Title: Perceived earthquake knowledge, awareness, and preparedness in a seismic risk–prone city of Bangladesh

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Abastact: This study intends to investigate the complex interplay between local knowledge, awareness, perception, and preparedness among residents of Bogura City, Bangladesh, in the context of earthquake risk. Using survey data from 110 households, supported by five focus group discussions and ten key informant interviews, the research applies the Person-Relative-to-Event (PrE) model and binary logistic regression (BLR) to identify key determinants of earthquake preparedness. The findings reveal that while most residents recognize the potential threat, awareness of emergency procedures and participation in preparedness activities remain critically low. Over 78% of respondents are unaware of standard emergency practices, and more than 70% have never attended information sessions on earthquake response. The BLR results show that tertiary education and higher income significantly influence earthquake preparedness, whereas older age negatively relates with adopting preparedness measures ($p < 0.01$). Cultural beliefs and low levels of institutional engagement as barriers to effective risk mitigation. These findings contribute to the broader discourse on disaster risk reduction by offering empirical guidance for policy formulation, community-based resilience initiatives, and educational interventions. The research emphasizes the pressing need for localized awareness campaigns, early warning dissemination, and integrated policy efforts to strengthen urban resilience in earthquake-prone regions and similar cities worldwide**.**

Keywords: Earthquake risk, PrE Theory, logistic regression, preparedness measures, northern Bangladesh

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