

**GOVERNMENT OF INDIA
MINISTRY OF ROAD TRANSPORT AND HIGHWAYS**

**LOK SABHA
UNSTARRED QUESTION NO. 2439
ANSWERED ON 03RD AUGUST, 2023**

WATER LOGGING ON HIGHWAYS

**2439. SHRI NALIN KUMAR KATEEL:
SHRI D.K. SURESH:
SHRIMATI SUMALATHA AMBAREESH:
SHRIMATI KANIMOZHI KARUNANIDHI:**

Will the Minister of ROAD TRANSPORT AND HIGHWAYS

सड़क परिवहन और राजमार्ग मंत्री

be pleased to state:

(a) whether the Government has taken note of roads and highways damaged due to severe floods and water-logging during the last three years and if so, the details thereof, year-wise;

(b) the details and the number of roads and bridges damaged and the estimated losses occurred to the exchequer, State and Highway-wise;

(c) the details of steps taken to repair and rebuild the damaged roads and bridges in the country; and

(d) whether the Government proposes to make structural reforms in the quality of material and technology used in the road construction of National Highways and if so, the details thereof?

ANSWER

THE MINISTER OF ROAD TRANSPORT AND HIGHWAYS

(SHRI NITIN JAIRAM GADKARI)

(a) to (c) The Ministry is primarily responsible for development and maintenance of National Highways (NHs).

State / Union Territory (UT) - wise details of reported damages that occurred on NHs during the last three years, including damages due to severe floods and water-logging, are at Annexure-I.

Development and maintenance of NHs is a continuous process. The conditions of NHs are assessed from time to time by the Ministry and its various executing agencies such as National Highways Authority of India (NHAI), National Highways & Infrastructure Development Corporation Limited (NHIDCL), Border Roads Organisation (BRO), Public Works Departments (PWDs) / Road Construction Departments (RCDs) / Corporations of State Governments / Union Territories (UTs). The works on NHs are accordingly taken up from time to time as per traffic density, condition of road, inter-se priority and availability of funds to keep the NHs in traffic worthy condition; such works also include rectification of deficiencies and damages caused due to various reasons, rehabilitation and strengthening of NHs, providing adequate drainage systems, etc.

Various types of Maintenance and Repair (M&R) works taken up on NHs include Ordinary Repairs (OR), Periodical Renewals (PR), Special Repairs (SR) and Flood Damage Repairs (FDR).

The M&R of stretches of NHs, where either Development works have commenced or Operation, Maintenance and Transfer (OMT) Concessions/ Operation and Maintenance (O&M) Contracts have been awarded, are the responsibility of the concerned Concessionaires/ Contractors till the Defect Liability Period (DLP)/ the Concession Period.

M&R of balance stretches of NHs, including Restoration of damages due to severe floods and water-logging, are carried out regularly as per available budgetary outlay, inter-se priority and traffic density to keep such NHs in traffic worthy condition.

Further, the Ministry has decided that, from 2023-24 onwards, all maintenance works on NHs are to be carried out primarily through Performance based Maintenance Contract (PBMC) / Short Term (1-

year) Maintenance Contract only. Consequently, all NHs stretches are to be invariably covered under ongoing works of development or maintenance or Defect Liability Period (DLP), with the responsibility of maintenance of such NHs stretches lying with the concerned Contractor /Concessionaire.

State / UT - wise details of funds allocated and expenditure incurred / funds released for M&R of NHs during the last three years are at Annexure-IIA. Apart from this, year - wise details of funds allocated and expenditure incurred / funds released to other Agencies for M&R during the last three years are at Annexure-IIB.

(d) Some of the important Technological Interventions used in construction of NHs to make NHs less prone to damages are as follows: -

- (i) Road level is fixed based on hydrological modelling, well above the Highest Flood level.**
- (ii) Geo-synthetics are used for fill & cut slope stabilization and erosion protection measures to minimize landslides.**
- (iii) Modern Rock fall protection measures such as wire rope and gabions as river training works are used.**
- (iv) Latest compaction equipment are being used to compact the earth to the maximum and making it less prone to damages against heavy rain and floods.**
- (v) Soil stabilisation is being widely used to improve the properties of soils.**
- (vi) Stabilisation Technology for soil and aggregate which induces more resistance to water induced distresses.**
- (vii) Nanotechnology anti stripping agent for bituminous mixes are used.**
- (viii) Cement Grouted Bituminous Macadam for bituminous wearing courses for high rainfall region.**
- (ix) Concrete/ White Topping for water resistance pavement.**
- (x) Micro surfacing to have waterproofing bituminous surface.**
- (xi) Porous permeable pavement.**
- (xii) Nanotechnology based liquid water proof membrane.**
- (xiii) Cold patch mix for maintenance.**

