Today's Prelims Topics

Assistance in Deploying Energy Efficient Technologies in Industries & Establishments (ADEETIE) scheme

Context

The **Power Ministry** is launching **ADEETIE—India's first scheme to support industries in adopting energy-efficient technologies**, boosting jobs, competitiveness, and climate goals.

ADEETIE Scheme

- **Launched by:** Bureau of Energy Efficiency (BEE), Ministry of Power.
- **Target:** Udyam-registered Micro, Small, and Medium Enterprises (MSMEs).
- **Aim:** Promote adoption of energy-efficient technologies to boost MSME competitiveness and support climate goals.
- **Support Provided:**
    - Financial aid through **interest subvention** (5% for Micro & Small, 3% for Medium Enterprises).
    - **Investment Grade Energy Audits (IGEA)** and **Detailed Project Reports (DPRs)**.
    - **Post-implementation Monitoring & Verification (M&V)**.
- **Eligibility:** Projects with potential to save at least **10% energy**.
- **Platform:** Dedicated **ADEETIE online portal** for project facilitation and financing.
- **Additional Focus:** Capacity building and technical assistance to MSMEs.

Source: HindustanTimes

97th Foundation Day of ICAR

Context

The **97th Foundation Day of ICAR** was celebrated in New Delhi, with the Union Agriculture Minister addressing both scientists and farmers.

About ICAR – Indian Council of Agricultural Research

- **ICAR** is India's apex autonomous body for agricultural research, education, and extension.
- **Founded:** 16 July 1929 (as the Imperial Council of Agricultural Research).
- **Reconstituted under:** Societies Registration Act, 1860.
- **Headquarters:** New Delhi.
- **Parent Body:** Department of Agricultural Research and Education (DARE).
- **President (Ex-Officio):** Union Minister of Agriculture.
- **Key Functions:**
  - **Research & Education:** Coordinates R&D in agriculture, fisheries, animal husbandry, home science, agroforestry, etc.
  - **Extension Services:** Disseminates innovations via publications, exhibitions, and outreach programs.
  - **Capacity Building:** Conducts exams and recruitment through ASRB; supports agricultural education and skill training.
  - **Collaboration:** Works with CSIR, BARC, and global partners for rural development and post-harvest tech.
  - **Policy Advisory:** Assists government in sustainable agriculture, innovation, and food security planning.

Major Initiatives at ICAR's 97th Foundation Day

- **Viksit Krishi Sankalp Abhiyan:** India's largest farmer-scientist dialogue.
  - Identified 500 research areas based on regional and crop-specific needs.
- **Field-Guided Research Agenda:** Farmer-priority-based research with a "One Team, One Goal" model.
- **Natural Farming Drive:** Promotes chemical-free, eco-friendly farming practices.
- **Fertilizer Testing Kits:** Portable kits for farmers to check soil and input quality; aims to curb adulteration.
- **Toll-Free Helpline:** For reporting fraud in seeds and fertilizers; targets over 30,000 unregulated bio-stimulants.
- **Ethical MoUs & Pricing Oversight:** Mandates fair pricing in ICAR-industry agreements to safeguard farmer interests.

Source: PIB

Bypoll Election

Context

The swearing-in of newly elected BJP and AAP MLAs in the Gujarat Assembly highlights the results of the June 2024 bypolls.

About Bypoll (Bye-Election) Elections

- **Bypolls (or bye-elections)** are elections held **to fill vacancies** in the legislature when a seat becomes **vacant before the normal term ends**.
- **Constitutional Provisions**
    - **Article 190(3)** and **Article 101(3)**: These articles deal with **vacancies** in the **State Legislature** and **Parliament**, respectively.
        - A seat becomes vacant if:
            - A member **resigns**.
            - A member is **disqualified**.
            - A member **dies**.
            - A member is **absent** for 60 consecutive days without permission.
    - **Representation of the People Act, 1951 (Section 151A)**:
        - Mandates that **by-elections must be held within 6 months** of the vacancy.
        - Exceptions:
            - If the remainder of the term is **less than 1 year**, or
            - If the **Election Commission (EC)**, in consultation with the **Centre**, certifies that holding the by-election is **not feasible**.
- **Who Conducts Bypolls?:**
    - **Lok Sabha/Rajya Sabha/Vidhan Sabha:** Conducted by the **Election Commission of India (ECI)**.
    - **Local Bodies (Panchayat/Municipal):** Conducted by the **State Election Commission (SEC)**.

