Telecom Infrastructure

Posted at: 20/02/2025

Telecom Infrastructure: The Lifeline in Disaster Response

Introduction

Telecommunication networks are **critical for disaster response**, allowing **governments and disaster management agencies** to communicate quickly. However, they are **highly vulnerable** to disasters like **cyclones, earthquakes, and floods** due to damage to towers, cables, and power failures. The **Coalition for Disaster Resilient Infrastructure (CDRI)**, launched by **Prime Minister Narendra Modi in 2019**, recently released a report highlighting these vulnerabilities and suggesting measures to strengthen telecom resilience.

Why Telecom Resilience is Important

- **Enables quick communication** between disaster management agencies and government bodies.
- **Provides early warnings and alerts** to people in affected areas.
- **Ensures coordination of relief efforts**, such as rescue operations and medical aid.

Despite its importance, telecom infrastructure is **highly vulnerable** to physical damage and power failures during disasters.

Impact of Disasters on Telecom Networks

1. Physical Damage

- **Telecom towers collapse** due to high wind speeds.
- **Overground cables snap**, disrupting connectivity.
- **Undersea cable landing stations** are damaged, affecting global internet links.

2. Power Failures

- **Lack of electricity** is the biggest reason for telecom network failure.
- **Backup power (batteries, diesel generators)** is often insufficient.

3. Delayed Repairs

- **Fixing undersea cables** is time-consuming.
- **Telecom operators struggle to reroute traffic**, leading to widespread disruptions.

Ways to Strengthen Telecom Resilience

1. Strengthening Infrastructure

- **Telecom towers in disaster-prone areas should withstand higher wind speeds.**
- **Underground fibre optic cables** should be laid alongside other infrastructure (Dig-Once Policy).

2. Ensuring Reliable Power Supply

- **Backup generators and emergency fuel reserves** should be maintained.
- **Odisha government provides 50 litres of fuel per telecom operator** during disasters to keep networks running.

3. Faster Damage Response

- **Real-time monitoring by the DoT** helps restore networks quickly.
- **Better coordination among telecom operators and government agencies** is needed.

4. Financial Protection for Operators

- **Parametric insurance** can help telecom companies recover losses and restore services faster.

5. Simple but Effective Steps

- **Elevating diesel generators** can prevent them from failing in floods.
- **Building stronger power infrastructure** reduces telecom disruptions.

Conclusion

Disaster-resilient telecom networks are essential for emergency response and public safety. The **CDRI report highlights the need for better infrastructure, power backup, monitoring, and financial support**. **By adopting these measures, India can ensure uninterrupted communication during disasters, saving lives and property.**