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Credit - Drishti Ias

Revamping India's BFSI Sector



For Prelims: Reserve Bank of India , Capital formation , Sustainable development , Financial inclusion , Bank privatisation , Equities markets , Corporate bonds

For Mains: State of Banking, Financial, Services and Insurance (BFSI) Sector in India, Challenges Related to BFSI sector, Steps to be Taken to Address Challenges in India's BFSI Sector

Source: TH

Why in News?

India's Banking, Financial, Services and Insurance (BFSI) sector faces ongoing structural challenges, including fragmented regulations, a shallow corporate bond market, and unregulated shadow bankin g, highlighting the need for comprehensive reforms to strengthen and stabilize the financial system for sustainable growth.

What is the Current Status of India's BFSI Sector?

- **About:** The BFSI sector refers to **Banking, Financial Services, and Insurance**, which collectively form the backbone of a country's financial infrastructure.
 - It includes institutions such as banks, non-banking financial companies (NBFCs), insurance firms, mutual funds, pension funds, and fintech companies that provide financial products and services to individuals and businesses.
- State of India's BFSI Sector:
 - Rapid Expansion and Changing Sector Dynamics: India's BFSI sector saw a 50-fold surge in market capitalisation, from Rs 1.8 trillion in 2005 to Rs 91 trillion in 2025, with a CAGR of around 22%.
 - While banks remain foundational, their share in total market cap dropped from 85% to 57%, as Non-Banking Financial Companies (NBFCs) and fintechs gained ground through agility, innovation, and targeted financial solutions.
 - **Rise of Fintechs and NBFCs:** Since **2015,** the fintech sector has **grown exponentially** , now valued at over **Rs 12 trillion** .
 - Alongside, NBFCs have expanded significantly, bridging credit gaps for underserved populations, particularly in rural and informal sectors, thereby enhancing financial inclusion.

- Resilience & Financial Strength: The BFSI sector's contribution to Nifty-50 earnings (share of profits made by companies in the BFSI industry within the total earnings of the top-50 companies listed on the stock market) increased from 16% in FY10 to 33% in FY24, supported by better asset quality, strong credit demand, and lower provisioning.
 - By FY24, banks' net worth reached Rs 26 trillion and NBFCs' Rs 12.4 trillion, strengthening the sector's resilience.

What are the Key Challenges Related to India's BFSI Sector?

- Fragmented Regulatory Framework: India's BFSI sector faces challenges due to a fragmented regulatory structure, with different regulators like RBI, SEBI, and IRDAI overseeing various segments.
 - This leads to overlapping jurisdictions, regulatory gaps, and inconsistent supervision,
 resulting in compliance complexities and operational inefficiencies for financial institutions.
 - The RBI's directive to the National Stock Exchange (NSE) to build a secondary bond market was ignored, as equity trading offers higher profits —often through opaque algorithmic strategies that have drawn scrutiny.
- Underdeveloped Corporate Bond Market: India's corporate bond market remains shallow, illiquid, and opaque which keeps the cost of capital high, hampering business viability and economic growth.
 - India's domestic corporate bond market, valued at around Rs 64 trillion, represents only 18-20% of the country's nominal GDP.
- Opacity in Ownership and UBO Disclosure India faces challenges in ensuring transparency of capital flows and ownership in its financial markets due to lack of effective disclosure of the Ultimate Beneficial Owner (UBO).
 - Current thresholds for UBO disclosure (10% for companies and 15% for partnerships) allow investors to structure their holdings just below the limit to avoid reporting.
 - Investors often keep holdings just below disclosure limits (e.g., 9.9%) to evade UBO rules , hindering SEBI's ability to trace actual control.
 - Some Foreign Portfolio Investors (FPIs) resist sharing detailed ownership data, weakening SEBI's oversight. Despite India's Financial Action Task Force (FATF) commitments, poor implementation hampers enforcement, transparency, and investor trust.
- Weak Insurance Penetration: Despite rising awareness, insurance penetration in India remains low by global standards. As of 2023, it stood at just 4.2% of GDP, indicating limited coverage and underutilization of insurance as a financial safety net.
- Non-Performing Assets (NPAs): Despite recent declines, Non-Performing Assets remain a key
 challenge for Indian banks, especially public sector banks. High levels of bad loans constrain their
 lending capacity to productive sectors.
 - Measures like the Insolvency and Bankruptcy Code (IBC) and bank recapitalization have been undertaken, yet the NPA ratio continues to affect the overall efficiency and stability of the banking syste m.
- Shadow Banking Risks: Shadow banking (where NBFCs, margin lenders, and brokers provide banking-like service s without comprehensive regulation), poses a significant threat to India's financial stability.
 - Retail investors frequently end up paying high interest rates (over 20%) on margin loans, as

