

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

**RAJYA SABHA**

**UNSTARRED QUESTION NO. 2485**

ANSWERED ON 08.08.2022

**Annual flooding**

2485 SHRI MASTHAN RAO BEEDA

Will the Minister of JAL SHAKTI be pleased to state:

- (a) the details of lives lost in flood during the last five years, year-wise;
- (b) the details of relief funds provided for these flood-prone areas;
- (c) the details of long-term plans to curb these annual floods; and
- (d) if no schemes in place, the reasons therefor?

**ANSWER**

THE MINISTER OF STATE FOR JAL SHAKTI

(SHRI BISHWESWAR TUDU)

(a) The data on damages due to heavy rain and floods is compiled by Central Water Commission (CWC) after receipt of confirmation from respective States. The statement showing loss of human lives due to floods/heavy rains in the country during the last five years (2016 to 2020) is as under-

Year	Number of Human lives lost
2020	1815
2019	2754
2018	1839
2017	2063
2016	1420

(b) The primary responsibility for disaster management rests with the States Government concerned. The state Governments provide financial relief to the affected people in the wake of notified disasters (including flood), from the State Disaster Response Fund (SDRF) already placed at their disposal. Additional financial assistance is provided from the National Disaster Response Fund (NDRF) as per established procedure in case the disaster is of 'severe nature' which includes a visit of affected areas by Inter- Ministerial Central Team (IMCT) for on-the spot assessment of damages.

Details of funds released under SDRF and NDRF during last five years to the States is at **Annexure**.

(c) & (d) Flood management including erosion control falls within the purview of the States. Flood management and anti-erosion schemes are formulated and implemented by concerned State Governments as per their priority. The Union Government supplements the efforts of the States by providing technical guidance and also promotional financial assistance for management of floods in critical areas.

Integrated flood management approach aims at adopting judicious mix of structural and non-structural measures to provide a reasonable degree of protection against flood damages at economic cost .

To strengthen the structural measures of flood management, Ministry had implemented during XI & XII Plan Flood Management Programme (FMP) for providing Central Assistance to States for works related to

river management, flood control, anti-erosion, drainage development, anti-sea erosion, etc. which subsequently continued as a component of "Flood Management and Border Areas Programme" (FMBAP) for the period from 2017-18 to 2020-21 and further extended up to September 2022 with limited outlay. So far Central Assistance amounting to Rs. 6686.79 Crores has been released to Union Territories/State Government under this Programme since inception.

For Non structural measures, Central Water Commission (CWC) is the nodal Organisation entrusted with the task of flood forecasting & early flood warnings in the country. Presently, CWC issues flood forecasts for 332 forecasting stations (199 river level forecast stations & 133 dam/ barrage inflow forecast stations). These stations cover 20 major river basins in 23 States & 2 Union Territories. In order to provide more lead time to the local authorities to plan evacuation of people & take other remedial measures, Central Water Commission (CWC) has developed basin wise flood forecasting model based on rainfall-runoff mathematical modelling for 5 days advance flood forecast advisory at identified flood forecasting and inflow forecasting stations.

In order to formulate the strategy for flood management works in the entire country and river management activities and works in the border areas, a Committee was constituted by NITI Aayog under the chairmanship of Vice Chairman, NITI Aayog and officials from various Departments/ Ministries of Government of India, Experts from the field and Principal Secretaries from States of Jammu & Kashmir, Uttar Pradesh, Bihar, West Bengal, Punjab, Assam, Arunachal Pradesh, Tripura, Madhya Pradesh and Kerala were included as the members of this Committee. The Final Report of the Committee was issued by NITI Aayog during January 2021. The major recommendations of the above committee are-

- FMBAP scheme to be continued for the period 2021-26, i.e., co-terminus with the period of 15th Finance Commission with the provision of inclusion of new projects for funding under the scheme. The selection of the schemes will be undertaken in consultation with NITI Aayog and State Government.
- Continuous efforts to be made towards modernization in collection of hydro-meteorological data, flood forecast formulation and forecast dissemination. Further simplified data dissemination policy for use of data by the States particularly regarding trans-boundary rivers to be developed.
- Focus on scientific research in development of Model based system to forecast flash flood with sufficient lead time will provide a much-needed relief from menace of flash floods.
- Rule curve/ level for all reservoirs should be prepared & updated accounting change in rainfall trend and changing demand over the years due to rapid increase of population, urbanisation and industrialisation. Rule curves of major reservoirs, where flood cushion is not in-built, need to be reviewed to have some dynamic flood cushion for major part of the flood season.
- The long-term structural solution to floods lies in construction of large storage reservoirs which moderate flood peaks by adopting appropriate reservoir operation schedule.
- To get benefit of flood control, it is essential that tendencies like encroachment of natural detention basins are curbed and these basins are restored to their natural state as a measure for flood control.
- The projects for interlinking of rivers for diversion of flood water to water scarce areas may be taken up in a time bound manner.
- The reclamation of the existing wetlands/ natural depressions should be prohibited by state governments and they should formulate an action plan for using them for flood moderation.

The above recommendations of NITI Aayog have accordingly been taken into consideration while preparing the proposal of FMBAP for the period 2021-26.

