Prelims Exam Topics

WORLD INTANGIBLE INVESTMENT REPORT 2026

Context

The **World Intangible Investment Report 2026** highlights India as the **fastest-growing economy in intangible investments** among the world's **15 largest economies**, reaffirming its position as a global innovation hub.

About the World Intangible Investment Report

- **Published by: World Intellectual Property Organization (WIPO)** and **Luiss Business School (Italy)**.
- **India** recorded the **highest growth in intangible investments** among the world's 15 largest economies.
- Since **2008**, global **intangible investment** has grown **more than three times faster** than tangible investment and has proved **more resilient during economic shocks**.
- The **United States** leads the world in **total intangible investment**, while **Sweden** ranks highest in **intangible investment intensity**.
- **Software and databases** are the fastest-growing intangible assets in **India**, whereas **organizational capital and R&D** are the fastest-growing categories globally.

GLOBAL LIVEABILITY INDEX 2026

Context

The **Global Liveability Index 2026** has been released, assessing the quality of living in cities across the world.

About the Global Liveability Index 2026

- **Published by:** Economist Intelligence Unit (EIU).
- **Scoring:** Cities are evaluated on a **100-point scale** based on **Stability (25%)**, **Culture & Environment (25%)**, **Healthcare (20%)**, **Infrastructure (20%)**, and **Education (10%)**.
- **Copenhagen**, **Vienna**, and **Melbourne** ranked as the **top three most liveable cities** in the **Global Liveability Index 2026**. Among Indian cities, **New Delhi** ranked **120th**, followed by **Mumbai (121st)**, **Chennai (123rd)**, and **Bengaluru (127th)**.

MOLLUSCS AND DESERT RAIN FROG

Context

The **International Union for Conservation of Nature (IUCN)** has warned that **molluscs** and the **Desert Rain Frog** face an increased risk of extinction due to **deep-sea mining** and **diamond mining**, respectively.

Molluscs

- **Molluscs** are **invertebrate animals** (lack a backbone).
- Common features include a **mantle**, a **body cavity for respiration and excretion**, and a **nervous system**.
- **Major Classes**
    - **Cephalopods:** Octopuses, squids, cuttlefishes, nautiluses, and extinct ammonites.
    - **Gastropods:** Snails and slugs.
    - **Bivalves:** Clams, oysters, mussels, and scallops.

Desert Rain Frog

- A **fossorial** amphibian adapted for **burrowing** and spending most of its life underground.
- **Habitat:** Sandy coastal dunes with sparse vegetation along the **Namaqualand coast of South Africa** and **south-western Namibia**.
- **IUCN Red List Status: Vulnerable**.

MUGGER CROCODILE

Context:

Recently, several **mugger crocodiles** were found dead in the **Chandraloi River** in Rajasthan's Kota district due to poisoning from **Aldrin**, a banned organochlorine pesticide.

About Crocodiles in India:

Feature	Mugger Crocodile	Saltwater Crocodile	Gharial
Average Size	Up to 4.5 m	Usually 2.5–3 m	Up to 7 m
Average Weight	Around 450 kg	Around 1,000–1,500 kg	Around 90 kg

Habitat	Freshwater ecosystems including lakes, rivers, marshes, and wetlands. Also inhabits some artificial water bodies and coastal wetlands.	Coastal areas, estuaries, rivers, and swamps across South and Southeast Asia, Northern Australia, and parts of the Indian subcontinent.	Deep, fast-flowing rivers with sandy banks. Adults occupy deep pools, while juveniles remain in shallower, faster waters.
Geographical Distribution (Globally)	Found in India, Sri Lanka, Pakistan, Nepal, and possibly Bangladesh and eastern Iran.	Southeast Asia, Northern Australia, and parts of the Indian subcontinent.	Chambal and Girwa Rivers (India) and the Rapti–Narayani River system (Nepal).
Geographical Distribution (India)	Ganga basin, Bihar, Jharkhand, Chambal River, and Gujarat.	Along the eastern coast, including Bhitarkanika National Park (Odisha), the Sundarbans, and the Andaman & Nicobar Islands.	Uttar Pradesh, Madhya Pradesh, and Rajasthan.
IUCN Red List Status	Vulnerable (VU)	Least Concern (LC)	Critically Endangered (CR)
CITES Status	Appendix I	Appendix I	Appendix I
Wild Life (Protection) Act, 1972	Schedule I	Schedule I	Schedule I

SAMRIDDH GRAM

Context:

The **Department of Telecommunications (DoT)** received the **World Summit on the Information Society (WSIS) Prizes 2026** for its flagship **Samriddh Gram** initiative, recognizing India's progress in building Digital Public Infrastructure.

