

# Assessment of Interregional Disparity and Identification of Prevalent Factors of Women Empowerment: Empirical Evidence Based on Bangladesh Demographic and Health Survey, 2011 Data

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## Abstract

This paper aims to explore the present circumstances of Women Empowerment (WE) of Bangladesh and to identify the dominant factors behind it. For the aspiration of analysis, Bangladesh Demographic and Health Survey (BDHS), 2011 data have been used. ANOVA has been performed to detect the interregional disparity of WE. Bivariate analysis has been performed to examine the association between different factors and women empowerment status. To measure the impact of the prevalent factors on women empowerment status, a logistic regression model has been considered. The key findings are: firstly, all the divisions' women are not empowered. Secondly, respondent's age, respondent's education, place of residence, respondent's working status, wealth index, media exposure, region and husband's age are influential factors for WE. The findings of this paper indicate that a significant improvement of WE has been observed with the increase of age of respondents and their husbands as well as the educational level.

**Keywords:** interregional disparity, wealth index, women empowerment status, women empowerment score

## 1. Introduction

Women's empowerment is a crucial step in achieving gender equality, but still now sluggish empowerment of women is a global problem. In the global sector this problem may not be as acute as in the developing nations, particularly like in Bangladesh, but still the situation concerning the empowerment of women is critical (ILO, 2009; ADB, 2011). In the developed nations, culturally women may have some freedom, but still in the working place, this discrimination still prevails while in the leadership women are still behind than men at a great extent (Pande et al., 2011).

In the recent time, Bangladesh has continued to uphold both economic and social ladders concurrently. Despite the political unrest and intense population and poverty, Bangladesh has attained this parallel achievement and efficiency in the socioeconomic advancement. In spite of this progress, women empowerment in Bangladesh is very low in comparison to the developed countries. According to the United Nations Development Programmer's (UNDP) Human Development Report for 2011, Bangladesh ranks 112 out of 187 countries on the Gender Inequality Index, which is defined in the report as "a composite measure reflecting inequality in achievements between women and men in three dimensions: reproductive health, empowerment, and the labor market." The 2011 Global Gender Gap Index developed by the World Economic Forum, ranks Bangladesh 69 out of 135 countries in terms of gender inequality (Hausmann et al., 2011). Thus, based on both gender-related indices, Bangladesh ranks among the bottom half of countries included in each index. Not only Bangladesh, most of the developing nations, particularly the Asian countries face a big drop in the development of women (Almaz, 1991; Hirut, 2004; Mukuria et al., 2005; Rafiqul, 2011).

In Bangladesh where women constitute about half of the total population of which 80 percent live in rural areas (BBS, 2001), is lacking far behind though one third of the seats in local and national government is reserved for women only (Hossain, Naznin, & Sultan, 2011). In a WHO (2005) multi country study indicates that compared to a range of other societies, Bangladesh suffers from a particularly high prevalence of violence against women.

In another study, World Bank (WB) stated that women access to household decision making, financial and physical assets are very limited in Bangladesh. Women possess inadequate levels of skills and knowledge, thus being very vulnerable to male dominance in any social sphere (Sebstad & Cohen, 2000). Besides, Kamal and Zunaid (2006) had said that only 20 percent of women work for cash only and among these 20 percent only 48 percent take their spending decision by themselves whereas the rest takes either jointly with their husband or by others.

Recognizing this critical scenario, many policy makers, international organizations as well as scholars all around the world have raised their concern particularly on improving women status in the society. However, in establishing or commencing any new initiatives, it is necessary to know the present state of the empowerment in a country or regions. In this particular case, different organizations and scholars have developed many formulas and measurement criteria of women empowerment.

Njuki et al. (2013) under CARE's Pathways program have established their own Women Empowerment in Agricultural Index (WEAI) based on which they have modeled Women's Empowerment Index (WEI) where they have included five domains of empowerment contain some specific indicators. UNDP (2005) has established their own well recognized Human Development Index (HDI) which is widely used as the women empowerment index (WEI) that includes the actual, minimum and maximum value of different dimensions. Apart from that, Mason and Smith (2003) used actual score of each of the indexes where each contains several indicators of empowered women.

In each of this measurement index different dimensions have been identified which includes several indicators that help to determine the level as well as to measure the changes of women empowerment (Mason & Smith, 2003; Shahnaj Parveen, & Ingrid-Ute Leonhäuser, 2004; Schular et al., 2010; Nazneen & Sultan, 2011; Haque et al., 2011; Njuki et al., 2013).

