Prelims Exam Topics

SUWORI FESTIVAL

Context

The 114th Annual Suwori Festival was celebrated with traditional fervor in April 2026 at Boko (Kamrup district, Assam), coinciding with the 7th day of the Rongali Bihu festivities.

About Suwori festival

- The Suwori festival (also spelled Suwari) is a century-old spring festival that serves as a unique "melting pot" of indigenous cultures in Lower Assam and parts of Meghalaya.
- **Theme:** It is primarily a harvest and spring festival, celebrating the onset of the Assamese New Year and agricultural prosperity.
- **Participating communities:** Primary Communities: Rabha, Bodo, and Garo; Other Participants: Koch-Rajbongshi, Gorkha, and various Assamese castes
- **Major Cultural Highlights**
    - **Hana Ghora Dance:** The centerpiece of the festival.
        - **Mythology:** Relates to Lord Shiva's journey. Legend says Shiva encountered the **Hana (Garo)** people; Goddess Kali also visited on horseback.
        - **Performance:** A horse made of bamboo and cloth (Hana Ghora) is danced by performers accompanied by drums and a *Kodal* (spade).
    - **Paro Bah:** Known as the "younger sister" of Hana Ghora. It is a decorated long bamboo pole wrapped in colorful cloth, taken to every house in the village to offer blessings.
    - **Traditional Sports:**
        - Oiled Bamboo Climbing
        - Elephant and Horse Races
        - Tug of War
        - Earthen Pot Run

Bihu

- Bihu is not a single event but a set of three festivals celebrated throughout the year, marking different stages of the agricultural cycle:
    - Rongali (Bohag) Bihu in April (the Assamese New Year and sowing season),
    - Kati (Kongali) Bihu in October (a solemn period of protection for the crops), and
    - Magh (Bhogali) Bihu in January (the harvest festival marked by feasting).
- The festival is characterized by the Bihu Dance, known for its rapid hand movements and rhythmic swaying, traditionally performed in "Mehekia" (red-bordered) Muga silk sarees and Gamusas.
- Key musical instruments include the Dhol (drum), Pepa (horn made from buffalo horn), Gogona (jew's harp), and Baahi (flute).

PREDICTIVE MODELING OF FOREST CARBON SEQUESTRATION IN INDIA (2100)

Context

A recent longitudinal modeling study indicates that under high-emission scenarios, enhanced precipitation and CO2 fertilization could nearly double the carbon storage capacity of India's forests by the end of the century.

Carbon Biomass Projections and Emission Pathways

- The study uses advanced modelling to estimate "vegetation carbon biomass" through 2100. While all scenarios remain similar until 2030, they diverge sharply afterward:
    - **Low-Emissions Future:** Projected **35%** increase in biomass.
    - **Medium-Emissions Pathway:** Projected **62%** increase.
    - **High-Emissions (Fossil-Fuel Intensive):** A staggering **97%** increase.
    - **Timeline:** The steepest acceleration in carbon storage is expected to occur **after 2050**.

Determinants of Biomass Accumulation

- **Increased Precipitation:** Higher projected rainfall across India provides more moisture for tree growth. However, there is a **lag effect**: forests respond to rainfall shifts after approximately two years (low/medium emissions) to four years (high emissions).
- **CO2 Fertilization:** Elevated atmospheric carbon dioxide enhances the rate of photosynthesis and improves the water-use efficiency of plants.
- **Woody Biomass Accumulation:** Because wood accumulates slowly, the gains in carbon storage represent long-term structural changes in forest density.

Regional Variability

- **Arid and Semi-Arid Margins:** The highest relative gains (over 60%) are projected for desert and semi-arid zones in **Rajasthan, Gujarat, and Western Madhya Pradesh**, driven by shifts in moisture availability.
- **Biodiversity Hotspots (Himalayas & Western Ghats):** These regions show the lowest relative increases. Researchers hypothesize this is due to **ecological saturation** (carrying capacity) and specific localized climatic stressors that inhibit further rapid expansion.
- **Secondary Growth Zones:** Significant sequestration potential was also identified in the Trans-Himalayas and the Gangetic forest belt.

