Today's Prelims Topics

Russell's viper

Context
Researchers have found that two existing drugs, **varespladib** and **marimastat**, can effectively treat **Russell's viper bites**, which cause many deaths in India.

About Russell's Viper
- **Scientific Name:** *Daboia russelii*
- **Named After:** Patrick Russell, Scottish herpetologist
- **Family:** Viperidae (highly venomous)
- One of the **"Big Four" deadliest snakes** in India (Others: Common krait, Indian cobra, Saw-scaled viper)
- Major cause of **snakebite deaths** in India and South Asia
- Found in: **India, Sri Lanka, Bangladesh, Nepal, Pakistan, Myanmar, Thailand, Cambodia, China, Taiwan, Indonesia**

Habitat
- Prefers **open grassy/bushy areas**, scrub jungles, farmland, and plantations
- Avoids **dense forests**
- Often found **near humans** due to rodent prey and farmland presence
- Bites usually occur **accidentally**; does not actively attack

Behavior & Features
- Mostly **nocturnal** and **sedentary**
- Grows up to **1.5 meters**
- Identified by **reddish-brown spots** with black-white outlines
- **Triangular head**, small vertical-pupil eyes, and overlapping scales
- Becomes active **at dusk**

Danger
- Fatalities often due to **delayed treatment**
- Venom affects **blood coagulation and kidneys**

Conservation Status
- **IUCN Red List: Least Concern**

Source: TheHindu

Vitiligo

Context
Vitiligo has gained attention for efforts to **raise awareness**, **dispel harmful myths**, and promote **inclusion and dignity** for those affected, ahead of World Vitiligo Day (June 25).

What is Vitiligo?
- A condition that causes **loss of skin color in patches**.
- Can affect any part of the body, including **hands, face, feet, forearms**, and **inside of the mouth**.
- May also affect **hair**, causing white or grey patches.
- Patches tend to **enlarge over time**.

Causes
- Caused by the **destruction of melanocytes** (cells that produce melanin) by the immune system.
- **Melanin** is the pigment that gives skin, hair, and eyes their color.
- About **30% of cases are genetic**.
- Exact cause remains under research.

Who is Affected?
- Affects **all races and genders equally**.
- More **visibly noticeable** in people with **darker skin tones**.
- Affects around **1% of the global population**.

Nature of the Condition
- **Not life-threatening**.
- **Not contagious**.
- Mostly a **cosmetic and psychological concern** due to social stigma.

Treatment
- **No permanent cure**.
- Treatment may help **restore skin color** in some cases.
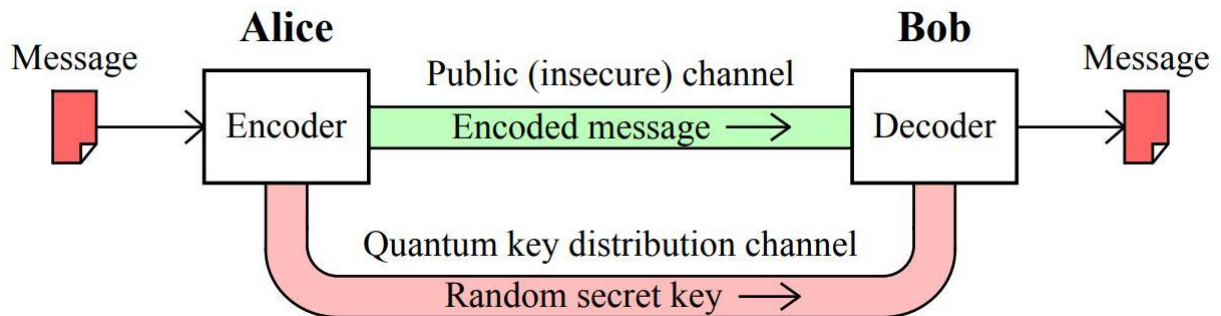- Does **not stop progression** or prevent recurrence.
Source: TheHindu

Quantum Communication

Context

DRDO and IIT-Delhi successfully demonstrated **quantum communication over 1 km in free space**, marking a major step toward secure, hack-proof defence communication in India.

