

Delimitation and Concerns of Southern States

For Prelims: <u>Delimitation Exercise</u>, <u>Lok Sabha</u>, <u>Legislative Assembly</u>, <u>Chief Election Commissioner</u>, <u>Special Status</u>, <u>Finance Commission</u>.

For Mains: Key features of delimitation. Associated concerns of southern states wrt upcoming delimitation and way forward.

Source: IE

Why in News?

The Union Home Minister assured that the upcoming <u>delimitation exercise</u> would **not harm southern** states and promised them a **fair share** of any seat increase.

What is Delimitation?

- About: Delimitation means the process of fixing the number of seats and boundaries of territorial constituencies in each State for the <u>Lok Sabha</u> and <u>Legislative assemblies</u>.
 - This 'delimitation process' is performed by the '<u>Delimitation Commission</u>' that is set up under an act of Parliament.
- Delimitation Commission: It is a high powered 3 member body whose orders have the force of law and cannot be called in question before any court.
 - It includes **two Supreme Court or High Court judges**, one appointed as **chairman** by the central government, and the **Chief Election Commissioner** as an ex-officio member.
 - Its orders are presented to the Lok Sabha and State
 Assemblies but cannot be modified.
 - It has powers of a civil court.
 - It has been set up four times till February 2024 i.e., 1952, 1963, 1973 and 2002.
- Rationale Behind Delimitation: Each state is divided into territorial constituencies in such a
 manner that the ratio between population of each constituency and the number of seats
 allotted to it is the same throughout the state.
 - It ensures uniform representation both among different states and within constituencies of the same state.
- Constitutional Provisions:
 - Article 82: It provides for the readjustment of seats in the House of the people to the states and the division of each State into territorial constituencies after every census.
 - Article 170: It provides for the composition of Legislative Assemblies.
- Related Amendments: Population-based seat allocation favors high population growth states, so amendments were made to prevent imbalances and reward population control efforts.
 - 42nd Amendment Act, 1976: It froze Lok Sabha seat allocation and constituency division at the 1971 level until 2000.
 - 84th Amendment Act, 2001: The freeze on readjustment was extended for another 25 years until 2026.
 - 87th Amendment Act, 2003: It allowed delimitation based on the 2001 census without

changing the number of seats or constituencies.

 Judicial Review: In the Kishorchandra Chhanganlal Rathod Case, 2024, the Supreme Court held that an order by the Delimitation Commission can be reviewed if it is clearly arbitrary and violates constitutional values.

Note: Article 329 bars courts from questioning laws on delimitation or seat allotment.

• 31st Amendment Act, 1973: States with populations under six million were excluded from the population-based delimitation exercise.

Why are Southern States Concerned with Upcoming Delimitation?

- Fear of Losing Representation: Low Southern states' population compared to Northern states may result in fewer Lok sabha seats for southern states if delimitation is solely based on population.
 - E.g., **0% increase** in the number of seats for **Kerala**, only a **26% increase for Tamil Nadu**, but a whopping **79% for both MP and UP.**
- Gerrymandering: Southern states are concerned about gerrymandering that is a practice
 of manipulating electoral boundaries to unfairly favor a party or group, distorting fair
 representation.
 - E.g., Under Nepal's new constitution (2015), Nepal's Terai region, with 50% of the population, got fewer seats than the hills due to constituency demarcation favoring geography over population, benefiting the hill elite.
- Threat to Federalism: Delimitation may increase the **fiscal burden on Southern states** as more seats for the North could mean **higher central allocations** per representative.
 - Lower political representation of southern states compared to northern states may pressure them to accept policies they see as unfair.
- Discouragement to Good Governance: Southern states' population control efforts could lead to fewer seats in delimitation, unfairly favoring high-fertility states and discouraging good governance.
 - It leads to criticism of good policies and may prove counter-productive. E.g., some politicians considered incentives for larger families.
- North-South Division: A sense of political and economic imbalance could fuel demands for greater autonomy or <u>special status</u>, straining national unity and deepening <u>North-South</u> <u>divisions</u>.
- Skewed Resource Allocation: Northern states may gain more central funds and welfare schemes due to greater parliamentary influence, while southern states risk fewer resources despite better governance.
 - The Finance Commission (FC) uses population as one of the criteria for allocating funds to states, which can be disadvantageous for southern states.
- Weakening Regional Parties: Many fear delimitation may favor parties with strong northern bases, shifting political dynamics and weakening southern regional parties.

