

GOVERNMENT OF INDIA
MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE

RAJYA SABHA
UNSTARRED QUESTION NO. 4395
TO BE ANSWERED ON 02.04.2026

Preventing elephant deaths

4395 DR. SIKANDER KUMAR:

Will the Minister of ENVIRONMENT, FOREST AND CLIMATE CHANGE be pleased to state:

- (a) the year-wise schedule for completion of 705 mitigation structures recommended across 77 prioritised railway stretches;
- (b) whether Government plans to establish a National Elephant-Rail Safety Dashboard to provide real-time public updates on construction progress and mortality rates across 14 identified States;
- (c) if so, the details thereof; and
- (d) the steps being taken to ensure that 22 proposed overpasses and 72 bridge modifications maintain "biological continuity" so that elephant herds actually utilize these structures rather than bypass them?

ANSWER

MINISTER OF STATE IN THE MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE
(SHRI KIRTI VARDHAN SINGH)

(a)to(d)Ministry has compiled a comprehensive report titled “Suggested Measures to Mitigate Elephant & Other Wildlife Train Collisions on Vulnerable Railway Stretches in India” with the help of Ministry of Railways and State Forest Departments. As per the report, a total of 705 mitigation structures has been recommended across 77 prioritized railway stretches identified for mitigation of elephant–train collisions. The Ministry has communicated the report to the Ministry of Railways and concerned State Governments for the needful.

The Ministry under the Project Elephant in coordination with Ministry of Railways and Wildlife Institute of India has already developed a portal to monitor the progress of implementation of mitigation measures from the beginning. The process involves joint surveys of the identified stretches by officials of the Forest Department, Railways and Wildlife Institute of India, recommendation of mitigation measures and implementation of the mitigation measures. The mitigation proposed on the stretches surveyed by various team has been uploaded on the dashboard.

The proposed structures are located in areas where past elephant movement and mortality have been recorded, indicating that these locations form part of established elephant habitats or corridors. The crossing structures have been specifically designed to accommodate large-bodied, herd-living species such as elephants. In addition to the structural provisions, various modification and habitat enrichment measures such as revegetation, installation of noise and light barriers, and appropriate fencing have been recommended to encourage and ensure the effective use of these structures by wildlife, particularly elephants. Furthermore, the structural

design incorporates pier-type pillars, which help maintain open movement space beneath the structure and facilitate safe passage for social, herd-living animals.

As per the information received from Ministry of Railways, an Artificial Intelligence (AI)-enabled Intrusion Detection System (IDS) for detecting presence of elephants on Railway tracks using Distributed Acoustic Sensing (DAS) has been developed. The system components include Optical Fibre, hardware and pre-installed signatures of elephant locomotion. The system alerts loco pilots, station masters and Control Room about the movement of elephants on track's proximity, for taking preventive action timely.

Artificial Intelligence (AI) enabled Intrusion Detection System (IDS) using Distributed Acoustic Sensing (DAS) for detecting presence of elephants on Railway tracks is implemented in 141 Route Kilometres (RKms) section and further tenders have been awarded for 981 RKms section of Indian Railways. The system is designed to generate alerts for loco pilots, station masters and Control Room about the movement of elephants in proximity of railway tracks, for taking timely preventive action.

Further measures include enforcing speed restrictions at identified vulnerable locations; construction of underpasses and ramps; installation of fencing along railway tracks; and placement of signage boards at identified elephant corridors to pre-warn loco pilots. Additional actions involve clearing vegetation and edible items surrounding the track within railway land, providing solar-powered LED lights in forest areas, and deploying thermal vision cameras to detect the presence of wild animals on straight track during night or poor visibility conditions to alert loco pilots for presence of wild animals.
