Anji Khad Bridge

Why in News?

Recently, **Indian Railways** completed **the Anji Khad Bridge**, **India's first cable-stayed rail bridge**, located in the **Reasi district of Jammu and Kashmir.**

- It is a key component of the **Udampur-Srinagar-Baramulla Rail Link (USBRL) Project**, designed to enhance regional connectivity and drive economic growth.

Key Points

- **About the Bridge:**
  - The bridge spans **725.5 meters** with a **331-meter-high pylon**, built to withstand winds up to **213 km/h** and support trains traveling at **100 km/h.**
  - It utilizes **96 cables** of varying lengths (82 to 295 meters) and an **innovative hybrid foundation** to stabilize the mountain slopes.
  - It used **DOKA Jump Form Shuttering, Pump Concreting, and a Tower Crane Technique** to improve efficiency, reducing construction time **by 30%.**
    - The DOKA Jump Form Shuttering Technique is used for **constructing vertical concrete structures** like high-rises, bridges, and towers.
  - The bridge will enhance **tourism, boost local economic growth, and improve transportation in the region.**
- **Challenging Terrain:**
  - The **Himalayan location posed challenges** due to complex geology, **seismic activity**, and fragile features like faults, folds, and thrusts.
  - **IIT Roorkee** and **IIT Delhi** conducted site-specific studies to assess conditions and ensure the feasibility of construction.