

GOVERNMENT OF INDIA
MINISTRY OF JAL SHAKTI,
DEPARTMENT OF WATER RESOURCES, RIVER DEVELOPMENT & GANGA
REJUVENATION
LOK SABHA
STARRED QUESTION NO. †*27
ANSWERED ON 03.02.2022

IMPACT OF RIVER BANK EROSION

†*27. SHRI PRADYUT BORDOLOI
SHRIMATI MANEKA SANJAY GANDHI

Will the Minister of JAL SHAKTI be pleased to state:

- (a) whether the Government has assessed the impact of annual river bank erosion caused by flooding of rivers in Assam, West Bengal, Bihar and Uttar Pradesh;
- (b) if so, the details thereof in terms of environmental, economic and social costs and if not, the reasons therefor;
- (c) whether the Government has collected data on the number of people displaced due to annual flooding in each of these States, if so, the details thereof and if not, the reasons therefor;
- (d) the details of adaptation and mitigation measures taken in this regard;
- (e) whether the Government has received any proposals/requests from the said States to solve the issue/problem and if so, the details thereof and the response of the Government thereto; and
- (f) whether the Government has conducted any consultations with local stakeholders with regard to solving issues of flooding and soil erosion and if so, the details thereof?

ANSWER

THE MINISTER OF STATE FOR JAL SHAKTI
(SHRI BISHWESWAR TUDU)

(a) to (f) : A statement is laid on the Table of the House.

STATEMENT REFERRED TO IN REPLY TO PARTS (a) TO (f) OF STARRED QUESTION NO *27 TO BE ANSWERED IN LOK SABHA ON 03.02.2022 REGARDING “IMPACT OF RIVER BANK EROSION” ASKED BY SHRI PRADYUT BORDOLOI and SHRIMATI MANEKA SANJAY GANDHI, HON’BLE M.Ps.

(a) to (c) : Erosion, movement and deposition of sediment in a river are natural regulating functions of a river. Rivers tend to maintain a balance between the silt load carried & silt load deposited, maintaining a river regime. Soil erosion caused by heavy floods is a matter of concern as it leads to several associated problems like changes in river course, causing loss of land, etc. Floods are natural calamity that the country faces almost every year, in varying degrees of magnitude. The occurrence of floods can be attributed to various factors, including wide variations in rainfall both in time and space with frequent departures from the normal pattern, inadequate carrying capacities of rivers, river bank erosion and silting of river beds, landslides, poor natural drainage in flood prone areas, snowmelt and glacial lake out-bursts.

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. The Government of India has been making continuous efforts to assist the State Governments in effective flood management and erosion control. Morphological Studies by various IIT and NIIT have been carried out for major rivers like Ganga, Sharda, Rapti, Kosi, Bagmati, Subansari, Krishna, Mahanadi Mahanada, etc. These Studies aid in finding the vulnerable spots for bank erosion/deposition, aggradations/ degradation etc. As per the morphological study of Brahmaputra River conducted by CWC through consultancy from IIT Guwahati, it has been estimated that in the Brahmaputra river a total erosion of 252.6 sq.km and deposition of 118.6 sq.km occurred between 2003-05 and 2008-11. As per the morphological study of river Ganga carried out by IIT, Roorkee, the total eroded area in the Ganga river from Devprayag to Farakka barrage in the period 1970-2010 is 447 km² while the total deposited area in extreme left and right banks shifting is 1070.94 km²

Central Water Commission compiles flood damage data on the basis of information received from States. Statement showing average annual flood damages during last twenty years in State of Assam, West Bengal, Bihar and Uttar Pradesh is given at **Annexure-I**.

(d) Flood protection and flood management measures are broadly classified as under-

(i) Structural Measures - The measures for flood control which bring relief to the flood prone areas by reducing flood flows through storages or confining the flows within banks by construction of embankments and thereby reducing the flood levels.

(ii) Non-Structural Measures- Facilitating timely evacuation of the people and shifting of their movable property to safer grounds by having advance warning of incoming flood through setting up a flood forecasting system. Discouraging creation of valuable assets/settlement of the people in the areas subject to frequent flooding i.e. enforcing flood plain zoning regulation.

