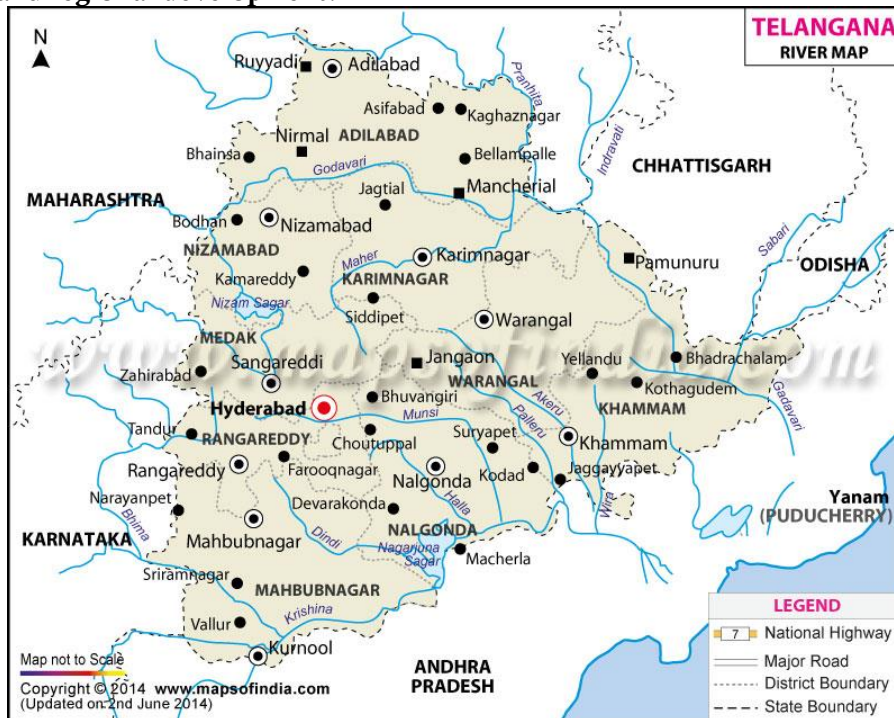## 1. The river systems of Telangana significantly contribute to its agrarian and industrial economy. Comment.

Introduction

Telangana, a predominantly agrarian state located on the Deccan Plateau, is traversed by two major river systems—**Godavari and Krishna**. These rivers, along with their tributaries, are vital for **irrigation, industrial development, drinking water supply**, and **hydropower generation**, making them central to the state's **economic sustainability** and **regional development**.

Contribution of Rivers to the Agrarian Economy

1. **Irrigation Backbone**
   - Nearly **135 lakh acres** were under gross irrigated area in 2021–22.
   - **79% of Godavari's and 69% of Krishna's catchment areas** lie within Telangana, ensuring extensive irrigation coverage for agriculture.

2. **Crop Diversification & Productivity**
   - Assured irrigation supports a wide range of crops: **paddy, cotton, chillies, turmeric, pulses**, and oilseeds.
   - Contribution of the **crop sector to Telangana's GSVA** grew by **136% from ₹41,706 crore (2014–15) to ₹98,478 crore (2022–23)**, demonstrating strong agrarian performance.

3. **Economic Stability for Rural Population**
   - Dependable water supply reduces the risk of crop failure due to erratic monsoons, boosting **food security** and **farmer incomes**.

Contribution to Industrial Development

1. **Water for Industrial Operations**
   - Rivers provide essential water for **manufacturing, mining, and thermal power plants**.
   - *Example*: **Heavy Water Plant at Manuguru**, situated on the banks of the Godavari, is India's largest of its kind.

2. **Hydropower Generation**
   - Major hydroelectric projects like **Nagarjuna Sagar (815.6 MW)** and **Srisailam** on Krishna river contribute significantly to **energy security**.

- Hydropower aids **industrial operations** and supports **sustainable energy goals**.

3. **Resource Base for Minerals**
   - The **Godavari valley** hosts vast **coal reserves**, while the **Krishna valley** is known for **precious mineral deposits** such as diamonds, directly contributing to mining and associated industries.