Concerns

- **Sink-to-Source Reversal:** Rapid biomass accumulation in warming climates faces increased vulnerability to **wildfires, droughts, and heatwaves**, which could trigger the sudden release of stored carbon.
- **Exogenous Disruptions:** The current models assume intact ecosystems and do not account for anthropogenic pressures such as **deforestation, land-use conversion, or pest infestations**.
- **Ecosystem Resilience:** The projected gains may mask underlying physiological stresses, potentially compromising the long-term stability of India's primary carbon sinks.

MICROPLASTICS AND CARBON CYCLE ALTERATIONS IN THE BAY OF BENGAL

Context

A study by IISER Kolkata reveals that microplastics in the Sundarbans are acting as a "novel carbon reservoir," releasing dissolved and biogenic carbon that threatens the efficiency of this critical blue-carbon ecosystem.

Microplastics in the Sundarbans Delta

- **Concentration Levels:** Microplastic levels ranged from **5 to 58 particles per liter**.
- **Seasonal Surge:** Concentrations were **40% higher during the monsoon**, as heavy rainfall washed urban plastic waste and "colorless fragments" (weathered plastic) into the estuary.
- Common Sources and Material Types: The study identified the specific types of plastic polluting the Mooriganga estuary:
    - **Fibers (50%):** Predominantly sourced from synthetic textiles.
    - **Fragments:** Derived from broken-down larger items.
    - **Chemical Composition:** The most common materials found were **Polypropylene** (packaging) and **Polyethylene Terephthalate** (water bottles).
- **Plastispheres:** The researchers discovered complex microbial communities, known as "plastispheres," living within the pits and grooves of the plastic particles.

Impact on Carbon Budget

- **Leaching Carbon:** As they weather, they release **dissolved organic carbon (DOC)** into the water.
- **Biogenic Carbon:** Microbes living on the plastic produce their own carbon, further adding to the "novel carbon reservoir."
- **Bacterial Growth:** This influx of plastic-derived carbon allows bacteria to multiply at unnaturally fast rates, interfering with the natural food web.

Impact on Blue-Carbon Ecosystems

- **Reduced Efficiency:** The introduction of artificial carbon from plastics may make mangroves less efficient at their natural carbon-sequestering role.
- **Ecosystem Integration:** Microplastics have now become a significant, permanent component of the Sundarbans' carbon cycle, potentially shifting the ecological balance of the region.

Sundarban Delta

- **World's Largest Delta:** Formed by the confluence of the **Ganga, Brahmaputra, and Meghna** rivers, spanning approximately 10,000 sq.km across India (West Bengal) and Bangladesh.
- It is the world's largest contiguous **mangrove forest**. The name is derived from the **Sundari tree** (*Heritiera fomes*), a mangrove species known for its specialized roots called

pneumatophores (breathing roots)

- **Global Recognition: UNESCO World Heritage Site, Ramsar Site, Biosphere Reserve**

Mooriganga Estuary

- It is a distributary of the Hooghly River (Ganga) in the South 24 Parganas district of West Bengal. It separates the mainland from Sagar Island.
- It serves as a vital nursery for **Hilsa fish** and other commercially important marine species.
- The estuary is highly influenced by **semidiurnal tides**, leading to constant mixing of freshwater and saline seawater, which creates a nutrient-rich environment.

ETHANOL 85 (E85)

Context

Amid geopolitical vulnerabilities in West Asia, the Indian government is set to notify draft regulations for Ethanol 85 (E85), a high-blend alternative fuel expected to roll out within the next two years.

About E85 Fuel

- E85 is a high-concentration ethanol-gasoline blend designed to significantly reduce dependence on fossil fuel imports.
- **Composition:** A mixture consisting of up to **85% ethanol** and **15% petrol** (gasoline).
- **Distinct Grade:** Unlike the current E20 target (20% ethanol), E85 will be introduced as a separate fuel grade.
- **Engine Versatility:** Vehicles designed for E85 are often referred to as **Flex-Fuel Vehicles (FFVs)**. These engines are capable of running on E85 as well as lower blends like E50 or E60.