About Quantum Communication

- It is a method of sending information using **tiny particles like photons** (light particles) in a **highly secure** way.
- It uses principles of **quantum physics**, especially **quantum entanglement**, to make communication channels **leak-proof**.
- Any **attempt to intercept** the communication instantly **alters the quantum state**, revealing the breach.
- This makes it ideal for use in **defence and critical infrastructure**.
- The key method used is **Quantum Key Distribution (QKD)** — a secure way to share encryption keys.
- **Quantum entanglement** means two particles are connected so that a change in one affects the other, even at a distance.

Applications of Quantum Communication

1. **Military and Government:** Enables **secure, spy-proof communication** of highly sensitive data.
2. **Banking Sector:** Uses QKD to **protect online banking** and **international financial transactions**.
3. **Power Grids:** Secures critical infrastructure from **cyber-attacks** that could disrupt electricity supply.
4. **Consumer Privacy:** Enhances protection of **personal data** during internet usage, including cloud storage and e-commerce.
5. **Scientific Collaboration:** Ensures **safe sharing of research** and proprietary data between institutions.
6. **Navigation (e.g., GPS):** Provides **tamper-proof, secure signals**, improving reliability and safety of navigation systems.

Source: TheHindu

Operation Sindhu

Context

The first flight of Operation Sindhu, carrying 110 Indian students evacuated from Iran due to the escalating Iran-Israel conflict, landed safely in New Delhi.

About Operation Sindhu

- Operation Sindhu is a government-led mission to evacuate Indian nationals from conflict-affected areas in Iran.
- It is launched by the **Ministry of External Affairs (MEA)**, Government of India.
- The operation is supported by Indian Embassies in Iran and Armenia.
- Its main aim is to **safely evacuate Indian citizens**, especially students, from war-hit regions of Iran.
- The evacuation route involves transporting people from **northern Iran to Yerevan, Armenia, and then to New Delhi.**
- The Indian Embassy is closely monitoring the situation and coordinating actively with local governments.
- A 24/7 MEA Control Room has been set up in New Delhi to provide continuous assistance.

Other Evacuation Missions by India

Vande Bharat Mission	Evacuation of Indians stranded abroad during COVID-19 (2020)
Operation Devi Shakti	Evacuation from Afghanistan after Taliban takeover (2021)
Operation Ganga	Evacuation of Indians from Ukraine war zones (2022)
Operation Kaveri	Rescue of Indian citizens from Sudan conflict (2023)
Operation Ajay	Return of Indians from Israel during conflict (2023)
Operation Sindhu	Ongoing evacuation from war-hit Iran (2025)

Source: TheHindu

Exercise SHAKTI

Context

Exercise SHAKTI-VIII is in news as India and France began their joint military exercise in France from **18 June 2025**, strengthening defence ties and interoperability.

About Exercise SHAKTI

- The **8th edition** of Exercise SHAKTI is being held from **18 June to 1 July 2025** at **Camp Larzac, La Cavalerie, France**.
- It is a **biennial joint military exercise** between **India and France**.
- The **Indian Army contingent** includes **90 personnel**, mainly from the **Jammu & Kashmir Rifles**.
- The **French contingent** also has **90 personnel**, including troops from the **13th Foreign Legion Half-Brigade (13th DBLE)**.
- The exercise aims to boost **interoperability**, **operational coordination**, and **military-to-military ties**.
- Focus is on **joint operations in sub-conventional warfare** under **Chapter VII of the UN Charter**.
- Training is conducted in **semi-urban terrain**.
- Activities include **tactical drills**, sharing of **TTPs** (Tactics, Techniques & Procedures), and use of **new-generation equipment**.
- The exercise promotes **physical endurance**, **team spirit**, and **mutual respect**.
- It reflects the **strengthening defence cooperation** and **strategic partnership** between India and France.

Source: PIB

Rinderpest Virus

Context
India has achieved a major milestone in global animal health with the **ICAR-National Institute of High Security Animal Diseases (NIHSAD)** in **Bhopal** being designated as a **Category A Rinderpest Holding Facility (RHF)**.