4. **Industrial Growth & Employment**
   - Availability of river water has catalyzed **cluster-based industrial growth**, employment generation, and an expanding **state GDP**.

Challenges in River Utilization
- **Seasonal Variability**: Rivers exhibit uneven flows, causing **droughts and floods**, disrupting agriculture and industries.
- **Pollution**: Untreated industrial and domestic waste pollutes river systems. *Example*: **416 lakes and river streams identified as polluted** by the Telangana government.
- **Inter-State Water Disputes**: Disputes over Krishna and Godavari waters with **Andhra Pradesh** hinder equitable water distribution and planning.

Sustainable Measures Adopted
1. **Integrated Water Management**: Emphasis on **river basin management**, **pollution control**, and **efficient irrigation**.
2. **Flagship Initiatives of past government like**:
   - ✓ **Mission Kakatiya** – rejuvenation of tanks for agricultural support.
   - ✓ **Telangana Ku Haritha Haram (TKHH)** – afforestation and watershed management.
3. **Rainwater Harvesting & Conservation**: Promoted at community and urban levels to reduce pressure on river systems.

Conclusion
Telangana's river systems are lifelines for both its **agrarian base** and **industrial expansion**. Ensuring their sustainable management through **integrated planning, pollution control**, and **inter-state cooperation** is essential for realizing the state's developmental vision while preserving ecological balance for future generations.

2. What are the various key factors driving the emergence of Telangana as a leading IT hub in India?

Introduction
Telangana, especially its capital Hyderabad, has emerged as a major information technology (IT) hub in India. With **IT exports growing by 31.4% in 2022–23** to ₹2.42 lakh crore, the state is now a critical contributor to India's digital economy. A combination of visionary policy, infrastructure, human capital, and innovation has underpinned this transformation.

Key Factors Behind Telangana's IT Emergence
1. **Progressive Government Policies**
   Telangana has consistently promoted IT through focused interventions. Starting from the 1990s, successive governments invited global tech giants like Microsoft and nurtured domestic firms such as Wipro and Satyam. The **ICT Policy 2016** and **2nd IT Policy 2021** emphasized digital empowerment, innovation, e-governance, and entrepreneurship.

2. **Robust Infrastructure Development**
   Strategic investments in **Outer Ring Road (ORR)**, **Rajiv Gandhi International Airport**, and dedicated IT zones like **Hi-Tech City** and the **Financial District** enhanced connectivity and ease of business operations.

3. **Skilled Workforce Availability**
   The presence of premier institutions such as **IIIT-Hyderabad**, **ISB**, **JNTU**, and a network of private engineering colleges has ensured a steady supply of talent across IT, ITeS, finance, and management sectors.

4. **Cost Advantage and Urban Appeal**
   Compared to metros like Bengaluru and Noida, cities like Hyderabad and Warangal offer **lower cost of living**, making them attractive for both businesses and professionals.

5. **IT Infrastructure and Land Availability**
   The state has developed **Special Economic Zones (SEZs)**, **Tech Parks**, and **GRID Policy** to decongest Hyderabad and promote IT in Tier-II and Tier-III cities.

6. **Startup and Innovation Ecosystem**
   Telangana is home to **T-Hub, WE Hub**, and fintech incubators that support startups through funding, mentorship, and global exposure. This has created a **vibrant entrepreneurial culture**.

7. **Presence of Global Technology Majors**
   Multinational corporations such as **Google, Facebook, Amazon, and Microsoft** have established major campuses in Hyderabad, generating jobs and catalyzing ancillary industries.

8. **R&D and Innovation Capacity**
   Centers like **Microsoft IDC** and **TCS Innovation Labs** have turned Hyderabad into a **hub of tech innovation and applied research**.

Way Forward
- Enhance **industry-academia collaboration** for skill alignment.
- Expand **infrastructure to Tier-II cities** under GRID and ITIR proposals.
- Foster **access to capital** and global investment opportunities for startups.

Conclusion
Telangana's emergence as a digital powerhouse is the result of strategic planning and inclusive growth. With sustained focus on **skill development, innovation, and decentralization**, it is poised to play a pivotal role in India's aspiration of becoming a **$10 trillion economy**.