministry Budget and Total Ministry Budget for Women Development

Fiscal Year (FY)	Correlation Coefficient	-1 ≤ r ≤ 1
FY 2013-14	0.913145448	Positively Correlated
FY 2014-15	0.9048007	Positively Correlated
FY 2015-16	0.914851603	Positively Correlated

Source: Authors own calculations.

The correlation coefficient of total national budget and total budget allocation for women development for all the budgetary sessions from which gender budget has formally started, i.e. FY 2009-10, 2010-11, 2011-12, 2012-13, 2013-14, 2014-15 and 2015-16, is worked out to be 0.994994544, which is highly positively correlated in the range of -1  $\leq$  r  $\leq$  1.

As per the calculations, the relationship between total ministry budget and total ministry budget for women development has been derived as, highly positively correlated for each of the Fiscal Years. Although, the correlation coefficient has been slightly decreased by 0.008344748 from the FY 2013-14 to FY 2014-15, but later it has been increased by 0.010050903 from FY 2014-15 to FY 2015-16. However, correlation coefficient of the FY 2015-16 has been found to be the highest positively correlated among all these three FYs.Moreover, the correlation coefficient of total national budget and total budget allocation for women development for all the gender budgetary sessions is also worked out to be highly positively correlated. Therefore, it can be assumed that, government is becoming more pro gender toward its budgetary policies via gender budgeting.

Therefore, it can be assumed that, total ministry budget and total ministry budget for women development are following the increasing trend; i.e. as the total ministry budget is increasing total ministry budget for women development is also increasing at amore or less same rate.

# 4.2 The OLS Regression Analysis on the Impact of HDI:

After the OLS regression of this study, the table below states the derivation of the values, after regressing HDI with FR, LEB, LFP and PSE.

Table 2: The OLS Regression Analysis of HDI with FR, LEB, LFP and PSE

Independent Variable	Coefficient	t-statistics
Fertility Rate (FR)	0.072157	1.777058
Life Expectancy at Birth (LEB)	0.072434	0.581478
Labor Force Participation (LFP)	0.299860	10.27115
Primary School Enrolment (PSE)	0.672297	5.459705
С	-5.051648	-7.835546

Source: Authors own calculations

As per the calculations, the regression model is:

HDI= -5.051648 + 0.072157FR + 0.072434LEB + 0.299860LFP + 0.672297PSE + et

As the value of intercept is -5.051648, therefore it can be assumed that, when all the independent variable is zero, the HDI will be -5.051648. According to the findings,

increase in FR, LEB, LFP and PSE will result a rise in HDI; which means these independent variables are positively co-related with HDI. Therefore, a one percentage rise in FR, LEB, LFP and PSE will result a rise in HDI by 0.072157, 0.072432, 0.299860 and 0.672297 in the long run.

However, despite of LEB, LFP and PSE, from the perspective of a third world country like Bangladesh, theoretically FR should have a negative relationship with HDI, but according to this study, a very marginal positive relationship has been found between HDI and FR, this might be the case that the HDI is increasing at a decreasing rate. Although, FR is not considered as an indicator of HDI.

If we consider,

Null hypothesis (H<sub>0</sub>) → FR/LEB/LFP/PSE does not have any influence on HDI Alternative hypothesis (H<sub>1</sub>) → FR/LEB/LFP/PSE does have influence on HDI

At a 5% confidence interval or at 95% level of confidence, with a degree of freedom (n-1) 6, the tabulated t test for FR and LEB i.e. 1.777058 and 0.581478, is found to be within the acceptance region, so it is assumed to be statistically significant, therefore the alternative hypothesis(H<sub>1</sub>) will be accepted for FR and LEB. On the other hand, the tabulated t test for LEP and PSE; i.e. 10.27115 and 5.459705is found to be beyond the acceptance region, therefore it is assumed to be statistically insignificant, therefore the null hypothesis (H<sub>0</sub>) will be accepted for FR and LEB.

Table 3: OLS Regression Analysis of HDI with FR, LEB, LFP and PSE

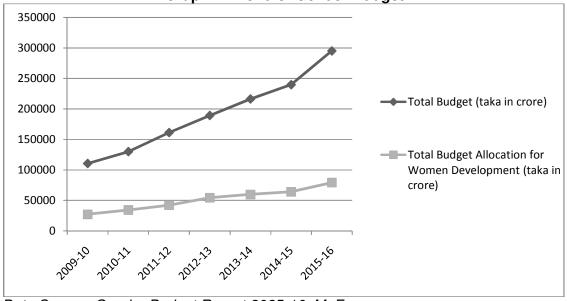
R-Squared	0.995517
Adjusted R- Squared	0.986552
F –Statistic	111.0378
Durbin Watson- stat	2.643762

Source: Authors own calculations

The adjusted R-Squared is assumed to be approximately 98%, which means that the chosen model fits the actual data spectacularly. The F-statistic is 111.0378 (F> 5.26), hence, we can say that the relationshipbetween the variables is not spurious at 1% confidence interval. There is no presence of autocorrelation, as the value of Durbin Watson-stat is 2.643762 which are nearer to two, within the range of 0≤d≤4.