About Rinderpest
- Also known as **cattle plague**, it is a **highly contagious viral disease** that affects **cloven-hoofed animals** like cattle and buffalo.
- Caused by a virus from the **Paramyxoviridae family**, genus **Morbillivirus**.
- While animals like **sheep and goats** may show mild symptoms, **cattle and buffalo** can suffer **up to 100% mortality** in highly susceptible herds.
- Other susceptible species include **zebus, eland, kudu, wildebeest, giraffes, antelopes, bushpigs, and warthogs**.
- **Transmission** occurs through direct contact; the virus is found in **nasal secretions** before symptoms appear, and later in most body fluids.
- **Symptoms in cattle** include:
  - High fever
  - Mouth lesions
  - Nasal and eye discharge
  - Severe diarrhoea and dehydration
  - Death usually within **10–15 days**
- Rinderpest **does not affect humans** and poses **no public health risk**.
- It historically occurred in **Europe, Africa, and Asia**, and was **officially eradicated in 2011**.

Rinderpest Holding Facility (RHF) Designation
- Given by the **World Organisation for Animal Health (WOAH)** and the **United Nations' FAO**.
- Aims to **prevent re-emergence** by limiting storage of **Rinderpest Virus-Containing Material (RVCM)** to a few **secure laboratories worldwide**.
- **ICAR-NIHSAD (Bhopal)** was designated India's official **RVCM repository** in **2012**.
- It is a **Biosafety Level-3 (BSL-3)** facility and a **WOAH reference lab** for avian influenza.
- After rigorous evaluation, it was awarded **Category A RHF status** for **one year**.
- India is now among **only six global facilities** entrusted to securely hold rinderpest virus material.

Source: NewsOnAir

Saraswathi Rajamani

Context
Saraswathi Rajamani was **India's first female spy** during the freedom struggle.

About Saraswathi Rajamani
- Born on **11 January 1927** in Rangoon (now Yangon), Burma, into a wealthy, freedom-fighter family.
- At age **10**, she impressed Mahatma Gandhi by firing a gun and boldly declaring her intent to "shoot the British".
- Deeply inspired by **Netaji Subhas Chandra Bose** at age 16, she donated all her gold and diamond jewelry to the INA and was personally renamed **"Saraswathi"** by him.
- Joined the **Rani of Jhansi Regiment** and became India's **first female spy**, adopting the alias **"Mani"** and disguising herself as a boy.
- Operated covertly in British camps, intercepting orders and intelligence for the INA over a span of **two years**.
- Executed a daring rescue of a fellow spy while disguised as a dancer; she subdued officers, escaped under gunfire, and sustained a leg injury that left her with a permanent **bullet-wounded limp**.
- Awarded a **medal by the Japanese emperor** and the rank of **Lieutenant** in the INA's Rani of Jhansi Brigade.
- After the INA disbanded, she returned to India in near poverty and lived modestly in Chennai; in 2005, TN CM Jayalalithaa provided her a home and financial aid.
- Passed away on **13 January 2018** in Chennai, her extraordinary life later revived through articles, films, and educational features.
- As part of **Azadi Ka Amrit Mahotsav**, **10-year-old twin sisters Devyani and Shivranjani** wrote an **illustrated book** on **Saraswati Rajamani**, India's youngest female spy.

Source: TheHindu

Padma Bhushan

Context

Ram Bahadur Rai was recently awarded the **Padma Bhushan** for his outstanding contributions to journalism and literature.

About Padma Awards

- **Instituted in 1954**, the Padma Awards are among **India's highest civilian honours**.
- Initially, Padma Awards had three classes: **Pahela Varg, Dusra Varg, and Tisra Varg.**
    - These were renamed in 1955 as **Padma Vibhushan, Padma Bhushan and Padma Shri.**
- Announced **annually on Republic Day (26th January)** to recognize excellence in public service and various fields.
- The awards are presented in **three categories**:
    - **Padma Vibhushan** – for exceptional and distinguished service.
    - **Padma Bhushan** – for distinguished service of high order.
    - **Padma Shri** – for distinguished service.
- **Padma Vibhushan** is the highest among the three, followed by **Padma Bhushan** and then **Padma Shri**.
- Conferred by the **President of India** in a ceremony held during **March/April**.
- Recipients receive a **Sanad (certificate), medallion, and a replica** for ceremonial use.
- Given across diverse fields like **art, literature, science, education, social work, medicine, civil service, public affairs, industry, sports**, etc.
- **All individuals** regardless of race, gender, occupation, or position are eligible.
- Since **2014**, the government has highlighted **"unsung heroes"** through the Padma Awards, branding them as **"People's Padma"**.
- In the most recent awards, **30 unsung individuals** were honoured.
- The selection is done by the **Padma Awards Committee**, headed by the **Cabinet Secretary** and includes:
    - **Home Secretary**,
    - **Secretary to the President**,
    - **4–6 eminent persons**.
- The committee submits recommendations to the **Prime Minister and President** for final approval.
- **Posthumous awards** are generally avoided unless in exceptional cases.
- A **higher category award** can be given only **after 5 years**, unless the committee allows otherwise.
- The award is **not a title** and **cannot be used as a prefix or suffix** to the recipient's name.
- Only **120 awards** are given each year (excluding posthumous, NRI, OCI, and foreign recipients).

