

GOVERNMENT OF INDIA
MINISTRY OF WATER RESOURCES,
RIVER DEVELOPMENT & GANGA REJUVENATION
LOK SABHA
UNSTARRED QUESTION NO. 746
ANSWERED ON 07.02.2019

FLOOD MANAGEMENT

746. SHRIMATI MEENAKASHI LEKHI

Will the Minister of WATER RESOURCES, RIVER DEVELOPMENT AND GANGA REJUVENATION be pleased to state:

- (a) the detailed developments which have occurred under the agreement between Central Water Commission and Google for effective flood management;
- (b) the number of current flood assessment centres set up in the country, State/UT-wise;
- (c) whether the Central Water Commission's flood monitoring and forecast dissemination was able to accurately predict the floods in Kerala; and
- (d) if so, the details thereof by indicating the number of advance days in this regard?

ANSWER

THE MINISTER OF STATE FOR WATER RESOURCES, RIVER DEVELOPMENT AND GANGA REJUVENATION & PARLIAMENTARY AFFAIRS

(SHRI ARJUN RAM MEGHWAL)

(a) Central Water Commission (CWC) has signed a collaboration agreement with Google for improving flood prediction system. As per the agreement, CWC and Google will share technical expertise in the field of artificial intelligence, machine learning, geo-spatial mapping and analysis of hydrological observation data to collaborate on (i) improving flood prediction systems, which will help provide location-targeted, actionable flood warnings, (ii) high priority research project utilizing Google Earth Engine to help visualize and improve flood management and (iii) a cultural project to build online exhibitions on the Rivers of India. The term of agreement is for three years.

(b) The list of flood forecasting stations maintained by Central Water Commission in the country is given in **Annexure-I**.

(c) & (d) The water level data of flood monitoring stations maintained by CWC in the State of Kerala were uploaded in the Flood Forecasting Website of CWC. Further, Daily Flood Situation Report-cum-Advisories (DFSRCA), based on the Indian Meteorological Department (IMD) rainfall predictions and the rainfall-runoff models were being issued in the year 2018. These advisories were disseminated to all stakeholders including Kerala State Disaster Management Authority through Facebook, Twitter, Disaster Management Group of Ministry of Home Affairs. DFSRCA of 12th August 2018 conveyed that

“Heavy to very heavy rainfall has been forecast for 13th and 14th August in above areas, this rain may lead to rise in water levels again in river Periyar, Bharathapuzha, Kabini, Cauvery and its tributaries. Since most of the dams are near Full Reservoir Level, maximum caution may be exercised while releasing excess water to downstream areas especially near sea mouth where there is chance of swell waves as warned by the Indian National Centre for Ocean Information System (INCOIS).”

This was issued 3 days in advance of the actual event of flood experienced in Kerala which started from 15th August 2018. These advisories were continued till the end of the flood spell indicating the districts affected as well as districts alerted in Kerala.

ANNEXURE REFERRED TO IN REPLY TO PART (b) OF UNSTARRED QUESTION NO. 746 TO BE ANSWERED IN LOK SABHA ON 07.02.2019 REGARDING “FLOOD MANAGEMENT”

Table-1: State-wise Flood Forecasting Stations				
Sl. No.	Name of State/UT	Number of flood forecasting Stations		
		Level	Inflow	Total
1	Andhra Pradesh	8	9	17
2	Arunachal Pradesh	2	0	2
3	Assam	29	0	29
4	Bihar	34	0	34
5	Chattisgarh	1	0	1
6	Diu & Daman	1	0	1
7	Gujarat	6	6	12
8	Haryana	1	1	2
9	Himachal Pradesh	1	0	1
10	Jammu & Kashmir	3	0	3
11	Jharkhand	2	8	10
12	Karnataka	1	9	10
13	Madhya Pradesh	2	2	4
14	Maharashtra	7	3	10
15	NCT, DELHI	2	0	2
16	Odisha	11	2	13
17	Rajasthan	0	10	10
18	Sikkim	0	1	1
19	Tamil Nadu	3	10	13
20	Telangana	5	6	11
21	Tripura	2	0	2
22	Uttar Pradesh	38	3	41
23	Uttarakhand	4	2	6
24	West Bengal	11	3	14
	Total	174	75	249