Way Forward

- Balanced Representation: Ensure no state loses its existing seat share while using a weighted formula that considers population, development indices, economic contribution, and governance quality for fair representation.
- Equitable Resource Allocation: Revise the <u>Finance Commission</u>'s devolution formula to protect Southern states from financial disadvantages and strengthen inter-state councils for balanced policymaking.
- Consensus-Building: Establish a constitutional review panel to address delimitation concerns and raise awareness about representation factors beyond population size to prevent regional discontent.
- Bicameral Strengthening: Provide greater representation to Southern states in the Rajya

Sabha to counterbalance any Lok Sabha seat reductions.

Drishti Mains Question:

Critically analyze the concerns of southern states regarding the upcoming delimitation exercise and suggest measures to ensure fair representation while maintaining national unity.

UPSC Civil Services Examination Previous Year Question (PYQ)

Prelims

Q. How many Delimitation Commissions have been constituted by the Government of India till December 2023? (2024)

- (a) One
- (b) Two
- (c) Three
- (d) Four

Ans (d)

Q. With reference to the Delimitation Commission consider the following statements:

- 1. The orders of the Delimitation Commission cannot be challenged in a Court of Law.
- 2. When the orders of the Delimitation Commission are laid before the Lok Sabha or State Legislative Assembly, they cannot effect any modification in the orders.

Which of the statements given above is/are correct?

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

Ans: (c)

Internet Shutdowns

For Prelims: Internet shutdowns, Article 21, Artificial Intelligence, Article 19

For Mains: Internet Governance and Digital Rights in India, National Security vs. Digital Freedom

Why in News?

A 2024 report by digital rights group 'Access Now' revealed a record-high number of global internet shutdowns, with Myanmar topping the list with 85 shutdowns, followed by India.

What are the Key Findings of the Report on Internet Shutdowns?

- India: India accounted for 84 of internet shutdowns, making up 28% of all shutdowns.
 - Manipur recorded the highest number of internet shutdowns in India with 21 instances, followed by Harvana and Jammu & Kashmir.
 - In total, 16 states and Union Territories experienced internet restrictions in 2024.
 - Main Reasons for Shutdowns: Shutdowns in India were primarily linked to protests (41 instances), communal violence (23 instances), and examination-related security measures (5 instances).
 - Additional shutdowns were enforced due to local conflicts and administrative decisions.
 - Authorities often justify shutdowns as necessary to prevent communal violence, riots, and misinformation spread via social media.
- Global: A total of 296 internet shutdowns were recorded worldwide in 2024, the highest ever.
 - Myanmar(85), India, and Pakistan(21) together accounted for over 64% of all recorded shutdowns in 2024.

Legal Provisions for Internet Shutdowns in India

- Telecommunications Rules: Internet shutdowns in India are governed by the Telecommunications (Temporary Suspension of Secretary Suspension Secretary S the Telecommunications (Temporary Suspension of Services) Rules, 2024, issued under the **Telecommunications Act**, 2023.
 - These rules replace the Telecom Suspension Rules, 2017 and regulate the process of suspending telecom services, including the internet.
- Authority to Issue Shutdown Orders: Union Home Secretary (for national-level shutdowns) and State Home Secretary (for state-level shutdowns).
 - In unavoidable circumstances, a Joint Secretary-level officer (duly authorized) can issue an order, but it must be confirmed within 24 hours, or it will cease to exist.
- Judicial Precedent: The Supreme Court of India in the case of Anuradha Bhasin v. Union of India, 2020 ruled that indefinite internet shutdowns are unconstitutional and that such curbs should meet the tests of **necessity and proportionality**.
 - However, many shutdown orders lack proper documentation and justification.

