

## Abstract

The Ganges, Brahmaputra, and Meghna (GBM) river systems in India and Bangladesh are some of the most flood-prone river systems in the world. Excessive floods present serious risks to the millions of people living in the floodplain areas. In a normal year an estimated 25 percent of Bangladesh is flooded, whereas, in an excessive flood year an estimated 65 percent of the country is flooded. Despite constant and pervasive flooding, Bangladesh does not have an effective system for providing useful flood forecasts or other flood warning information at the community level. The present system of government-issued flood warnings is presented in both a context and a format that are neither understood nor usable by the floodplain inhabitants.

Riverside Technology Inc. America (RTi), Center for Geographical Information Services(CEGIS) and Bangladesh Disaster Preparedness Centre (BDPC) jointly initiated useful, timely, and understandable flood information dissemination at the community level to reduce vulnerability to damage due to flooding in the floodplains of Bangladesh. The pilot initiative was taken at Baro Bonna village of Jiyonpur union in Daulotpur upazila under Manikganj district and at Dhunail village of Doptior union in Nagorpur upazila under Tangail district. Both the villages are in the flood plain of Brahmaputra river system and very much prone to flood frequent flood. The name of this pilot initiative is Community-based Flood Information System (CFIS) where CEGIS with the support of RTi performed technical responsibility to produce flood information and BDPC played the role of social partner to reach the information to the inhabitants of the villages in an understandable manner.

For communities and inhabitants to benefit from flood forecasts, the information must be context based, timely and in a format that is understandable and useful. CFIS project fully recognized the technical challenges of creating reliable local level forecasts, and the equal, if not greater, challenge of communicating the information to local communities. This project, for the first time in the history of Bangladesh, used mobile network as a means for connecting root level people with flood forecast through Short Messaging System (SMS) and commenced a new era for warning community people of flood disaster.

This dissertation is the outcome of a study on the *efficiency* of using cell phone network for connecting root level people of flood plains of Bangladesh with flood forecasts produced at national level. The definition of *efficiency* is to reach flood forecasts to the people of flood plains timely with understandably. A number of KIIs and FGDs were conducted to investigate the level of said efficiency and the potentiality of using SMS as a means for warning communities at risk to flood disasters without digging much into the technical issues.