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

To strengthen the structural measures of flood management, during XI & XII Plan, Ministry has launched Flood Management Programme (FMP) for providing Central Assistance to States for works related to flood management, 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 onwards. So far Central Assistance amounting to Rs. 6447.76 Crores has been released to Union Territories/State Government under this Programme. The projects completed under this Programme and area protected in the States of Assam, West Bengal, Bihar and Uttar Pradesh is at **Annexure II**

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 331 forecasting stations (199 river level forecast stations & 132 dam/ barrage inflow forecast stations). These stations cover 20 major river basins in 23 States & 2 Union Territories. The number of forecast stations has increased from 175 in the year 2014 to 331 in the year 2021. In order to provide more lead time to the local authorities to plan evacuation of people & remedial measures, Central Water Commission (CWC) has developed basin wise rainfall-runoff mathematical modelling for issuing 5 days advance flood forecast advisory at identified flood forecasting and inflow forecasting stations along rivers of India. Flood forecasting stations in the State of Assam, West Bengal, Bihar & Uttar Pradesh are as under

States	Inflow Forecasting Station	Flood Level Forecasting Station	Total Forecasting Stations
Assam	-	30	30
West Bengal	4	12	16
Bihar	2	40	43
Uttar Pradesh	5	39	44

(e) & (f) Government of India has been receiving proposals from the different States/Union Territories for inclusion of flood management/anti-erosion projects for central assistance under ongoing Flood Management and Border Area Programme (FMBAP) of Ministry of Jal Shakti. The new projects under FMBAP could not be included for central funding as the Scheme during 2017-21 had the provisions for prioritized completion of ongoing projects only. During last five years central assistance of Rs. 472.64 Crores, Rs.284.07 Crores, Rs. 292.63 crores & Rs. 230.99 Crores has been released in respect of ongoing projects of the States of Assam, West Bengal, Bihar and Uttar Pradesh respectively. However, provision has been kept for inclusion of new projects of flood management/anti-erosion for central assistance during the period 2021-26. In order to formulate the strategy for flood management works in the entire country and river management activities and works in the border areas for period 2021– 26, a Committee was constituted by NITI Aayog under the chairmanship of Vice Chairman, NITI Aayog wherein the views of Government of Assam, West Bengal, Bihar and Uttar Pradesh on issues related to floods were considered.

Annexure-I

ANNEXURE REFERRED TO IN REPLY TO PART (A) TO (C) OF STARRED QUESTION NO. *27 TO BE ANSWERED IN LOK SABHA ON 03.02.2022 REGARDING “IMPACT OF RIVER BANK EROSION” ASKED BY SHRI PRADYUT BORDOLOI AND SHRIMATI MANEKA SANJAY GANDHI, HON’BLE M.PS.

Annual Average Flood Damage Data during last 20 years 2000-2019 in the States of Assam, West Bengal, Bihar and Uttar Pradesh.

Name of State	Assam	West Bengal	Bihar	Uttar Pradesh
Area affected in mha	0.49	0.62	1.03	0.42
Population affected in million	3.27	4.71	6.85	2.23
Damage to Crops Value in Rs. Crore	52.57	1335.22	170.97	117.82
Damage to Houses value in Rs. Crore	23.86	977.35	140.55	26.43
Cattle lost in nos.	9367	10908	930	529
Human lives lost in nos.	72	195	280	263
Damage to public utilities in Rs. Crore	657.47	549.77	193.35	305.31
Total damages crops, Houses & Public Utilities in Rs. Crore	726.26	2719.23	495.87	410.49

Annexure-II

ANNEXURE REFERRED TO IN REPLY TO PART (D) OF STARRED QUESTION NO. *27 TO BE ANSWERED IN LOK SABHA ON 03.02.2022 REGARDING “IMPACT OF RIVER BANK EROSION” ASKED BY SHRI PRADYUT BORDOLOI AND SHRIMATI MANEKA SANJAY GANDHI, HON’BLE M.PS.

Area protected and population benefitted by completed projects under Flood Magement Programme (FMP) component of FMBAP in the States of Assam, West Bengal, Uttar Pradesh and Bihar.

Sl. No	State	Projects in numbers	Area benefitted (Hectares)	Population benefitted (Numbers)
1	Assam	105	670314	16063422
2	West Bengal	16	93736	2357250
3	Uttar Pradesh	24	264862	3964469
4	Bihar	42	2867117	22345566
