JUDICIAL ACCOUNTABILITY IN INDIA – THE JUSTICE VARMA CASE

- The removal of judges in India is governed by **Article 124(4)** and **Article 217** of the Constitution.
- A judge of the Supreme Court or High Court can be removed only on grounds of **proved misbehaviour or incapacity**. The process is deliberately rigorous to prevent arbitrary removal.
- The procedure begins with a motion in Parliament.
    - If admitted, a **three-member inquiry committee** is constituted under the **Judges (Inquiry) Act, 1968**. This committee investigates the charges and submits a report.
    - If the committee finds the charges proved, both Houses of Parliament must pass a removal motion with a **special majority**. The final removal is done by the President.

Judges Inquiry Committee: Structure and Functioning

- The inquiry committee plays a central role in establishing facts. It typically consists of a Supreme Court judge, a High Court Chief Justice, and a distinguished jurist.
- The committee conducts hearings, examines witnesses, and reviews evidence. Proceedings are often held in-camera to maintain confidentiality.
- Importantly, the committee operates under a statutory framework and is expected to follow principles of natural justice. It ensures that the judge concerned gets an opportunity to defend themselves.
- The outcome of the inquiry determines whether Parliament proceeds with impeachment.

Issue of Resignation During Inquiry

- A key legal issue arises when a judge resigns during the inquiry process. The Constitution and the Judges (Inquiry) Act do not clearly specify whether the inquiry should continue in such cases.

- Past instances show inconsistency. In some cases, inquiries were discontinued after resignation, while in others, committees continued their work and submitted findings.
- Legal experts argue that the **investigative stage is independent** and serves a public purpose. It helps establish truth and accountability, even if removal becomes redundant after resignation.
- If inquiries are automatically terminated upon resignation, it may allow judges to avoid adverse findings by stepping down at a strategic stage. This raises concerns about institutional credibility.

News Summary: Justice Yashwant Varma Case

- The case against Justice Yashwant Varma originated from **allegations of unaccounted cash discovered at his official residence following a fire incident**.
- A parliamentary inquiry committee was constituted under the Judges (Inquiry) Act, 1968. The panel conducted multiple in-camera hearings and examined several witnesses as part of the investigation.
- During the proceedings, assisting counsel informed the committee that the evidence was sufficient to substantiate the charges. These included possession of unexplained cash, interference with material evidence, and furnishing misleading explanations.
- The inquiry had reached an advanced stage and was about to enter the defence phase when the judge chose to withdraw from the proceedings.

Resignation and Its Implications

- Justice Varma submitted his resignation during the inquiry and alleged procedural unfairness in the process.
- Following the resignation, the **committee concluded that the impeachment process could not continue, as it applies only to a sitting judge**. The panel formally closed proceedings and submitted its report to the Lok Sabha.
- However, the resignation does not completely end accountability. Since the judge is no longer in office, criminal proceedings may still be initiated under ordinary law, subject to approval.

INDIA'S LPG CRISIS IS THE WAKE-UP CALL, IT CANNOT IGNORE

- India's energy demand continues to rise sharply, while domestic supply lags behind.
- With **crude oil import dependence** at 88.6% and **domestic production** meeting only half the gas requirement, reliance on LNG imports is increasing. Energy demand is projected to triple by 2047, widening the gap further.
- This imbalance exposes the economy to global price shocks, geopolitical disruptions, and currency volatility, which fuel inflation and strain public finances.
- Infrastructure limitations worsen the issue. Despite high **regasification capacity**, utilisation remains low due to **pipeline constraints** and **demand mismatches**.
- Additionally, **LPG supply chains** depend heavily on imports from West Asia, making them fragile.
- Recent shortages in major cities, accompanied by extreme price spikes, demonstrate the system's vulnerability.
- While short-term government interventions offer relief, they fail to address the root problem of import **dependence** and systemic **inefficiency**.

Compressed Biogas: A Strategic Opportunity

- Compressed Biogas (CBG) presents a powerful solution that integrates **energy security**, **environmental sustainability**, and rural development.
- India has an estimated potential of 62 MMT annually from **agricultural residues**, animal waste, and municipal waste, yet current production remains minimal.
- This gap reflects an execution failure, not a resource shortage. Government initiatives like SATAT and GOBAR-DHAN provide policy support, financial incentives, and assured offtake.
- However, progress is hindered by **fragmented** feedstock supply, delayed financing, complex regulatory approvals, and an underdeveloped digestate market.
- Without a strong operational ecosystem, scaling CBG remains difficult despite clear policy intent.

