

JANUARY- MARCH 2013

PROGRAM UPDATE

ENHANCING EARLY WARNING SYSTEM FOR COMMUNITY-BASED RESPONSE IN BANGLADESH

A. 1-10 DAY FLOOD FORECASTS

Evaluation report for Flood 2012 January 2013-March 2013

RIMES and FFWC provided medium-range (1-10day) operational flood forecasts for the three major river basins (Brahmaputra, Ganges and Meghna) until 30 October 2012. RIMES medium-range flood forecast model generates 51 sets of discharge forecasts for the Brahmaputra, Ganges, and Meghna river flows, taking -1 Stdv and +1 Stdv of the 51 set forecasts, since according to statistical theory, roughly 68% of the time the forecasts will fall within these bound. In this quarter, RIMES & FFWC jointly evaluated the forecasts that were supplied to the community. Statistical analysis was carried out to assess forecast performance (Figure 1a).

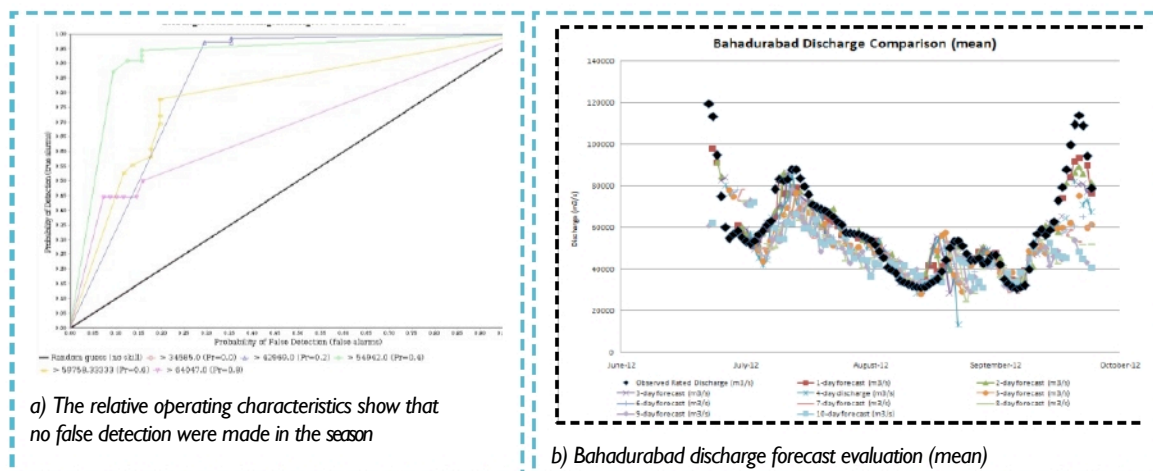


Figure 1. Evaluation of 1-10 day flood forecasts, 2012

Bahadurabad and Hardinge-Bridge stations are the upstream boundary stations of the medium-range (1-10 day) forecast model. Forecast accuracy at Bahadurabad and Hardinge-Bridge is assessed by comparing forecast values with field measurements. At the time of the assessment, however, observed discharge data were not available at these stations. Evaluation was therefore made using water levels, generated using rating equations.

Community response to the 2012 flood forecast March 2013

To evaluate the performance of medium-range forecast, RIMES-FFWC joint team, with support from CARE Bangladesh, travelled to the pilot areas in Kurigram, near Brahmaputra River, particularly the Chilmari Union, which is the most prominent area for flooding and river bank erosion. RIMES-FFWC team, along with the Union Disaster Management Committee (UDMC), conducted a community consultation and survey at Chilmari Union parishad to learn about the 2012 flood and its impact in the community, and evaluate the efficiency of the 2012 flood warning, which was provided this year.

Key Findings:

- Medium range (1-10 day) operational flood forecast information is very trustworthy; forecast acceptance level by the community is very high
- Flood in 2012 was not significant and not damaging at the community level. The forecast, however, helped the community to take quick steps to safeguard their properties and livelihoods.
- UDMC disseminated the information through SMS, hand mike, and mosque, and motivated the people to use the information in their everyday life



Site profiling and field data collection March 2013

FFWC, together with RIMES staff visited, the pilot site of Bekra Atgram, Nagarpur to collect biophysical and socioeconomic data. Early warning system audit was undertaken for assessing existing early warning system, including gaps and needs. A meeting was also conducted, together with the Union Disaster Management Committee, the Sub-assistant Agriculture Officer, and local elites, for familiarization on local demographic condition, possible ways to disseminate early warning information, early warning application in different sectors, and installation of local water level gauges and maintenance. Reconnaissance was also conducted for socio-economic data collection. Finally, visits to specific sites were made to be familiar with flood zones (for model input), existing water gauge condition, and probable site for installing a new gauge.

B. FLASH FLOOD FORECASTS Flash flood forecast model January 2013-March 2013

The web-based flash flood guidance system is in development stage, and will be operationalized in April 2013.

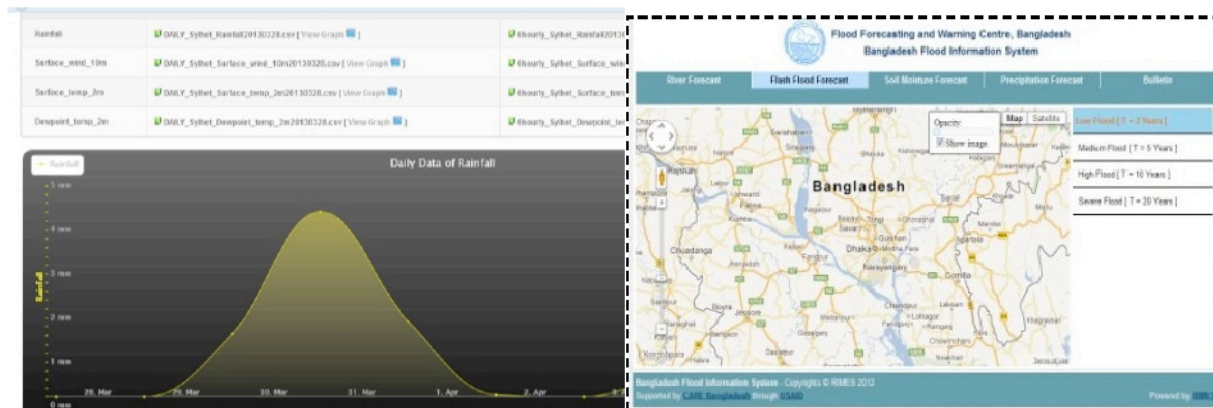


Figure 2. Flash flood guidance system

C. OPERATIONALIZE 20-25 DAY AND SEASONAL FORECASTS Seasonal forecast model January 2013-March 2013

Model development and refinement are ongoing. Operationalization shall commence in May 2013.

D. Training

Training Report February 2013

RIMES prepared the report on the training on flood forecasting technology for community-based response in Bangladesh, which was held during the last quarter. The report provides session summaries and participant recommendations. The training aimed to:

- Bridge the gap between producers and users of forecast information
- Be familiar with different forecast products available, warning dissemination procedure, and forecast application at community level
- Receive user requirements on forecast content and lead time to guide forecast customization

E. TRAVEL

RIMES staff traveled to Bangladesh to conduct the community level training and meet with CARE and FFWC.

F. UPCOMING ACTIVITIES: April - June 2013

- Operationalize the flash flood and 1-10 day forecasting system
- Provide forecasts for flash flood and 1-10 day forecasts
- Operationalize seasonal forecasting system