About Samriddh Gram

- It is a **flagship rural digital transformation programme** of the **Department of Telecommunications (DoT)**, developed on the **BharatNet** network.
- **Objective:** To deliver integrated **phygital (physical + digital)** public services through **Samriddhi Kendras established** at the village level.

- **BharatNet** is India's flagship rural broadband initiative that aims to provide **high-speed internet connectivity to all Gram Panchayats**, helping bridge the rural-urban digital gap.

CYANOBACTERIA (BLUE-GREEN ALGAE)

Context

Researchers at **IIT Guwahati** have demonstrated that **cyanobacteria (blue-green algae)** can effectively remove **lead from contaminated water**, highlighting their potential in **bioremediation**.

About Cyanobacteria (Blue-Green Algae)

- Cyanobacteria are **photosynthetic prokaryotic microorganisms** belonging to the **Kingdom Monera.**
- They are widely distributed in **freshwater, marine ecosystems, and moist terrestrial environments**.
- Several species possess the ability to **fix atmospheric nitrogen**, including **Anabaena** and **Nostoc**, they are widely used as **biofertilisers**, particularly in **paddy (rice) cultivation**.
- Besides supporting soil fertility, cyanobacteria are increasingly being explored for **bioremediation**, as they can absorb and remove toxic heavy metals from polluted water.
- **Bioremediation:** It is the use of microorganisms to break down or transform pollutants into less harmful or non-toxic substances, thereby reducing environmental contamination.

AUSTRALIA–INDIA PARTNERSHIP ON CYBER, CRITICAL TECHNOLOGIES AND SUPPLY CHAINS (PACTS)

Context

India and Australia have signed the **Australia–India Partnership on Cyber, Critical Technologies and Supply Chains (PACTS)** to deepen cooperation in cyber security, critical technologies and resilient supply chains. The

About PACTS

- A bilateral framework aimed at strengthening **national security**, **critical supply chains**, **cyber resilience**, and **trusted digital technologies**.
- PACTS agreement replaces the **2020 Framework Arrangement on Cyber and Cyber-Enabled Critical Technology Cooperation**.
- **Five Pillars of PACTS:** It focuses on **Supply Chain Resilience and Diversification** (critical minerals and semiconductors), **Critical Technologies** (AI, space, telecommunications and biotechnology), **Cybersecurity**, **Digital Resilience** (promotion of India's Digital Public Infrastructure in the Indo-Pacific), and **Defence Research Collaboration**.

SUB-MISSION ON AGRICULTURAL MECHANIZATION (SMAM)

Context

The **Government of India** has highlighted the achievements of the **Sub-Mission on Agricultural Mechanization (SMAM)**.

About Sub-Mission on Agricultural Mechanization (SMAM)

- **Ministry:** Ministry of Agriculture & Farmers' Welfare.
- **Type:** Centrally Sponsored Scheme under the **Rashtriya Krishi Vikas Yojana (RKVY)**.
- Promote **inclusive farm mechanization** to enhance agricultural productivity, reduce labour drudgery, and lower cultivation costs.
- Improve access to agricultural machinery for **small and marginal farmers, women farmers, SC/ST farmers, Farmer Producer Organizations (FPOs), Self-Help Groups (SHGs), and rural entrepreneurs**.
- **Financial Assistance:**
    - Subsidy through **Direct Benefit Transfer (DBT)**:
        - **40%** for general category farmers.
        - **50%** for SC/ST farmers, small and marginal farmers, and beneficiaries in the North-Eastern Region.
    - Small and marginal farmers receive **₹2,000 per hectare** for mechanized farming services, including **drone-based operations**, through CHCs, FPOs, and SHGs.
- **North-Eastern Region:** Provides enhanced assistance, including **up to 100% subsidy** for selected small agricultural machinery and **95% financial support** for Farm Machinery Banks.
- **Women Farmers:** At least **30% of the scheme funds** are earmarked for women beneficiaries.
- **Kisan Drones:** Promotes drone adoption by providing financial assistance, including **up to ₹10 lakh per drone** for **ICAR institutes, Krishi Vigyan Kendras (KVKs), and State Agricultural Universities**, and **75% grant support for** FPOs.

