

MEMORY CHIP SHORTAGE DRIVING INDIA'S INFLATION

- Memory chips are essential semiconductor components that enable modern electronic devices to store and process data. The two major categories are:
 - **Dynamic Random Access Memory (DRAM):** Used for temporary data storage and active processing.
 - **NAND Flash Memory:** Used for permanent storage in devices.
- These chips are critical for the functioning of:
 - Smartphones and tablets.
 - Laptops and computers.
 - Refrigerators, televisions, and washing machines.
 - Pen drives, hard disks, and earphones.
 - Electric batteries and data centres.
- Without memory chips, modern electronics cannot function.

Global Supply Chain for Memory Chips

- **TSMC (Taiwan):** World's largest contract chip manufacturer.
- **Samsung (South Korea):** Major producer of memory and logic chips.
- **SK Hynix (South Korea):** Leading producer of DRAM memory chips.
- **Micron (United States):** Major supplier of DRAM and NAND memory.

How the AI Boom Is Causing a Memory Chip Shortage?

- The recent boom in **Artificial Intelligence** has significantly altered semiconductor demand patterns.
- **Shift in Production Priorities**
 - Chipmakers are increasingly diverting production capacity toward high-end chips needed for AI systems, including:
 - **High Bandwidth Memory (HBM)** used in AI computing
 - **Server DRAM** required for data centres
 - Advanced processors for **AI training and inference**

- This has reduced the production of chips widely used in consumer electronics, such as:
 - **LPDDR4** (Low Power Double Data Rate 4) **memory chips** used in smartphones
 - LPDDR is the most widely used "working memory" memory in mobile devices worldwide.
 - LDDDR4 provides 32Gbps bandwidth, which is 1.7 times faster than LPDDR 3 memory and 2 times faster than DDR3 RAM.
 - Standard DRAM chips for household appliances
 - Storage chips used in personal electronic devices

Implications for India

- **Impact on Consumers**
 - Higher semiconductor costs are reducing the affordability of essential electronic products, potentially delaying purchases and affecting household consumption.
- **Impact on Industry**
 - **Make in India initiatives** could face component shortages.
 - Beneficiaries under the **Production Linked Incentive (PLI) Scheme** may experience rising input costs.
 - Mobile phone manufacturing, a flagship export sector, could face production disruptions.

Long-Term Concerns and Policy Response

- Experts warn that the current shortage may persist for **3-5 years**, implying prolonged price pressures.
- To reduce vulnerability, India may need to accelerate efforts under the **India Semiconductor Mission (ISM)** and expand domestic semiconductor manufacturing capacity.
- Policymakers may also need supply-side interventions beyond conventional demand management to address this emerging source of inflation.

TELEGRAM TEMPORARILY BLOCKED IN INDIA

- Telegram is a cloud-based instant messaging platform founded by Pavel Durov in 2013.
- Unlike WhatsApp, it supports **channels with unlimited subscribers**, large group chats, anonymous broadcasting, and easy file sharing including large PDFs.
- Its end-to-end encryption, minimal data retention, and server infrastructure spread across multiple jurisdictions make it difficult for any single government to regulate or monitor.
- Channels can be created anonymously, messages can be edited post-posting with timestamps retained, and bots can be deployed at scale.
- This makes it a preferred tool for misinformation networks, exam fraud rackets, and organised cybercrime, posing serious challenges to law enforcement agencies worldwide.

Background: The NEET Paper Leak Crisis

- NEET UG is India's national undergraduate medical entrance exam, conducted by the NTA.
- The May 3 exam was cancelled after evidence emerged of systematic paper leaks and irregularities. A re-examination was then scheduled for June 21.
- Following the cancellation, Telegram channels openly began offering candidates purported access to the re-examination paper, demanding fees ranging from **a few thousand to several lakh rupees**.