Source: TheHindu

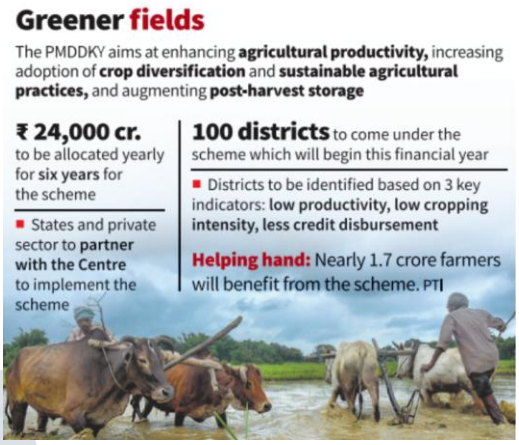
Govt. merges 36 schemes to float farm plan

Context

The government has launched the ***Prime Minister Dhan-Dhaanya Krishi Yojana (PMDDKY)*** by merging 36 existing schemes across 11 ministries to boost agricultural productivity and promote sustainable farming practices.

PM Dhan-Dhaanya Krishi Yojana (PMDDKY)

- **Announced in:** Union Budget 2025-26
- **Coverage:** 100 low-performing agricultural districts
- **Main Objectives of PMDDKY**
    - **Boost agricultural productivity** in underperforming districts.
    - **Promote crop diversification** and **sustainable farming** methods.
    - **Expand post-harvest storage** facilities at panchayat and block levels.
    - **Improve irrigation infrastructure** to ensure better water use.
    - **Enhance access to farm credit**, both long-term and short-term.



- **District Selection Criteria:**
    - Based on **3 key indicators**:
        - Low agricultural productivity
        - Moderate cropping intensity
        - Low credit access for farmers
    - **Cropping intensity**: Measures number of crops per year (India avg: 155% in 2021–22).
    - Each state/UT will have **at least one district**.
    - Final district count per state depends on:
        - Share of **net cropped area**
        - Number of **farming households**

Implementation Strategy

- Each district will create a **District Agriculture and Allied Activities Plan**.
- Plan to be prepared by **District Dhan Dhaanya Samiti**:
    - Headed by the District Collector
    - Includes progressive farmers
- Focus areas:
    - Crop diversification
    - Soil and water conservation
    - Organic and natural farming
    - Self-sufficiency in agri-allied sectors
- Plans will be **locally tailored** based on climate and cropping patterns.
- **Expert support** from agriculture universities (central and state).
- **Committees** at district, state, and national levels for planning and monitoring.
- **Central Nodal Officers (CNOs)** to monitor progress on ground.

Performance Monitoring and Ranking

- Modelled on **Aspirational Districts Programme (ADP)**.
- Based on **convergence**, **collaboration**, and **competition**.
- Districts ranked monthly on **117 Key Performance Indicators (KPIs)**.

    - KPIs include: agriculture, irrigation, infrastructure, financial inclusion, and skill development.
- **NITI Aayog** to provide guidance, capacity-building, and technical support.
- A **dedicated portal/dashboard** to monitor and display district-wise progress.

Source: TheHindu EconomicTimes

News in Short

Javelin ATGM

News? India has formally requested the U.S. **for co-production of Javelin anti-tank guided missiles** (ATGMs) within the country.

About Javelin Missile

- **Type:** American man-portable anti-tank guided missile (ATGM).
- **Developed by:** Raytheon and Lockheed Martin.
- **Purpose:** Designed to destroy heavily armored tanks, vehicles, bunkers, and low-flying helicopters.
- **Inducted:** Entered U.S. military service in 1996.

Source: TheHindu

India's first tribal genome project

News? Gujarat launched India's first Tribal Genome Sequencing Project.

About it

- **Implemented by:** Gujarat Biotechnology Research Centre (GBRC).
- **Objective:** Sequence genomes of 2,000 tribal individuals across 17 districts.
- **Focus:** Detect genetic markers for diseases like sickle cell anaemia, thalassemia, and cancer.