Significance

- **Energy Security:** High-level blending acts as a buffer against volatile oil prices and supply chain disruptions caused by global conflicts (e.g., the West Asia crisis).
- **Emission Reduction:** Ethanol is a cleaner-burning fuel; higher blends lead to a substantial decrease in tailpipe emissions, particularly carbon monoxide and particulate matter.
- **Agricultural Support:** Increased demand for ethanol benefits farmers by providing a stable market for sugarcane, maize, and damaged food grains used in ethanol production.

Implementation Challenges

- **Dedicated Hardware:** Standard internal combustion engines (ICE) cannot run on E85 due to ethanol's corrosive nature and different combustion properties. Manufacturers must produce engines with compatible fuel lines, seals, and engine mapping.
- **Dual Infrastructure:** Fuel stations will need dedicated storage tanks and separate dispensing units for E85, distinct from existing E20 or unblended petrol pumps.
- **Cost Implications:** While ethanol is typically cheaper than petrol, the specialized engine technology and infrastructure upgrades may involve initial capital costs.

MARINE SPATIAL PLAN: ODISHA'S BLUE ECONOMY BLUE-PRINT

Context

The Odisha government has signed a Memorandum of Understanding (MoU) with the National Centre for Coastal Research (NCCR) to launch a Marine Spatial Plan (MSP), making it the first state in India to implement such a framework in the second phase of sustainable ocean planning.

About Marine Spatial Planning (MSP)

- According to the Intergovernmental Oceanographic Commission (IOC) of **UNESCO**, MSP is defined as a public, political process.
- **Core Function:** Analyzing and allocating the spatial and temporal distribution of **human activities** in marine areas.
- **Triple Bottom Line:** Aims to achieve balanced **ecological, economic, and social objectives**.
- **Goal:** To manage coastal and marine areas sustainably, boosting the **blue economy** while strengthening **climate resilience**. It specifically helps with: Port development, Setting up industries & Sustainable utilization of marine energy and economic activities.

Marine Spatial Planning rationale for Odisha

- **Extensive Coastal Ecosystems:** Odisha's **550-km coastline** hosts globally sensitive zones, including **Chilika Lake** (India's largest lagoon) and the **Bhitarkanika mangroves**.
- **Scientific Resource Management:** The **Marine Spatial Plan (MSP)** balances competing demands across **fisheries, tourism, maritime trade**, and **ocean energy** sectors.
- **Resilient Blue Economy:** The plan drives economic growth while ensuring the sustainable use of marine resources to maintain long-term **ecosystem health**.

Associated Initiative: OMBRIC

- Launched in August 2025, the **Odisha Marine Biotechnology Research and Innovation Corridor (OMBRIC)** runs parallel to the MSP efforts.
- **Objective:** To promote the use of biotechnology for **marine environmental protection** and economic development.
- **Key Goals:**
    - Support the growth of **marine biotech startups** and enterprises.
    - Conduct research in the fields of ecology protection and scientific tourism.
    - Provide livelihood support to the coastal population.

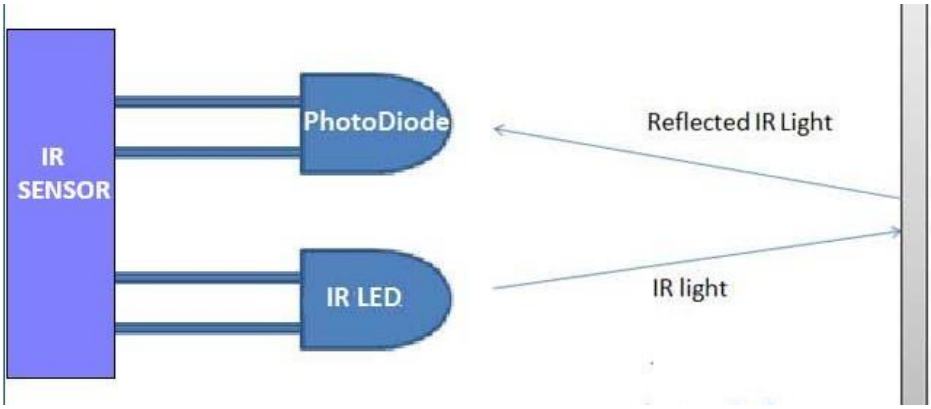
LED SENSOR (IR SENSOR)

Context

- Modern automation systems like **automatic taps, doors, remotes and sanitiser dispensers** use LED-based sensors.

