

Title: *Marrying into Crisis: How Environmental Vulnerability Fuels Child Marriage in Bangladesh*

Background: Globally, millions of teenage girls are impacted by the pervasive issue of child marriage, which is a fundamental violation of human rights.

“Despite a steady decline in this harmful practice over the past decade, child marriage remains widespread, with approximately one in five girls married in childhood across the globe.”

UNICEF(Child Marriage | UNICEF, n.d.)

These young girls, often married off before the age of 18, face numerous disadvantages that can have lasting effects on their well-being and future opportunities. Among these challenges are social exclusion, which isolates them from their peers and communities, poverty that perpetuates economic instability, and inadequate access to education, limiting their ability to break the cycle of disadvantage. Additionally, many of these girls are significantly younger than their husbands, which can exacerbate power imbalances in their relationships and limit their autonomy.

Marriage before the age of 18 violates human rights, but it is a reality for many youngsters. The Universal Declaration of Human Rights recognizes the right to 'free and complete' consent to marriage. However, consent cannot be considered 'free and full' if one of the people involved is not mature enough to make an educated decision regarding their life partner. Child marriage is highlighted as a detrimental practice in the Sustainable Development Goals, and the world should strive to abolish it by 2030.(BBS & UNICEF, 2019)

There are several signs of climate change susceptibility in Bangladesh, including the country's sensitivity to sea level rise due to its low-lying coastal towns near the Bay of Bengal. As a result of coastal flooding and sea level rise, there is evidence of varying but growing water-logging, river erosion, floods, and rising soil/water salinity in some areas of Bangladesh. Bangladesh has recently faced a number of extremely destructive cyclones and floods. Although the cyclones & floods passed across a substantial portion of the country, the effects on communities and households varied. Because of the nature of the plants and the land's elevation, community vulnerability differed. Bangladesh is one of the most disaster-prone area in South-East Asia. According to Global Climate Risk Index 2020 at COP 25 in Madrid, Spain; the threat of climate-related disasters has not lessened for Bangladesh, and it remains at the 7th position among countries most vulnerable to extreme weather conditions and Bangladesh stands third among countries most hit by natural disasters.

This proposed study will examine how recent environmental changes have affected the likelihood of child marriage in Bangladesh.

Rationale and research question: Due to the context of environmentally vulnerability a number of authors tried to link this particular vulnerability to child marriage which also have been found for Bangladesh as well. Asadullah et al., 2021 suggested that households have turned to child

marriage as a coping mechanism because of their heightened susceptibility to natural disasters. Bhowmik et al., 2021 looked into the prevalence of child marriage and adolescent pregnancy among women in Bangladesh, as well as the impact of education and religious affiliation. However, none of the authors or literatures came across so far has attempted to use district level (2nd smaller administrative unit of Bangladesh) data of environmental vulnerabilities & child marriage and tried to observe the relationship among these.

The proposed study intends to use national level survey named Multiple Indicator Cluster Survey (MICS) 2019 and available geo-spatial covariates and wants to answer the research questions of whether there exists any relationship among child marriage and environmental vulnerabilities in district level. A number of maps will be generated through this study showing the relationship child marriage with different geo-spatial covariates.

Scope of analysis

Data sources: This study will be utilizing Bangladesh Multiple Indicator Cluster Survey (MICS) 2019 individual survey data which is publicly available in MICS official website of UNICEF to extract district level child marriage information. Regarding getting district level climate data there are number of studies and national reports available in National Statistics Office named Bangladesh Bureau of Statistics (BBS) and Department of Disaster Management (DDM)'s websites.

Variables: “Percentage of women age 20-24 years who were first married before age 18” - will be serving as the proposed study's main outcome variable. The variable also coincides with the Sustainable Development Goals (SDG) 5.3.1 indicator. The variable is a continuous nature found in MICS data. The district level child marriage percentages will be categorized, and districts will be classified as high prevalent and mild prevalent of child marriage.

For geospatial variables the subnational INFORM risk index 2022 for Bangladesh shall be used which used data from 64 Districts across the country. A total of 89 indicators were collected and indexed by following the INFORM sub-national risk index guideline. The process of development in collaboration with the Ministry of Disaster Management and Relief and the Bangladesh Bureau of Statistics.(Bangladesh INFORM Sub-National Risk Index 2022, n.d.)