To implement programs or executing new initiatives appropriately, it is important to identify which of the regions of an entire country is responsible for the degradation of empowerment. In Bangladesh, among the seven administrative divisions, some have the cultural background which may encourage women empowerment greater than another. As like, there may be some divisions where women are so much deprived that scoring of the entire country become low. As a result, it is important to ensure the proper information on the actual scenario of the women empowerment in each of the region of Bangladesh so that the initiatives that are being taken can be executed properly.

The studies which have already carried out to measure the women empowerment to examine only the indicators and factors that create effects from or have some affect on women empowerment (Haque et al., 2011, Njuki et al., 2013).

In the present study an attempt has been taken to evaluate the current scenario of women empowerment in Bangladesh as well as to examine the association between different factors (socioeconomic and demographic) and women empowerment status. Finally, the strength of the impact of the potential factors is assessed.

## **2. Methods**

### *2.1 Data*

In this study, the secondary data set 'Bangladesh Demographic and Health Survey, 2011 has been used. This data set was collected through a collaborative effort of the National Institute of Population Research and Training (NIPORT), ICF International (USA) and Mitra and Associates. The written informed consent was obtained from the participants prior to participation in the study and data collection was conducted confidentially. For this study, there is no need ethical approval since it is based on publicly available secondary data.

### *2.2 Variables*

The 2011 BDH survey was designed to collect information for 4007 variables from 17,842 observations. Among these huge numbers of variables, only a few variables have been identified to be considered to achieve the objectives of this study. In this paper, Women Empowerment Score (WES) is calculated according to UNDP (2005) formulated Human Development Index (HDI), based on the number of house hold decisions (decision on respondents health care, child health care, large household purchases and visits to family or relatives) in which a respondent participants (BDHS, 2011 report). WES variable was converted, according to Njuki et al. (2013), into a binary one known as Women Empowerment Status (women empowered if  $WES \geq 0.80$ , women not empowered if  $WES < 0.80$ ) which is the outcome variable. The following Table 1 shows the indicator for measuring women empowerment.

Table 1. Summary table of indicators for measuring women empowerment

Variables	Coding	Scaling of women empowerment
Person who usually decides on respondent's health care.	1=Respondent alone	1,2,3 =1 (positive response) 4,5,6=0 (negative response)
	2=Respondent and husband/partner	
	3=Respondent and other person	
	4=Husband/partner alone	
	5=Someone else	
	6=Other	
Person who usually decides on large household purchases	1=Respondent alone	1,2,3=1 (positive response) 4,5,6=0 (negative response)
	2=Respondent and husband/partner	
	3=Respondent and other person	
	4=Husband/partner alone	
	5=Someone else	
	6=Other	
Person who usually decides on visits to family or relatives	1=Respondent alone	1,2,3=1(positive response) 4,5,6=0 (negative response)
	2=Respondent and husband/partner	
	3=Respondent and other person	
	4=Husband/partner alone	
	5=Someone else	
	6=Other	
Final say on: Child health care	1=Respondent alone	1,2=1 (positive response) 4,5,6=0 (negative response)
	2=Respondent and husband jointly	
	4=Husband, partner	
	5=Someone else	
	6=Other	

Along with the outcome variable, we consider the socio economic and demographic factors: respondent's age (<20, 20-35, 35+), respondent's education (no education, primary, secondary, higher), working status (yes, no), wealth index (poorest, poorer, middle, richer, richest), media exposure (access, no access), type of place of residence (urban, rural), region (Dhaka, Barisal, Chittagong, Khulna, Rajshahi, Rangpur, Sylhet), husband's education (no education, primary, secondary, higher), husband's age (<20, 20-35, 35+), religion (Muslim, Non-Muslim) as determinants of the outcome.

### 2.3 Analysis Techniques

At first, we detect interregional disparity of women empowerment using Analysis of Variance (ANOVA). Next, to examine the relationship between different determinants and women empowerment status, we conduct a bivariate analysis along with a Chi-square test. Finally, to know the strength of the impact of the potential factors, we consider a logistic regression model along with all the socio economic and demographic determinants as covariates. For the purpose of analysis, the SPSS for Window (SPSS Inc., Chicago, IL, USA) is used.

## 3. Results

### 3.1 Univariate Analysis

Different demographic and socioeconomic variables for all ever married women age 12-49 as well as all ever

married men aged 15-54 who have been interviewed in this survey have been shown in the following Table 2. After that, Table 3 has been drawn to find out the frequency distribution of the four indicators on the basis of which WES has been calculated.