Source: TheHindu

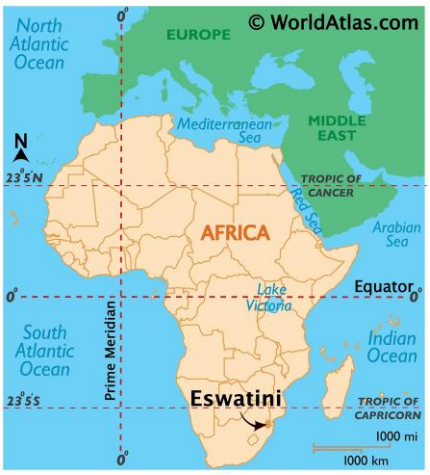
Also in News

➔ **Kaliyan**, a **traditional godly figure,** visits places in Kozhikode district of **Kerala.**
  - ◆ Often portrayed as a **divine warrior or fierce deity.**
  - ◆ People believe that Kaliyan's visit will **ward off hardships** during the **Malayalam month of Karkkidakam.**

➔ **Mauje (Moje) Puda Kapshi** was gifted by the artisans to the technical team of global fashion brand Prada.
  - ◆ It refers to a style of traditional **Kolhapuri chappal**—handcrafted leather sandals from Maharashtra

Places in News

Eswatini



News? U.S. deporting individuals to African nations (Eswatini and South Sudan) under a secretive program.

About Eswatini (formerly Swaziland)

- **Location**: A landlocked country in **Southern Africa**, bordered by South Africa and Mozambique.
- **Capital**: Mbabane (administrative), Lobamba (royal and legislative).
- **Name Change**: Renamed from **Swaziland to Eswatini** in 2018.

Source: IndianExpress

Editorial Summary

India needs to diversify its energy sources to keep trade deficit low

Context

India's energy security faces risks due to overdependence on select countries like Russia, prompting diversification efforts through renewables, strategic partnerships, and domestic production to ensure long-term resilience.

India's Dependency on Foreign Countries for Energy Sector

- **Oil**: India imports nearly **85% of its crude oil** needs.
  - **Top suppliers**:
    - **Russia** (~36% of India's imports as of 2025)
    - **Iraq, Saudi Arabia, UAE** (traditional suppliers from West Asia)
  - Shift to Russia was driven by discounted crude post-Ukraine war.
- **Natural Gas (LNG)**: Around **50% of India's gas** needs are met through imports.
  - Key suppliers: **Qatar**, **U.S.**, **Australia**, **Russia**
- **Coal**: Despite being a major coal producer, India imports coal for quality and blending reasons.
  - Main sources: **Indonesia**, **Australia**, **South Africa**
- **Renewables & Uranium**: Uranium imports come from **Kazakhstan**, **Canada**, and **Australia** for nuclear power.

Current Vulnerabilities in Energy Security and Diversification

- **Overdependence on a Few Countries**: Russia has become a dominant supplier of oil — a **single-point risk** if U.S. imposes secondary sanctions.
- **Geopolitical Volatility**: West Asian instability, Russian sanctions, or U.S. trade policy shifts can disrupt energy flow or increase costs.
- **Transport & Supply Chain Bottlenecks**: Shipping lane tensions (e.g., Red Sea, Strait of Hormuz) can delay or reroute energy supplies.
- **Price Volatility**: Sudden geopolitical escalations can spike global crude prices and strain India's import bill and Current Account Deficit (CAD).
- **Slow Transition to Renewables**: Although installed capacity has grown, actual grid penetration and storage solutions are lagging.

Steps Taken by India to Diversify Energy Sources

- **Strategic and Policy Interventions**
  - **International Energy Partnerships**:
    - Long-term LNG deals with **Qatar** and **U.S.**.
    - Strategic petroleum reserve (SPR) expansion.
    - Indian Oil's diversification into **Guyana**, **Brazil**, **Africa**.
  - **Mission Innovation 2.0**: India co-leads this global alliance for clean energy R&D.
- **Renewable Energy Push**
  - **National Solar Mission**:
    - Target: **500 GW** non-fossil capacity by **2030**.
    - India now ranks among the top 5 countries in solar installation.
  - **Green Hydrogen Mission**: Outlay of ₹19,744 crore to make India a global hub for green hydrogen.
  - **PLI schemes for Solar Modules and Battery Storage**: Encouraging domestic manufacturing to reduce import dependence.

  - **Offshore Wind Policy**, **Bioenergy Program**, **Hydrogen Valley projects** – rolled out to attract investment and scale up clean energy.
- **EV and Energy Efficiency Policies**
  - **FAME II**, **Battery Swapping Policy**, **State EV policies** to reduce oil usage in transport.
  - **Perform Achieve and Trade (PAT)** scheme – improves industrial energy efficiency.