brokers lend back the investor's own funds and charge interest on the entire amount.

- The scale of such unregulated lending remains unclear to regulators, raising concerns about financial stability akin to the 2008 global financial crisis triggered by unregulated derivatives.
- Cybersecurity Threats: With growing digital adoption in the BFSI sector, cybersecurity risks have intensified. The rise in online banking and digital payments has increased vulnerability to data breaches, fraud, and cyber-attacks.
 - In 2024, over 1.35 lakh phishing attacks targeting India's financial sector were reported by cybersecurity firm Kaspersky.

What are the Key Committees Related to Financial Sector Reforms in India?

Area	Committee	Key Focus
Banking Reforms	Narasimham Committee	Banking sector reform, Asset Reconstruction
Financial Sector Reforms	Raghuram Rajan Committee	Overall financial sector reform
Bank Licensing	Bimal Jalan Committee	New bank licenses
NBFC Regulation	A.C. Shah Committee	Regulation of NBFCs
Cooperative Finance	R.N. Mirdha Committee	Cooperative societies
	Marathe Committee	Licensing of Urban Cooperative Banks
Banking Technology	Rangarajan Committee	Computerization of banks
NPAs & Credit Issues	Khanna Committee	Non-performing assets (NPAs)
	S.S. Kohli Committee	Willful defaulters
Financial Inclusion	Nachiket Mor Committee	Payment banks
	H.R. Khan Committee	Business Correspondent (BC) model
Rural & Priority Sector Banking	M.L. Dantwala Committee	Regional Rural Banks (RRBs)
	Gadgil Committee	Lead banking scheme
Capital Markets & Investment	Sodhani Committee	Forex & NRI investments
	Y.V. Reddy Committee	Small savings reform

What Measures can be Implemented to Revamp India's BFSI Sector?

- **Development of a Deep Bond Market:** India's corporate bond market, at just **18-20% of GDP,** lags significantly behind countries like **South Korea (80%) and China (36%).**
 - Strengthening this market can I ower borrowing costs, improve access to long-term capital
 , and support industrial growth and employment.
- Strengthening KYC and UBO Norms: Ensure accurate and accessible data on ownership and control of financial investments. Enforcing strict KYC and Ultimate Beneficial Ownership (UBO) compliance by SEBI will curb misuse, enhance transparency, and build investor trust in capital markets.
- Regulating Shadow Banking: Mandate c omprehensive data collection and transparency in shadow banking operations, especially among NBFCs, brokers, and margin lenders.
 - India should adopt a regulatory approach similar to the European Union's, using data as a foundation before enforcing tighter oversight.
- Integrated Financial Regulation: India needs harmonised regulation among RBI, SEBI, IRDAI, and PFRDA to address oversight gaps and regulatory inconsistencies.
 - Different KYC norms across financial sectors cause inefficiencies and loopholes. A unified framework can enhance regulatory efficiency, transparency, and compliance.
- Improving NPA Resolution Framework: To improve asset quality, NPA resolution must be faster and more efficient.
 - Strengthening the IBC with support for quicker resolutions and incentivized asset sales, along
 with enhancing the capacity of NCLTs and DRTs, can significantly boost recovery rates and
 reduce the burden on financial institutions.
- Reimagining the Insurance Market: Promote micro-insurance for low-income groups and offer tax incentives to middle-income segments.
 - **Simplify claim procedures, enhance transparency, and ensure timely settlements** to build trust and expand insurance coverage.
- Promoting Digital Transformation & Cybersecurity: As digital adoption grows, strengthening cybersecurity is crucial. Financial institutions should implement robust security frameworks and adopt AI, ML, and blockchain for better fraud detection and efficiency.
 - Initiatives like RBI's Mulehunter.ai highlight the move towards secure and intelligent digital banking.