Table 2. Frequency distribution of the respondents and its demographic and socio economic characteristics

Variables	Categories	Frequency	Percentage
Respondent's age	<20	2004	11.2
	20-35	10121	56.7
	35+	5717	32
Respondents education	No education	4639	26
	Primary	5332	29.9
	Secondary	6406	35.9
	Higher	1465	8.2
Working status	Yes	15468	86.7
	No	2374	13.3
Media exposure	No access	11773	66
	Access	6059	34
Wealth index	Poorest	3096	17.4
	Poorer	3345	18.7
	Middle class	3428	19.2
	Richer	3777	21.2
Type of place of residence	Richest	4196	23.5
	Urban	6196	34.7
	Rural	11646	65.3
Husband's age	<20	67	0.4
	20-35	7050	42.2
	35+	9587	57.4
Husband's education	No education	5197	29.1
	Primary	4834	27.1
	Secondary	5175	29
	Higher	2627	14.7
	Barisal	2066	11.6
	Chittagong	2871	16.1
Region	Dhaka	3084	17.3
	Khulna	2656	14.9
	Rajshahi	2608	14.6
	Rangpur	2469	13.8
	Sylhet	2088	11.7
Religion	Muslim	15845	88.8
	Non-Muslim	1997	11.2

Table 2 shows that, maximum number of women (56.7%) fall in the age group 20-35 whereas only 11.2% and 32% fall in the <20 and 35+ age group respectively. In case of highest educational level, 26% women are illiterate whereas 74% fall in the literate group. In the literate group, only 8.2% have the higher education and a 29.9% & 35.9% woman has primary and secondary education. Table 2 also shows that, among all the respondents, 86.7% respondents are currently working, 34% respondents have the access to the media, 65.3 % respondents lived in rural areas and 88.8% respondents are the followers of Islam. Very few of the respondents (17.4 %) belong to the poorest category whereas 19.2% and 23.5% women belong to the middle class and richest family respectively.

Most of the husband's belong from the 35+ age group (57.4 %) whereas minimum number of husband's (0.4%) fall in the <20 age group. Also, 42.2% husband's fall in the 20-35 age group. In case of husband's education, 29.1% people are illiterate whereas 70.9% are literate. Among literate people, minimum number (14.7%) falls in the higher education category and primary and secondary education constitutes 27.1% and 29% respectively.

In comparison, we observe that, the literacy rate is higher for respondents than their husbands whereas the husbands have 6.5% more higher education than their female counterparts. On the other hand, a very negligible portion (0.4%) fall in the <20 age group in case of husbands whereas the 11.2% respondents lies in that age group. This comparative statement clearly indicates that, a moderate portion of the respondents is married under 20 years.

Table 2 also shows that, maximum number of respondents (17.3%) fall in the Dhaka division whereas the minimum numbers (11.6%) fall in the Barisal division. Also a large portion (16.1%) of the respondents falls in the Chittagong division.

Table 3. Frequency distribution of the indicators for measuring women empowerment

Variables	Categories	Frequency	Percentage
Person who usually decides on respondent's health care.	Respondent alone	2224	13.3
	Respondent and husband/partner	8456	50.7
	Respondent and other person	0	0
	Husband/partner alone	4951	29.7
	Someone else	1022	6.1
Person who usually decides on large household purchases	Other	33	0.2
	Respondent alone	1208	7.2
	Respondent and husband/partner	8832	52.9
	Respondent and other person	0	0
	Husband/partner alone	4856	29.1
Person who usually decides on visits to family or relatives	Someone else	1741	10.4
	Other	49	0.3
	Respondent alone	1633	9.8
	Respondent and husband/partner	8896	53.4
	Respondent and other person	0	0
Final say on: Child health care	Husband/partner alone	4690	28.1
	Someone else	1409	8.5
	Other	43	0.3
	Respondent alone	2423	14.5
	Respondent and husband/partner	8894	53.3
	Respondent and other person	0	0
	Husband/partner alone	3109	18.6
	Someone else	755	4.5
	Other	1497	9.0

Table 3 reveals that, about 50.7 % of respondents take decisions on their own health care with their husband, whereas, 29.7 % of the respondent's husbands take the decision on the respondents health care alone. On the other hand only 13.3 % of the respondents take their own health care related decisions alone. Besides, in case of taking decisions on large household purchases, only 7.2% women take decisions solely whereas 52.9% women take decision jointly with their husband. 29.1% of the respondent's husbands take these decisions alone. Moreover, 53.4 % respondents take the decisions on visiting to family or relatives along with their husbands whereas 28.1 % of the respondent's husbands take this decision alone. Only 9.8% women take this decision alone, whereas 8.5 % case someone else other than husband and the respondents themselves take this decision. Lastly, having final say on child health care, 53.3 % of the respondents and their husbands take decisions together; where only 14.5 % of the women take it alone with 18.6% of the respondent's husbands take these

decisions alone.