- (xiv) Geo-membrane/ geo-composite for drainage purpose.**
- (xv) Chute drain and median line drain with geo cell.**

ANNEXURE-I**ANNEXURE REFERRED TO IN REPLY TO PARTS (a) TO (c) OF LOK SABHA UNSTARRED QUESTION NO. 2439 ANSWERED ON 03.08.2023 ASKED BY SHRI NALIN KUMAR KATEEL, SHRI D.K. SURESH, SHRIMATI SUMALATHA AMBAREESH AND SHRIMATI KANIMOZHI KARUNANIDHI REGARDING WATER LOGGING ON HIGHWAYS**

State / UT - wise details of reported damages that occurred on NHs during the last three years, including damages due to severe floods and water-logging: -

Sl. No.	State/UT	Length in Km		
		Length of Damaged NHs		
		2020-21	2021-22	2022-23
1	Andhra Pradesh	237.01	192.00	85.20
2	Arunachal Pradesh	97.73	94.62	101.89
3	Assam	228.91	278.15	463.49
4	Bihar	194.70	92.20	138.95
5	Chhattisgarh	90.85	104.89	96.72
6	Goa	30.00	0.00	0.00
7	Gujarat	195.11	222.47	304.10
8	Haryana	6.16	73.64	75.24
9	Himachal Pradesh	14.99	170.13	76.40
10	Jharkhand	736.07	490.45	253.39
11	Karnataka	57.18	163.91	123.44
12	Kerala	183.40	222.96	158.94
13	Madhya Pradesh	9.70	61.60	112.97
14	Maharashtra	1122.67	865.92	784.99
15	Manipur	12.10	20.04	14.10
16	Meghalaya	27.11	104.00	148.47
17	Mizoram	28.35	79.75	41.95
18	Nagaland	55.87	52.65	28.72
19	Odisha	187.56	130.96	104.26
20	Punjab	41.55	126.01	66.66
21	Rajasthan	14.00	597.80	448.75
22	Sikkim	9.32	7.85	20.62
23	Tamil Nadu	207.10	304.79	200.40
24	Telangana	13.60	827.88	34.86
25	Tripura	34.70	108.05	33.70
26	Uttar Pradesh	484.16	118.24	353.56
27	Uttarakhand	384.24	406.11	600.64
28	West Bengal	120.00	85.00	235.03
29	A&N	25.00	48.00	71.00
30	Dadra & Nagar Haveli & Daman & Diu	0.00	0.00	0.00
31	Jammu & Kashmir	38.93	26.25	70.73
32	Ladakh	2.88	1.65	0.51
33	Puducherry	28.53	26.93	0.00

ANNEXURE-IIA**ANNEXURE REFERRED TO IN REPLY TO PARTS (a) TO (c) OF LOK SABHA UNSTARRED QUESTION NO. 2439 ANSWERED ON 03.08.2023 ASKED BY SHRI NALIN KUMAR KATEEL, SHRI D.K. SURESH, SHRIMATI SUMALATHA AMBAREESH AND SHRIMATI KANIMOZHI KARUNANIDHI REGARDING WATER LOGGING ON HIGHWAYS****State / UT - wise details of funds allocated and expenditure incurred / funds released for M&R of NHs during the last three years: -**