Drishti Mains Question:

What are the key factors behind the growth of India's BFSI sector? Examine the major challenges it faces in ensuring financial stability and inclusive growth.

UPSC Civil Services Examination, Previous Year Question (PYQ)

Prelims:

Q1. With reference to 'Urban Cooperative Banks' in India, consider the following statements: (2021)

- 1. They are supervised and regulated by local boards set up by the State Governments.
- 2. They can issue equity shares and preference shares.
- 3. They were brought under the purview of the Banking Regulation Act, 1949 through an Amendment in 1966.

Which of the statements given above is/are correct?

- (a) 1 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

Ans: (b)

Q. Which one of the following links all the ATMs in India? (2018)

- (a) Indian Banks' Association
- (b) National Securities Depository Limited
- (c) National Payments Corporation of India
- (d) Reserve Bank of India

Ans: (c)

Mains:

Q. Pradhan Mantri Jan Dhan Yojana (PMJDY) is necessary for bringing unbanked to the institutional finance fold. Do you agree with this for financial inclusion of the poorer section of the Indian society? Give arguments to justify your opinion. (2016)

Trust-Based Regulation



For Prelims : Jan Vishwas (Amendment of Provisions) Act, 2023 , Environment Protection Act, 1986 , MSMEs , Union Budget 2025-26 , Indian Forest Act, 1927 , Invoice Management System (IMS) , GST , Alternative Dispute Resolution (ADR) , 73rd/74th Amendments , PARIVESH , MCA21

For Mains: Regulatory bodies and Jan Vishwas (Amendment of Provisions) Act, 2023, Need of trust-based regulation in India.

Source: TOI

Why in News?

The Jan Vishwas (Amendment of Provisions) Act, 2023, effective from August 2023, replaces criminal penalties with fines for minor violations, decriminalizing 183 provisions across 42 Central Acts to promote ease of living, ease of doing business, and a trust-based regulatory approach.

What is Jan Vishwas (Amendment of Provisions) Act, 2023?

- **About:** It is a significant legislative reform aimed at enhancing the **ease of doing business** and promoting **trust-based regulation** in India, covering laws under **19 ministries** like **environment**, **agriculture**, and **corporate affairs**.
 - E.g., Procedural lapses under Environment Protection Act, 1986 are now met with financial penalties instead of imprisonment.
- Objective: The reform shifts from punitive to reformative legal mechanisms by replacing jail terms for minor, non-malicious violations with monetary penalties, reducing fear and harassment, and improving compliance ease, especially for MSMEs.
- Need: Many outdated provisions created legal uncertainty, disproportionately affecting marginalised communities and burdening businesses with fear of prosecution.
 - A uniform compliance framework placed unequal stress on MSMEs , with high costs discouraging formalisation and expansion.
 - To unlock economic potential, India needed a trust-based governance model replacing colonial-era, fear-driven laws that criminalised minor violations.
- Future Steps: The Union Budget 2025-26 proposed Jan Vishwas Bill 2.0 to decriminalise over 100 more provisions and strengthen a trust-based regulatory system.
 - It urges states and municipalities, where most jail-term laws exist, to adopt reforms, modernise legal frameworks, and define clear criteria for imprisonment.

What is a Trust-based Regulatory Approach?

- About: It is a governance approach where the **government assumes that individuals and** businesses will act in good faith and comply with the law, instead of treating them as potential offenders from the start .
- Approach: This model focuses on reducing unnecessary legal burdens and promoting voluntary

compliance, while still retaining strict penalties for serious violations.

