GOVERNMENT OF INDIA MINISTRY OF JAL SHAKTI, DEPARTMENT OF WATER RESOURCES, RIVER DEVELOPMENT & GANGA REJUVENATION LOK SABHA UNSTARRED QUESTION NO. 674 ANSWERED ON 22.07.2021

HYDROMETRIC OBSERVATIONS

674. SHRI RAJMOHAN UNNITHAN

Will the Minister of JAL SHAKTI be pleased to state:

(a) whether Hydrometric Observations serve a very important role in the decision-making process with the application of real-time hydro-meteorological monitoring systems and if so, the details thereof;

(b) whether the Government has used Hydrometric Observations to forestall cloud bursts in the country; and

(c) if so, the details thereof?

ANSWER

THE MINISTER OF JAL SHAKTI

(SHRI GAJENDRA SINGH SHEKHAWAT)

(a) Yes, long term Hydrometric Observations serve a very important role in decision-making process and are fundamental to the planning, operation and management of water resources in the country. Data observations serve in hydrological design of water resources projects, crop planning, scheduling of irrigation, preparation of reservoir rule curve for guiding releases for various purposes. Long term flow series assists in calculation of probability of occurrence of floods in a year.

Real time hydro-meteorological observations of rainfall, river water level / discharge and reservoir water levels play a crucial role in monitoring the flood situation in different parts of the country. The data from these observations are used by Central Water Commission (CWC) in formulation of flood / inflow forecasts in its 330 locations / reservoirs covering 23 States and 2 UTs. Besides this, CWC has installed 950 satellite based telemetry systems which transmits water level and rainfall information at various locations all over the country. In addition, 23 real time snow hydrology sensors are also installed in the hilly states of Himachal Pradesh, Uttarakhand and Arunachal Pradesh.

India Meteorological Department (IMD) receives rainfall data from 5000+ stations and the same is used by for generating daily, weekly, monthly and seasonal rainfall statistics at district, subdivision, state and national level on near real-time basis through Customized Rainfall Information system (CRIS). These statistics are widely used by the concerned stakeholders like Ministry of Agriculture, Ministry of Jal Shakti for their Policy based decision making, in addition to State and Local authorities.

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India Meteorological Department operationalised SAFFGS (South Asia Flash Flood Guidance System) in October 2020, for issuing flash flood warnings from rainfall events using both observed (manual and telemetric data) and remote-sensed precipitation viz. radar and satellite-based rainfall estimates. As a Decision support system, it helps in issuing Threats and Risk based guidance bulletins for Flash Floods with a validity period of 6 hrs and 24 hrs respectively for India and other South Asian countries of Nepal, Bangladesh, Bhutan and Sri-Lanka.

(b) to (c) Meteorological observations, including hydromet observatories, are useful for estimating current weather scenario and they serve as the initial condition for predicting the future state of the atmosphere. Even though, the forecast for cloudburst is not given as such, forecast and warning for impending intense rainfall activity associated with thunderstorms is provided by IMD for next five days on regular basis. The colour codes are used for representing the severity of the expected weather event, viz. Green - No warning (No action), Yellow - Watch (be updated), Orange – Alert (be prepared) and Red – Warning (take action).

Even with the current advances in the field of meteorological modeling, the forecast of cloudburst events has not been possible and therefore it is difficult to predict such events. However, using the hydromet observations, the rate of rainfall can be estimated to check whether occurrence of cloudburst was there or not.
