

Today's Prelims Topics

International Monetary Fund

Context

The Appointments Committee of the Cabinet has approved the appointment of former RBI Governor Urjit Patel as Executive Director (ED) at the IMF for a three-year term.

About International Monetary Fund (IMF)

- It is a **specialised agency** of the United Nations (UN), founded at the Bretton Woods Conference in 1944. (HQ- Washington DC)
- **Membership:** 190 countries.
- It grants loans **only to its member countries**.
- **Reports released by IMF:**
 - **World Economic Outlook (WEO):** A biannual report analysing global economic trends and forecasts.
 - **Global Financial Stability Report (GFSR):** Focuses on global financial markets and assesses risks to financial stability.
- **Lending facilities of IMF:** Extended Fund Facility, Rapid Financing Instrument, Rapid Credit facility.

Structure of the IMF

- **Board of Governors:** Highest decision-making body of the IMF. Each member country is represented by its Finance Minister or Central Bank Governor. They meet annually to review key policies and global economic challenges.
- **Executive Board:** Composed of 24 Executive Directors, this board is responsible for the day-to-day operations of the IMF.
- **Managing Director:** The Managing Director is the head of the IMF and its staff.

Quota System

- The IMF operates on a quota system, which reflects each member's relative position in the global economy. A member's quota is determined by its GDP, trade openness and other factors.
- Quotas determine the financial contribution of each member country, voting power, and access to IMF resources. Quotas are denominated in Special Drawing Rights (SDRs), the IMF's unit of account.
- A country's voting power is directly related to its quota; the higher the quota, the more voting power the country has. The U.S. has the largest quota and voting share, followed by Japan, China and Germany.
- India has **2.75% of the total quota**, making it the **8th largest** quota-holding country.

UPSC PYQ

Q. "Rapid Financing Instrument" and "Rapid Credit Facility" are related to the provisions of lending by which one of the following? (2022)

- (a) Asian Development Bank
- (b) International Monetary Fund
- (c) United Nations Environment Programme Finance Initiative
- (d) World Bank

Answer: B

Samudrayaan & Challenges of deep sea exploration

Context

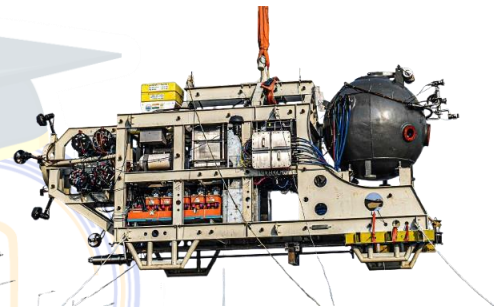
Earlier this month, two Indian “aquanauts” undertook a deep-sea mission in the Atlantic Ocean aboard the French vessel *Nautilus* as a part of the preparations for India’s **Samudrayaan Project**.

About Samudrayaan Mission

- **Samudrayaan** is a key initiative under the **Deep Ocean Mission (DOM)**.
- It aims to explore ocean depths of up to **6,000 meters** using a **manned submersible vehicle** named '**Matsya 6000**'.
- India will join the elite group of countries — **U.S., Russia, China, France, and Japan** — that have conducted successful crewed deep-sea missions.
- **Objectives and Opportunities**
 - Enhance **India’s capabilities in deep-sea research**.
 - Enable **assessment of living and non-living ocean resources**.
 - Strengthen **ocean observation systems**.
 - Explore the potential for deep-sea tourism in the future.

About MATSYA 6000

- A **4th-generation, self-propelled, human-rated deep-ocean submersible**.
- Being developed by the **National Institute of Ocean Technology (NIOT), Chennai**.
- Has successfully completed **wet testing**.
- Endurance:
 - **12 hours** during normal missions.
 - Up to **96 hours** in emergency situations.



About Deep Ocean Mission (DOM)

- **Nodal Ministry:** Ministry of Earth Sciences.
- **Launched** in 2021, with a **5-year completion target**.
- **Purpose:** To explore deep-ocean resources and develop indigenous technologies for sustainable utilization.
- Supports **India’s Blue Economy goals**.