What Concerns Regarding Internet Shutdowns?

- Violation of Rights: Restricts freedom of speech and expression (Article 19) and limits Right to internet access recognized under Article 21 (right to life and personal liberty).
- Lack of Oversight: The Telecommunications Act 2023 retains provisions from the colonial-era Telegraph Act, 1885, allowing shutdowns.
 - There is a lack of strict independent oversight mechanisms, leading to arbitrary implementation.
- Economic and Social Disruptions: India experienced the third-largest economic loss due to internet shutdowns in 2023, with the total cost reaching USD 255.2 million.
 - Businesses, students, and digital service providers suffer significant losses due to prolonged shutdowns.
- Impact on Democratic Processes: Restrictions on digital communication curtail press freedom, and democratic engagement.
 - Shutdowns in protest-prone regions prevent citizens from exercising their right to

dissent.

Impact on Governance: Critics claim that frequent internet shutdowns contradict India's
ambitions of becoming a global leader in <u>Artificial Intelligence (AI)</u>, digital governance, and
technological progress.

Way Forward

- Oversight: Introduce parliamentary scrutiny or an independent oversight body to review shutdown orders.
- Alternative Measures: Instead of complete shutdowns, authorities can use targeted content removal, fact-checking mechanisms, and social media monitoring.
 - Law enforcement training on digital risk management can help mitigate threats without blanket bans.
- International Best Practices: The <u>UN Human Rights Council (UNHRC)</u> opposes arbitrary internet shutdowns, deems blanket shutdowns human rights violations, and urges making universal internet access by 2030 as a human right.
 - <u>European Union</u> and US rely on content moderation policies and cybersecurity tools instead of blackouts.
- Public Awareness and Advocacy: Civil society groups should raise awareness on digital rights and push for legal reforms.
 - Digital literacy campaigns can help counter <u>misinformation</u> without resorting to shutdowns.

Drishti Mains Question:

How do frequent internet restrictions affect democratic engagement, press freedom, and the right to dissent in India?

UPSC Civil Services Examination, Previous Year Questions (PYQs)

Mains:

Q. What do you understand by the concept of "freedom of speech and expression"? Does it cover hate speech also? Why do the films in India stand on a slightly different plane from other forms of expression? Discuss. **(2014)**

Environmental Concerns Regarding Ethanol Blended Petrol

For Prelims: Ethanol Blended Petrol (EBP) programme, Net Zero 2070, Krishna, 3G Ethanol Production, Pradhan Mantri JI-VAN Yojana

For Mains: Environmental Impact of Biofuels, Sustainable Development & Ethanol Production

Source: TH

Why in News?

The **Ethanol Blended Petrol (EBP) programme** is facing strong opposition in Andhra Pradesh (AP).

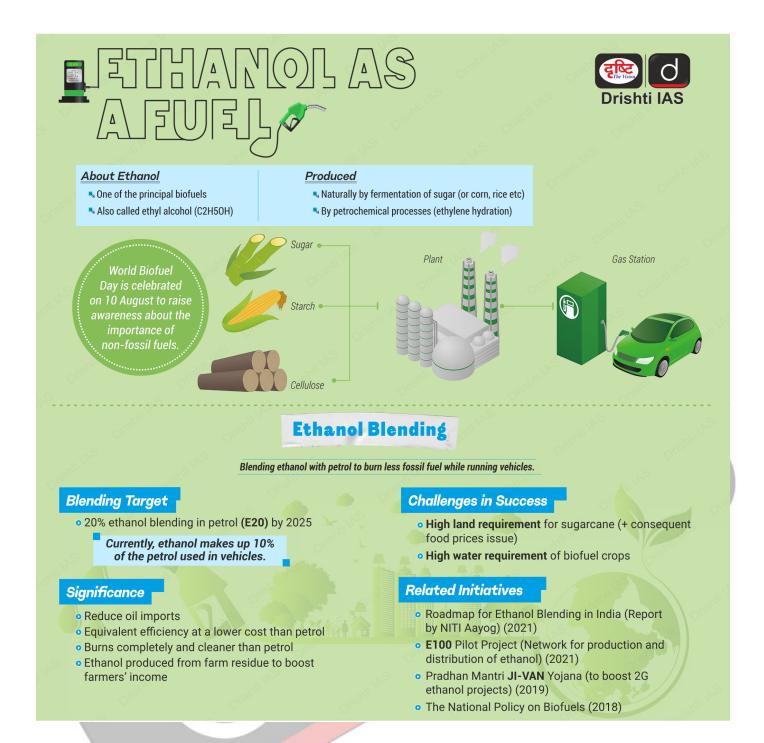
 Environmentalists and farmers are raising concerns over environmental pollution and excessive water consumption by ethanol factories.