 It shifts from a policing mindset (strict penalties for minor violations) to a partnership model (encouraging voluntary compliance with reasonable consequences for lapses).

• Key Features:

- Decriminalization of Minor Offenses: Replacing jail terms with fines for procedural or technical violations.
- Risk-Based Enforcement : Strict action only for serious violations (e.g., fraud , safety risks).
- Simplified Compliance : Reducing bureaucratic red tape to encourage business growth .
- Self-Declaration & Transparency: Trusting businesses/citizens to comply with audits only for high-risk cases.
- Reduced Government Interference : Minimizing harassment and rent-seeking by officials.

Why does India Need a Trust-based Regulatory Approach?

- Reducing Colonial-Era Punitive Measures: Many colonial-era laws like the Indian Forest Act, 1927
 were designed to control rather than facilitate economic activity, imposing criminal penalties
 for minor violations that disproportionately impacted small businesses.
 - These laws fostered a climate of fear, harassment, and rent-seeking, which can be addressed through a trust-based regulatory approach.
- Ease of Doing Business: Excessive compliance burdens hinder entrepreneurship, with over 75% of MSMEs struggling with digital compliance and 95% needing more time and resources to adopt the Invoice Management System (IMS) under GST.
 - The Act helps address this by simplifying regulations, and making compliance easier and less intimidating for businesses.
- **Decongesting the Judiciary:** Over **5 crore cases** burden Indian courts, many from **minor violations** better handled with **penalties** than criminal trials.
 - Mechanisms like arbitration, mediation and conciliation can ease litigation and allow courts to focus on more critical cases.
- Reducing Corruption & Harassment: The threat of imprisonment for procedural lapses enabled rent-seeking by corrupt officials, while mandatory attestations, inspections, and redundant data requests wasted resources, shifting to a trust-based system can cut bureaucracy and free resources for productive use.
- Economic Growth: Fear of criminal charges from unintentional non-compliance deters small business expansion, but states like Madhya Pradesh, Kerala, and Haryana have adopted reforms that promote regional growth.
 - Building on this, Jan Vishwas 2.0 (Budget 2025-26) plans to decriminalize 100+ more provisions, further easing compliance and supporting business-friendly governance.
- Aligning with Viksit Bharat 2047 Vision: India's Amrit Kaal vision promotes minimum
 government, maximum governance, enabling citizens and businesses to operate with minimal
 interference. A trust-based system prioritizes outcome-based governance, encouraging
 innovation and investment.

What are the Challenges in India's Shift Towards

Trust-based Regulation?

- Legacy of Colonial Distrust in Governance: India's colonial legacy of suspicion and processheavy bureaucracy fosters excessive oversight, red tape, and distrust, making it hard to shift to trust-based regulation as systems remain focused on control over facilitating compliance and ease of doing business.
- Overlapping Regulatory Framework: India has 1,536 laws with 69,233 compliances, many redundant or conflicting. While the Centre decriminalizes laws (e.g., Jan Vishwas Act), rigid state regulations cause confusion, disproportionately burdening MSMEs.
- Resistance to Decentralization & Autonomy: Despite the 73rd/74th Amendments, local
 governments lack true autonomy due to top-down control, with officials favoring audits and
 penalties over risk-based enforcement, sustaining mistrust.
- No Trust Metrics: A key challenge in India's shift towards trust-based regulation is that trust is rarely measured like financial or service indicators, making it difficult to assess policy impact.
 - Additionally, implementation gaps in initiatives like e-Bill Systems and PARIVESH lead to delays
 weakening efforts to build a trust-driven governance framework.

How can Trust-based Regulation be Strengthened in India?

