

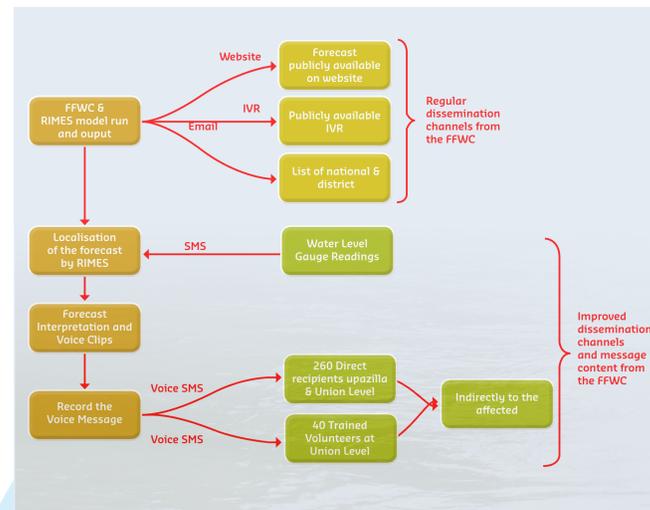
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Mobile Services for Flood Early Warning in Bangladesh

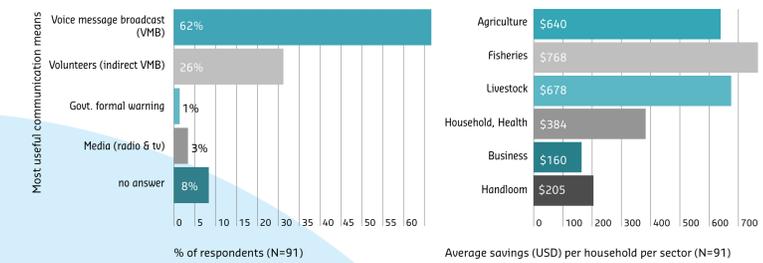
Abstract

Bangladesh is an extremely flood prone country and an effective flood warning system is essential for preparedness. Although Bangladesh has an extensive flood forecasting system in place it remains a challenge to ensure that the warnings generated are available and accessible to those at risk. Access to mobile services has increased dramatically in Bangladesh with current access at 80% of the population (BTRC, 2015). For this reason, a pilot warning communication system was developed to disseminate Voice Message Broadcasts (VMB) directly to 40 trained volunteers, 4 community gauge readers and 260 community people in two Unions in Sirajganj during the 2014 floods. The warning message included a 5-day forecast for water level at a local gauge. It was generated and disseminated by the Flood Forecasting and Warning Center utilizing information collected by gauge readers using SMS. The evaluation survey results showed that a high percentage of respondents received (87%), understood (80%), trusted (78%) and responded (72%) to the VMB warning. They shared the warning and took preparatory actions such as netting fish ponds, harvesting crops and moving assets, saving them an estimated USD 472 per household. It is estimated that 45% of the population directly or indirectly received the warnings. Recommendations for improving the VMB include increasing the number of trained VMB recipients, increasing the frequency of messages, disseminating at specific times of the day and adding location specific information.

Project overview

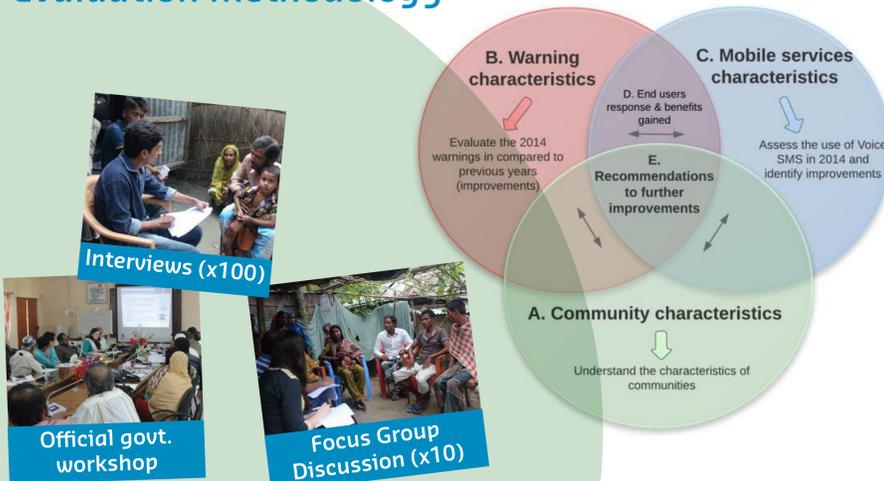


Evaluation results during the 2014 Monsoon



- The majority of recipients (80%) had a **high understanding** and perceived **usefulness** of the warnings. Although it was evident that the level of understanding grew after they received the message for the 2nd or 3rd time.
- 78% of the respondents were found to trust the warning message because they confirmed it with the volunteers and gauge readers.
- The Water level gauges helped the community helped the community to confirm the messages.

Evaluation methodology



'Welcome to the FFWC of BWDB. Today Friday 15th August 2014. As per the observations of 6 AM this morning Jamuna river at Sirajganj is flowing 30 cm below Danger Level. According to the latest flood forecast water may rise 22 centimeters in Ghorjan union, Chowhali upazila & 29 centimeters in Rajapur union, Belkuchi upazila in next 5 days.'



Lal Chand Miah, Hand Loomer, Ghorjan, Chowhali, Sirajganj

Lal estimated his savings at 75,000 BDT (965 USD). He rearranged his machinery to avoid damage after receiving the voice message warning and validating it through the volunteers.



Abu Sayeed, Fisherman Union: Rajapur, Upazila: Belkuchi, District: Sirajganj

Abu saved his fish hatchery worth BDT 150,000 - 200,000 BDT (1,900 - 2,500USD) from a flood. He received flood early warning from the volunteers and he netted his pond to avoid the fish being washed away with the flood-water. His preparatory action resulted in huge benefit for his fish culture.

Conclusions & Recommendations

- Increasing the message length and repeating the important parts of the message;
- Increase the frequency of the message dissemination, repeating more often for serious situations;
- Send the message at specific times of the day (morning, lunch and one hour before dark) so they know when to expect the message and have enough time before sunset to respond;
- Increase the number of direct VMB recipients to include more govt. officials, teachers and Imams supplemented with further email distribution at the local level from the FFWC;
- Utilise the Digital Centers to play a stronger role in warning dissemination;
- Disseminate the warnings to the private sector e.g. PRAN, BRAC;
- Aim to include as much location specific information as possible.



Capacity building of community people, digital centers and volunteers