Steps to Unlock the Full Potential of CBG

- **Feedstock Security Framework**
  - Reliable biomass supply must be ensured through **state-wise mapping**, efficient aggregation models, and long-term contracts.
  - Aligning feedstock types with appropriate technologies will enhance efficiency and project viability
- **Simplified Regulatory and Financial Systems**
  - A single-window clearance mechanism can reduce delays significantly.
  - Financial innovation through viability gap funding, green bonds, and carbon credits can improve project economics and attract private investment.
- **Promotion of Energy Crops:** India should promote energy crops such as **Napier grass**. Allocating a small share of **agricultural land** can create a stable biomass base without affecting food security. This approach supports diversification and strengthens supply reliability.

Toward Meaningful Energy Reform

- With timely action, India can scale CBG production to 20 MMT by 2030. The benefits extend beyond energy.
- A strong CBG ecosystem can reduce stubble burning, improve air quality, generate **rural employment**, and increase **farmer incomes**.
- It also supports a **circular economy** by converting waste into valuable energy.
- The success of the **ethanol blending** programme proves that transformation is possible with clear policy direction and effective implementation.

Conclusion

- The choice lies between continued reliance on volatile global markets and building a resilient domestic energy system.
- CBG offers a practical pathway toward energy transition and long-term stability.
- The path forward is clear; what remains is **decisive and timely action.**

INDIA BETS BIG ON 3D GLASS SEMICONDUCTORS FOR CHIP FUTURE

The foundation stone for India's **first** advanced 3D chip packaging unit was laid in **Bhubaneswar**, Odisha. Approved under the **India Semiconductor Mission (ISM)** at a cost of ₹1,934 crore, the facility is led by US-based 3D Glass Solutions and has received investments from Intel, Lockheed Martin, and other venture capital and private equity funds.

It is being described as the project that will put India "at the cutting edge of technology" in advanced chip packaging.

What are Semiconductors and Why Do They Matter

- A **semiconductor** is a material (usually silicon) that can conduct electricity under certain conditions — making it the foundation of all modern electronics, from smartphones and laptops to missiles and satellites.
- **Chips** (or integrated circuits) are tiny devices made from semiconductors that process and store information.
- Every digital device —phone, car, ATM — runs on chips. Countries that can design and manufacture chips hold enormous technological, economic, and strategic power.

Traditional Chips vs. 3D Glass Chips — What's the Difference

- Traditional chips are built on **silicon wafers**, with all components arranged side by side on a flat, planar surface.
- This works well up to a point, but as one tries to fit more and more components onto the same flat surface, he/she inevitably hit physical limits.
- There is only so much space on a single layer, and beyond a certain point, components simply cannot be made any smaller or packed any tighter without causing errors, overheating, or signal interference.
- **3D Glass Chips — The Next Generation**
    - Think of 3D chips as skyscrapers instead of bungalows — instead of spreading components sideways, stack them vertically, dramatically increasing computing power within the same physical footprint.

About the Odisha Facility

- **Location -** Bhubaneswar, Odisha
- **Cost-** ₹1,934 crore
- **Technology -** 3D Glass Chip Packaging and 3DHI modules
- **Lead Company -** 3D Glass Solutions (USA)
- **Key Investors -** Intel, Lockheed Martin, VC/PE funds
- **Applications -** Artificial Intelligence, 5G, Defence, Data Centres
- This is the only project among the ten approved under ISM that represents truly advanced packaging — making it strategically distinct from all other approved plants.

India Semiconductor Mission (ISM) — Overview

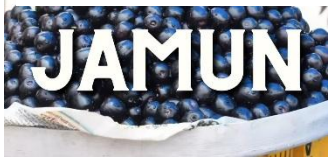
- Launched in 2021 with a total outlay of ₹76,000 crore, ISM was conceived as India's state-backed push to build a full-stack chip ecosystem — covering fabrication, packaging, testing, design, and display manufacturing.
- Key Achievements So Far:
    - 10 semiconductor projects approved across six states.
    - Total investments attracted: over ₹1.6 lakh crore.
- Projects include:
    - Chip fabrication plant by Tata Group.
    - OSAT (Outsourced Semiconductor Assembly and Test) units — including Micron Technology (USA).
        - OSAT - the stage after chip fabrication where chips are assembled into usable packages and tested for quality.
        - India currently has more OSAT capacity than fabrication capacity, reflecting where it is in the semiconductor value chain.
    - The Odisha 3D glass packaging facility.

