GOVERNMENT OF INDIA

MINISTRY OF JAL SHAKTI,

DEPARTMENT OF WATER RESOURCES, RIVER DEVELOPMENT & GANGA REJUVENATION

RAJYA SABHA

UNSTARRED QUESTION NO. 2486

ANSWERED ON 08.08.2022

FLOOD FORECASTING AND EARLY WARNING SYSTEM

2486 SHRI R. GIRIRAJAN

Will the Minister of JAL SHAKTI be pleased to state:

(a) whether Government is considering a forecasting system that gives answers to 'where' (in the river stretch), 'when' (at what time) the floods are likely to occur and 'what' is the likely increase in water level in rivers; and

(b) if so, the initiatives that are proposed to be taken by Government keeping in mind that this can be achieved by a real-time decision support system called 'Flood Forecasting and Early Warning System'?

ANSWER

THE MINISTER OF STATE FOR JAL SHAKTI

(SHRI BISHWESWAR TUDU**)**

(a) & (b) Forecasting system is essential to predict likely increase in water level in rivers. Central Water Commission (CWC) provides statistical methodology (gauge to gauge correlation) based short range flood forecast. Presently, flood forecasts are issued by CWC at 332 stations (133 Inflow Forecast Stations and 199 Level Forecast Stations). Annually, about 10,000 flood forecasts are issued by CWC.

CWC is currently providing near real time five-day advisory flood forecast on its web portal https://aff.india-water.gov.in/ for 20 major river basins of the country. The five day advance forecast is generated using various available rainfall data products like forecast rainfall data GFS (Global Forecast System) and WRF (Weather Research and Forecasting) provided by IMD (Indian Meteorological Department), rainfall estimates namely GsMaP (Global Satellite Mapping of Precipitation) & GPM (Global Precipitation Measurement), as a major input into the model system. The system is developed in-house using modelling software for flood forecasting which is updated every three hours for all the stations simultaneously in automatic mode during monsoon season.

CWC has also taken up the work of development of near real time Inundation Forecast for Ganga Basin through consultancy under National Hydrology Project (NHP) using High Resolution Digital Elevation Model (DEM) received from NRSC/ Survey of India / State Govt.

The data collected from field stations is transmitted from the site to the concerned Flood Forecasting Centre of CWC through wireless and/or telephone/mobile and satellite based telemetry system & VSAT. Central Water Commission maintains Wireless Stations for near real–time data communication. These wireless sets work on pre-fixed schedules for receiving the vital hydro-meteorological data immediately after its observation. Now under modernization program, satellite based Telemetry System has been installed at various stations for sensor based automatic data collection and satellite based communication. The data is transmitted to the Earth Receiving Station through Satellite and then to various Modelling Centres through VSAT Systems. The nodal officer of the dam/reservoir share reservoir related data with CWC through uploading on Water Information Management System (WIMS) or sending through e-mail/SMS/Phone/Wireless etc.

Dissemination of flood forecasts has also been modernised by having a dedicated website https://ffs.india-water.gov.in. In addition, telephone/mobile phone, fax and internet are used for dissemination of flood forecasts to user agencies. Daily Flood Situation Reports cum Advisories are shared with all stakeholders as well as general public using social media platforms.

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