How India Can Further Diversify Its Energy Sources

- **Geographical Diversification:**
  - **Widen oil sourcing**: Strengthen ties with Latin America (Brazil, Venezuela), Africa (Nigeria, Angola), Southeast Asia (Malaysia).
  - **More LNG terminals**: Increase import capacity from Australia, Mozambique.
- **Technological & Infrastructure Investments:** Invest in **energy storage technologies** and **smart grids**.
  - Expand **nuclear power capacity** with safer, modular reactors (SMRs).
- **Decentralized Renewable Projects:** Promote **rooftop solar**, **community-level bioenergy** and **microgrids**, especially in rural areas.
- **Regional Energy Integration:** Tap cross-border energy trade with **Nepal (hydro)**, **Bhutan**, and **Bangladesh**.
  - Build **regional power markets** in South Asia.
- **Strategic Reserves Expansion:** Increase Strategic Petroleum Reserves to buffer against sudden shocks.

Recently in news

➔ Petroleum Minister Hardeep Singh Puri had held that it is a “matter of time” before India finds a **Guyana-like oil basin in the Andaman region**.

Source: The Hindu

India needs to think to build seismic resilience

Context

The July 2025 Delhi earthquake highlights India's seismic fragility, especially in urban areas like Delhi, and underscores the urgent need for nationwide structural and policy-based preparedness.

India's Seismic Vulnerability

- **Tectonic Setting**: India lies on the **Indian Plate**, which is colliding with the **Eurasian Plate** at ~5 cm/year, generating high seismic activity, especially in the **Himalayan belt**.
- **Seismic Zones**: 58% of India's landmass falls in **Seismic Zones III–V**, with **Zone V** (very high risk) covering regions like **Northeast India, Kashmir, Himachal Pradesh, Andaman-Nicobar**, and parts of **Bihar and Gujarat**.
- **Urban Fragility**: Cities like **Delhi, Guwahati, Bhuj**, and others are built on **liquefaction-prone soils**, with dense populations and unsafe structures.
- **Building Non-Compliance**: Over **80% of buildings in Delhi** (especially those built before 2000) **do not follow seismic codes**, as per IS 1893:2016.

Why Vulnerability Still Persists

- **Lax Enforcement**: Seismic codes (like IS 1893) exist but are poorly enforced, especially for older or private structures.
- **Poor Urban Planning**: Rapid, unplanned urbanisation, especially in high-risk zones, has led to unsafe and unauthorized construction.
- **Lack of Retrofitting**: Few older buildings have been structurally retrofitted with quake-resistant technology like **steel jacketing**, **shear walls**, or **base isolation**.
- **Low Public Awareness**: People are largely unaware of earthquake preparedness, emergency protocols, and safety drills.
- **Inadequate Funding**: Retrofitting and disaster mitigation require large investments (₹50,000 crore/year as per estimates) that are often deprioritized.

How It Can Be Resolved

- **Policy and Regulatory Measures:** Strict implementation of seismic design codes (IS 1893:2016) across all zones.
    - Launch national-level retrofitting schemes for vulnerable buildings, especially in Delhi, Guwahati, Bhuj, etc.
- **Infrastructure Resilience:** Adopt **ductile concrete** (Thailand using high-strength ductile concrete (30–40 MPa)), **deep pile foundations**, and **base isolation** (Post 2001 earthquake**, Bhuj District Hospital was reconstructed using** base isolation technology) in new constructions.
    - Tailor structures based on local soil types — e.g., soft soils in Northeast India, sandy basins in Kutch.
- **Technological Strengthening**: Strengthen tools like the **IndiaQuake app**, and extend real-time alerts to rural and high-risk zones.
    - Use spatial data to identify risk hotspots and monitor land deformation.
- **Community and Awareness:** Promote awareness on emergency kits, structural safety, and earthquake response drills.
    - Mandate regular drills and safety audits.
- **Financial Mechanisms:** Promote earthquake insurance for households and businesses.
    - Allocate targeted disaster funds at central and state levels for retrofitting and monitoring.

Source: The Hindu

China-Pakistan Collusion: Implication for India

Context

China and Pakistan's deepening strategic ties pose complex security challenges for India.