About Rashtriya Krishi Vikas Yojana (RKVY)

- **Launched:** 2007.
- **Ministry:** Ministry of Agriculture & Farmers' Welfare.
- **Type:** Centrally Sponsored Scheme
- **Objective:** Promote holistic agricultural development by increasing public investment, improving productivity, strengthening infrastructure, and enhancing farmers' income.
- Provides **flexibility to States** to design agriculture and allied sector projects based on local needs.

- Focuses on **farm mechanization, value addition, agri-innovation, agri-startups, and post-harvest infrastructure**.

AN/FPS-115 PAVE PAWS RADAR SYSTEM

Context

Taiwan's **AN/FPS-115 PAVE PAWS** radar system was instrumental in tracking China's recent **ballistic missile launch over** the South China Sea, highlighting its long-range missile detection capabilities.

About AN/FPS-115 PAVE PAWS

- It is an **ultra high-frequency (420–450 MHz) phased-array radar** designed primarily to detect and track **submarine-launched ballistic missiles (SLBMs)**.
- The system was developed by **Raytheon**, a U.S. defence contractor.
- In addition to ballistic missiles, it can monitor **aircraft, cruise missiles, and maritime movements**.
- Capable of detecting targets with a **10 m² radar cross-section** at distances of up to **3,000 nautical miles (about 5,600 km)**.

Phased-Array Technology

- Unlike conventional **mechanically rotating radars**, the PAVE PAWS radar uses **fixed phased-array antennas mounted** on the exterior of the radar structure.
- It directs the radar beam electronically by adjusting the **phase of transmitted and received signals**, eliminating the need for mechanical movement.
- This enables **continuous surveillance over large areas** and allows the radar to **detect, track, and monitor multiple targets simultaneously** with high speed and accuracy.

PRATAPGAD FORT

Context

The Maharashtra Government has approved ₹1 crore for the first phase of a memorial dedicated to Veer Jivaji Mahale at the foothills of Pratapgad Fort.

About Pratapgad Fort

- **Pratapgad** is a historic **hill fort** located in the **Satara district of Maharashtra**.
- The fort was commissioned by **Chhatrapati Shivaji Maharaj**, who entrusted its construction to his Prime Minister **Moropant Pingle**.
- Completed in **1656**, it was built to safeguard the **Nira** and **Koyna** river valleys and to secure the **Par Pass**.
- The fort is renowned as the site of the **Battle of Pratapgad (1659)**, where Shivaji Maharaj defeated **Afzal Khan**, a decisive victory that established Maratha power in the Deccan.

- During the **Battle of Pratapgad**, Veer Jivaji Mahale is believed to have saved Shivaji Maharaj by killing **Afzal Khan's bodyguard** during the confrontation. Following the battle, the **Afzal Buruj (Afzal Tower)** was constructed as a watchtower.
- The battle also accelerated the decline of the **Bijapur Sultanate**, which was later annexed by the Mughals in **1686**.
- The fort hosts **Shiv Pratap Din** every **10 November** to commemorate the Maratha victory in the **Battle of Pratapgad (1659)**.
- In **1818**, the fort came under British control after the Marathas were defeated in the **Third Anglo-Maratha War**.
- The fort is divided into **Upper Fort** and **Lower Fort** sections.
    - **Upper Fort** contains several structures, including the **Mahadev Temple**.
    - **Lower Fort** houses the **Bhavani Temple**, where tradition states that Shivaji Maharaj received the blessings of Goddess Bhavani before his campaigns.
- A **17-foot-tall bronze statue of Shivaji Maharaj** was unveiled by **Jawaharlal Nehru** on **30 November 1957** in honour of the Maratha ruler.

Mains Exam Topics

INDIA'S DEFERRED FUTURE AND DEMOGRAPHIC WINDOW

Context:

A recent analysis has raised concerns that India's demographic dividend is being undermined, risking the loss of a once-in-a-generation demographic opportunity.

How is India Failing to Harness its Demographic Dividend?