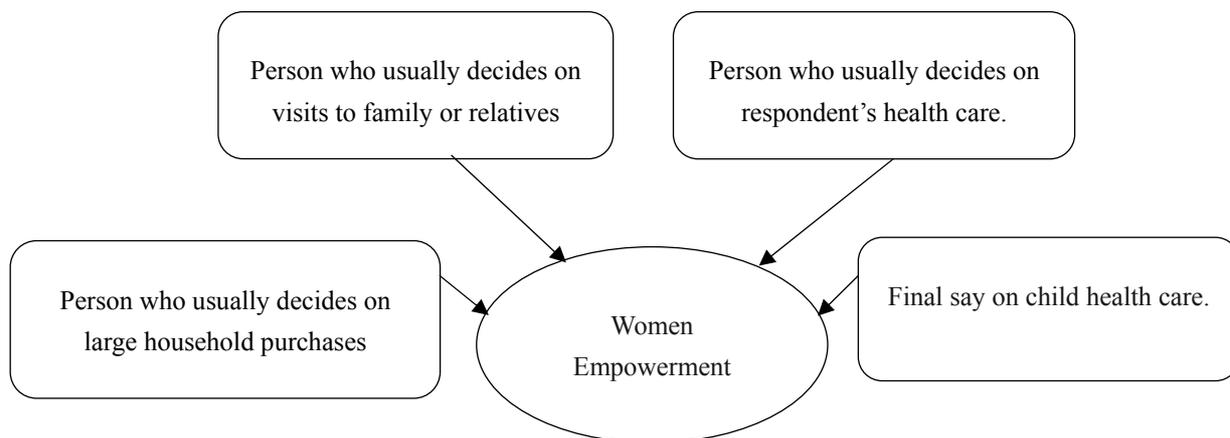


Figure 1. Conceptual Framework for the construction of women empowerment

3.2 Detecting Inter-Regional (Inter-Divisional) Disparity of Women Empowerment

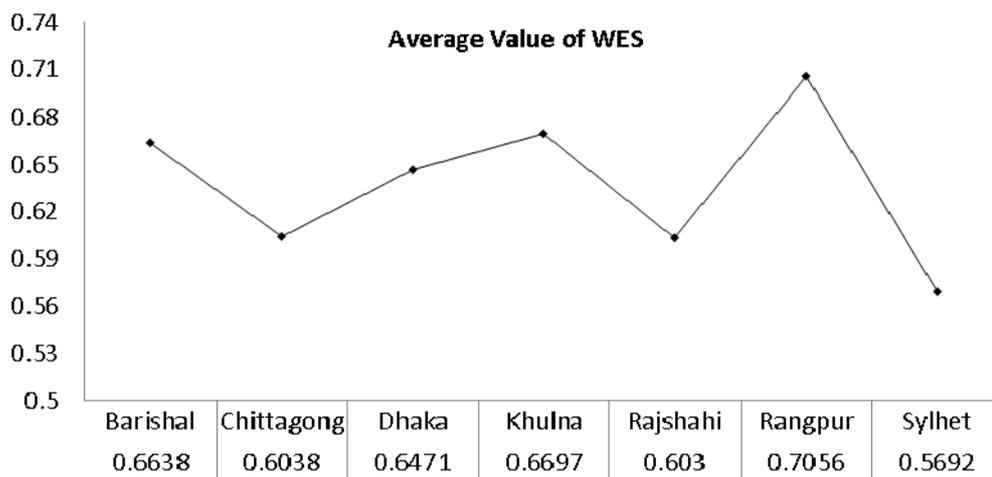


Figure 2. Women empowerment scoring by seven administrative divisions of Bangladesh

Figure 2 shows that, among the seven divisions of Bangladesh, Sylhet division has the lowest mean WES with 0.5692. After that, Rajshahi has the mean WES of 0.6030. Chittagong places immediately after Rajshahi (0.6038). Apparently, Dhaka, Barisal and Khulna have the mean WES of 0.6471, 0.6638 and 0.6697 respectively. Rangpur division shows the highest value (0.7056).

Table 4. ANOVA table for detecting interregional disparity of women empowerment

Sources of Variation	Sum of Squares	Degrees of Freedom (DF)	Mean Square	F	P value
Between Groups	29.755	6	4.959		
Within Groups	2474.817	16653	0.149	33.370	0.000
Total	2504.572	16659	-----		

Table 4 reflects that test is highly significant (since, p value = 0.000) at 1% level of significance. That is, there is statistically significant difference in the means of women empowerment score among different divisions in Bangladesh.

Overall, since the test is significant, that's why we are more interested to know the pairwise differences. For this reason, we now perform the Least Significance Difference (LSD) test. To detect the pairwise mean differences among this region LSD test has been run at the 5% level of significance.