Source: PIB

Desi Oon

Context
"Desi Oon" won top honors at the **Annecy Festival 2025.**

About Desi Onn
- **"Desi Oon"**, an animated short by **Suresh Eriyat** and produced by **Studio Eeksaurus**, won the **Jury Award** at **Annecy International Animation Festival 2025**.
- Won **Best Film** at the **WAVES Awards of Excellence 2025** under the **Create in India Challenge**.
- **Shortlisted at Cannes Lions 2025** in the **Film Craft Lions category**.

About WAVES 2025
- **WAVES** stands for **World Audio Visual & Entertainment Summit**.
- It is a **global event** organized by the **Government of India**.
- Aims to establish **India as a hub** for **media innovation**, **intellectual property (IP) creation**, and **content development**.
- Covers sectors like:
    - **Broadcasting**,
    - **Films**,
    - **Television**,
    - **Radio**,
    - **Animation**,
    - **Gaming**,
    - **Comics**,
    - **Advertising**,
- **Emerging technologies** such as **Generative AI**, **AR/VR/XR**, and **Digital Media Platforms**.
- Supports India's **Creative Economy**, valued at **$30 billion**, employing nearly **8% of the workforce**.
- Plays a vital role in boosting the **Media & Entertainment (M&E) sector**.
- India's M&E sector is currently the **5th largest globally**.
- It is projected to grow to **$44.2 billion by 2028**.

Source: PIB

Pradhan Mantri Awas Yojana (PMAY)
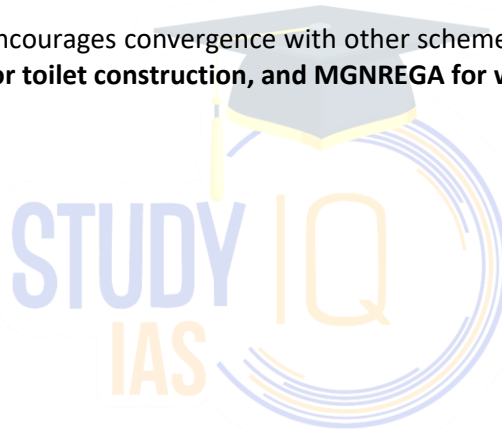
Context
The centre approved construction of 2.35 lakhs houses under PMAY.

About Pradhan Mantri Awas Yojana (PMAY)
● It is a credit-linked subsidy scheme initiated to provide affordable housing to low and moderate-income residents across the country.
● **Components:**
   ○ **PMAY-U (Urban)**
      ■ **Objective:** To provide housing for all in urban areas.
      ■ **Nodal Ministry:** Ministry of Housing and Urban Affairs (MoHUA)
      ■ **Beneficiaries:** Economically Weaker Section (EWS), Low-Income Group (LIG), and Middle-Income Group (MIG).
   ○ **PMAY-G (Gramin)**
      ■ **Objective:** To provide a pucca house with basic amenities to all rural families who are homeless or living in kutcha or dilapidated houses.
      ■ **Nodal Ministry:** Ministry of Rural Development (MoRD)
      ■ **Beneficiaries:** Identified using the **Socio-Economic and Caste Census (SECC) 2011.**
      ■ It also encourages convergence with other schemes like S**wachh Bharat Mission (SBM) for toilet construction, and MGNREGA for wage employment.**

Source: The Hindu

United Nations Ocean Conference (UNOC)

Context
The 2025 UN Ocean Conference was held in Nice, France.

About UNOC
- A global platform to accelerate action for ocean protection and sustainable use of marine resources.
- Focuses on establishing **marine protected areas (MPAs)** in international waters, reducing overfishing, preventing deep-sea mining, and advancing SDG 14 (Life Below Water).
- The third edition was recently held in **France**.