- **Inter-State Demographic Divergence:** India's demographic dividend is increasingly concentrated in northern states with weaker human capital and employment opportunities, while southern states are entering demographic ageing.
    - E.g. Uttar Pradesh and Bihar retain younger populations, whereas Kerala and Tamil Nadu are witnessing rising old-age dependency.
- **Persistent Skill Deficit and Industry–Academia Disconnect:** Weak alignment between education, vocational training and industry needs has limited workforce employability and productivity.
    - E.g. About 3% of India's workforce has received formal vocational training.
- **Discouraged Worker Effect and Educated Unemployment:** Official unemployment rates often mask the true extent of labour market distress by excluding discouraged workers who have stopped looking for jobs. Moreover, the shortage of quality employment opportunities has resulted in rising unemployment even among educated youth, reflecting weak employment elasticity and skill-job mismatch.
    - E.g. The India Employment Report 2024 notes that youth account for nearly 83% of India's unemployed, with unemployment increasing alongside educational attainment.
- **Stalled Structural Transformation:** India has not generated sufficient labour-intensive manufacturing employment, resulting in jobless growth, disguised unemployment and expansion of informal work.
    - E.g. Over 30 crore workers are registered on the e-Shram portal, reflecting the predominance of informal employment.
- **Underutilisation of Female Workforce:** Rising female labour-force participation has not translated into adequate formal and productive employment, limiting the demographic dividend.
    - E.g. Recent PLFS data shows higher female labour-force participation, but much of the increase is concentrated in unpaid family work and self-employment rather than regular wage employment.

What are the Governance and Social Bottlenecks in Harnessing India's Demographic Dividend?

Governance Bottlenecks

- **Public Sector Aspirations and Lost Productive Years:** The shortage of quality private-sector jobs, coupled with delayed public recruitment, traps millions of youth in prolonged exam preparation, reducing their productive years.
    - **E.g.** Recruitment for many Central and State government jobs extends over **3–4 years** due to administrative delays and litigation.
- **Myopia in Public Expenditure:** Short-term political incentives often favour visible announcements over sustained investments in education, healthcare, skilling and employment generation.
    - **E.g.** Welfare and infrastructure announcements often receive greater political attention than long-term investments in public schools, primary healthcare and vocational institutions.
- **Weak Human Capital Formation:** Persistent deficits in nutrition, healthcare and foundational learning reduce the cognitive and physical capabilities of the future workforce, limiting productivity and innovation.
    - **E.g. NFHS-5 (2019–21)** reports **35.5%** of children under five are stunted and **67.1%** are anaemic.

Social Bottlenecks

- **Casualisation and Gigification of Labour:** The rapid expansion of gig and contractual work has increased labour market flexibility but weakened job security, employer-sponsored skilling and social protection.
    - **E.g. NITI Aayog's India's Booming Gig and Platform Economy (2022)** projects India's gig workforce to increase from **7.7 million (2020–21)** to **23.5 million by 2029–30**.
- **Inter-generational Transmission of Poverty:** Limited access to quality education and stable employment restricts upward social mobility, particularly for first-generation learners and economically weaker sections.
    - **E.g.** Financial constraints often force disadvantaged youth to discontinue higher education or abandon competitive examinations.
- **Gendered Barriers to Economic Participation:** Women continue to face barriers in accessing productive employment due to unpaid care responsibilities, workplace safety concerns and occupational segregation.

Way Forward

- **Promote Labour-Intensive Industrialisation:** Shift from capital-intensive growth towards employment-intensive manufacturing by incentivising MSMEs and labour-intensive sectors through Employment-Linked Incentives (ELIs).
    - **E.g.** Promote sectors such as textiles, footwear, food processing and electronics assembly under the **Employment Linked Incentive (ELI) Scheme**.
- **Strengthen Industry-Linked Skill Development:** Reform Skill India and PMKVY by integrating vocational education with industry demand, apprenticeships and lifelong learning.
    - **E.g.** Leverage the **National Credit Framework (NCrF)** and adopt **Germany's dual apprenticeship model** to improve employability.
- **Unlock Women's Economic Participation:** Expand investments in childcare, safe transport, flexible work arrangements and women-intensive industries to increase access to quality formal employment.
    - **E.g.** Strengthen public crèches under **Palna**, improve workplace safety, and promote women-led employment in textiles and electronics manufacturing.
- **Strengthen Social Protection for the New Economy:** Extend social security, insurance and skill development to gig and platform workers through a dedicated welfare architecture.
    - **E.g.** Implement the **Code on Social Security, 2020** and draw lessons from the **Rajasthan Platform Based Gig Workers (Registration and Welfare) Act, 2023**.
- **Institutionalise Outcome-Oriented Governance:** Improve public service delivery through time-bound recruitment, outcome budgeting, social audits and timely completion of projects to maximise returns on public investment.
    - **E.g.** Kerala's **People's Plan Campaign** demonstrates how decentralised planning and community oversight can improve accountability.
- **Promote Human Capital-Oriented Welfare:** Redesign welfare schemes to build long-term human capital by linking benefits with education, health and skill development outcomes.
    - **E.g.** Brazil's **Bolsa Família** uses **Conditional Cash Transfers (CCTs)** tied to school attendance and health check-ups to break inter-generational poverty.