Table 5. Interregional Disparity among the Seven Administrative Divisions of Bangladesh

(I) Region	(J) Region (other than I)	Mean Difference (I-J)	Std. Error	P value
1 Barisal	1 Chittagong	0.06002	.01145	.000
	2 Dhaka	0.01664	.01131	.141
	3 Khulna	-.00593	.01166	.611
	4 Rajshahi	.06075	.01167	.000
	5 Rangpur	-.04179	.01184	.000
	6 Sylhet	.09460	.01241	.000
2 Chittagong	1 Barisal	-.06002	.01145	.000
	2 Dhaka	-.04337	.01036	.000
	3 Khulna	-.06594	.01074	.000
	4 Rajshahi	.00074	.01075	.945
	5 Rangpur	-.10180	.01093	.000
	6 Sylhet	.03458	.01155	.003
3 Dhaka	1 Barisal	-.01664	.01131	.141
	2 Chittagong	.04337	.01036	.000
	3 Khulna	-.02257	.01059	.033
	4 Rajshahi	.04411	.01059	.000
	5 Rangpur	-.05843	.01078	.000
	6 Sylhet	.07796	.01141	.000
4 Khulna	1 Barisal	.00593	.01166	.611
	2 Chittagong	.06594	.01074	.000
	3 Dhaka	.02257	.01059	.033
	4 Rajshahi	.06668	.01097	.000
	5 Rangpur	-.03586	.01115	.001
	6 Sylhet	.10052	.01176	.000
5 Rajshahi	1 Barisal	-.06075	.01167	.000
	2 Chittagong	-.00074	.01075	.945
	3 Dhaka	-.04411	.01059	.000
	4 Khulna	-.06668	.01097	.000
	5 Rangpur	-.10254	.01116	.000
	6 Sylhet	.03384	.01176	.004
6 Rangpur	1 Barisal	.04179	.01184	.000
	2 Chittagong	.10180	.01093	.000
	3 Dhaka	.05843	.01078	.000
	4 Khulna	.03586	.01115	.001
	5 Rajshahi	.10254	.01116	.000
	6 Sylhet	.13638	.01194	.000
7 Sylhet	1 Barisal	-.09460	.01241	.000
	2 Chittagong	-.03458	.01155	.003
	3 Dhaka	-.07796	.01141	.000
	4 Khulna	-.10052	.01176	.000
	5 Rajshahi	-.03384	.01176	.004
	6 Rangpur	-.13638	.01194	.000

Table 5 shows that, in most of the pairs the mean difference of women empowerment scores differed significantly (since,  $p$  value  $\leq 0.05$ ) that is the women empowerment score has significant effects in different divisional pairs. The mean difference of the WES of any two districts varies significantly except the pairs Barishal-Dhaka, Barishal-Khulna, Chittagong-Rajshahi.

### 3.3 Bivariate analysis

Table 6. Association between different covariates and women empowerment status

Variables	Category	Women Empowerment Status		P value
		Women Empowered n(%)	Women Not Empowered n(%)	
Respondent's Age	<20	395 (20.3%)	1551 (79.7%)	0.001
	20-35	4245 (43.8%)	5451 (56.2%)	
	35+	2518 (50.2%)	2500 (49.8%)	
Husband's Age	<20	3(4.5%)	64 (95.5%)	0.02
	20-35	2448 (34.8%)	4587 (65.2%)	
	35+	4707 (49.2%)	4851 (50.8%)	
	Brisal	921 (47.06%)	1036 (52.93%)	
Region	Chittagong	1092 (40.60%)	1597 (59.39%)	0.000
	Dhaka	1210 (42.33%)	1648 (57.66%)	
	Khulna	1091 (44.08%)	1384 (55.91%)	
	Rajshahi	927 (37.56%)	1541 (62.43%)	
	Rangpur	1230 (53.20%)	1082 (46.79%)	
	Sylhet	687 (36.13%)	1214 (63.86%)	
Highest Educational Level	No Education	1777(43.5%)	2309(56.6%)	0.001
	Primary	2132(42.6%)	2875(57.4%)	
	Secondary	2518(41.0%)	3622(59.0%)	
	Higher	731(51.2%)	696 (48.8%)	
Husband's Educational Level	No Education	2039 (43.6%)	2640 (56.4%)	0.001
	Primary	1881 (41.1%)	2699 (58.9%)	
	Secondary	1982 (40.6%)	2903 (59.4%)	
Respondent's Working Status	Higher	1253 (50.0%)	1255 (50.0%)	0.000
	Yes	1089 (56.0%)	855 (44.0%)	
	No	6069 (41.2%)	8647 (58.8%)	
Media Exposure	No Access	4877 (44.1%)	6194 (55.9%)	0.001
	Access	2276 (40.8%)	3303 (59.2%)	
	Poorest	1189(42.2%)	1631(57.8%)	
Wealth Index	Poorer	1272(40.7%)	1856(59.3%)	0.001
	Middle Class	1289(39.9%)	1943(60.1%)	
	Richer	1468(41.4%)	2075(58.6%)	
Types of Place of Residence	Richer	1940(49.3%)	1997(50.7%)	0.001
	Urban	2822 (49.0%)	2935 (51.0%)	
	Rural	4336 (39.8%)	6567 (60.2%)	
Religion	Muslim	6319 (42.7%)	8478 (57.3%)	0.045
	Non-Muslim	839 (45%)	1024 (55.0%)	