Furthermore, some sociodemographic factors can be included such as - respondent's age; education (none, primary, secondary, higher); wealth index (poorest, poorer, middle, richer, richest); area of residence (rural, urban); geographical location - districts [2nd level administrative boundary] (Dhaka, Barishal, Chattogram, Khulna, Mymensingh, Rajshahi, Rangpur, Sylhet, etc. total 64 of them); religion (Islam, others); partner's age (15–34, 35–50, >50); partner's education (none, primary, secondary, higher); head of household's sex (male, female); mobile phone ownership (yes, no); and exposure to media (yes, no). A respondent was considered exposed to media if she read the newspaper, listened to the radio, or watched

television at least once a week. The household wealth index, predefined in the MICS 2019, was measured using principal component analysis based on household assets.

Proposed analytical approaches: Data will be analyzed using STATA SE15 version and maps will be generated by R application. The Chi-square tests will be used to quantify the bivariate distribution of predictors on the outcome variable. The primary binary outcome will be then fitted using logistic regression models for complicated survey designs to the significant factors discovered by bi-variate analyses.

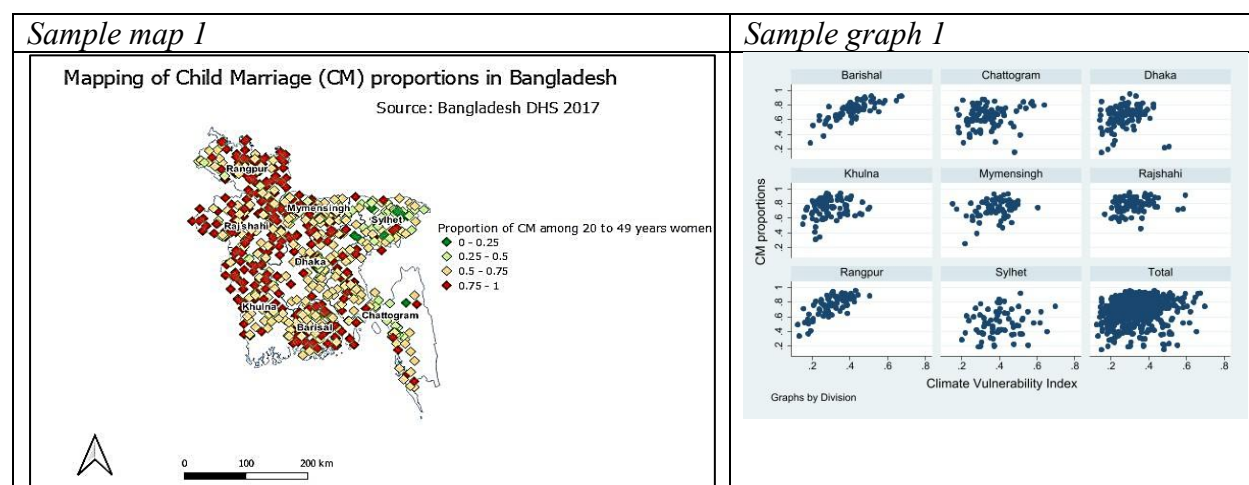
Potential policy implications

The proposed study has aim to generate evidence to help stakeholders to figure out vulnerable districts [2nd level administrative boundary] where child marriage is more prevalent and affected by environmental vulnerabilities as well as some socio-economic factors. As the study will be generating a number of maps representing the relationship of child marriage with different variables in granular level – policymakers can use the findings as tool to negotiate or start discussion with local government and community people to take necessary precautionary action to reduce the economic vulnerabilities as well as child marriage.

Bibliography

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Annex (Plausible maps, graphs and tables)



Sample table 1: Binary logistic regression result of child marriage on selected predictors

Characteristics	Married before 18 (Odds ratio)
Age (mean)	
Religion	
Muslim	
Respondents Educational status	
Years of schooling (mean)	
Primary or less	
Secondary incomplete	
Secondary complete or higher	
Mother's Educational Status	
Years of schooling (mean)	
Primary or less	
Secondary incomplete	
Secondary complete or higher	
Father's Educational Status	
Years of schooling (mean)	
Primary or less	
Secondary incomplete	
Secondary complete or higher	
Environmental Indicators	
History of waterlogging	
History of cyclone	
History of Flood	
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