Sl. No.	States/UTs	Amount in Rs. Crore					
		2020-21		2021-22		2022-23	
		Alloc.	Expd.	Alloc.	Expd.	Alloc.	Expd.
1	Andhra Pradesh	147.44	113.91	150.92	85.89	214.50	164.08
2	Arunachal Pradesh	78.76	111.39	68.84	76.08	73.64	73.06
3	Assam	130.68	73.19	110.70	38.60	88.28	59.23
4	Bihar	115.92	64.86	108.32	72.00	60.52	1.57
5	Chhattisgarh	44.13	16.72	32.77	15.16	32.46	12.03
6	Goa	18.95	8.02	16.19	6.58	12.51	12.37
7	Gujarat	186.28	114.78	168.58	48.92	346.60	332.79
8	Haryana	3.00	0.00	3.50	0.00	9.08	0.00
9	Himachal Pradesh	83.40	73.98	88.59	55.05	50.65	37.42
10	Jharkhand	39.71	23.13	49.00	21.92	33.70	40.84
11	Karnataka	148.30	132.44	151.44	94.06	60.85	35.11
12	Kerala	127.06	178.97	121.62	47.74	33.75	7.18
13	Madhya Pradesh	102.05	28.11	63.84	10.79	29.84	8.42
14	Maharashtra	281.53	157.14	270.81	44.81	122.67	66.27
15	Manipur	26.11	22.89	19.38	14.23	9.10	0.00
16	Meghalaya	61.66	45.64	64.07	52.86	36.44	32.94
17	Mizoram	34.91	21.00	44.96	33.90	21.88	8.19
18	Nagaland	62.14	46.24	70.09	28.47	42.27	17.57
19	Odisha	63.16	104.68	99.73	63.31	38.29	24.88
20	Punjab	34.72	27.81	27.85	16.05	54.31	18.61
21	Rajasthan	125.86	78.02	111.51	16.14	74.64	61.40
22	Sikkim	5.88	6.85	8.87	7.91	7.11	3.90
23	Tamil Nadu	92.68	92.18	75.95	25.25	84.12	67.73
24	Telangana	128.43	72.54	103.30	36.79	167.41	105.01
25	Tripura	16.68	12.13	9.03	0.00	5.10	0.00
26	Uttar Pradesh	139.57	90.81	133.63	71.34	104.81	81.87
27	Uttarakhand	46.21	32.79	40.41	12.69	32.85	18.20
28	West Bengal	51.50	34.89	46.11	33.11	81.06	49.60
29	Chandigarh	3.11	2.03	9.30	5.69	5.12	0.89
30	Dadra & Nagar Haveli ^	0.86	0.00	0.68	0.00	0.25	0.00
31	Daman & Diu ^						
32	Delhi	0.25	0.00	0.20	0.00	0.23	0.00
33	Jammu & Kashmir \$	9.37	0.00	4.11	0.00	5.92	0.00
34	Ladakh	5.13	3.39	3.64	0.00	1.25	0.00
35	Puducherry	2.35	1.98	1.37	0.30	5.20	9.89
36	First come first serve	-632.04	**	-1,182.15	**	-368.11	**

Alloc. – Allocation; Expd. - Expenditure

Expenditure in some States is in excess against their allocation, however total expenditure in the country is well within the Ministry's overall Budgetary allocation.

\$- Erstwhile Jammu and Kashmir State before reorganisation to State of Jammu & Kashmir and UT of Ladakh

^- Erstwhile UTs before merger

***- Negative allocation is reflected as funds were re-appropriated from State PWD to NHAI/NHIDCL due to lower expenditure being incurred. However, the State/UT wise allocation was not reduced due to sanction purposes.**

**** - Expenditure included in State/UT wise**

Allocation and expenditure in the above statement includes PR/IRQP which is funded from NH(O) from 2021-22 onwards. Therefore, total allocation is greater than total outlay of M&R.

ANNEXURE-IIB**ANNEXURE REFERRED TO IN REPLY TO PARTS (a) TO (c) OF LOK SABHA UNSTARRED QUESTION NO. 2439 ANSWERED ON 03.08.2023 ASKED BY SHRI NALIN KUMAR KATEEL, SHRI D.K. SURESH, SHRIMATI SUMALATHA AMBAREESH AND SHRIMATI KANIMOZHI KARUNANIDHI REGARDING WATER LOGGING ON HIGHWAYS****Year - wise details of funds allocated and expenditure incurred / funds released to other Agencies for M&R of NHs during the last three years:**

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		Amount in Rs. Crore					
Sl. No.	Agency	2020-21		2021-22		2022-23	
		Alloc.	Expd.	Alloc.	Expd.	Alloc.	Expd.
1	NHAI	400.00	400.00	1,909.36	1,909.36	1,825.00	1,825.00
2	NHIDCL	248.17	248.17	325.00	325.00	50.00	50.00
3	BRO	220.00	219.78	170.00	152.06	230.00	225.13

Alloc. – Allocation; Expd. - Expenditure