About BBNJ (Biodiversity Beyond National Jurisdiction)
- Also known as the **High Seas Treaty**.
- Aims to conserve and sustainably use marine biodiversity in **areas beyond national jurisdiction** (the high seas).
- Addresses four main areas:
  - **Marine Protected Areas**
  - **Environmental Impact Assessments**
  - **Marine Genetic Resources and Benefit Sharing**
  - **Capacity-building and technology transfer**
- Needs **60 ratifications** to become legally binding; **56 countries** have ratified so far (India and U.S. yet to ratify).

Key Achievements at the 2025 UNOC (France)
- **56 out of 60 ratifications** secured for the BBNJ Treaty.
- **European Commission**: €1 billion for ocean conservation, science, and sustainable fishing.
- **French Polynesia**: Announced the world's largest MPA (5 million sq. km).
- **New Zealand**: $52 million for ocean governance in Pacific Islands.
- **Germany**: €100 million for clearing wartime munitions in the Baltic and North Seas.
- **Panama & Canada-led Coalition**: Launched the *High Ambition Coalition for a Quiet Ocean* to address ocean noise pollution.
- **Italy**: €6.5 million to boost marine surveillance.
- **Canada**: $9 million to build climate resilience in small island and coastal nations
- **Spain**: Announced five new MPAs to protect 25% of its marine areas.
- **UN Agencies**: Launched *One Ocean Finance* to unlock funding for the blue economy.
Source: The Hindu

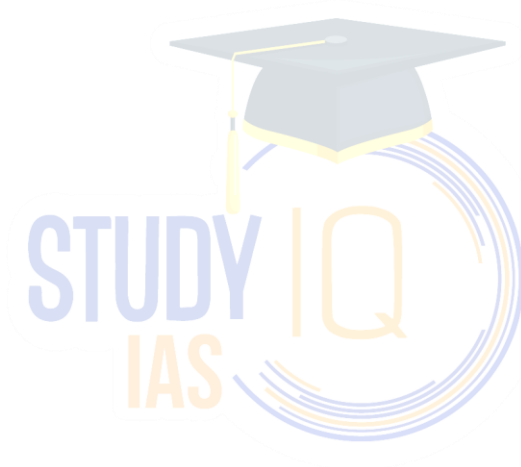# News in Short

Mount Denali
News? Sheikh Hasan Khan, a mountaineer from Kerala has issued an SOS after being trapped in a severe snowstorm on Mount Denali. **About Mount Denali** ● It is the **highest peak in North America**. ● Lies in **Alaska Range.**

Editorial Summary

Possible Outcomes Of Ongoing Israel- Iran Conflict

Context

On June 13, Israel launched major airstrikes on Iran's nuclear and military sites, triggering large-scale Iranian retaliation, escalating the regional conflict, and raising global concerns over war and instability.

Implications

- **Regional Destabilization:** Intensified conflict risks dragging Lebanon, Syria, and Gulf states into war, undermining regional security architecture.
- **Nuclear Proliferation Threat:** Incomplete destruction of Iran's nuclear sites may push Tehran to accelerate weaponization clandestinely.
- **Civilian Suffering and Displacement:** Civilian casualties and infrastructure damage in both countries may deepen humanitarian crises and domestic unrest.
- **US Geopolitical Dilemma:** Pressure mounts on the US to intervene, complicating its strategic balance between Israel and Gulf allies.
- **Global Polarization:** The conflict may widen rifts between pro-Israel Western powers and nations backing diplomatic restraint like China and Russia.
- **Economic Volatility and Oil Shock Risk:** Rising conflict threatens **global oil routes** through the Strait of Hormuz, with ripple effects on **energy markets, inflation, and trade**.

What are the Challenges in Achieving War Goals

- **Partial Damage to Nuclear Facilities:** While the IAEA confirmed major damage at sites like Natanz and Isfahan, Iran's heavily fortified Fordow facility remains largely unaffected, meaning Israel has not effectively neutralized Iran's nuclear capabilities.
- **Persistent Iranian Counterattacks:** Iran continues to launch drones and missiles despite suffering initial blows, defying Israel's expectations of a swift and decisive outcome.
- **Threat of a Prolonged Stalemate:** With key Iranian installations still operational and global alarm mounting, Israel now faces the possibility of being drawn into a long, expensive, and inconclusive war.

