Community based cost effective Early Warning Dissemination Network (EWDN)

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EXTENDED ABSTRACT

Natural disasters are frequent in Bengladesh. Because Bengladesh has a fragile economy that is mostly dependent on agriculture, these events can be disastrous to the economy and people of the country. Adequate warnings to the community and institutions can mitigate the deleterious effects. This paper presents a model for an effective disaster warning and dissemination system (EWDN) that can provide timely and accurate alerts of natural disasters thus reducing loss of life, property and other risks.

Bangladesh is mainly alluvial deltaic plain divided into three zones, namely hills, terraces and flood plain based on geomorphology and physiography. The country has an approximate area of 147,570 sq.km.bounded between 20º34´ to 26º38´ N latitude and 88º01´ to 92º 41´ E longitude and has 4,685 km. long boundary unique geographical location in South Asia forming lower part of the basins of three mighty rivers , the Padma (Known as the Ganges in India), the Brahmaputra and the Meghna. Bangladesh with its fragile state of economy depends predominantly on agriculture which has strong linkage with seasonal weather systems. The land is frequently visited by natural hazards of which floods, cyclones with accompanying stormsurges, droughts, tornadoes, river-bank erosions and earthquake are the most disastrous to mention.

The effects of a natural disaster or a combination of more than one natural disaster may be direct loss of life, severe damage to physical properties and ultimate unfavorable consequence to the livelihoods and poverty situation of the people of Bangladesh.

This requires large resources for disaster management including mitigation, recovery and preparedness. Therefore, the consequences of these natural hazards and the resulting environmental degradation pose a serious threat to the economic development of the country. The situation calls for an effective disaster warning and dissemination networking system. A timely and accurate alert system about impending disasters will help reduce the loss of life, property and reduction of overall risks of the disasters.

The success of EW depends on timely accurate warning dissemination in useful means. For this a strong coordinated information flow network is the precondition. The network starts at level of hazard sensing by relevant disaster management agencies of Bangladesh as BWDB, BMD, BIWTA, etc. The sensed warning will be converted to community understandable format for respective dissemination GO/NGO institutes.

These institutes and their responsibilities will be identified considering their technical, organizational and legal capacity and scope of participations through stakeholder discussion and workshops. The national, local level organizations, NGOs and community agents will be brought under the EW dissemination network to receive the warning messages in different forms for different mode of dissemination system considering Disaster Management Committee (DMC's) preferences based on their practical experience and field knowledge. Each dissemination institute and element will have the access to the information generation unit for feedback to improve the EW system.

An example of community based early warning implementation on flood hazard under CFIS/EMIN project is shown in following Figure. The flood warning is received from FFWC at Sirajganj and Aricha which the CFIS tool WATSURF converts into the flood messages in the form of SMS, colored flags and inundation maps for pre-located places in the study area. The flag messages are disseminated by SMS to the community selected persons, inuddation maps through fax to the Upazila offices for DMCs.