Challenges of the Mission

- **Pressure Resistance:** Vessel must withstand **600x atmospheric pressure**; titanium alloy sphere with precise welding needed.
- **Livable Environment:** Maintain **20% oxygen**, remove CO₂ with scrubbers, use **re-breather units** in emergencies.
- **Aquanaut Health & Safety:** Crew needs peak fitness; food/water intake very limited (e.g., dry fruits during 9-hour test).
- **Communication Barriers:** Radio unusable underwater; **acoustic telephone** developed, worked after overcoming salinity/temperature issues.

Source: [IndianExpress](https://www.indianexpress.com)

Purchasing Power Parity Index

Context

According to a report by EY, India is set to become the world's second-largest economy in PPP terms by 2038.

About Purchasing Power Parity (PPP) Index

- PPP Index adjusts GDP and incomes for **price level differences across countries**, making it a better tool to compare **real living standards and economic size** than nominal GDP.
- It shows how much currency is needed in one country to buy the **same basket of goods and services** in another country.
- **Difference from Market Exchange Rate (MER):**
 - **PPP:** Reflects cost of living and real purchasing power.
 - **MER:** Reflects demand–supply of currencies in forex markets.
- **Top 3 economies according to PPP:** 1. China 2. USA 3. India

Why India is Projected to Rise?

- **Demographic Dividend:** Median age in 2025: **28.8 years** → younger workforce compared to ageing West and China.
- **Strong Savings & Investment Rates:** Higher domestic savings → financing for infrastructure and industries.
- **Debt Sustainability:** Govt. debt-to-GDP ratio projected to fall from **81.3% (2024)** to **75.8% (2030)**.
- **Structural Reforms & Technology:** GST, Insolvency and Bankruptcy Code (IBC), PLI schemes, AI & digital adoption.
- **Vision 2047:** Trajectory aligns with India's long-term vision of becoming a **developed nation (Viksit Bharat)** by 2047.

Source: [DD India](#)

Air Quality Life Index Report

Context

The Air Quality Life Index (AQLI) 2025 report has highlighted high PM_{2.5} levels in India, especially in Delhi and the northern plains.

About Air Quality Life Index Report (AQLI)

- It is published annually by the Energy Policy Institute at the University of Chicago (EPIC).
- This edition is based on pollution data from **2023**.
- **Objective:** Quantifies the impact of **long-term exposure to PM_{2.5} pollution** on **life expectancy**.

Major Findings - India

- **Average life expectancy loss:** **3.5 years** due to PM_{2.5} exposure.
- India's **PM_{2.5} concentration (2023): 41 µg/m³** (national average).
 - WHO safe limit: **5 µg/m³**.
- **46% of India's population** lives in areas exceeding **national standard (40 µg/m³)**.
- **Delhi (Worst impacted):**
 - PM_{2.5} level (2023): **88.4 µg/m³**.
 - Life expectancy loss: **8.2 years**.
 - If Delhi meets **WHO standard** → Residents gain **8 years**.
 - If Delhi meets **national standard (40 µg/m³)** → Residents gain **4.7 years**.
- **Situation in other Northern Plains States:**
 - Bihar: Loss of **5.4 years**.
 - Haryana: **5.3 years**.
 - Uttar Pradesh: **5 years**.

Source: [Hindustan Times](#)

State Energy Efficiency Index-2024

Context

Recently the Bureau of Energy Efficiency released the 6th edition of State Energy Efficiency Index.

About State Energy Efficiency Index (SEEI) 2024

- **Released by:** Bureau of Energy Efficiency (BEE) with Alliance for an Energy Efficient Economy (AEEE).
- **Coverage:** Assesses energy efficiency performance of **36 States/UTs** for FY 2023–24.
- **Purpose:** Data-driven monitoring, sharing best practices, and fostering competition among states to achieve **Net Zero 2070 vision**.

