

GOVERNMENT OF INDIA
MINISTRY OF JAL SHAKTI
DEPARTMENT OF WATER RESOURCES, RIVER DEVELOPMENT & GANGA REJUVENATION
RAJYA SABHA

UNSTARRED QUESTION NO. 2009

ANSWERED ON 07.08.2023

FLOOD FORECASTING

2009. SHRI TIRUCHI SIVA

Will the Minister of **JAL SHAKTI** be pleased to state:

- (a) the details of the funds allocated, released, and spent under flood forecasting scheme since its inception;
- (b) the details of the performance of the projects under it during the last three years, State/UT-wise;
- (c) the details of the local infrastructure developed in the State of Tamil Nadu; and
- (d) the amount of expenses borne by Government in flood protection and rehabilitation in Tamil Nadu?

ANSWER

THE MINISTER OF STATE FOR JAL SHAKTI

(SHRI BISHWESWAR TUDU)

(a) Details of fund allocated and spent in Flood Forecasting Scheme are as below :

(Rs. in Crore)

Plan scheme	Financial Year	BE	RE	Expenditure
Flood forecasting	2007-08	16.000	12.740	13.640
	2008-09	23.000	19.722	13.997
	2009-10	25.000	20.000	17.618
	2010-11	36.000	25.000	24.254
	2011-12	36.000	36.000	33.145
	2012-13	48.000	30.000	25.184
	2013-14	150.000	25.000	25.325
	2014-15	100.000	32.000	31.313
	2015-16	40.000	36.069	36.107
	2016-17	60.000	42.040	39.930
	2017-18	65.000	45.000	38.420
	2018-19	Merged with DWRIS		
	Total =	599.000	323.571	298.932

(Rs. inCrore)

Plan scheme	Financial Year	BE	RE	Expenditure
DWRIS	2018-19	211.270	96.930	76.124
	2019-20	104.931	135.000	128.267
	2020-21	140.000	130.000	128.537
	2021-22	175.000	160.000	155.310
	2022-23	185.000	159.355	157.377
	2023-24	162.130		43.34 *
	Total =	978.331	681.285	688.955

* Exp as on 31.07.2023

- (b) The Central Water Commission (CWC) issues flood forecasts as a non-structural measure for flood management, to all concerned State Governments. CWC also issues inflow forecasts to identified reservoirs for proper reservoir regulation during rainy season.

Presently, flood forecasts are issued by CWC at **338** stations (**138** Inflow Forecast Stations + **200** Level Forecast Stations) as per Standard Operating Procedure. The network has been established in consultation with State Govt./Project authorities which also includes stations on the river passing through and nearby metropolitan cities. Dissemination of flood forecasts is through a dedicated website <https://ffs.india-water.gov.in/>.

State-wise Existing Flood Forecasting Stations is as below:

State-wise Flood Forecasting Stations				
Sl. No.	Name of State/UT	Number of flood forecasting Stations		
		Level	Inflow	Total
1	Andhra Pradesh	10	10	20
2	Arunachal Pradesh	3	1	4
3	Assam	30	0	30
4	Bihar	40	3	43
5	Chhattisgarh	1	2	3
6	Gujarat	6	8	14
7	Haryana	1	1	2
8	Himachal Pradesh	1	0	1
9	Jammu & Kashmir	3	0	3
10	Jharkhand	2	15	17
11	Karnataka	1	14	15
12	Kerala	4	2	6
13	Madhya Pradesh	2	12	14
14	Maharashtra	8	14	22
15	Odisha	12	7	19
16	Rajasthan	4	11	15
17	Sikkim	3	5	8
18	Tamil Nadu	4	11	15
19	Telangana	5	9	14
20	Tripura	2	0	2
21	Uttar Pradesh	39	5	44
22	Uttarakhand	4	4	8
23	West Bengal	12	4	16
24	Daman & Diu	1	0	1
25	NCT of Delhi	2	0	2
	Total	200	138	338

CWC is currently providing flood forecasting through Seven-days Advisory Flood Forecast(AFF) on its web portal <https://aff.india-water.gov.in/> by mathematical modeling for major river basins of the country . The model for flood forecasting runs and updates every three hours for all the stations simultaneously in automatic mode during monsoon season.

