

## **Early Warning Systems for Floods: Structural initiatives and people's Perception: A view of flood victims of Jamalpur district of Bangladesh**

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In spite of many remarkable achievements, Bangladesh still faces many hurdles in ensuring sustainable socio economic development for its vast population. Climate change has become emerging problem in Bangladesh that is largely affecting agricultural productivity, food security, and human mobility. The frequency and severity of various hazards increased over the last few decades because of the changes in climate. The main reason for flooding in Bangladesh is not only the heavy rainfall within the country, but also other issues, including snow-melt from the upstream countries, deforestation, shrinking of the rivers' capacity, building of dams in the upstream for irrigation and many more. One of the World Bank's studies shows that among various types of hazards, the damage caused by flood is 23 percent while it is 19% by cyclone and 15% by landslide. In Bangladesh, early warning is more prompt and precise for cyclone, but not strong enough for floods. The Disaster Management Act 2015 agrees that we should ensure the warning through accessible language for dissemination and should coordinate with neighboring countries. Bangladesh Climate Change Strategy and Action Plan pointed "forecasts are released through emails and website, there is scope for improvement".

Within the last two decades for reducing the flood hazardous a series of structural initiatives done by the Government and development agencies like activating Union disaster management committee , mobile-based early warning system, trained religious leaders and community volunteers for alert people about the imminent flood, produced customized early warning voice message taken from the Flood Forecasting and Warning Centre (FFWC) and sent those messages to enlisted persons and Union Digital Centers, using FM radio, community radio, Television and using local level institutions . Through these initiatives concern authorities claim that those systems are working well and some of the study shown that, all most fifty percent flood hazardous have successfully reduced by different community-based flood early warning system.

Considering the above findings a study have done in highly flood prone Islampur and Dewangonj upazilla of Jamalpur district. For this study, data were collected through: intensive interviews and focus group discussions (FGDs) with flood victims. The selection of respondents have done through a systematic procedure: like at least 50 years old, lived in Char, male-female ratio, continuous flood victims, grassroots agriculture dependents people. It has observed that there is a contradiction in between, the field findings and the different study reports.

**Major Findings:** Through the study, it has proven that Television based weather forecasting system is mostly helped the flood victims. According to the respondents opinion, community based flood early warning system still now play less significant role. It has also observed that, people also used some indigenous methods for flood early warning system including observation of water level, wind, cloudy sky, the behavior of animals etc. Some of the early-warning system is working in less remote areas but in most remote areas it is still now big challenge.

**Recommendations:** i) Need to more coordination and collaboration in between relevant actors ii) Continuous & effective follow-up iii) Need to more attention to activating Union disaster Management Committee iv) Formation and activation Village Level committees. v) Activation of Community Volunteers vi) Utilizing digital technology through appropriate database vii) Expanding Mobile based early warning system. viii) Activating School & College based based Volunteer including involving Scouts, Girls guide BNCC etc ix) Expand subsidized Solar System for operating Television x) Regular reporting system and consolidate by Local level Administration for next course of action.

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