Key Features:

- **Framework:** 66 indicators across **Buildings, Industry, Municipal Services, Transport, Agriculture, DISCOMs, and Cross-Sector**.
- **Focus Areas:** EV policies, star-rated buildings, Demand Side Management (DSM), renewable adoption.
- **Classification of States:** Front Runners (>60%), Achievers (50–60%), Contenders (30–50%) & Aspirants (<30%).
- **Top Performers 2024, in respective categories:**
 - **Maharashtra** (Group 1)
 - **Andhra Pradesh** (Group 2)
 - **Assam** (Group 3)
 - **Tripura** (Group 4)

Bureau of Energy Efficiency (BEE)

- BEE was established on March 1, 2002 under the **Energy Conservation Act, 2000**.
- **Nodal Ministry:** Ministry of Power.
- **Objectives:**
 - Promote **energy efficiency and conservation** across all sectors.
 - Reduce India's **energy intensity** (energy use per unit of GDP).
- **Key Functions:**
 - Implement **Standards & Labelling Programme** (Star ratings on appliances).
 - Develop **Energy Conservation Building Code (ECBC)**.
 - Promote **Perform, Achieve and Trade (PAT)** scheme for industries.
 - Implement **Energy Efficiency Financing Platform (EEFP)**.

Source: [PIB](#)

Purple Notice - Interpol

Context

The Enforcement Directorate (ED) has issued its first Purple Notice through Interpol.

About INTERPOL (International Criminal Police Organization)

- It is an inter-governmental law enforcement organisation, helps **coordinate cooperation among law enforcement agencies** across its member countries.
- **HQ:** Lyon, France
- **Members:** 196 countries (India is a member)

Types of Interpol Notices	
Notice	Purpose
Red Notice ●	To locate and provisionally arrest a wanted person pending extradition. (Most well-known)
Blue Notice ●	To locate or identify a person of interest, or to collect information.
Green Notice ●	To warn about a person's criminal activities when they pose a threat to public safety.
Yellow Notice ●	To locate missing persons, especially minors, or help identify persons unable to identify themselves.
Black Notice ●	To identify unidentified bodies.
Orange Notice ●	To warn of an event, person, object, or process representing a serious and imminent threat.
Purple Notice ●	To provide information on modus operandi, objects, devices, or concealment methods used by criminals.
Silver Notice ○	<ul style="list-style-type: none"> • To track assets of wanted criminals globally. (Launched Jan 2024 in pilot phase).
Interpol-UN Special Notice	For individuals or entities subject to UN sanctions.

Source: [Times of India](#)

National Annual Report and Index on Women's Safety (NARI-2025)

Context

National Annual Report & Index on Women's Safety (NARI) 2025 was recently released by the National Commission for Women.

Key Highlights of Report

- **National safety score:** 65% (cities ranked as "much above", "above", "below" or "much below" this mark).
- **Safest cities:** Kohima, Visakhapatnam, Bhubaneswar, Aizawl, Gangtok, Itanagar, Mumbai.
- **Least safe cities:** Patna, Jaipur, Faridabad, Delhi, Kolkata, Srinagar, Ranchi.

Findings on Safety Perceptions

- **6 in 10 women** felt "safe"; **40%** felt "unsafe" or "not so safe".
- **High harassment prevalence:** 7% reported incidents in public spaces (2024 data).
- **Young women (<24 years)** most vulnerable (14% reported harassment).
- **Common types:** Verbal harassment (58%) most frequent; others include physical, psychological, sexual, and economic harassment.
- **Hotspots:** Neighborhoods (38%) and transport (29%).

Women's Responses to Harassment


- 28% confronted harassers.
- 25% left the location.
- 21% sought safety in crowds.
- 20% reported to authorities.


Confidence in Safety Systems

- Sharp **drop in safety perception at night**, especially in public transport and recreational areas.
- **86% felt safe in educational institutions** during the day, but this declines after dark.
- **Reporting gaps:**
 - Only 1 in 3 victims filed complaints.
 - Only 1 in 4 women believed authorities would act.
 - Only 22% of reported cases were officially registered.
 - Action taken in just 16% of cases.
- **Workplace safety:** 53% unaware if their workplace had a **POSH** policy.