Table 6 reveals the Chi-square tests for relationship between selected covariates and women empowerment status. The Chi-square test reflects that all the selected demographic and socioeconomic variables have a highly significant relationship with women's empowerment status.

However, in case of respondents and their husbands age indicates a trend of women empowerment with the

increase of ages that is when the age of the respondents and their husbands are 35+ almost 50% women are empowered. The variable 'educational status' shows an interesting relationship with the women empowerment. More than 50% women are empowered when the educational status is higher of the respondents and their husbands followed by 'no-education' and the lowest rate shows the 'secondary education'. In our country, most of the cases, no-educated men marry the same educational status of women (16.3% among 8 possible categories) for which the women of these families can get priority in decision making. In regional case, the highest percentage of the women empowerment shows the Rangpur division (53.2%) followed by Barishal (47.06%) and then Khulna division (44.08%), 42.33% and 40.6% women are empowered those are living in Dhaka and Chittagonh division respectively, only 36.13% women are empowered for Sylhet division. 56% women are empowered when they are working and among the not-working women 41.2% are empowered. Among the media exposure women, 40.8% are empowered. In case of wealth index 42.2% women are empowered among the poorest family, 40.7% of the poorer family, only 39.9% among the middle class family, in richer family 41.4% are empowered and 49.3% are empowered among the richest family. 39.8% rural women are empowered whereas 49.0% are empowered in urban areas. Among the non-Muslim family 45.0% is empowered and 42.7% in a Muslim family.

### 3.4 Regression Analysis

One of the core intentions of this study is to scrutinize the impact of different determinants on the women empowerment. For this reason, we consider the logistic regression model. The results are given in Table 7.

Table 7. Regression coefficients (Reg. Coeff.) and odds ratios (OR) with 95% confidence interval (95% CI) from logistic regression model

Characteristics	Category	OR (95% CI)
Respondent's Age	< 20 (Ref)	1
	20-35	2.307 (2.032, 2.620)***
	35+	2.774 (2.391, 3.219)***
Husband's Age	< 20 (Ref)	1
	20-35	5.866 (1.829, 18.815)***
	35+	8.855 (2.754, 28.473)***
Highest Educational Level	No education (Ref)	1
	Primary	1.176 (1.073, 1.288)***
	Secondary	1.290 (1.159, 1.437)***
	Higher	1.426 (1.204, 1.689)***
Husband's Educational Level	No education (Ref)	1
	Primary	0.979 (0.895, 1.072)
	Secondary	0.922 (0.833, 1.019)
Respondent Working Status	Higher	1.039 (0.904, 1.194)
	No-Working (Ref)	1
	Working	1.603 (1.452, 1.769)***
Wealth Index	Poorest (Ref)	1
	Poorer	0.931 (0.836, 1.037)
	Middle	0.831 (0.743, 0.930)***
	Richer	0.782 (0.694, 0.880)***
Types of Place of Residence	Richest	0.850 (0.743, 0.973)***
	Urban (Ref)	1
	Rural	0.744 (0.689, 0.804)***
Religion	Non-Muslim(Ref)	1
	Muslim	0.989 (0.894, 1.093)
Media Exposure	No access (Ref)	1
	Access to media	0.908 (0.838, 0.984)***

Notes. \*\*\*p value < 0.001, \*\*p value < 0.05, \*p value < 0.10. Ref= Reference Category

In the regression model, odds ratios for the respondent age group and husbands age group (20-34 and 35+) are significant at the 1 % level of significance. It implies that the age of the participants and their husbands plays an important role in the women empowerment as it is found statistically significant even after controlling the demographic and socioeconomic variables. From the Model it is found that the rate of women empowerment increases significantly with increasing the age of respondents and their husband's age. For the individual with age group 20-34 is 2.3 times and with age group 35+ is 2.77 times more empowered than the age group 1-19. In case of husband age, the women, those husbands are in the age group 20-34 is 5.86 times and the age group 35+ is 8.85 times more empowered than the husband's age group 1-19.