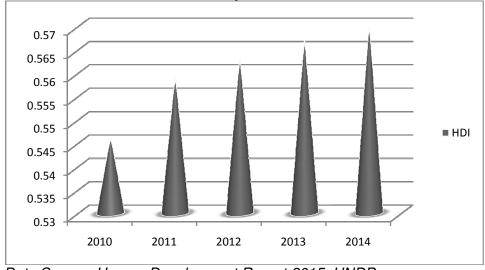
Figure 1: Trend of Gender Budget and HDI

**Graph 1: Trend of Gender Budget** 



Data Source: Gender Budget Report 2025-16, MoF.

**Graph 2: Trend of HDI** 



Data Source: Human Development Report 2015, UNDP.

Graphically (Graph: 1), it can be effortlessly assumed that, gender budget is improving spectacularly over the year in a well-paced manner with the total government budget. From the findings of the correlation coefficient in between total ministry budget and total ministry budget for women development for the FY 2013-14, 2014-15 and 2015-16, from the correlation coefficient of total national budget and total budget allocation for women development for all the gender budgetary session (see 04.1) and from the graphical presentation (Graph 1) it can be interpreted that, government is gradually going pro gender via the gender budgetary policy.

In most of the cases of the developing countries like Bangladesh, HDI is usually lagged behind because for the gender disparity. Culturally and socio-economically women are the disadvantaged group, which in turn reduces the assurance of the basic human capabilities and socio-economic indicators like, health, education, employment, decision making, electoral participation etc. Although, the regression (see, 04.2) done in this study is not concerned with the specific or standard indicators of HDI, however, the independent variables which are considered for the regression analysis do have some effects on HDI as per the results of the analysis. As per the 14 standards of Medium Term Budget Framework (MTBF) process, along with the other sectors government has keenly dealt the health, education and employment sector in the gender budget, so the independent variable which are considered for the regressionand the standard indicators of HDI, are defiantly influenced by the gender budget.

Over the time it has been proved time that, improving the status of the womenleads to development, reduces poverty, controls population growth and boosts education and health indicators. There is a growing perception that GRB has an impact on solidifying national human development index as well as achieving the national goal of gender equality.

According to the graph 02, HDI is also following an increasing trend. The improvement in the gender budget may have a major impact on the rising value of HDI, as both are following an increasing trend.

This paper is intended to be done different studies to show how gender implication of government budget influences HDI. Theoretically, gender budgeting mitigate gender inequality, improves the other gender issues and improves the status of women socio economically. Therefore, this paper has tested the influence of gender budgeting on the respective categories (see section 03), which in turn has testified the influence on HDI, as Bangladesh is getting an eye-catching progress regarding the gender issues, as the government of the Bangladesh is getting pro-gender via the gender budgetary policy.

This work is a new addition towards the gender budgeting of Bangladesh, as no such work is found yet from the perspective of Bangladesh. Other works are done by concentrating on the individual socio-economic indicator with HDI or only the influence of that indicator on government budget (see section 02).

# 5. Conclusions

Being a developing country, Bangladesh has overcome some major constrains in gender issues along with a spectacular progress in female education, maternal health, female participation in the labor force, mitigating poverty via empowering women, political and electoral participation of women, internationallywhich has been highly appreciated. According to Human Development Report, 2014 published by UNDP, Bangladesh's rank has advanced one step and now placed in the medium human development group. Gender Development Index or the ratio of female to male HDI is 0.908 in Bangladesh which is higher than average index (0.830) in South Asia. Bangladesh occupies 107th rank in Gender Development Index though its rank is 142nd in HDI. According to Gender Gap Index, 2014 published by World

Economic Forum, Bangladesh ranked 68th position out of 142 countries and toppled all other SAARC countries.

This study is mainly concerned about the allocation of the gender budget in every single ministry and how strongly it is correlated with the national budget. This study has been analyzed to prove that, the gender budget and national budget are highly positively correlated with each other and moving at an increasingly synchronized pace as per the graphical representation, which actuallyprove that the government of Bangladesh is going pro gender. Although, a regression is done from the perspective of HDI and later provided a theoretical explanation of the implication of the gender budget on the progress of HDI. This however is not an intensive study on, HDI, any specific governments policy or any specific economic/socio-economic sector.

Most of the reviewed papers has worked out the general perspective of gender budgeting or has analyzed the impact on a specific sector. Although some papers has theoretically analyzed gender budgeting via socio-economic perspective, but has lagged behind the statistical justification. Therefore, the findings of this paper arequite new in this era, as this kind of findings are not found in any other paper.

It must be emphasized that, the results and interpretations which are obtained from this paper should be treated with caution. Due to the limitations of data, it is not advisable to generalize the findings and interpretation of this paper.

Most importantly, limitations may exist in the official data of Gender Budget Reports published by Bangladesh Ministry of Finance and in the data published by Bangladesh Bureau of Statistics. The revised budgetary data of Gender Budgeting for the FY 2015-16 is not found, therefore the correlation coefficient which is worked out for the FY 2015-16 is executed with the non revised budgetary data.

Limitations of data are found, for the fertility rate (FR), life expectancy at birth(LEB), labor force participation(LFP) and for primary school enrolment (PSE), all these data are not found in an even time series to run the regression, therefore these data are little bit synthesized.

Further research could be done from the perspective that how much of the socioeconomic progress is contributed by the NGOs and government budgeting. Studies could be done on how efficiently and transparently government programs, policies under gender budgeting are operated.

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