



SAFETY ISSUES IN INDIAN RAILWAYS - GS II MAINS

Q. Despite advancements in technology and infrastructure, frequent accidents in railways continue to impact passengers, infrastructure, and the overall economy. Discuss (10 marks, 150 words)

News: *Indian Railways and safety challenges*

What's in the news?

- This content is based on an article from The Hindu.

Train Accidents in India:

- Despite advancements in technology and infrastructure, these incidents continue to impact passengers, infrastructure, and the overall economy.
- There has been an average of 44 consequential train accidents every year in the five-year period ending 2022-23 (FY23).

Types of Train Accidents:

1. Derailments:

- When a train goes off the tracks, are the most common.
- These can be caused by a variety of factors including track defects, equipment failure, human error, or even sabotage.

2. Collisions:

- It occurs when two or more trains collide on the same track, often due to signal failures or errors in communication between railway personnel.

3. Level Crossing Accidents:

- It involves collisions between trains and vehicles or pedestrians at rail crossings, highlighting the need for better safety mechanisms at these points.

4. Accident Type in Indian Railways:

- The accident type occurred in Indian Railways over the years following the trend - Derailment > Level crossing accidents > Collisions > Fire in trains > Miscellaneous accidents.

Safety Issues in Indian Railways:

1. Unmanned Level Crossings:

- Closing unmanned level crossings remains a priority.
- These crossings pose a significant risk to both passengers and train crew.
- Focused measures to eliminate them have improved safety, but continued vigilance is essential.

2. Track Maintenance:

- Emphasizing track maintenance has led to a reduction in accidents.



- However, maintaining thousands of kilometers of tracks across diverse terrains remains a formidable task.
- Regular inspections, timely repairs, and modern technology are crucial.

3. Communication and Information Management:

- Effective communication during emergencies is vital.
- The recent accident involving the GFCJ container train highlighted the need for accurate and timely information dissemination.
- Premature statements can create confusion and hinder investigations.

4. Overstaffing and Workload:

- Indian Railways, like many government entities, is overstaffed.
- However, safety-critical roles, such as loco crew and station managers, require continuous attention.
- Addressing vacancies and reducing long working hours for locomotive pilots is essential.

5. Near Misses and Management Failure:

- Investigating whether similar near misses are common in the affected section will reveal management effectiveness.

Steps Taken by the Government:

1. Safety System Implementation:

- The adoption of Kavach, an indigenous collision prevention system, has faced challenges in terms of efficacy and speed of implementation.

2. Priority Areas for Kavach:

- The CRS report from the Vizianagaram train accident emphasized implementing Kavach in Automatic Signalling territories prone to collisions.

3. Mission Zero Accident:

In the Railway Budget 2016-17, Mission Zero Accident was one of the Missions announced, comprising of the two sub-missions:

a. Elimination of unmanned level crossings over broad gauge in the next 3-4 years. Currently, all unmanned level crossings on Broad Gauge have already been eliminated in 2019.

b. Rashtriya Rail Sanraksha Kosh Fund - The fund has been created in 2017-18 with a corpus of 1 lakh crore, as a non-lapsable fund, over a period of five years for critical safety related works.

4. Fog PASS Device:

- It is a Global Positioning System (GPS) based hand held portable device.



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- It serves as an aid for the crew during foggy weather through audio visual alarm, whenever any landmark comes within the geo-fence range.

Way Forward:

1. Conduction of Thorough Investigation:

- It is essential to conduct comprehensive and timely investigations into train accidents to identify the root causes and determine accountability.
- This includes submitting and accepting inquiry reports within prescribed timelines and ensuring that the findings are made public for analysis and discussion.

2. Strengthen Maintenance Practices:

- Prioritize track maintenance, inspections, and infrastructure upgrades to prevent derailments and ensure safe operations.
- We must implement mechanized methods of track maintenance and leverage improved technologies to enhance the efficiency and effectiveness of maintenance activities.

3. Allocate Sufficient Funding:

- We must ensure adequate funding for safety-related works, including track renewal, signaling systems, and infrastructure upgrades.
- Proper utilization of funds from initiatives like the Rashtriya Rail Sanraksha Kosh (RRSK) should be ensured to address safety priorities effectively.

4. Enhance Staffing and Training:

- Address staffing shortages in safety-related positions and provide comprehensive training programs for staff members involved in train operations.
- Focus on improving skills, knowledge, and adherence to safety protocols to minimize human errors.

5. Implementation of Advanced Technologies:

- Embrace advanced technologies, to enhance safety monitoring, early detection of faults, and real-time decision-making.

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