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## ANNEXURE REFERRED TO IN REPLY TO PART (b) OF UNSTARRED QUESTION NO. 2485 TO BE ANSWERED IN RAJYA SABHA ON 08.08.2022 REGARDING “ANNUAL FLOODING”

STATEMENT SHOWING STATE-WISE DETAILS OF ALLOCATION AND RELEASE OF FUNDS UNDER SDRF AND NDRF DURING THE YEAR 2018-19 TO 2022-23 (AS ON 27.07.2022)

(Rs. in Crores)

S.No.	State	Allocation under SDRF including Centre and State share					Centre's Share of SDRF Released					Release from NDRF (For all calamities)				
		2018-19	2019-20	2020-21	2021-22	2022-23	2018-19	2019-20	2020-21	2021-22	2022-23	2018-19	2019-20	2020-21	2021-22	2022-23
1.	Andhra Pradesh	509.00	534.00	1192.80	1192.80	1252.80	458.10	324.15	895.20	895.20	470.00	1004.88	570.91	657.029	351.43	--
2.	Arunachal Pradesh	60.00	63.00	222.40	222.40	233.60	54.00	56.70	200.00	200.00	--	132.49	--	59.34	--	--
3.	Assam	532.00	559.00	686.40	686.40	720.80	478.80	503.10	617.60	617.60	648.80	--	--	44.37	--	--
4.	Bihar	543.00	570.00	1510.40	1510.40	1586.40	101.815	631.12	1132.80	1132.80	594.80	--	953.17	1255.27	1038.96	--
5.	Chhattisgarh	278.00	292.00	460.80	460.80	484.00	349.575	177.30	345.60	345.60	--	--	--	--	--	--
6.	Goa	4.00	4.00	12.00	12.00	12.80	1.80	4.20	9.60	9.60	--	--	--	--	--	--
7.	Gujarat	816.00	856.00	1412.00	1412.00	1482.40	449.95	886.80	1059.20	1059.20	--	--	--	--	1000.00	--
8.	Haryana	356.00	374.00	524.00	524.00	550.40	320.40	227.10	392.80	392.80	206.40	--	--	--	--	--
9.	Himachal Pradesh	273.00	287.00	363.20	363.20	380.80	245.70	197.23	327.20	327.20	171.20	227.29	518.06	2.90	--	--
10.	Jammu & Kashmir*	295.00	310.00	--	--	--	252.90	405.00	--	--	--	--	--	--	--	--
11.	Jharkhand	421.00	442.00	605.60	605.60	635.20	315.75	331.50	454.40	454.40	--	--	--	--	200.00	--
12.	Karnataka	320.00	336.00	843.20	843.20	885.60	288.00	204.00	632.80	632.80	332.00	959.84	3208.28	689.27	1623.30	--
13.	Kerala	214.00	225.00	335.20	335.20	352.00	192.60	136.65	251.20	251.20	--	2904.85	--	--	--	--
14.	Madhya Pradesh	1016.00	1066.00	1941.60	1941.60	2038.40	914.40	647.10	1456.00	1456.00	--	334.00	1712.14	1891.79	600.50	--
15.	Maharashtra	1717.00	1803.00	3436.80	3436.80	3608.80	1287.75	1352.25	2577.60	2577.60	--	2088.59	5189.40	420.12	1056.39	--
16.	Manipur	22.00	23.00	37.60	37.60	39.20	9.90	30.60	33.60	33.60	17.60	--	--	26.53	--	--

17.	Meghalaya	28.00	29.00	58.40	58.40	60.80	12.60	38.70	52.80	52.80	27.20	--	--	16.52	--	-
18.	Mizoram	20.00	20.00	41.60	41.60	43.20	18.00	18.00	37.60	37.60	--	--	--	--	--	--
19.	Nagaland	11.00	12.00	36.80	36.80	38.40	9.90	10.80	32.80	32.80	17.20	195.99	176.52	1.335	--	39.28
20.	Ödisha	865.00	909.00	1711.20	1711.20	1796.80	778.50	552.00	1283.20	1283.20	674.00	341.72	3294.10	500.00	500.00	--
21.	Punjab	451.00	474.00	528.00	528.00	554.40	321.99	412.37	474.43	396.00	208.00	--	--	--	--	--
22.	Rajasthan	1277.00	1340.00	1580.00	1580.00	1659.20	957.75	1005.00	1184.80	1184.80	622.40	526.14	1949.59	68.65	--	13.46
23.	Sikkim	36.00	38.00	44.80	44.80	47.20	32.40	34.20	40.00	40.00	21.20	54.93	--	73.86	55.23	--
24.	TamilNadu	786.00	825.00	1088.00	1088.00	1142.40	707.40	500.85	816.00	816.00	--	900.31	--	286.91	566.36	--
25.	Telangana	317.00	333.00	479.20	479.20	503.20	226.50	487.50	359.20	359.20	188.80	--	--	--	--	--
26.	Tripura	36.00	38.00	60.80	60.80	63.20	32.40	34.20	54.40	54.40	--	171.74	--	12.93	-	--
27.	Uttar Pradesh	781.00	820.00	2062.40	2062.40	2165.60	351.45	849.30	1546.40	1546.40	--	157.23	-	-	-	-
28.	Uttarakhand	243.00	255.00	832.80	832.80	874.40	218.70	229.50	749.60	749.60	-	--	-	-	-	-
29.	West Bengal	598.00	628.00	1078.40	1078.40	1132.80	269.10	650.40	808.80	808.80	--	--	958.33	2250.28	350.13	-
<b>TOTAL</b>		<b>12825.00</b>	<b>13465.00</b>	<b>23186.40</b>	<b>23186.40</b>	<b>24344.80</b>	<b>9658.13</b>	<b>10937.62</b>	<b>17825.63</b>	<b>17747.20</b>	<b>4199.60</b>	<b>10000.00</b>	<b>18530.50</b>	<b>8257.11</b>	<b>7342.30</b>	<b>52.74</b>

\*Now UT of Jammu and Kashmir and UT of Ladakh

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