What is Ethanol Blended Petrol Programme?

- About: The EBP Programme began with pilot projects in 2001. It was launched by the Ministry of Petroleum and Natural Gas in 2003, with 5% Ethanol (C₂H₅OH) blending and extended nationwide (except Andaman & Nicobar, Lakshadweep) by 2019, allowing up to 10% blending.
 - The EBP Programme now targets 20% ethanol blending in petrol by 2025-26 (advanced from 2030 under the National Policy on Biofuels-2018 (amended in 2022)). As of 2024, the blend percentage stood at 15%.
- Objective: EBP aims to reduce carbon emissions, fuel imports, and increase farmer income.
 - Support India's energy diversification, enhancing resilience to global oil supply disruptions.
 - Help India achieve its Net Zero 2070 commitment under the Paris Agreement.
 - EBP Programme follows the "Waste to Wealth" approach, supporting <u>Swachh Bharat</u> <u>Mission (SBM)</u> and <u>Make in India</u>.
- Key Milestones: Ethanol production capacity reached around 1,600 crore litres as of September, 2024.
 - By cutting crude oil imports, the EBP Programme saved Rs. 1,06,072 crore in foreign exchange.
 - EBP has reduced CO₂ emissions by 544 lakh metric tons and substituted 181 lakh metric tons of crude oil.
 - The programme had a significant **economic impact**, with Oil Marketing Companies disbursing Rs. 1,45,930 crore to distillers and Rs. 87,558 crore to farmers.

Note: Ethanol is a biofuel primarily produced from "first generation" (1G) sources like sugarcane molasses, juice, wheat, and rice, while "second generation" (2G) sources include agricultural residues like rice straw, wheat straw, bagasse, and corn stover.





What are the Environmental Concerns Regarding EBP?

- Pollution vs. Emission Reduction: Achieving 20% ethanol blending target by 2025 requires around 1,000 crore litres of ethanol, with planned production expansion to 1,700 crore litres. Increased production may lead to greater emissions affecting air, water, and soil quality.
- Water Scarcity: Ethanol production is highly water-intensive, with grain-based factories requiring 8-12 litres of water per litre of ethanol. Sugarcane and molasses-based production contribute to high water consumption, deforestation, and industrial waste.
 - Distilleries generate vinasse, a pollutant-rich wastewater that can contaminate water bodies and deplete oxygen if untreated.
 - Factories near rivers like the **Krishna** are diverting water meant for agriculture and drinking. Farmers fear depletion of **water resources**, affecting **crop production**.

- Industrial Pollution: Ethanol distilleries fall under the "red category" of industries (Pollution Index core 60 and above) due to their high pollution potential.
 - Hazardous chemicals such as acetaldehyde, formaldehyde, and acrolein are emitted, increasing risks of respiratory diseases and cancer.
 - In AP, many ethanol factories received environmental clearances without public hearings or proper emission assessments, often located near human settlements.

Way Forward

- Promoting 3G Ethanol: Scaling up 3G ethanol production (produced by algae from
 wastewater, sewage or seawater) under the <u>Pradhan Mantri JI-VAN Yojana</u> can reduce
 environmental impact by using microalgae instead of food crops, offering a
 sustainable alternative to 1G and 2G methods without straining food or freshwater resources.
- Environmental Regulations: Enforce Mandatory pollution control measures (such as effluent treatment plants) and reinstate public hearings for environmental clearances to address community concerns.
 - Ethanol factories should be required to use recycled or treated wastewater instead of groundwater.
- Incentivizing Green Technologies: Provide subsidies for pollution control
 equipment like <u>Wind Augmentation and Air Purifying Unit (WAYU)</u> making it more
 affordable for ethanol manufacturers.
 - Research and development (R&D) in low-emission ethanol production can help minimize environmental damage.