Source: [IndianExpress](#), [TheHindu](#)

News in Short

<p>Burmese Pythons (Python bivittatus)</p> 	<p>News? Florida authorities are using robot rabbits to lure and trap invasive Burmese pythons that threaten the Everglades ecosystem.</p> <p>About it</p> <ul style="list-style-type: none"> • Distribution: Native to Southeast Asia (India, Nepal, Myanmar, Thailand, Vietnam, Laos, Cambodia, Indonesia, China). • Characteristics: <ul style="list-style-type: none"> ○ Size: Among the largest snakes in the world; can grow up to 5–7 meters (16–23 ft) and weigh over 90 kg. ○ Diet: Carnivorous; eat mammals, birds, reptiles, and even alligators. They have no natural predators in Florida. ○ Reproduction: Lay large clutches of eggs (30–80 at a time), making population control difficult. ○ Camouflage: Excellent at blending into vegetation, making them hard to detect and capture. • Conservation status (native habitat): Listed as Vulnerable by the IUCN due to habitat loss and hunting for skin/meat. <p>Source: IndianExpress</p>
<p>MILMEDICON 2025</p>	<p>News? India hosted MILMEDICON-2025 at Manekshaw Centre, New Delhi.</p> <p>About it</p> <ul style="list-style-type: none"> • An international conference on military medicine. • Focus: Physical and mental trauma in military settings. • Organised by the Directorate General of Medical Services (Army). • Aims to advance military healthcare, foster global cooperation, and build future-ready medical solutions. • Part of the Indian Army's "Year of Reforms" initiative. <p>Source: TheHindu</p>
<p>Typhoon Kajiki</p>	<p>News? Typhoon Kajiki struck northern Thailand, causing floods and landslides that killed 5 people, injured 15, and left several missing.</p> <p>About it</p> <ul style="list-style-type: none"> • A powerful tropical cyclone forming in the West Pacific Ocean. • It originated over the Philippines, strengthened over the South China Sea and hit China & Vietnam. <p>About Tropical Cyclone</p> <ul style="list-style-type: none"> • A tropical cyclone is a rapidly rotating storm system originating over warm tropical oceans, characterized by: a low-pressure center (called the eye), strong rotating winds, heavy rain, thunderstorms. • Condition for Formation: Warm ocean temperatures of at least 26–27°C (79–81°F) <ul style="list-style-type: none"> ○ High moisture content in the atmosphere

	<ul style="list-style-type: none"> ○ Low to moderate wind shear ○ Coriolis force (due to Earth's rotation) to initiate cyclonic spin. ● Regional Names: <ul style="list-style-type: none"> ○ Willy-willy (Australia) ○ Hurricane (Northern Atlantic) ○ Typhoon (Western North Pacific). <p>Source: The Hindu</p>
<p>Daruma Doll</p> 	<p>News? PM Narendra Modi was presented a Daruma doll during his recent visit to Japan.</p> <p>About it</p> <ul style="list-style-type: none"> ● It is a traditional Japanese doll <u>modeled after Bodhidharma</u>, an Indian monk who founded <u>Zen Buddhism in Japan</u>. ● It represents perseverance, resilience, and good luck; often associated with achieving goals. ● It is widely used in Japan for motivation, New Year celebrations, and goal-setting rituals. <p>Source: Indian Express</p>
<p>Indian Ocean Naval Symposium (IONS-2025)</p>	<p>News? India recently hosted Emerging Leaders Panel Discussion under Indian Ocean Naval Symposium (IONS) at Kochi.</p> <p>About IONS</p> <ul style="list-style-type: none"> ● It is a voluntary, <u>inclusive regional maritime cooperation forum</u>. ● Objective: To enhance maritime security, safety, and cooperation in the Indian Ocean Region (IOR). ● Members: 25 member + 9 observer countries. ● Eligibility: A nation state with permanent territory or border with Indian Ocean and which maintains a Navy or maritime agency ● Chair of IONS: Rotated every 2 years among member countries. <u>India to chair during 2025-27.</u>
<p>UNGA's new initiatives to strengthen global cooperation on AI governance</p>	<p>News? The UN General Assembly has recently launched two new global mechanisms - <u>an Independent International Scientific Panel on AI and a Global Dialogue on AI Governance</u>.</p> <p>About UN Scientific Panel on AI</p> <ul style="list-style-type: none"> ● It is an Independent body to bridge science & policy. ● Functions: <ul style="list-style-type: none"> ○ Provide scientific assessments to inform global AI governance. ○ Promote a common understanding of AI-related threats, opportunities, and technologies. ○ Advise on societal, ethical & economic impacts of AI. <p>About Global Dialogue on AI Governance</p> <ul style="list-style-type: none"> ● New multilateral, inclusive platform under UN umbrella.