- 'One Nation, One Business' Identity System: Adopting a unified 'One Nation, One Business' identity system can streamline processes, while a digital-first approach using tools like Digital-first approach u
 - Lessons from initiatives such as Digi Yatra and FSSAI's predictable regulatory updates can help guide reforms across sectors.
- Harmonizing Laws: Jan Vishwas 2.0 should fast-track decriminalization of 100+ provisions, focusing on state-level laws holding 80% of jail clauses.
 - A Deregulation Commission is needed to align central and state laws, while sector-specific reforms should target MSMEs, environment, and labour, replacing outdated penalties with graded fines.
- Institutionalizing Risk-Based Enforcement: Mandate Regulatory Impact Assessments (RIA) to evaluate compliance burdens and align penalties with actual harm.
 - Use Al-driven tools for targeted audits over blanket inspections, and set clear criteria for imprisonment, reserving it for serious offenses like fraud or public safety risks.
- Enhancing Transparency & Reducing Discretion: Expand digital platforms like MCA21 with blockchain authentication to enable paperless compliance.
 - Strengthen whistleblower protections against corruption and use public dashboards for real-time transparency in inspections and penalties.
- Measuring Trust & Outcomes: Create metrics like compliance ease scores and citizen feedback
 to assess reform impact. Launch pilot programs in sectors like FinTech and establish stakeholder
 councils for regular industry-regulator dialogue to refine policies.

Conclusion

decriminalizing minor violations and reducing regulatory burdens. To fully realize its potential, India must streamline laws, empower local bodies, embrace digital tools, and build institutional trust—ensuring efficient, citizen-centric, and growth-oriented governance aligned with Viksit Bharat 2047.

Drishti Mains Ouestion:

Q. A key feature of a developed society is the government's trust in its citizens and institutions." In this context, critically examine the shift towards trust-based governance in India.

UPSC Civil Services Examination, Previous Year Question: (PYQ)

Prelims

- Q. What is/are the recent policy initiative(s)of Government of India to promote the growth of the manufacturing sector? (2012)
- 1. Setting up of National Investment and Manufacturing Zones
- 2. Providing the benefit of 'single window clearance'
- 3. Establishing the Technology Acquisition and Development Fund

Select the correct answer using the codes given below:

- (a) 1 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

Ans: (d)

Mains

- **Q.** "Industrial growth rate has lagged behind in the overall growth of Gross-Domestic-Product(GDP) in the post-reform period" Give reasons. How far are the recent changes in Industrial Policy capable of increasing the industrial growth rate? (2017)
- **Q.** What are the major changes brought in the Arbitration and Conciliation Act, 1996 through the recent Ordinance promulgated by the President? How far will it improve India's dispute resolution mechanism? Discuss. (2015)



Source: IE

Why in News?

50 years ago , on **12** th June **1975** , the Allahabad High Court invalidated Indira Gandhi's **1971** election in *Indira Nehru Gandhi v. Shri Raj Narain Case, 1975* leading to the declaration of a **national emergency (NE)** on **25** th June **1975** that continued till **March 1977**.

What are Key Facts About the Indira Nehru Gandhi v. Shri Raj Narain Case, 1975?

- About: It is a landmark in India's constitutional and democratic history, arising from the 1971 general elections, where Prime Minister Indira Gandhi defeated socialist leader Raj Narain, leading to a legal challenge on grounds of electoral malpractices.
- Electoral Context and Allegations: Raj Narain alleged that Indira Gandhi misused government machinery and public funds for electoral gain, violating the Representation of the People Act,
 1951, and filed a petition in the Allahabad High Court seeking to invalidate her election on grounds of these alleged malpractices.
- Allahabad High Court Verdict: The court found Indira Gandhi guilty of misusing government machinery for election campaigning.
 - As a result, her election was invalidated and she was disqualified from holding Prime
 Ministerial office .
- Appeal in Supreme Court: Indira Gandhi appealed the High Court's decision in the Supreme Court, seeking both a stay on the High Court's order and an opportunity to contest its findings.
- Declaration of Emergency: Amidst political turmoil, on 25 th June 1975, Indira Gandhi's
 government declared a National Emergency, leading to the suspension of civil liberties, press
 censorship, and postponement of elections.

What are Key Facts About National Emergency?