The Government's Response

- MeitY issued the blocking order under **Section 69(A)** of the Information Technology Act, 2000.
- This provision allows the Central Government to block public access to any online platform or content in the interest of:
 - Sovereignty and integrity of India
 - Defence and security of the state
 - Public order
 - Prevention of cognisable offences

- **Message-Editing Feature Disabled Until June 30**
 - Separately, MeitY directed Telegram to disable its message-editing feature in India until June 30.
 - Telegram allows channel administrators to edit previously posted messages — including swapping attached PDF files — while **original timestamp is retained**.
 - This feature is exploited to fabricate paper leak "evidence": an administrator edits an old, innocuous post to insert the actual question paper after the exam is over, making it appear as though the paper was circulating before the exam.
 - The altered chat is then shared as fake proof of a leak. Disabling this feature closes this avenue of post-exam fabrication.

Broader Issues Raised

- **Systemic vulnerability of examination infrastructure** - NEET has now faced paper leak controversies in consecutive years, raising serious questions about how question papers are stored, printed, and distributed.
- **Digital platforms and exam integrity** - Telegram's architecture — large anonymous channels, file-sharing capability, message editing — makes it structurally conducive to misuse in high-stakes exam contexts.
- **Platform accountability** - The episode raises the question of how much responsibility social media and messaging platforms bear for misuse of their features. The message-editing direction sets a notable precedent for feature-level regulation.
- **Tension between free speech and state regulation** - Section 69A allows blocking without any prior judicial scrutiny. The lack of transparency in blocking orders has been a concern raised by digital rights organisations.

Conclusion

The Telegram ban is a short-term emergency measure, not a structural solution. It highlights two deeper problems — the fragility of India's examination security chain, and the regulatory gap in holding digital platforms accountable for features that enable large-scale fraud against vulnerable citizens.

THE LONG-TERM IMPLICATIONS OF THE U.S.-IRAN DEAL

- The proposed **Memorandum of Understanding (MoU)** between **Iran** and the **United States** marks a significant step towards de-escalation after years of hostility. Agreement seeks to establish a ceasefire and create space for negotiations on contentious issues.
- Beyond immediate diplomacy, the conflict has already triggered profound geopolitical, economic, and security transformations across West Asia, with implications for the global order.

Challenges to a Durable Peace

- **Unresolved Strategic Disputes**
 - Several contentious issues continue to impede progress in negotiations.
 - These include U.S. sanctions, the release of frozen Iranian assets, demands for reparations, and broader regional security concerns.
 - The most difficult issues remain **nuclear enrichment** and Iran's role in the **Strait of Hormuz**.
- **The Strait of Hormuz as a Flashpoint**
 - The Strait of Hormuz remains central to the dispute because of its importance to global energy flows. Any disruption in this maritime chokepoint threatens international trade and energy security.

Geopolitical Lessons from the Conflict

- **Limits of Military Power**
 - The conflict exposed the limits of **American military power** despite technological superiority and extensive military capabilities.
- **Return of Multilateralism**
 - The shortcomings of unilateral military action and **coercive diplomacy** have strengthened the case for **multilateralism**. Countries are increasingly recognising the importance of international cooperation, and collective approaches to conflict resolution.

- **Prospects for a New Regional Framework**
 - A cooperative mechanism involving the littoral states of Hormuz could provide a more sustainable security arrangement.
 - Although legal and political obstacles remain significant, such a framework may offer a pathway towards reducing tensions while preserving regional stability.

The Implications of US-Iran Conflict

- **Rise of Non-State Actors**
 - Even if diplomatic efforts succeed, instability may persist.
 - The weakening of Iran and its allied networks could create opportunities for non-state actors and militant organisations.
 - Groups such as **Islamic State**, **al-Qaeda**, and other extremist movements may exploit political vacuums and social grievances to expand their influence.
- **Risk of Prolonged Instability**
 - Military confrontations often leave behind conditions conducive to insurgency, radicalisation, and proxy conflicts.
 - Without inclusive political settlements, the region may continue to experience cycles of violence despite formal agreements.

Conclusion

- The conflict has reshaped regional geopolitics, underscored the importance of **energy security**, revealed the limitations of military solutions, and accelerated strategic realignments across West Asia.
- Achieving lasting peace will depend on sustained diplomacy, mutual compromise, and the development of cooperative regional security frameworks.
- While immediate tensions may subside, the long-term consequences of the crisis will continue to influence both regional and global affairs.

