GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS

LOK SABHA
UNSTARRED QUESTION NO. 569
TO BE ANSWERED ON 23.07.2025

VULNERABLE RAILWAY INFRASTRUCTURE IN NATURAL DISASTER HIT NORTH EAST REGION

569. SHRI JOYANTA BASUMATARY:

Will the Minister of RAILWAYS be pleased to state:

(a) the details of the estimated losses to the Northeast Frontier Railway (NFR) due to natural disasters during the last five years;

(b) the length of new railway lines constructed in the North Eastern Region (NER) during the last five years and the number of trees that have been cut down for the construction of the same;

(c) whether the Government has conducted any studies on how the construction of railway infrastructure can contribute to natural disasters such as landslides in the North Eastern Region (NER) and if so, the details thereof;

(d) the details of the measures devised to mitigate the Natural Disasters; and

(e) whether the Government has conducted a comprehensive assessment of the vulnerability of railway infrastructure in the North East to disasters like flooding, landslides and earthquakes during the last five years and if so, the details thereof?

ANSWER

MINISTER OF RAILWAYS, INFORMATION & BROADCASTING AND ELECTRONICS & INFORMATION TECHNOLOGY

(SHRI ASHWINI VAISHNAW)

(a) to (e): Railway projects are surveyed/ sanctioned/executed Zonal Railway wise and not Region-wise/State-wise/UT-wise/District-wise as

Railway projects may span across State/UT/District boundaries. Railway projects, including those in the North Eastern Region, are sanctioned on the basis of remunerativeness-, traffic projections, last mile connectivity, missing links and alternate routes, augmentation of congested/saturated lines, demands raised by State Governments, Central Ministries, Members of Parliament, other public representatives, Railway's own operational requirement, socio-economic considerations etc. depending upon throw forward of ongoing projects and overall availability of funds.

As on 01.04.2025, 12 Railway projects (08 New Lines, 04 Doubling), of total length of 777 Km, costing ₹.69,342 crore located fully/partly in North Eastern Region (NER) have been sanctioned, out of which 278 Km length has been commissioned and an expenditure of ₹.41,676 crore has been incurred up to March, 2025. The status of work is summarized as under:-

Category	No. of projects	Total Length (in Km)	Length Commissioned (in Km)	Expenditure upto March, 2024 (₹ in Cr.)
New Lines	08	448	113	38,078
Doubling/ Multitracking	04	329	165	3,698
Total	12	777	278	41,676

Average Budget allocation for infrastructure projects and other works, falling fully/ partly in North Eastern Region (NER) is as under:-

Period	Outlay
2009-14	₹ 2,122 crore/year
2025-26	₹ 10,440 crore (more than 4 times)

Commissioning of sections (New Line, Gauge Conversion and Doubling) falling fully/partly in North Eastern Region (NER) during 2009-14 and 2014-2025 is as under:-

Period	New track Commissioned	Average commissioning of new tracks
2009-14	333 Km	66.6 Km/year
2014-25	1,840 Km	167.27 Km/year (more than 2 times)

To strengthen connectivity in North Eastern Region, following projects have been commissioned during the last 10 years:

SN	Name of project	Cost (₹ in crore)
NEW LINES		
1.	Bogibeel bridge with linked line (92 Km.)	5,820
2.	Agartala- Sabroom (112 Km.)	3,170
3.	Agartala- Akhaura(5 Km.)	865
GAUGE CONVERSION		
1.	Rangiya- Murkongselek alongwith linked fingers (510.33 Km.)	3,019.17
2.	Kumarghat- Agartala (109 Km.)	1,242
3.	Katakhal- Bhairabi (84 Km.)	348
4.	Lumding-Badarpur- Silchar & Badarpur-Kumarghat (412 Km.)	6,500
DOUBLING		
1.	Lumding – Hojal (44.92 Km.)	410
2.	Digsaru- Hojal (102 Km.)	1,873.21
3.	New Bongaigaon- Agthori via Rangiya (143 Km.)	2,048

Rail transport is inherently more environment friendly due to its lower carbon footprint, energy efficiency and reduced congestion as compared to roads. Not only does rail transport cost less than half of road transport, its carbon dioxide emissions are 90 percent less than road transport. Shifting traffic from road to rail is helping India

decarbonize its economy at scale. As compared to 2014 level, 2672 MT more freight has been shifted from road to rail which has resulted in saving 143.3 million tonnes of carbon dioxide emissions. This itself is equivalent to planting more than 100 crore trees. Besides this, Indian Railways undertakes a number of environmental initiatives, one of which is tree plantation. During the last 5 years, under such an initiative, Northeast Frontier Railway has planted more than 9 lakh tree saplings.

Due to floods, landslides etc in the last five years, some damage to railway tracks and structures took place in Northeast Frontier Railway which was assessed to be over ₹200 crore.

Geology of North Eastern Region is such that it is prone to landslides. This geological weakness is always accounted for at the stage of design and implementation of Railway projects. Due care is taken in planning and execution of works so that there is minimum damage to the sensitive geological formations of Eastern Himalayas. To ensure that this is achieved in a scientific manner, Railway has undertaken studies and assessments of the environmental and geological impact of railway construction in the North Eastern Region. For all major Railway projects in the hilly terrain (for example those in Manipur, Mizoram, Arunachal Pradesh and Nagaland), detailed Geo- technical investigations and Environmental Impact Assessments are carried out before going ahead with construction. These studies specifically assess slope stability, rock and soil characteristics, vegetation cover and hydrological patterns.

Findings of these studies are used to anticipate the risk of landslides that can result from construction activities. To mitigate any risk of

landslide, and also to control soil erosion, slope stabilization measures by providing retaining walls, soil nailing, shotcrete and geo- synthetics in hilly terrain are adopted. Plantation of grass and shrubs on slopes to stabilize loose soil is also done. Construction of catch drains and check dams to guide and control debris flow has also been taken up. In addition, construction of embankments has been carried on to manage flow and prevent flooding. Tracks are constructed at higher elevations in flood-prone areas to avoid inundation with provision of adequate culverts, side drains, and waterways to allow smooth discharge of floodwaters. Foundations of bridges are protected from scour by providing protection measures. Structures have been constructed in compliance with seismic codes to ensure mitigation of earthquake-induced damages. Further, to avoid disturbance to hill slopes in the geologically weak formations in the North Eastern Region, underground tunnels have been built for railway tracks in the place of deep cuttings based on feasibility.

Indian Railways, in collaboration with Research Designs and Standards Organisation (RDSO), Designers, Consultants and IITs, has conducted site-specific vulnerability assessments in the North East Regions. These include surveys of track stability, bridge safety, slope protection, and seismic risk in hilly areas like Assam, Arunachal Pradesh, Nagaland, and Manipur. New railway projects in this region are being designed in accordance with Indian Railways Standards Codes, Bureau of Indian Standards (BIS) Codes. Special attention is given to design of bridges, tunnels, and embankments in the North Eastern Region.

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