	<ul style="list-style-type: none">• It brings together Member States, industry, civil society, academia & researchers.• Purpose: Collective discussion on AI challenges like bias, misinformation, autonomous weapons, job loss. <p>Both initiatives are established under the <u>UN's Global Digital Compact</u>, agreed upon at the <u>Summit of the Future</u>.</p> <p>Source: Down to Earth</p>
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Mains Topics

Dowry in India: A Social Evil that Persists

Context

Recent cases like the alleged dowry-related death of **Nikki Bhati in Uttar Pradesh (2025)** highlight how the age-old practice of dowry continues to endanger women despite decades of legal prohibition.

About Dowry

- Dowry, the practice of demanding money, property, or gifts from the bride's family at the time of marriage, continues to be one of the **deep-rooted social evils in Indian society**.
- Despite legal bans since 1961, the practice survives across caste, class, rural and urban settings.
- In **2022, NCRB recorded 6,589 dowry deaths**, which means on average, one woman dies every 80 minutes due to dowry-related violence.
- This reflects how dowry is not just a private family issue, but a **societal problem linked to patriarchy, gender inequality, and caste dynamics**.

Reasons/Factors behind Dowry Demands

- **Socio-Cultural Factors:**
 - **Patriarchy:** Viewing women as economic liabilities and men as breadwinners.
 - **Marriage as a transaction:** Dowry seen as compensation for "bringing home" a wife.
 - **Caste & Community norms:** Caste panchayats often legitimise dowry demands as tradition.
 - **Gender Inequality:** From childhood, girls are socialised to prioritise family honour, while boys are considered assets.
- **Economic Factors:**
 - **Greed & Rising Consumerism:** Families demand cash, gold, cars, or property.
 - **Low female workforce participation:** Women's limited economic independence sustains the belief that dowry secures financial stability.
- **Institutional Weaknesses:**
 - **Ineffective enforcement of laws:** Low conviction rates discourage victims from reporting.
 - **Social stigma:** Families avoid police/legal action, prioritising "honour" over justice.

Impacts of Dowry

- **Violence Against Women:** Women face harassment, beatings, marital rape, and in extreme cases, death.
- **Female Foeticide & Skewed Sex Ratio:** Families fearing dowry expenses prefer sons over daughters.
 - This worsens India's **sex ratio at birth (SRB ~ 929 in NFHS-5)**.
- **Cycle of Debt and Poverty:** Poor families often take loans or sell land to pay dowry, creating **intergenerational poverty**.
- **Loss of Women's Agency:** Women cannot walk out of abusive marriages due to stigma and lack of financial independence.
- **Perpetuation of Patriarchy:** Dowry strengthens male dominance and normalises women's subordination in marriage.

Challenges in Addressing Dowry

- **Cultural Legitimacy:** Dowry is often disguised as “gifts” or “stridhan”, making enforcement difficult.
- **Community Pressure:** Families avoid filing cases due to fear of dishonour within their caste or community.
- **Patriarchal Institutions:** Caste panchayats promote reconciliation instead of justice, sending women back to abusive households.
- **Weak Implementation of Laws:** Conviction rates under dowry laws remain low. Police often discourage complaints, fearing misuse debates.
- **Stigma for Women:** Women face double victimisation, social blame for marriage failure and lack of natal family support.

