УДК 314

Дж. Б. Джаббар[*]

Социально-экономические различия между восточными и западными регионами Бангладеш: эмпирический анализ[**]

Исследования, описанные в статье, проведены для оценки социально-экономических условий жизни женщин в восточных и западных регионах Бангладеш. Изучаются уровни и тренды таких социально-экономических индикаторов, как возраст первого замужества и возраст первого деторождения. Идентифицируются демографические, социальные и экономические факторы, которые оказывают существенное влияние на эти индикаторы. Важно отметить, что указанные индикаторы оказывают прямое влияние на общую рождаемость в стране. Кроме того, проведенный анализ позволяет прогнозировать состояние здоровья женщин в обоих регионах страны. В работе используются данные о домашних хозяйствах из Отчета по демографии и здравоохранению Бангладеш (BDHS 2011) для построения модели множественной регрессии и эконометрического анализа. Исследования показывают, что наряду с региональными фиктивными переменными, значимыми регрессорами в модели оказываются уровень образования, статус работника, отношение к религии, место жительства, уровень благосостояния. На основе проведенного анализа предлагаются выводы для программы повышения осведомленности как на бытовом уровне, так и на уровне региональных властей.

Ключевые слова: социально-экономические индикаторы; демографические факторы; эконометрический анализ.

INTRODUCTION

Bangladesh is one the most populous and developing countries in South Asia. A large number of its population remains in vulnerable health condition, which is mainly caused by poverty, norms and social exclusion. Some experts say that the fast economic growth is happened due to high level of investment in human capital development (Dholakia, 2003); so the relationship between health factors and economy focuses on average health conditions of the population, which can influence overall production of a country.

The main approach of this paper is to analyze health factors in terms of socio-economic indicators. Socio-economic status is a condition, which indicates one's economic, and sociological position based on his/her education, occupation and income level. Nevertheless, socio-economic factors, at both micro and macro level, are very significant determinants to the examination of trends in regional disparity. Therefore, the main aim of this paper is to discover the remarkable variation of socio-economic inequalities between eastern and western regions and to identify the variables, which have more contribution to raise the disparities.

DATA AND METHODOLOGY

The main data source for this study is Bangladesh Demographic and Health Surveys (DHS) program, which is implemented through a collaborative effort of National Insti-

---

[*] **Джиинат Бинта Джаббар,** магистрант УрФУ им. первого Президента России Б. Н. Ельцина (Народная Республика Бангладеш; Россия, г. Екатеринбург).

E-mail: jeenat.jabbar@gmail.com

[**] Печатается в авторской редакции.

tute of Population Research and Training (NIPORT), ICF International (USA) and Mitra and Associates. The sample size used in this paper is representing 17,842 household surveys including seven divisions in Bangladesh. Among this number of residential households, Barisal, Chittagong, Dhaka, Khulna, Rajshahi, Rangpur and Sylhet division occupied 2066, 2871, 3084, 2656, 2608, 2469 and 2088 households, respectively. In this study, according to the geographical boundaries, regions Dhaka, Chittagong and Sylhet are considered under the Eastern part and rest of the four divisions are considered in the Western part of Bangladesh.

While analyzing the data at the very first stage, the study finds the correlation among the dependent and independent variables. After analyzing the correlation of the variables, the paper reports ordinary least-square (OLS) regressions on the age at first marriage and age at first birth against regions. The linear regressions are:

Age at first marriage = f (eastern & western regions, female highest education level, husband's education level, type of residence, respondent currently working or not, husband currently working or not, religion, wealth quintile, education level interacted with regions, education level interacted with regions, wealth quintile interacted with regions)

Age at first birth = f (eastern & western regions, female highest education level, husband's education level, type of residence, religion, wealth quintile, education level interacted with regions, education level interacted with regions, wealth quintile interacted with regions).

CORRELATION ANALYSIS

A Pearson product-moment correlation coefficient is computed to assess the relationship between dependent variables and independent variables. Here, two dependent variables, age at first age and age at first birth are included to analyze correlation with each six predictors. The result indicates that there is a significant positive correlation between our dependent variables and control variables. The results imply that increases of age at first marriage are correlated with increases of female highest education level and working status. As the results show that there is significant positive association with two dependent variables which means that increases in age at first marriage are positively correlated to age at first birth. Therefore, it can be inferred that the factors are positively correlated with age at first marriage also positively correlated with age at first birth and the results prove that relationship among variables.