Deepening China & Pakistan Ties

- **Defence and Military Cooperation:** China is Pakistan's **largest arms supplier**.
  - Examples: JF-17 fighter jets (co-produced), HQ-9/P air defence system, VT-4 tanks, SH-15 howitzers.
  - Ongoing talks for supply of **J-10C** and potentially **J-35 stealth fighters**.
- **Joint Military Exercises:** Regular drills like **"Warrior"** and **"Sea Guardians"** (Navy) enhance interoperability.
- **Technology Transfers:** Support in **drone warfare**, satellite navigation via **BeiDou**, missile guidance systems, and radar technologies.
  - **E.g.,** Reports of joint development of UAVs and naval platforms.
- **Nuclear and Missile Collaboration:** China's role was key in helping Pakistan develop its **nuclear weapons program** during the 1980s and 1990s.
  - Assistance in missile technologies like the **Shaheen** and **Ghauri** series.
  - China's **nuclear power plants** (e.g., Chashma units, Karachi Nuclear Power Plant) have helped Pakistan's civilian energy program.
- **Strategic and Diplomatic Shielding:** China has repeatedly used its **veto or delay power** in the UNSC to shield Pakistan-based terrorists (e.g., Masood Azhar).
  - Cooperation in **Shanghai Cooperation Organisation (SCO)**, **BRI**, and **G77**.
  - Joint opposition to India's inclusion in groups like **NSG (Nuclear Suppliers Group)**.
- **Economic Cooperation :** Flagship project under the **Belt and Road Initiative (BRI)**.
  - ~$62 billion in Chinese investments in Roads, railways, energy, fiber optic connectivity, and the Gwadar Port.
  - Give China access to the Arabian Sea, bypassing the Strait of Malacca.
  - Built and operated by China, gives Beijing a **logistical hub** near the Strait of Hormuz.
  - Potential dual-use (civilian and military) infrastructure.
- **Cyber and Digital Infrastructure:** Chinese tech firms like **Huawei** and **ZTE** support Pakistan's **digital infrastructure**, telecom, and surveillance systems.
- **Intelligence and Security Cooperation:** Reports of Chinese personnel monitoring weapons use during Pakistani military operations.
  - Intelligence sharing on Indian deployments and activities, especially around PoK and Ladakh.
- **People-to-People and Institutional Linkages:** Scholarships and cultural exchanges under **Confucius Institutes** and **Belt and Road scholarships**.
  - Military officers from Pakistan trained in **PLA academies**.

Challenges for India

- **Two-Front Military Pressure:** Risk of simultaneous pressure from **Western (Pakistan)** and **Northern/Eastern (China)** fronts.
  - China's strategic support enables Pakistan to maintain a credible military threat despite economic distress.
- **Strategic Encirclement:** Projects like **CPEC**, port development in **Gwadar** and **Djibouti**, and ties with **Nepal, Sri Lanka, and Maldives** increase China's regional influence.
- **Diplomatic Isolation:** Sino-Pak coordination complicates India's efforts at international forums, especially on **terrorism**, **Kashmir**, and **NSG membership**.
- **Proxy and Grey-Zone Threats:** Use of **non-state actors**, **cyber operations**, and **coordinated psychological warfare** make attribution and retaliation difficult.

- **Economic and Technological Competition:** China's technological backing strengthens Pakistan's indigenous capabilities in drones, cyber tech, and surveillance.

How India Can Tackle the China–Pakistan Nexus

- **Military Preparedness & Modernisation:**
  - **Integrated Theatre Commands (ITCs)**: For seamless coordination between services across multiple fronts.
  - **Surveillance and ISR**: Expand indigenous satellite networks, drones, and radar systems.
  - **Border Infrastructure**: Accelerate road and logistics development on both eastern and western borders.
- **Diplomatic and Strategic Outreach:**
  - **Engage the Global South** and major powers (U.S., France, Japan) for support in international forums.
  - **Backchannel Diplomacy with China**: Keep de-escalation channels open to avoid miscalculations.
  - Strengthen ties with **Central Asia, ASEAN, and Africa** to balance Chinese influence.
- **Technology and Cyber Resilience: Indigenise defence production** via DRDO-DPSU-private sector collaboration.
  - Expand capabilities in **cyber warfare**, **AI-enabled command and control**, and **EW systems**.
- **Internal Security and Counter-Proxy Capabilities:** Sharpen intelligence capabilities to counter cross-border terror and misinformation campaigns.
  - Expand cooperation with **Israel, U.S.**, and **EU** on counter-terrorism and cyber defence.
- **Economic Strategy:** Reduce dependency on Chinese supply chains through **PLI schemes** and **critical mineral alliances**.
  - Offer alternatives to Chinese-led infrastructure in South Asia via **India-Middle East-Europe Corridor (IMEC)** and **Act East Policy**.

Source: The Hindu