- About National Emergency: NE is proclaimed by the President under Article 352 when the security of India or a part of it is threatened by War, External Aggression (external emergency), or Armed Rebellion (internal emergency).
 - The 38 th Amendment Act, 1975 allowed the President to issue Emergency proclamations on grounds of war, external aggression, armed rebellion, or imminent danger thereof, while the 44 th Amendment Act, 1978 replaced "internal disturbance" with "armed rebellion".
- Territorial Extent: NE can extend to the whole of the country or only a part of it . 42 nd

 Amendment Act, 1976 enabled the President to limit the operation of NE to a specific part of India.
- Parliamentary Approval: As per the **44 th Amendment Act** , 1978, a **NE** must be approved by **both Houses within one month** by a **special majority** (originally two months).
 - If the Lok Sabha is dissolved at the time of declaration, the Rajya Sabha's approval remains valid, but the reconstituted Lok Sabha must approve it within 30 days of its first sitting.

- Duration: It continues for 6 months, and can be extended to indefinite period with approval of Parliament for every 6 months (44 th Amendment Act 1978).
- Revocation: It can be revoked anytime by the president without requirement of approval by Parliament.
 - The Lok Sabha can pass a resolution to disapprove the continuation of a National Emergency
 . If one-tenth of its total members submit a written notice to the Speaker (if in session) or to the
 President (if not in session), a special sitting must be held within 14 days. The resolution must be
 passed by a simple majority.
- Judicial Review: The 38 th Amendment Act, 1975 made the Emergency declaration immune to judicial review. This was later reversed by the 44 th Amendment Act, 1978.
 - In the Minerva Mills case, 1980, the Supreme Court held that a Proclamation of NE can be challenged if it is mala fide, based on irrelevant or extraneous facts, or is absurd or perverse.

What are the Implications of Imposition of National Emergency on Constitutional Framework?

• On Centre-State Relations:

- Executive: The Centre is empowered to issue executive directions to states on any matter,
 bringing state governments under complete control of the Centre—though they are not suspended.
- Legislature: The state legislature is not suspended, but Parliament can make laws on any subject in the State List. Such laws cease to operate six months after the Emergency ends.
 If Parliament is not in session, the President can issue ordinances on state subjects.
 Additionally, Parliament can confer powers and impose duties on the Centre or its authorities regarding matters outside the Union List.
- Financial: The President can modify the constitutional distribution of revenues between the Centre and states, including reducing or cancelling transfers. Such modifications remain valid till the end of the financial year in which the Emergency ends, and every order must be laid before both Houses of Parliament.

• Life of Legislature:

- Lok Sabha: It may be extended beyond its normal term (5 years) by a law of Parliament for one
 year at a time (for any length of time).
- State Legislative Assembly: Parliament can extend the tenure of a State Legislative Assembly by one year at a time, for any duration. However, the extension cannot go beyond six months after the Emergency ceases to operate.
- On Fundamental Rights: Article 358 automatically suspends Article 19 for the entire duration of
 a National Emergency declared on grounds of war or external aggression (External Emergency
). It applies only to Article 19 and extends to the entire country.
 - Article 359 requires a Presidential Order to suspend Fundamental Rights (FRs) for the entire duration of Emergency or a shorter period. It applies to all FRs mentioned in the Order, except Articles 20 and 21, operates in both internal and external emergencies, and may extend to part or the entire country.

UPSC Civil Services Examination, Previous Year Question (PYQ)

- Q. Which of the following is/are the exclusive power(s) of Lok Sabha?(2022)
- 1. To ratify the declaration of Emergency
- 2. To pass a motion of no-confidence against the Council of Ministers
- 3. To impeach the President of India

Select the correct answer using the code given below:

- (a) 1 and 2
- (b) 2 only
- (c) 1 and 3
- (d) 3 only

Ans: (b)

Q. If the President of India exercises his power as provided under Article 356 of the Constitution in respect of a particular State, then(2018)

- (a) the Assembly of the State is automatically dissolved.
- (b) the powers of the Legislature of that State shall be exercisable by or under the authority of the Parliament.
- (c) Article 19 is suspended in that State.
- (d) the President can make laws relating to that State.

Ans: (b)

Deep Seafloor Exploration









Source: TH

A study has revealed that about 99.999% of the Earth's deep seafloor, which covers two-thirds of the Earth area below 200 meters depth, remains visually unexplored.