How LED Sensor Works

- **IR Light Emission:** An **IR LED emits invisible infrared light (below visible red frequency)** into the surroundings.
- **Transmission of Light:** The emitted IR waves travel forward and normally **do not return to the sensor without an object**.



- **Reflection from Object:** When an object (hand/person) comes near, it **reflects IR light back toward the sensor**.
    - *E.g. hand under automatic tap reflects IR rays*
- **Detection by Photodiode:** A **photodiode sensor detects reflected IR light and allows current flow (acts like a switch)**.
- **Signal Processing & Activation:** The electrical signal activates the connected system, triggering action.
    - *E.g. water flows, door opens, device switches ON.*

Applications in Different Areas

- **Consumer Electronics (Remotes):** IR LED sends coded signals which are received by sensors in devices.
    - E.g. TV remote transmits IR signal ⟶ TV sensor decodes ⟶ channel changes)
- **Smart Sanitation Systems:** Used in automatic taps, soap dispensers and dryers for hygiene.
    - E.g. hand reflection triggers water flow without touch
- **Automatic Doors & Elevators:** Detect human presence to enable entry/exit.
    - E.g. approaching person reflects IR ⟶ door opens automatically)
- **Security Systems:** Used for motion detection and alarms.
    - E.g. movement alters IR signal ⟶ triggers alert system
- **Industrial Automation:** Detects objects in manufacturing processes.
    - E.g. items on conveyor belt reflect IR ⟶ counted or sorted automatically
- **Smart Devices (Proximity Sensors):** Used in smartphones and gadgets.
    - E.g. phone screen turns off when face is detected during calls
    - LED-based IR sensors operate on a simple principle of **light emission and reflection**, enabling **fast, contactless and reliable automation** across sectors. They form the backbone of modern **smart systems, hygiene solutions and intelligent devices**.

INDIA–SOUTH KOREA BILATERAL MEETING

Context

- Prime Minister Narendra Modi and President Lee Jae Myung held talks to upgrade the **India–South Korea Partnership**.

Key Agreements / Outcomes of the Meeting

- **Trade Expansion Target:** Both countries aim to increase bilateral trade from **~$27 billion to $50 billion by 2030**, signalling deeper economic integration.
- **CEPA Upgradation:** Decision to resume negotiations to upgrade the **Comprehensive Economic Partnership Agreement (CEPA, 2010)** to improve trade and investment conditions.
- **Digital Cooperation (India–Korea Digital Bridge):** Launch of digital partnership focusing on **AI, semiconductors and IT**, strengthening future technology collaboration.
- **Industrial & Financial Cooperation:** Establishment of **India–Korea Financial Forum and Industrial Cooperation Committee** to boost investments and business ties.
- **Supply Chain & Economic Security:** Initiation of **Economic Security Dialogue** to enhance cooperation in critical technologies and resilient supply chains.
- **Shipbuilding & Maritime Cooperation:** Agreement to collaborate in **shipbuilding, shipping and maritime logistics**, combining Korean technology with Indian policy support.
- **Energy & Resource Stability:** Cooperation to ensure **stable supply of energy resources and key commodities**, especially amid global conflicts.
- **Global & Strategic Cooperation:** Joint commitment to **peace, stability and reform of global institutions**, along with cooperation in **Indo-Pacific initiatives (ISA, IPOI)**.
- **Cultural Cooperation:** Plans for **Mumbai Korea Centre (K-pop hub)** and **India–Korea Friendship Festival (2028)** to strengthen people-to-people ties.
- **SME & Business Facilitation:** Proposal to establish **Korean Industrial Township in India** to support entry of Korean companies, especially SMEs.
- **Strategic Outcome:** The meeting marks a shift from traditional cooperation to a **future-oriented partnership (chips to ships, culture to technology)**, enhancing economic, technological and geopolitical alignment between India and South Korea