TABLE 1.1: Results of Correlations

Dependent Variables	Independent Variables						
	Region	Type of Residence	Female Highest education level	Wealth Index	Religion	Female Working Status	Age at first birth
Age at First Marriage	.147**	.097**	.094**	.129**	.047**	.063**	.158**
Age at First Birth	.090**	.102**	.262**	.192**	.102**	.028**	1

** Correlation is significantly at the 0.01 level (2-tailed)
* Correlation is significantly at the 0.05 level (2-tailed)

REGRESSION ANALYSIS THROUGH SPSS SOFTWARE

This section begins with a discussion of regression results for two socio-economic indicators such as age at first marriage and age at first birth across seven divisions in Bangladesh. The multiple linear regression results for age at first marriage is presented in Table 2.1 and summarized below. The result tells that age at first marriage in eastern parts is significantly higher than the age at first marriage in the western part, which indicates that women in Dhaka, Chittagong and Sylhet are getting marriage in later age than women from Barisal, Khulna, Rajshahi and Rangpur. The result shows that education has a significant role on age at first marriage, which represents that when women are being more educated they, are getting married in later age. In addition, husband's education level has great impact on age at first marriage of female, which indicates that educated man does not get married to younger woman. Moreover, results show that when female are working, they get married later; however, husband's current working condition does not significantly influence age at first marriage. Another predictor type of residence also gives a significant result that says rural women are getting married earlier than urban women. The result also indicates that the Muslim women are getting married in early ages than the women from other religions. In the general case, women in eastern divisions are getting married later than women from western divisions. However, in the case when the religion is interacted with the regional dummy the model indicates that the Muslim women from eastern divisions are getting married earlier than from western divisions. In addition, the other important factor, which controls the age at first marriage, is wealth index. Compared to the poor, the age at first marriage of the respondent from the middle and rich groups is higher, but the result significantly shows that the respondents from middle-income group in eastern parts are getting married earlier than a respondent from rich-income and poor-income groups in eastern divisions.

TABLE 2.1: Regression Results for Age at First Marriage

	B	Std. Error	t	Sig
(Constant)	14.962	.159	94.052	.000
eastern western	1.039	.156	6.649	.000
Highest educational level	.103	.039	2.680	.007
Husband/partner's education level	.107	.029	3.708	.000
Respondent currently working	.467	.065	7.203	.000
Husband currently working or not	.038	.126	.299	.765
Type_residence	.315	.052	6.091	.000
Muslim	-.256	.093	-2.741	.006
Buddha_Christian_others	.678	.438	1.548	.122
Middle	.156	.081	1.919	.055
Rich	.215	.078	2.773	.006
east_west_edu_level	.105	.052	2.023	.043
middle_eastwest	-.411	.128	-3.199	.001
rich_eastwest	.001	.110	.007	.995
muslim_eastwest	-.278	.144	-1.932	.053
others_eastwest	.478	.653	.732	.464

Here, the multiple linear regression analysis is conducted for another dependent variable Age at First Birth keeping the other control variables constant except the working conditions of men and women. The reason behind excluding the two control variables from the regression analysis is to avoid multicollinearity. The regression result is represented in the Table 2.2. The result tells that age at first birth in eastern parts is significantly higher than the age at first marriage in western parts, which indicates that

women in Dhaka, Chittagong and Sylhet are getting marriage in later age than the women from Barisal, Khulna, Rajshahi and Rangpur. Age at first birth is associated with age at first birth because late marriage decreases the fertility. Moreover, the result shows that when women and their husband are being educated they take their first child in later age on an average.

Another predictor called type of residence also gives a significant result that says rural women having their first child in early age than urban women. Therefore, it can be inferred that family planning is practiced in urban areas. In addition, the religion is an important variable to influence the age at first marriage. The result indicates that the Muslim women are giving birth to their first baby in early ages than the women from other religions. Though women in eastern divisions are getting married later than the women from western divisions, when the religion is interacted with the regional dummy it says that Muslim women from eastern divisions are having children earlier than from western divisions. However, the other important factor that controls the age at first birth is wealth index. Compared to the poor, the age at first birth of the respondent from the middle group is significantly lower which implies that for the lack of wealth. Moreover, it is found in other studies that higher level of contraceptive use among slum dwellers in Bangladesh (Rabbi and Kabir, 2013). In addition, this can be a reason behind having babies in the later ages for the poor than a middle-wealth quintile family.

TABLE 2.1: Regression Results for Age at First Birth

	B	Std. Error	t	Sig
(Constant)	17.136	.181	94.666	.000
eastern western	1.488	.177	8.396	.000
Highest educational level	.627	.044	14.175	.000
Husband/partner's education level	.402	.033	12.290	.000
Type_residence	.152	.059	2.566	.010
Muslim	-.620	.105	-5.883	.000
Buddha_Christian_others	.876	.496	1.767	.077
Middle	-.315	.092	-3.414	.001
Rich	.113	.089	1.281	.200
east_west_edu_level	-.063	.060	-1.050	.294
middle_eastwest	-.116	.146	-.791	.429
rich_eastwest	-.070	.125	-.562	.574
muslim_eastwest	-.839	.164	-5.123	.000
others_eastwest	-.881	.737	-1.196	.232