Way Ahead

- **Urgent Ceasefire Mediation:** Neutral actors like the UN or Gulf states must broker a ceasefire to prevent wider war.
- **Reopen Diplomatic Channels:** Both sides should be pushed toward backchannel talks, possibly via Oman, UAE, or EU mediators.
- **Global Non-Proliferation Push:** The IAEA must be empowered to inspect and stabilize Iran's nuclear programme with international oversight.
- **Limit External Involvement:** U.S., Russia, and China must avoid direct entanglement and instead focus on de-escalation frameworks.
- **Humanitarian Support:** Immediate international aid is needed for affected civilians in both Israel and Iran.
- **Address Root Tensions:** Long-term peace requires addressing Iran-Israel hostilities via a new West Asia security architecture.

Source: The Hindu

Holding creditor power in IBC to account

Context
There have been growing concerns related to the Committee of Creditors (CoC) unchecked discretion, lack of transparency, and procedural opacity in key decision-making.

What is the CoC under IBC, 2016?
● The **Committee of Creditors (CoC)** is a central decision-making body under the **Insolvency and Bankruptcy Code, 2016**.
● It consists primarily of **financial creditors** and is empowered to:
  ○ Approve or reject resolution plans.
  ○ Decide on liquidation.
  ○ Appoint or replace the Resolution Professional.
● Its decisions require a **66% majority vote** and are considered binding on all stakeholders.
● Courts have upheld the **"commercial wisdom"** of the CoC as non-justiciable in most cases, giving it wide autonomy.

Growing Concerns About the CoC
● **Unchecked Discretion:** Courts generally do not interfere with CoC's decisions, assuming they are well-informed and rational.
  ○ However, decisions are often taken without transparency or recorded reasoning.
● **Opaque Decision-Making:** No legal requirement exists for the CoC to disclose how or why decisions are made.
  ○ Resolution plans are accepted/rejected without justification, leading to uncertainty.
● **Regulatory Loophole:** The 2020 removal of **Regulation 39(3)** eliminated the mandate to record reasons for resolution decisions, weakening transparency safeguards.
● **Instances of Misconduct:** Cases like **Kalyani Transco v. Bhushan Power & Steel Ltd (2025)** highlight abuse of power or procedural irregularities by the CoC.

Impact and Consequences
● **Loss of Trust in IBC:** Without visible reasoning, even fair decisions seem arbitrary, undermining confidence in the insolvency process.
● **Suboptimal Economic Outcomes:** Low recovery rates or premature liquidation might reflect poor judgment, but without records, stakeholders can't assess the basis of decisions.
● **Erosion of Fairness and Legitimacy:** The absence of basic transparency mechanisms makes the process appear unjust to operational creditors and bidders.
● **Unaccountable Power Use:** Creditor supremacy is accepted, but without procedural checks, it risks being perceived as **unfair dominance**.

Best Practices from Other Jurisdictions
● **United Kingdom – Structured Disclosures:**
  ○ **SIP 3.2 (Statement of Insolvency Practice 3.2):** Requires clear disclosures in **Company Voluntary Arrangements (CVAs)** – financials, plan details, and creditor impact.
  ○ **SIP 16 (Statement of Insolvency Practice 16):** Governs **pre-packaged sales** in administrations. Disclosures include valuation, marketing efforts, and buyer details.
● **Singapore:** The **Insolvency, Restructuring and Dissolution Act (IRDA)** integrates **judicial oversight** with creditor autonomy, ensuring fairness and accountability.
● **Global Administrative Norms:** In most democracies, decisions impacting rights must be **transparent and reasoned**, setting a benchmark for IBC reforms.

Way Forward for the IBC Framework

● **Reinstate Disclosure Requirements:** Bring back a provision like Regulation 39(3) requiring CoC to **briefly record reasons** for key decisions (e.g., plan rejection, liquidation).

● **Digital Record-Keeping:** Mandate **digitally signed, time-stamped minutes** of CoC meetings, accessible to adjudicating authorities if required.

● **Balance Autonomy with Accountability:** Do not dilute creditor primacy, but ensure **procedural discipline** to enhance fairness.

● **Preserve IBC's Institutional Legitimacy:** Transparency is essential for sustaining the Code's **efficiency, credibility, and investor confidence**.

Source: Businessline