IMPLEMENTATION OF INDO–SRI LANKA ACCORD

Context:

- Sri Lanka's Tamil parties have urged India to ensure full implementation of the **Indo–Sri Lanka Accord (1987)**, stating that its spirit remains unfulfilled even today.

More about he News:

- Tamil leaders argue that despite decades, **meaningful power-sharing has not been realised**, with key provisions like land and police powers still not devolved.
- The issue remains sensitive due to **Sinhala-majoritarian opposition and concerns over sovereignty**, while Tamil groups demand a **federal-style arrangement within a united Sri Lanka**.

About the Indo–Sri Lanka Accord (1987)

- **Agreement Overview:** The Indo–Sri Lanka Accord was a bilateral treaty signed in 1987 by Rajiv Gandhi and J. R. Jayewardene to resolve the ethnic conflict between Tamils and Sinhalese.
- **Objective:** The Accord aimed to ensure **peace, unity of Sri Lanka and political solution through devolution of power to Tamil-majority regions**.
- **13th Amendment:**

- The accord led to the **13th Constitutional Amendment**, creating **Provincial Councils for power-sharing across all 9 provinces** (including Northern & Eastern provinces).
- **Devolution of Powers:** Subjects like **education, health, agriculture, housing, land and police** were intended to be transferred to provincial governments, ensuring local self-governance.
- **Merger Proposal:** Proposed **temporary merger of Northern and Eastern provinces** (Tamil-majority areas) to address regional aspirations (later reversed).

- **Indian Role:** India acted as a **guarantor of Tamil rights and political settlement**, reflecting its strategic and regional interests.

Significance of the Accord & 13th Amendment

- **Political Solution Framework:** It remains the **only constitutional mechanism addressing Tamil autonomy demands** in Sri Lanka.
- **Devolution Model:** Provides a **limited federal-type structure within a unitary state**, ensuring some regional governance.
- **India–Sri Lanka Relations:** Serves as a **key pillar of bilateral relations and India's regional diplomacy**.

Issues & Non-Implementation

- **Incomplete Devolution:** Critical powers like **police and land have never been fully implemented**, limiting effectiveness of provincial councils.
- **Centralised Control:** Strong powers of the **Sri Lankan President override provincial autonomy**, weakening decentralisation.
- **Sinhala Opposition:** Nationalist groups oppose it, viewing it as **threat to unity and Indian interference**.
- **Tamil Dissatisfaction:** Tamil groups argue that councils lack **real authority and meaningful autonomy**.
- **Political Delays:** Provincial councils have been **inactive for years (no elections)**, further weakening the system.

Mains Exam Topics

PUSH FOR SUSTAINABLE AVIATION FUEL (SAF)

Context

- The International Air Transport Association (IATA) has emphasised that India must **prioritise biofuels for aviation**, as sectors like road transport have alternatives (e.g. electrification), while aviation does not.

About SAF

- **Definition:** SAF is a **low-carbon aviation fuel made from sustainable sources (waste, biomass, CO_2)** that reduces emissions.
- **Drop-in Fuel:** SAF has similar chemical properties to conventional jet fuel and can be used in existing aircraft without modification.
    - *E.g. blended with conventional jet fuel up to 50% today*
- **Feedstock Sources:** Derived from **waste oils, crop residue, municipal waste, algae, industrial CO_2**.
- **Different from Traditional Biofuel:** SAF avoids first-generation biofuels derived from food crops (corn, sugarcane) to prevent food security issues and environmental stress.

