

Title: Gender-based vulnerability and adaptive capacity in the disaster-prone coastal areas from an intersectionality perspective

Author: A.B.M. Mainul Bari, Anika Intesar, Abdullah Al Mamun, Binoy Debnath, Abu Reza Md. Towfiqul Islam, G.M. Monirul Alam, Md. Shahin Parvez

Abstract: Households in the coastal areas are more vulnerable to various environmental, social, and economic disruptions in terms of an intersectionality point of view. As a first step in mitigating potential effects on families, knowing how susceptible they are and, ideally, fortifying themselves against existing and potential disruptions is essential. Vulnerability and adaptive capacity could not be uniformly distributed between households owing to gender-based socio-economic disparities and inequities. This research, thereby, examined the vulnerability and adaptive capacity variation between households headed by males and females in the two coastal areas of an emerging economy like Bangladesh. This study utilized the Evaluation-based on the Distance from Average Solution (EDAS) method and Boosted Regression Trees (BRT) technique to conduct the analysis. The EDAS method has been used to analyze the adaptive capacity index. Using BRT, an innovative approach in the area, we showed that male and female-headed households are different in terms of their capability to adapt. The findings from this study suggest that the households led by females are more vulnerable than those headed by males in the study region across a variety of dimensions (social, health, economic, housing, and land ownership) from an intersectionality perspective. The study findings can provide a new outlook for the decision-makers in the coastal region on the vulnerability and adaptive capacity differences among the residents and thus lead to more efficient disaster management practices..

Keywords: Vulnerability, Adaptive capacity, Coastal area, EDAS, Boosted regression trees, Disaster management

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