MANAS NATIONAL PARK



Recently, the Chief Minister of Assam announced that Manas National Park has recorded zero rhino and tiger poaching cases for three consecutive years.

- **Location:** It is located in the foothills of the Himalayas in Assam.
- It shares a border with Bhutan's Royal Manas National Park.
- The park's elevation ranges from 60 to 1,500 meters (200 to 4,900 feet) above sea level, contributing to its rich biodiversity.
- **River:** The Manas River (A major tributary of the Brahmaputra River), from which its name has been derived, flows through the west of the park and is the main river within it.
- The area has the unique distinction of being a United Nations Educational, Scientific and Cultural Organisation (UNESCO) World Heritage Site, a Tiger Reserve, an Elephant Reserve, a Biosphere Reserve, and an Important Bird Area.
- It is one of the first reserves included in the tiger reserve network under Project Tiger in 1973.
- The park is inhabited by several indigenous communities, including the Bodo.

Vegetation: It consists of semi-evergreen and mixed deciduous forests, interspersed with grasslands and riparian vegetation (in the core area).

Flora: The most presiding plant species found here are hoolong trees. Some other prominent species available here are Amari, Dewa Sam, Himolu, Garjan, etc.

Fauna: It is home to Hispid Hare, Pygmy Hog, Golden Langur, Indian Rhinoceros, Asiatic Buffalo, etc.

WIND TURBINE SUPPLY CHAIN MANAGEMENT PORTAL



- It is **India's first dedicated digital platform** for streamlining the **wind energy supply chain**.
- It is aimed at strengthening the **country's domestic wind manufacturing ecosystem** and accelerating its clean energy ambitions.
- It has been developed under the aegis of the **Ministry for New and Renewable Energy (MNRE)** with support from the **Indian Wind Turbine Manufacturers Association (IWTMA)**.

Key Features:

- **Visibility:** It is designed to improve visibility across the wind energy supply chain.
- **Approved List of Models and Manufacturers Linkage:** It facilitates compliance with domestic sourcing requirements under the Approved List of Models and Manufacturers (ALMM) framework,
- **Collaboration:** It supports **supplier discovery and qualification**, strengthens collaboration among stakeholders and **enhances export readiness**.

What is Wind Energy?

- Wind energy is a **renewable energy source** that uses the wind's kinetic energy to generate electricity.
- Wind turbines **capture the wind's power** and use it to **spin a generator, which creates electricity**.
- **Wind Energy Top States in India:** Tamil Nadu, Gujarat (has the highest potential), Rajasthan, Karnataka, Maharashtra, Telangana, Madhya Pradesh, etc.

KEY FACTS ABOUT POWAI LAKE



- It is an **artificial lake** situated in the **northern suburb of Mumbai, Maharashtra**.
- It was constructed by the **British in 1890** by building two dams across the **Mithi River** to augment Bombay's water supply.
- The lake has a **catchment area of 6.6 sq. km** and a depth ranging from **3 to 12 metres**.
- The southern hillocks around the lake form the **lowest slopes of the Western Ghats**.

Powai Lake flanked by two premier institutions which are **Indian Institute of Technology-Bombay (IIT-B)** and the **National Institute of Industrial Engineering (NITIE)**.

- The **Padmavati Devi Temple**, situated on the bank of the lake **inside IIT Bombay campus** dates back to the **10th century AD**.
- The lake is **surrounded by the Powai Bird Sanctuary** and is an important resting, feeding, and breeding site of several **bird species, resident and migratory**.
- The lake serves as an important habitat for resident and migratory birds, including the **Watercock, Pheasant-tailed Jacana, Woolly-necked Stork, Caspian Tern, and Peregrine Falcon**. It also supports a small population of **Marsh Crocodiles**.
- It also supports fishing activities and is currently being used for the **conservation of the Indian mahaseer**.
- In recent times, **40% of the lake has disappeared** due to the accelerated growth of residential, commercial, and industrial areas around the lake.