Measures Taken by Government

Legal Framework

- **Dowry Prohibition Act, 1961:** Outlaws giving/taking dowry.
- **IPC Section 498A:** Cruelty by husband/in-laws is a criminal offence.
 - Replaced by **BNS section 85 & 86.**
- **IPC Section 304B:** Defines “dowry death”; punishment: 7 years–life imprisonment.
 - Replaced by **BNS section 80.**
- **Indian Evidence Act, Section 113B:** Presumption of dowry death if woman dies within 7 years of marriage.
- **Domestic Violence Act, 2005:** Broader protection against abuse in marriage.

Schemes & Campaigns

- **Beti Bachao Beti Padhao (2015):** Aims to improve girl child status.
- **National Commission for Women:** Helplines, counselling, legal aid.
- **State campaigns:** Kerala’s *Say No to Dowry*, Haryana’s *Selfie with Daughter* initiative.

Related Supreme Court Judgments

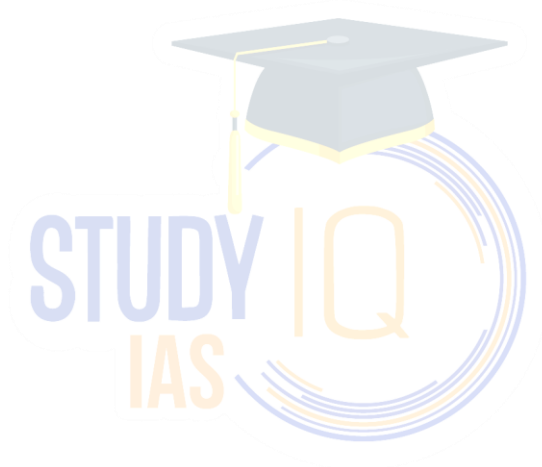
- **Kans Raj vs State of Punjab (2000):** Continuous harassment can amount to dowry death.
- **Satya Narayan Tiwari vs State of UP (2010):** Reiterated need for strict punishment in dowry deaths.
- **Rajesh Sharma vs State of UP (2017):** Issued guidelines to prevent misuse of Section 498A IPC (later diluted).
- **State of Punjab vs Iqbal Singh (1991):** Circumstantial evidence can establish dowry death.

Way Forward

- **Social Reform:**
 - Mobilise **youth, civil society, and women’s groups** to challenge dowry as a norm.
 - Public campaigns like *Say No to Dowry* must be scaled nationally.
- **Women’s Empowerment:**
 - Improve **female education and workforce participation.**
 - Financial literacy, property rights, and skill development can reduce economic dependence.
- **Community Engagement:**
 - Involve caste and religious leaders to reform customs.
 - Panchayats must be sensitised to prioritise women’s rights over “honour”.
- **Legal Strengthening:**
 - Fast-track courts for dowry cases.
 - Better victim support systems - shelters, helplines, counselling, and legal aid.
- **Behavioural Change through Education:**
 - Gender sensitisation in schools and colleges.

- Pre-marital counselling on equal partnership in marriage.
- **Technology & Transparency:**
 - Use online complaint portals for anonymous reporting.
 - **Social media campaigns to create stigma against dowry seekers.**

Dowry persists because it is **socially sanctioned, culturally legitimised, and institutionally ignored**. While India has strong laws, they remain ineffective without deep **social transformation**. To tackle dowry effectively, India must go beyond legal measures and foster **social reform, economic empowerment, and behavioural change**.



Need of Energy Sovereignty for India

Context

For India - the world's third-largest energy consumer - dependence on external sources has become a critical vulnerability. In a fragmented & conflict-prone world, **energy sovereignty** (ability to secure uninterrupted, affordable, and indigenous energy) has emerged as the new strategic currency.

