

## General Studies – 3; Topic: Infrastructure – Railways

### Railway Safety Measures

#### 1) Introduction

- India's Railways serves the vital function of providing travel access to millions
- Indian Railways is in urgent need to modernize and bring about generational change to its system to assure safety to the users

#### 2) Why Indian Railways Keeps Crashing

- The result of sabotage, Human Failure and Equipment Failure
- Large vacancies for safety officers. 1.42 lakh posts for safety staff remain unfilled across India
- Existing staff work under sub-standard conditions.
- The automated anti-collision device tested previously does not seem very promising.
- Engineering staff, signalling staff, and even loco pilots are frequently working 20- 24 hours straight due to vacant positions.
- In the 6-year period between 2009-10 and 2014-15, there were a total of 803 accidents. 47% of these accidents are due to derailment of trains.
- collisions and accidents at level crossings
- One of the major causes of rail fractures is the heavy load on tracks.
- New trains are constantly introduced, burdening the track infrastructure to unbearable levels.
- The political incentives also come in the way of removing human encroachments on railway infrastructure—another source of casualties.
- Slow pace of technology adoption.
- The Kakodkar committee noted that the direct discharge of human waste has several serious safety implications arising out of corrosion of rails
- According to observation of Commission of Railway Safety (CRS) report variation in the wheel gauges of two coaches and carriages also causing accidents.

#### 3) Italian railway assistance

- Italian railway has come to the assistance of Indian railways in improving the rail safety
- Italian railway will conduct a safety audit of the Indian Railways
- The development comes in wake of recent rail accidents in India
- Emphasis will be on upgrading the track conditions so that they can support the movement of high-speed trains.

#### 4) Highlights of 2017 Railways budget

- A Rail safety fund or Rashtriya Rail Sanraksha Kosh with a corpus of Rs 100,000 crore will be created over a period of 5 years
- The service charge on rail tickets booked through IRCTC will be withdrawn which can be seen as promoting digital transactions
- As many as 500 rail stations will be made differently abled-friendly by providing lifts and escalators.
- Steps will be taken to launch dedicated trains for pilgrimage and tourism. This helps in unlocking the tourism potential of the country
- A new metro rail policy will be announced. This is expected to open up new jobs for the youth
- At least 25 train stations are expected to be awarded during 2017-18
- By 2019, all coaches of the Indian Railways will be fitted with bio-toilets

- Railways will integrate end to end transport solutions for selected commodities through partnerships
- Unmanned railway level crossings to be eliminated by 2020
- A 22% rise in the Railways Budget was announced

### 5) Way Forward

- switching over from ICF to Linke Hofmann Busch (LHB) coaches as recommended by Anil Kakodkar
- Incorporate technology for maintenance of track infrastructure
- Modernization of Indian Railways
- Replace all the direct discharge toilets in the trains with eco-friendly bio-toilets
- Indian Railways needs an empowered safety regulator
- Safety as an objective should have precedence over other regulatory issues like non-discriminatory pricing and infrastructure access.
- Technologies such as ultrasonic flaw detection to keep tracks safe
- Use of Derailment Detection Devices and automatic fracture detection system
- Hot Axle and Box Detection (HABD) systems which are used world over for monitoring the possibility of derailment in real-time.
- Increased budgeting for rapid roll out for rail safety and more dependence on IT-based platforms as against manual labour is the need of the hour.
- Railways can embrace a target of zero accidents, zero casualties by 2022