CONCLUSION AND POLICY IMPLICATION

After analyzing all the results of the regressions, one can conclude that socio-economic indicators disparities between eastern and western regions remain, but not that much marked. Though it is known that eastern parts – Dhaka, Chittagong, Sylhet, are more developed than the rest of the four divisions, in terms of socio-economic status the difference is similar but not that much profound. This paper uses some important control variables that may help to predict the causes of disparities. All of three indicators used in this paper are particularly related to women and their empowerment. The findings show that education positively influences the socio-economic and demographic status and hence it may provide better labor force involvement and create perception about the future. Therefore, it is necessary to incorporate long-term policy options in order to expand the education level for female to the under-served regions especially in western regions. In addition, the government should take a proper care to increase the access of

education for both male and female. It follows from the fact that the implemented analysis suggests that age at first marriage and age at first birth is not only significantly influenced by the female higher education, but also is influenced by their husband/partner education level. The findings also reveal that religion has a significant effect on socio-economic welfare. It has been found that the Muslim community has a trend to get married earlier than the non-Muslim communities, and then, consequently, this circumstance also decreases the age at birth for women. Therefore, it is necessary to take steps to bring social changes through religious leaders. To ensure better health for women, Muslims religious leaders may have great role on it. Therefore, the government should also take necessary steps to train religious leaders about these kinds of issues. Another important finding demonstrates that the type of residence areas can also effect on age at first marriage and age at birth. Urban civilization tends to have marriage in later age than women who are living in rural areas. Therefore, the government should take policy to encourage the local area's administration to keep update on socio-economic status.

References

1. Azzoni C. Economic growth and regional income inequality in Brazil // The Annals of Regional Science. – 2001. – Vol. 35, Iss. 1. – P. 133–152.

2. Central For Policy Dialogue (CPD). Addressing Regional Inequality Issues in Bangladesh Public Expenditure // CPD Occasional Paper Series 71. – 2008. – November.

3. Dholakia R. Regional Disparity in Economic and Human Development in India // Economic and Political Weekly. – 2003. – Vol. 38, № 39. – October.

4. Gurgul H., Lach L. The Impact of Regional Disparities on Economic Growth // Operations Research and Decisions. – 2011. – Vol. 22, № 2. – P. 37–63.

5. Bangladesh Demographic and Health Survey – 2011 / National Institute of Population Research and Training (Dhaka, Bangladesh), Mitra and Associates (Dhaka, Bangladesh), Measure DHS, ICF International (Calverton, Maryland, U.S.A.). – January, 2013.

6. Rahman R. I. An Analysis of Real Wage in Bangladesh and Its Implications for Underremployment and Poverty / Paper Prepared for Festschrift Conference in Honor of Professor Azizur Khan, March 27–28, 2009 at Political Economy Research Institute (PERI), University of Massachuetts-Amherst.

7. Ranis G. Human Development and Economic Growth // Center Discussion Paper no. 887 / Economic Growth Center, Yale University. – 2004. – May.

8. Human Development Report – 2013. The Rise of the South: Human Progress in a Diverse World. – United Nations Development Programme (UNDP), 2013.

9. Narayan A., Zaman H. Poverty Assessment for Banglsdesh: Creating Opportunities and Bridging the East-West Divide // Bangladesh Development Series. Paper No. 26. – Dhaka : The World Bank Office. – 2008.

10. Zaman H., Narayan A., Kotikula A. Are Bangladesh's Recent Gains in Poverty Reduction Different from the Past? // Bangladesh development studies. – 2012. – Vol. 35, Iss.1. – P. 1–26.

11. Zohir S. Regional Differences in Poverty Levels and Trends in Bangladesh: Are we asking the right questions? – Dhaka : Economic Research Group, 2011.

Jeenat Binta Jabbar,
Master Student, Ural Federal University named
after the First President of Russia B. N. Yeltsin
(Bangladesh; Russia, Ekaterinburg)

**Socio-Economic Disparities between Eastern and Western Parts of Bangladesh:
an Empirical Analysis**

This study is conducted to assess the socio-economic condition of women in eastern and western parts in Bangladesh. This study examines the level and trends of two socio-economic indicators, particularly, age at first marriage and age at first birth, and identifies various demographic, social and economic factors influencing the age of the first marriage and age of the first birth. These two indicators have direct effect on fertility, and this study helps to provide a forecast on subsequent health conditions of women from two parts of the country. In this research, household data are taken from Bangladesh Demographic and Health Survey 2011(BDHS) in order to conduct multiple linear regression analysis. The regression analysis reveals that along with regional dummies, such variables as respondent's education, working status, religion, place of residence, wealth index have highly significant impact on both age at first marriage and age at birth. The paper also suggests some of policy implications to order to structure awareness program among general people and local government.
Key words: socio-economic indicators; demographic factors; econometric analysis.