- More than 97% of dives were conducted by just 5 countries (US, Japan, New Zealand, France, and Germany).
- Exploration has been biased toward geomorphological features like ridges and canyons , while vast abyssal plains, which cover the majority of the seafloor remain under-studied.

Deep Ocean:

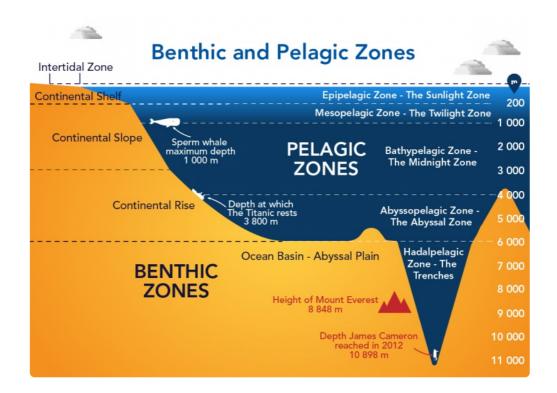
• The deep ocean refers to the part of the ocean at depths greater than 200 meters, where sunlight

no longer penetrates .

- The deep ocean is cold, with an average temperature of just 4°C, and is subjected to extreme pressures ranging from 40 to over 110 times that of Earth's atmosphere.
- The deep ocean region lacks photosynthesis due to absence of light and is nutrient-poor, yet life thrives in its harsh conditions.
- The mesopelagic zone (200-1,000 m), hosts about 90% of global fish biomass. It includes species like fish, squid and krill.
- India launched the Deep Ocean Mission (DOM) in 2021 to explore and sustainably harness deep-sea resources.
- Significance of Exploration: Exploration of the deep ocean offers potential sources of energy (such as oil, gas, methane hydrate, and ocean currents), a promising reservoir for new antibiotics, the discovery of polymetallic nodules, and critical insights into understanding, predicting, and mitigating climate change.

Marine Snow

• It is a **steady fall of organic matter**, like dead plankton, fecal pellets, and mucus **from the ocean surface to the deep sea.** It s **ustains deep-sea life** in the a **bsence of sunlight** and plays a crucial role in the **carbon cycle** by transporting carbon to ocean depths, aiding **long-term sequestration and climate regulation.**



Read More: Deep Ocean Mission

IREDA Bags 'Excellent' Ratings



Source: PIB

The Indian Renewable Energy Development Agency Ltd. (IREDA) was awarded an 'Excellent' rating for its exceptional performance in the Power and NBFC sectors by the Department of Public Enterprises (DPE).

- IREDA received the 'Excellent' rating for the **fourth consecutive year**, based on its annual performance for FY 2023-24.
- This recognition highlights **IREDA's leadership in green financing** and reaffirms its dedication to nation-building through promoting **sustainable energy solutions**.

IREDA:

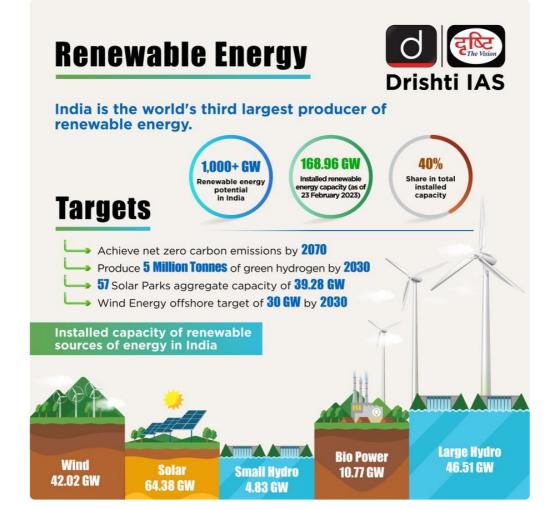
- IREDA is a Navratna public sector company under MNRE, established in 1987 as a Non-Banking Financial Institution.
- It is the **largest green financing NBFC** in India, dedicated to **promoting, developing, and financing renewable energy** and energy efficiency projects, while supporting the sector by encouraging lending from banks and financial institutions.