Types of SAF

- **Waste Oils & Fats:** Made from used cooking oil and animal fats, currently the most common feedstock.
- **Municipal Solid Waste (MSW):** Produced from household and commercial waste, reducing landfill and pollution.
- **Cellulosic Biomass:** Derived from agricultural and forestry residues using chemical conversion processes.
- **Energy Crops (Non-food):** Crops like **camelina and jatropha** grown on non-arable land, avoiding food competition.
- **Algae-based SAF:** Uses **fast-growing algae** with high oil yield, promising but still developing.
- **Power-to-Liquid (PtL):** Made from **captured CO_2 and green hydrogen**, offering long-term sustainable supply.
- **Halophytes:** Use of Salt-tolerant plants grown in saline areas, requiring minimal freshwater.
- **Alcohol-to-Jet (AtJ):** Converts **ethanol into jet fuel**, important for ethanol-rich economies like India.

Benefits of SAF

- **Emission Reduction:** SAF can reduce lifecycle emissions by ~70–80% (up to 100% potential), making it crucial for achieving net-zero aviation targets.
- **Waste Utilisation:** SAF converts waste materials into fuel, reducing landfill burden and environmental pollution (e.g. municipal solid waste ⟶ jet fuel).
- **Energy Security:** SAF reduces dependence on imported crude oil and promotes domestic fuel production using local resources.
- **Economic Benefits:** SAF supports rural economies and job creation (~14 million jobs globally) by creating value chains for agricultural residue and biomass (e.g. farmers supplying crop waste).
- **Infrastructure Compatibility:** As a drop-in fuel, SAF enables faster transition without requiring new aircraft or fuel systems.

Key Challenges

- **High Cost:** SAF is currently 3–5 times more expensive than conventional jet fuel, increasing airline operational costs and potentially airfares.
- **Feedstock Allocation:** Limited feedstock like ethanol must be prioritised, as competing sectors (road transport) can divert resources despite aviation having fewer alternatives.
- **Supply Constraints:** Scaling up production requires large volumes of sustainable feedstock and low-carbon energy sources.
- **Policy & Regulatory Gaps:** Lack of strong incentives, mandates and clear frameworks slows adoption and industry scaling.
- **Technological Limitations:** Advanced production pathways (e.g. algae, power-to-liquid) are still developing and not yet commercially viable at scale.

SAF Roadmap of India

- **Blending Targets:** India aims for phased SAF adoption with 1% blending by 2027, 2% by 2028 and 5% by 2030 aligned with global climate commitments.
- **Feedstock Utilisation:** Leveraging India's large biomass (~750 MMT) and agricultural residue (~230 MMT) to build domestic SAF capacity.
- **Domestic Production:** Developing refining and certification infrastructure (e.g. Panipat refinery as first SAF producer) to support local manufacturing.
- **Policy Framework:** Establishing supportive policies, incentives and regulatory mechanisms to scale production and ensure feedstock allocation.
- **Global Alignment:** Aligning with international frameworks like ICAO and CORSIA for emission reduction and sustainable aviation growth.

FIRE ERUPTED AT RAJASTHAN OIL REFINERY

Context

- A major fire broke out at the HPCL Rajasthan Refinery Limited (HRRL) complex in Balotra, just before its inauguration.,

More about the news:

- The fire occurred near the **Crude Distillation Unit (CDU)** due to a hydrocarbon leakage in a valve/flange system. CDU is:
    - First and most critical unit in refinery
    - Separates crude oil into fractions like petrol, diesel, kerosene, LPG
    - Feeds further processing units. Any disruption in CDU can affect entire refinery operations.

About HPCL Rajasthan Refinery complex

- Located at **Pachpadra (Balotra district)**
- Developed by **HPCL Rajasthan Refinery Limited**, a JV of Hindustan Petroleum Corporation Limited (74%) and Rajasthan Govt (26%)
- **Integrated Refinery and Petrochemical Complex:** Combines fuel refining + petrochemical production (higher value addition). **It** produces key products:

- Polypropylene
- LLDPE/HDPE (plastics)
- Butadiene, Benzene, Toluene ⟶ Used in plastics, textiles, packaging, chemicals industries.