India's Dependence on Imported Energy

- **Crude Oil:** India imports **85% of its crude oil requirement**.
- **Natural Gas:** More than **50% of gas demand is imported**, much of it through LNG.
- **Coal:** Despite large reserves, India imports ~20–25% of its coal needs, mainly coking coal for steel.
- **Financial Outflow:** In **FY23–24**, oil and gas imports alone cost India **\$170 billion (25% of merchandise imports)**.
- **Geopolitical Dependence:**
 - Pre-2022: West Asia supplied >60% of crude.
 - Post-Ukraine war: Russia became India's largest supplier, accounting for **35–40% of crude imports in 2024–25** (up from just 2% before 2022).

Reasons for Energy Dependence

- **Resource Constraints:**
 - **Oil & Gas Reserves:** India's proven reserves are limited and depleting.
 - **High Import Needs:** Domestic production of crude has stagnated at ~30 MMT/year while demand has crossed 220 MMT/year.
- **Rising Energy Demand:**
 - Driven by **urbanisation, industrialisation, and transport growth**.
 - India's energy demand is expected to **double by 2040**, making imports even more critical.
- **Infrastructure and Technology Gaps:**
 - **Slow progress** in domestic oil exploration (due to regulatory hurdles and low investment).
 - Lack of large-scale renewable storage capacity → continued reliance on fossil fuels.
- **Policy and Pricing Factors:**
 - Domestic energy pricing is often politically sensitive, discouraging private investment.

Impact of Energy Dependence

- **Economic Impact:** Large import bills widen **trade deficit** and put pressure on the **rupee**.
 - Fiscal burden rises when subsidies are used to shield consumers from high prices.
- **Geopolitical Vulnerability:** Over-reliance on few regions (West Asia, now Russia) makes India vulnerable to global conflicts.
 - **Eg:** June 2025 Israel-Iran tensions nearly disrupted **20 million barrels/day of oil flow**, threatening \$100+ oil prices.
- **Energy Insecurity:** Supply chain disruptions (wars, sanctions, pandemics) risk shortages and price volatility.
- **Strategic Risks:** Dependence weakens **strategic autonomy**, as energy access influences foreign policy choices.
- **Environmental Impact:** Import dependence often locks India into **fossil fuel reliance**, delaying green transition.

India's Path to Energy Sovereignty

- **Diversification of Sources:** Reduced dependence on West Asia (from >60% of imports to <45%). Enhanced sourcing from **Russia, Africa, U.S., Latin America.**

Five Strategic Pillars for Energy Sovereignty

- **Coal Gasification & Carbon Capture:**
 - India has **150+ billion tonnes of coal reserves.**
 - Gasification can convert coal into **syngas, methanol, hydrogen, and fertilisers**, reducing import dependence.
- **Biofuels & Ethanol Blending:**
 - **Ethanol blending programme:** Target of **20% blending (E20) by 2025.**
 - Already transferred **₹92,000 crore to farmers** and saved foreign exchange.
 - **SATAT scheme:** 500+ CBG plants generating clean gas and bio-manure to restore degraded soils.
- **Nuclear Energy:**
 - Current nuclear capacity: **8.8 GW** — stagnant for decades.
 - Plans to expand with **thorium roadmap, uranium partnerships, and Small Modular Reactors (SMRs).**
 - Nuclear provides **zero-carbon baseload power** to complement renewables.
- **Green Hydrogen Mission:**
 - Target: **5 MMT/year by 2030.**
 - Focus on **local electrolyser manufacturing, storage solutions, and technology ownership** to avoid external dependence.
- **Pumped Hydro Storage:**
 - Critical for balancing renewable energy variability.
 - India's geography allows creation of large pumped hydro plants as **grid stabilisers.**

- **Renewable Energy Push:**
 - Installed RE capacity: **190 GW (2024)**, aiming for **500 GW by 2030.**
 - Solar and wind expansion with global partnerships (ISA, One Sun One World One Grid).
- **Strategic Petroleum Reserves (SPR):** India has built reserves covering **~10 days of imports**, with plans to expand.

Energy security is no longer just climate policy but a **survival strategy**. India must adopt an **energy sovereignty doctrine** built on diversification, domestic capacity, and resilient infrastructure. The future's most valuable resource is not oil but **uninterrupted, affordable, indigenous energy.**