From the regression model it is indicated that the empowerment of the women is increasing with the level of education of respondents and working status. For the women with the highest education level, the empowerment is 42.6% higher than the women with no education. Those who are in working they are 60.3% more likely to have empowered than who are in not-working. Religion is not found to have statically significant effect, but place of residence has significant effects on women empowerment, i.e. women are those living in the rural areas are 25.6% less empowered compared to the urban areas. An interesting relationship has been found between wealth status and women empowerment. In poorer families, women are 6.9% less empowered than the poorest family, for the middle and richer family women are 16.9% and 21.8% less empowered than the poorest family and richest family's women are 15.0% less empowered compared to the poorest family. Those women have access to media are 9.2% less empowered than those have no access to the media this effect is statistically significant at the 1% level of significance.

#### 4. Discussion and Conclusions

The aim of this study is to evaluate the overall status of women empowerment in Bangladesh based on BDHS 2011 data. For this purpose, ANOVA has been conducted for detecting interregional disparity, bivariate analysis for examining the association between different covariates and women empowerment status, and logistic regression analysis for measuring the strength of the impact of the influential factors.

One of the potencies of this study is the use of a nationwide large sample with in depth information on the indicators of women empowerment, socioeconomic and demographic variables. This data set is collected through a authentic and uniform procedure, which reduce the measurement error and bias. A high response rate is observed in this study. In addition, this paper not only measures the overall status of women empowerment of the country but also clearly indicates the interregional disparity level of women empowerment.

The regional average WES has been calculated where the highest value was observed in Rangpur (0.7056) and the lowest was in Sylhet (0.5692). None of the divisions' women are empowered since all the values are less than 0.80 (Njuki et al., 2013) and there is overall statistically significant difference in the average WES, assessed by ANOVA, among different divisions. LSD test has been carried out (at 5% level of significance), for the purpose of pair wise comparison, which reflects that the mean difference of WES varies significantly for all the pairs except Barisal-Dhaka (p value = 0.141), Barisal-Khulna (0.611), Chittagong-Rajshahi (0.945). The bivariate analysis clearly reveals that respondent's age (p value = 0.001), respondent's education (0.001), type of place of residence (0.001), respondent's working status (0.000), wealth index (0.001), media exposure (0.001), region (0.000), husband's education (0.001) and husband's age (0.02) are statistically associated with women empowerment status and are the most influential factors for women to be empowered. By fitting logistic regression model, a significant increase in women empowerment was observed with the increase of age of respondent and their husband as well as the educational level of both. This study also shows the significant impacts on women empowerment in case of respondents working status (OR: 1.603) and place of residence (OR: 0.744). Working women are more empowered and women living in urban areas. Religion implies insignificant result with women empowerment status.

An interesting result has been found in case of access to media (OR: 0.908) and the result is significant. Women who have access to media is less empowered than who has no access. In this case, one possible explanation is that, in Bangladesh a large portion of women (66%) does not have media access among which 29% are empowered whereas only 14% are empowered among the media exposed women (34%).

#### References

- ADB (Asian Development Bank). (2011). *GENDER EQUALITY AND FOOD SECURITY-Women's Empowerment as a Tool against Hunger*. Publication Stock No. RPT135782-3.
- Almaz, E. (1991). Perspectives on Gender and Development. In T. B. Selassie (Ed.), *Gender Issues in Ethiopia. Institute of Ethiopian Studies*. Addis Ababa University, Addis Ababa. Retrieved from