DPE Ratings:

- The DPE, under the **Ministry of Finance**, formulates policies on CPSEs' performance, autonomy, and finance, and publishes the Public Enterprises Survey for monitoring.
- DPE Ratings **annually assess CPSEs** on MoU targets like **profitability and efficiency**, grading them from **Poor to Excellent** to ensure accountability and transparency.

India's Renewable Energy Initiatives:

- PM-KUSUM scheme
- PLI scheme for Solar PV manufacturing
- International Solar Alliance



Read More: Tapping Renewable Energy Potential in India

Snail Infestation in Cardamom



Source: TH

The cardamom-growing regions of Idukki, Kerala, are facing threat from **small snail infestations** following heavy summer rains. Snails feed on **new panicles, flowers, and young capsules**, causing **crop damage, reduced yield, and quality loss**.

• Farmers are using chemical sprays like **metaldehyde** (as a last resort) to **control snail infestations.**

Cardamom (Elettaria cardamomum)

- About: Known as the "Queen of Spices," it is a highly aromatic spic e from the Zingiberaceae (ginger) family.
 - It is native to the evergreen rainforests of the Western Ghats.
- Climatic Conditions: Requires rainfall of 1500-4000 mm , temperatures between 10°C to 35°C , and at altitudes of 600-1500 meters . It requires acidic, loamy, humus-rich soils with a pH of 5.0-6.5
- Production Hotspots: Kerala contributes 58% of India's cardamom output, with Idukki as the leading district.
 - Karnataka grows it in districts like Kodagu and Chikmagalur .
 - Tamil Nadu cultivates it in the Nilgiri hills .
- Recently identified cardamom species include *Elettaria facifera* (Periyar Tiger Reserve, Idukki) and *Elettaria tulipifera* (Agasthyamalai hills, Thiruvananthapuram and Munnar, Idukki).

Spices Market in India: India produced 11.14 million tonnes of spices in 2022-23, cultivating 75 of the 109 ISO -listed spices .

- Chilli, cumin, turmeric, ginger, and coriander accounted for 76% of total production.
- Major producing states include Madhya Pradesh, Rajasthan, Gujarat , and Andhra Pradesh .
- In 2023–24, India **exported** around **14 lakh tonnes of spices**, with **chilli being the top export** (**31%**) to key markets such as China, Bangladesh, West Asia, and the US.

Read More: Strengthening India's Spice Industry



Source: DTE

Researchers in Nagaland found native **stingless bees** *Tetragonula iridipennis* and *Lepidotrigona arcifera* to be safe, effective pollinators that boost crop yields and produce medicinal honey, ideal for **Northeast India** and safer than traditional honeybees.

- Stingless Bee: They are small, eusocial insects belonging to the tribe Meliponini within the family Apidae, commonly found in tropical and subtropical regions.
- Key Characteristics:
 - Identification Features: Stingless bees are small, black or dark-bodied with yellow markings.
 - They have 2 pairs of wings, short antennae, large oval eyes, and an o val face with a pointed chin.
 - Habitat and Nesting: They nest in tree trunks, termite mounds, wall cavities, or wooden hoxes
 - Nests are made of resin, mud, and wax, containing honey pots and brood cells arranged spirally or randomly.
 - Diet: Their diet includes nectar and pollen. Pollen is used to make protein balls for larval growth.
 Some species also feed on rotting fruits or carrion.
 - Reproduction and Lifecycle: The queen mates once. Fertilized eggs develop into workers or queens (depending on nutrition), while unfertilized eggs become drones. Larvae pupate in sealed wax cells.
 - Defense Mechanism: They lack functional stingers but bite with mandibles. Some, like Trigona, inject venom through bites.
 - Pollination Role: Stingless bees are buzz pollinators, vital for pollinating tropical plants and crops, contributing significantly to ecosystem health and agriculture.



Read More: Threats to Wild Bees , KVIC's Honey Mission