From a **geopolitical perspective**, reducing dependence on imported chips — especially from Taiwan and China — is directly tied to **India's supply chain resilience and strategic autonomy**.

WHAT IS THE PRAJNA SYSTEM?

- It is an **indigenously developed satellite imaging system** to enhance the **real-time decision support for the security agencies.**
- The **AI-enabled system** was **developed by** the **DRDO's Centre for Artificial Intelligence and Robotics (CAIR).**
- It is intended to **strengthen** the country's **internal security** by **monitoring sensitive regions** and **aiding counter-terrorism operations.**
- The system **integrates satellite imagery with advanced AI-driven analytics** to provide **actionable insights in real time.**
- It is designed to significantly improve situational awareness and support faster, more accurate decision-making during critical operations.
- By leveraging artificial intelligence, it can **process vast volumes of satellite data**, **identify patterns and flag anomalies** that may otherwise go unnoticed through conventional methods.

JAMUN



- It is an important **indigenous minor fruit** of **commercial value.**
- It is also known as black plum, Indian black cherry, Ram jamun etc. in different parts of India.
- **Distribution:** The original home of jamun is India and also found in **Thailand, Philippines, Madagascar** and some other countries.
    - In India, the maximum numbers of jamun trees are found scattered **throughout the tropical and subtropical regions.**
    - It also occurs in the lower range of the Himalayas.

- **Required Climatic Conditions for Jamun**
  - **Soil:** It can be grown on a wide range of soils - **calcareous, saline sodic soils and marshy areas**.
  - Jamun can **grow well under salinity** and waterlogged conditions too.
  - **Climate:** It prefers to grow under **tropical and subtropical climate.**
  - It **requires dry weather** at the time off towering and fruit setting.
  - In subtropical areas, **early rain is considered** to be beneficial for ripening of fruits and proper development of its size, colour and taste.

TRUCK MOUNTED ATTENUATOR

- Truck Mounted Attenuators are specially **designed impact-absorbing safety devices** that play a critical role in protecting both workers and road users.

- **Functions of Truck Mounted Attenuators**
  - In the event of a collision, these **systems absorb and dissipate kinetic energy,** reducing the force of impact. This helps:
    - **Protect maintenance crews working** ahead of the vehicle
    - **Reduce injury risks** for occupants of the impacting vehicle
    - **Minimize the severity of accidents** in highway work zones
    - TMAs act **like an invisible shield** — standing between danger and human life.
  - **Early warnings that prevent accidents:** These TMAs are equipped with **high-intensity wig-wag warning lights,** designed to flash in alternating patterns that form directional arrows.
    - These signals provide clear and timely warnings to approaching drivers.
    - It is especially valuable **on high-speed highway** corridors, during **night-time** operations and in foggy or low-visibility conditions
  - By **alerting drivers well in advance**, these systems help prevent collisions before they occur.

SHEKHA JHEEL BIRD SANCTUARY

Recently, the Shekha Jheel Bird Sanctuary was designated as a Ramsar site, taking India's total to 99.

- **Location:** It is located in **Aligarh, Uttar Pradesh.**
- It is a typical monsoonal **wetland of the Gangetic plains.**
- It is a **fresh water perennial water body** that came into existence after the formation of the **Upper Ganges Canal** in 1852 which flows adjacent to the lake.
- It acts as a crucial **stopover on the Central Asian Flyway**.
- **Vegetation:**
    - The submerged vegetation consists of Hydrilla verticillata, Ceratophyllum demersum, Vallisneria spiralis, Potamogeton crispus and Najas.
    - Free-floating vegetation consists of Salvinia and Azolla, Eichhornia crassipes. Rooted floating vegetation includes Nymphoides cristata and Nymphoides indica.
- **Fauna:** It is providing a vital habitat for migratory birds such as the **Bar-headed Goose, Painted Stork** and various ducks during the winter season.

What are Ramsar Sites?

- It is a wetland recognized **under the Ramsar Convention** (1971) for its international importance in conserving biodiversity and sustaining ecological balance.
- These wetlands provide **critical habitats** for migratory birds, endangered species, and unique flora and fauna.
- They help in **groundwater recharge**, flood control, and climate regulation, while supporting local livelihoods like fishing and agriculture.
- India currently has **99 Ramsar Sites spread across 28 states** and union territories.