Rajasthan Oil and Gas Fields

- Rajasthan is India's largest onshore crude oil producer, mainly from the Barmer–Sanchore basin. Rajasthan is also a major onshore natural gas producer (2nd largest).
- **Production and Reserves**
  - **Crude Oil:** ~150 million barrels proven reserves in Barmer basin
  - **Resource Potential:** Estimated 4–7+ billion barrels oil equivalent (in-place)
  - **Natural Gas:** ~10.8 BCM reserves across Rajasthan basins

Barmer–Sanchore Basin (Core Region):

- Located in western Rajasthan (Barmer, Jalore districts)
- One of the largest inland hydrocarbon discoveries in India (2000s)

Major Oil Fields

Mangala Field:

- India's largest onshore oil field
- Part of Mangala–Bhagyam–Aishwariya (MBA) cluster
- Peak production ~200,000 barrels/day

Bhagyam & Aishwariya Fields:

- Major supporting fields in Barmer basin
- Significant contribution to India's crude output

Other Fields:

- Saraswati, Raageshwari, Kameshwari, Shakti etc.
- Total ~38 discovered oil fields in basin

Natural Gas Fields

- **Raageshwari Deep Gas (RDG):**
  - Major gas-producing field
  - Supplies gas for power generation and industry
- **Jaisalmer Gas Fields:**
  - Production from Tanot-Dandewala and Shahgarh areas
  - Estimated reserves ~10.8 BCM natural gas

Production Techniques

- **Conventional Extraction:** Standard drilling and pumping in major fields
- **Enhanced Oil Recovery (EOR):**
  - **Techniques:** like Cyclic Steam Stimulation (CSS) used for heavy oil. It improves recovery from mature fields like Baghewala
- **Artificial Lift Systems:** Use of Sucker Rod Pumps (SRP) to extract oil from wells.

THE ENIGMA OF LIMITED URGENCY IN ADDRESSING LEARNING DEFICITS

Context

India continues to grapple with a severe learning crisis, consistently highlighted by the Annual Status of Education Reports (ASER). Although recent progress and policy efforts especially those targeting Foundational Literacy and Numeracy (FLN) are noteworthy, they have not translated into a sense of urgency at the grassroots. A central reason can be traced to the idea of *salience*, how far an issue is acknowledged, given priority, and translated into action by society.

Role of salience in Public Policy

- **Outcomes**: Salience determines whether policies lead to meaningful outcomes. Systemic transformation depends not only on sound design or increased funding but also on collective acknowledgment and ownership of the issue.
    - **Eg:** Vietnam achieved impressive learning outcomes despite limited resources, as noted in research by the RISE Programme. This success was attributed to a strong societal commitment to education and a shared willingness to prioritise learning.
    - In contrast, India's initiatives, including the National Education Policy (2020) and the NIPUN Bharat Mission, have yet to generate similar urgency at the local level.
- **Disconnect Between Policy and Practice:** Despite clear policy emphasis on FLN, implementation remains weak on the ground.
    - Discussions in schools and communities often revolve around infrastructure such as buildings, sanitation, and teacher shortages rather than actual learning outcomes.
    - This suggests that learning has not yet become a central concern for local stakeholders.

Reasons for low salience

- **Invisible Nature of Learning:** Learning deficits are not easily observable. Unlike physical shortcomings, gaps in comprehension often go unnoticed, and classroom processes may create a false impression of progress.
- **Weak Accountability Mechanisms:** Children lack agency, and many parents cannot adequately assess learning. Centralised decision-making and limited local authority further weaken accountability. Additionally, middle-class migration to private schools reduces pressure on public systems.
- **Underestimation of the Problem**: Even informed stakeholders frequently misjudge the scale of the crisis. Data on poor learning outcomes is often surprising or dismissed, hindering effective response.
- **Blurred Responsibility**: There is a common belief that while schooling is the state's duty, learning depends on the child or family. This overlooks systemic factors like teaching quality and curriculum design.
- **Psychological and Political Constraints**: Accepting the crisis can be difficult for policymakers and educators who have prioritised expanding access. Politically, acknowledging widespread learning gaps may carry risks, leading to hesitation.
- **Sense of Fatalism:** A belief that systemic issues are inevitable discourages reform, despite evidence that improvement is achievable.