As per constitutional provisions, the subject of flood management falls within the purview of the States. CWC establishes new flood forecasting stations with the consent from respective State Governments/UTs. CWC has proposed to expand the Flood Forecasting network to 375 by the end of the year 2026.

(c) Details of Flood Forecasting Stations in Tamil Nadu

Central Water Commission maintains 15 Flood Forecasting stations in Tamil Nadu. Out of 15 forecasting sites 4 are level forecasting stations and 11 are inflow forecasting stations in Cauvery and East Flowing River Pennar to Kanyakumari basin.

Sl. No.	River	FF site	District	Basin
1	2	3	4	10
Level Forecast				
1	Cauvery	Musiri (GDSQ)	Tiruchirapalli	Cauvery
2	Cauvery	Kodumudi (GDSQ)	Erode	Cauvery
3	Bhavani	Savandapur (GDSQ)	Erode	Cauvery
4	Vaigai	Madurai (G)	Madurai	EFR (Pennar to Kanyakmri)
Inflow Forecast				
1	Cauvery	Mettur Dam	Salem	Cauvery
2	Cauvery	Grand Anicut	Thanjavur	Cauvery
3	Cauvery	Upper Anicut	Tiruchirapalli	Cauvery
4	Bhavani	Bhavanisagar Dam	Erode	Cauvery
5	Kodaganar	Kodaganar Dam	Dindugul	Cauvery
6	Vaigai	Vaigai Dam	Theni	EFR (Pennar to Kanyakmri)
7	Kosasthaliyar	PoondiSatyamurthyResvr	Thiruvallur	EFR (Pennar to Kanyakmri)
8	Vellar	Gomukhi Dam	Villupuram	EFR (Pennar to Kanyakmri)
9	PeriyarOdai	Wellington Dam	Cuddalore	EFR (Pennar to Kanyakmri)
10	Ponnaiyar	Sathanur Dam	Thiruvannamalai	EFR (Pennar to Kanyakmri)
11	Adyar	Chembarampakkam Lake	Tiruvallur	EFR (Pennar to Kanyakmri)

During the year 2022, in Tamil Nadu total 905 flood forecasts were issued out of which 777 forecasts (85.85%) were found to be within the limits of accuracy. During this period the number of level forecasts issued were 178, out of which 163 (91.57%) were within the limit of accuracy of ± 0.15 m. The number of inflow forecasts issued were 727, out of which 614 (84.46%) were within limits of accuracy of $\pm 20\%$.

(d) Five flood management schemes of Tamil Nadu were approved during XI plan under Scheme 'Flood Management Programme'. Details of the fund released by the central Government under this schemes are given below:-

Sl. No.	Scheme Name	FMP Cost (In Lakh)	Fund Released so far (Expenses borne (In Lakh))
1.	Flood protection works along river Araniyar at u/s and d/s of A.N.KuppamAnicut and d/s side of LakshmipuramAnicut to Pulicat Creek in Thiruvallur district of Tamil Nadu (TN-1)	1,241.00	111.00
2.	Comprehensive Flood Protection project for Cuddalore town from River Pennaiyar, Gadilam, Uppanar, South Mattar and Paravanar in Cuddalore district (TN-2)	6,597.00	562.00
3.	Comprehensive Flood Protection Project for Vellar Basin in Villupuram and Cuddalore districts (TN-3)	15,793.00	975.00
4.	Flood protection works on Kollidam (Coleroon) River in Thanjavur, Nagapattinam and Cuddalore districts (TN-4)	36,260.00	4,147.00
5.	Flood protection works on Koratalaiyar river from Napalayam to sea mouth in Thiruvallur district (TN-5)	1,441.00	187.00

Note: All schemes 1-5 above are physically completed.