- <http://countryoffice.unfpa.org/ethiopia/drive/Gender.pdf>
- Batliwala, S. (1994). The Meaning of Women's Empowerment: New Concept from Action. In G. Sen, A. Germain, & L. Chen (Eds.), *Population Policies Reconsidered: Health Empowerment and Rights*. Cambridge: Harvard University Press.
- Betata, H. C. (2007). What is missing in measures of women's empowerment? *Journal of Human Development*, 7(2), 221-241. <http://dx.doi.org/10.1080/14649880600768553>
- Charmus, J., & Wieringa, S. (2003). Measuring Empowerment: An Assessment of the Gender Related Development Index and the Gender Empowerment Measure. *Journal of Human Development and Capabilities*, 4(3), 419-435. <http://dx.doi.org/10.1080/1464988032000125773>
- Dixon, R. (1978). *Rural Woman at work*. Baltimore: The Johns Hopkins University press.
- Haque, M. M. et al. (2011). Women Empowerment or Autonomy: A Comparative View in Bangladesh Context. *Bangladesh e-Journal of Sociology*, [Online] 8.
- Hausmann, R., Tyson, L. D., & Zahidi, S. (2011). *The Global Gender Gap Report-2011*. World Economic Forum 91-93 route de la Capite CH-1223 Cologny/Geneva Switzerland.
- Hirut, T. (2004). *Violence Against Women in Ethiopia: A Strong Case of Civil Society Concern*.
- ILO (International Labour Organization). (2009). *Gender equality at the heart of decent work* (Report VI, 98th Session).
- Islam, M. S. (2014). Women's Empowerment in Bangladesh: A Case Study of Two NGOs. *Bangladesh Development Research Working Paper Series BDRWPS 23*. Retrieved December 14, 2014, from [http://www.bangladeshstudies.org/files/WPS\\_no23.pdf](http://www.bangladeshstudies.org/files/WPS_no23.pdf)
- Jejeebhoy, S. J. (2000). Women's Autonomy in Rural India: Its Dimensions, Determinants, and the Influence of Context. In H. Presser, & G. Sen (Eds.), *Women's Empowerment and Demographic Processes: Moving Beyond Cairo*. New York: Oxford University Press.
- Kamal, N., & Zunaid, K. M. (2006). *Education and Women's Empowerment in Bangladesh*. Working Paper 11. Centre for Health Population and Development at Independent University, Bangladesh, Dhaka.
- Klasen, S. (2006, July). UNDP's Gender-Related Measures: Some Conceptual Problems and Possible Solutions. *Journal of Human Development*, 7(2), 243-274. <http://dx.doi.org/10.1080/14649880600768595>
- Mason, K. O. (1998). Wives' economic decision-making power in the family: Five Asian countries. In K. O. Mason (Ed.), *The Changing Family in Comparative Perspective: Asia and the United States*. Honolulu: East-West Center.
- Mason, K. O., & Smith, H. L. (2003). *Women's Empowerment and Social Context: Result from Five Asian Countries*. Rockefeller Foundation's Bellagio Study and Conference Center.
- Mason, K., & Smith, H. L. (2000). Husbands' versus Wives Fertility Goals and Use of Contraception: The Influence of Gender Context in five Asian Countries. *Demography*, 37(3), 299-311. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/10953805>
- Moser, C. (1993). *Gender Planning and Development: Theory, Practice and Training*. London: Routledge. <http://dx.doi.org/10.4324/9780203411940>
- Mukuria, A., Aboulfia, C., & Themme, A. (2005). *The Context of Women's Health: Results from the Demographic and Health Surveys, 1994 – 2001*. Comparative Reports No 11. Calverton, Maryland: ORC Macro.
- Nazneen, S., Hossain, N., & Maheen, S. (2011). *National discourses on women's empowerment in Bangladesh: Continuities and change*. IDS Working Paper No 368. Brighton, UK: Institute of Development Studies; 2011. [http://dx.doi.org/10.1111/j.2040-0209.2011.00368\\_2.x](http://dx.doi.org/10.1111/j.2040-0209.2011.00368_2.x)
- Njuki, J., Kruger, E., & Starr, L. (2013). *Increasing the Productivity and Empowerment of Women Smallholder Farmers-Results of a Baseline Assessment from Six Countries in Africa and Asia* (pp. 10-11). CARE Pathways of Empowerment.
- Pande, R., & Ford, D. (2011). *Gender Quotas and Female Leadership: A Review*. Washington DC. World Bank.
- Parveen, S., & Leonhauser, I. (2004). *Empowerment of Rural Women in Bangladesh: A Household Level Analysis*. Paper presented on Conference on Rural Poverty Reduction through Research for Development

and Transformation, 5-7 October 2004. Berlin.

- Rafiqul, I. M. (2011). Rural Women's Empowerment through Self-income Generating Activities: A Study on NGOs Credit Programs in Bangladesh. *Journal of Global Citizenship & Equity Education*, 1(1).
- Rowlands, J. (1997). *Questioning Empowerment*. Oxford: Oxfam. <http://dx.doi.org/10.3362/9780855988364>
- Schuler, S. R., Islam, F., & Rottach, E. (2010). Women's empowerment revisited: a case study from Bangladesh. *Development in Practice*, 20(7). <http://dx.doi.org/10.1080/09614524.2010.508108>
- Swain, R. B., & Wallentin, F. Y. (2008). *Economic or Non-Economic Factors -What Empowers Women?* (No. Working Paper 2008:11).
- Tripathi, T. (2011). *Women's Empowerment: Concept and Empirical Evidence from India*. Paper presented at annual conference ('Winter School') of the Centre for Development Economics, Delhi School of Economics, 10-13 December 2011.
- UNDP (United Nations Development Programme)–Human Development Report Office. (2011). *The Human Development Index (HDI)*. New York. Retrieved from <http://hdr.undp.org/en/statistics/hdi/>
- Yan, S. (2014). *How to measure women empowerment. The Borgen Project*. Retrieved December 28, 2014, from <http://borgenproject.org/how-to-measure-women-empowerment/>

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