Way forward

- **Promote local-level assessments:** It allows parents and officials to directly observe learning levels, making the issue more tangible.
- **Clear communication**: Both the scale of the crisis and evidence-based solutions.
- **Scale up proven interventions**: Interventions such as Teaching at the Right Level and structured pedagogy.
- **Strengthen accountability frameworks**: It helps ensure responsibility at all levels.
- **Encourage community participation:** Also empowering local institutions to create bottom-up demand for change.

Conclusion

India's learning crisis is less about inadequate policy or resources and more about insufficient collective prioritisation. Without heightened salience, even well-designed initiatives fail to deliver results. Sustainable improvement will require making learning outcomes a shared societal priority, driven by coordinated efforts from communities, educators, and policymakers.

COLLECTORS RACE FOR INVESTMENTS

Context

At a recent conference in Andhra Pradesh, Chief Minister N. Chandrababu Naidu urged District Collectors to actively attract investments, complementing state-level bodies, while leading District Industries Promotion Committees to facilitate local industrial development.

Collectors as drivers of local investment

- **Expanded administrative role:** District Collectors are increasingly acting as facilitators of economic development, going beyond traditional administrative duties to actively promote industrialisation and investment.
- **Institutional coordination**: They function in alignment with state-level investment bodies while heading District Industries Promotion Committees, ensuring that policy objectives are translated into local outcomes.
- **Direct engagement with investors:** Collectors are expected to interact with entrepreneurs, identify investment opportunities, and encourage businesses to establish operations within their districts.
- **Improving administrative efficiency:** A key responsibility includes ensuring timely approvals, reducing procedural delays, and creating a more predictable environment for investors.

Significance

- **Decentralised economic development:** Empowering district-level administration promotes balanced regional growth by reducing dependence on a few major urban centres.
- **Utilisation of local potential:** Collectors possess detailed knowledge of district-specific strengths such as natural resources, land availability, and sectoral advantages, enabling targeted investment promotion.
- **Employment generation:** Increased investments at the district level contribute to job creation and local economic expansion.

- **Administrative accountability through ranking:** Performance-based ranking of districts based on investment, employment, and efficiency introduces measurable accountability and incentivises better governance.
- **Faster project implementation:** Delegation of monitoring responsibilities to local officials ensures early identification and resolution of issues, improving project completion rates.

Challenges associated

- **Unequal starting conditions:** Districts differ in terms of infrastructure, location, and resource endowments. Those near major cities or industrial hubs have inherent advantages over others.
- **Concerns over fair competition**: Ranking systems may not fully account for structural disparities, potentially disadvantageing less-developed districts.
- **Implementation gaps**: Attracting investment is only the first step; delays in providing infrastructure such as water, electricity, and connectivity can hinder actual project execution.
- **Administrative capacity constraints:** Expanding the role of Collectors may strain existing administrative capacity, especially in districts with limited institutional support.
- **Coordination challenges:** Effective collaboration between multiple departments and agencies is necessary, and any gaps can slow down decision-making.

Way forward

- **Balanced evaluation framework**: Ranking systems should incorporate contextual factors such as district capacity and resource constraints to ensure fairness.
- **Strengthening infrastructure support:** Investment promotion must be complemented by reliable provision of basic infrastructure to ensure smooth project execution.
- **Capacity building of local administration**: Training and institutional support should be provided to enable Collectors and local officials to effectively handle investment facilitation roles.
- **Sector-specific strategies**: Districts should focus on sectors suited to their strengths, such as renewable energy, MSMEs, IT, or tourism, rather than adopting a uniform approach.
- **Enhanced coordination mechanisms:** Streamlined communication between departments and clear allocation of responsibilities can improve efficiency.
- **Focus on execution, not just approvals**: Continuous monitoring and follow-up are essential to ensure that investment proposals are translated into operational projects.