Drishti Mains Question:

Ethanol production is seen as an eco-friendly alternative to fossil fuels. Critically examine the environmental challenges associated with ethanol production in India.

UPSC Civil Services Examination, Previous Year Questions (PYQ)

- Q. Given below are the names of four energy crops. Which one of them can be cultivated for ethanol? (2010)
- (a) Jatropha
- (b) Maize
- (c) Pongamia
- (d) Sunflower

Ans: (b)

- Q. According to India's National Policy on Biofuels, which of the following can be used as raw materials for the production of biofuels? (2020)
 - 1. Cassava
 - 2. Damaged wheat grains
 - 3. Groundnut seeds
 - 4. Horse gram
 - 5. Rotten potatoes
 - 6. Sugar beet

Select the correct answer using the code given below:

- (a) 1, 2, 5 and 6 only
- (b) 1, 3, 4 and 6 only
- (c) 2, 3, 4 and 5 only
- (d) 1, 2, 3, 4, 5 and 6

Ans: (a)

Battle of Karnal

Source: IE

Why in News?

The **Battle of Karnal** in **February 1739**, resulted in the decisive defeat of **Mughal Emperor Muhammad Shah Rangila** by **Persian ruler Nadir Shah**, marking a pivotal turning point in Indian history.

It not only showcased the military prowess of Nadir Shah but also exposed the vulnerabilities
of the Mughal Empire, leading to its eventual downfall.

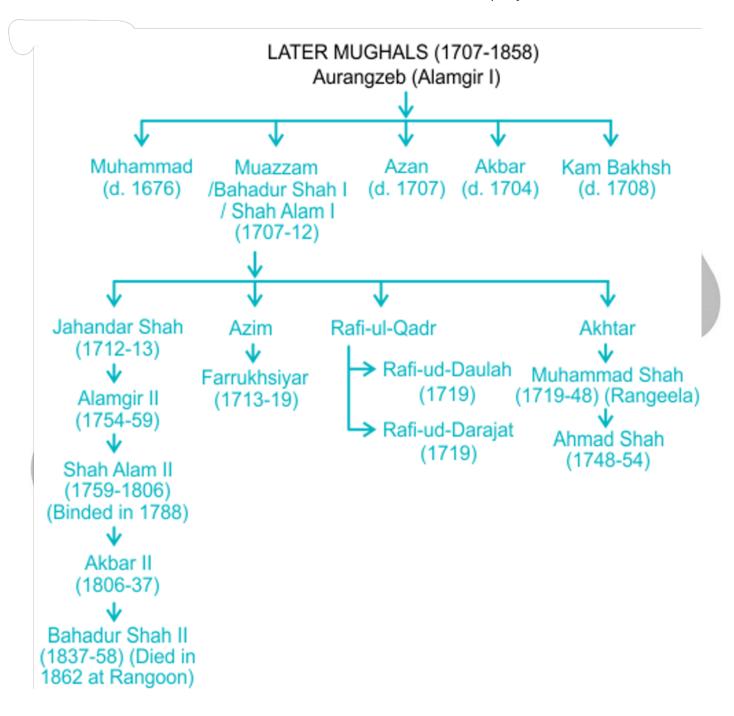
What are the Key Facts Related to the Battle of Karnal?

- Background: After consolidating his rule in Persia, Nadir Shah (also known as the Napoleon of Persia) invaded Afghanistan (1738) and advanced into Mughal territory through the Khyber Pass, exploiting the empire's instability after Aurangzeb's death (1707).
 - By January 1739, Nadir Shah had already captured Kabul (in June 1738) and had seized Lahore.
- Forces: Despite having 300,000 soldiers, the **Mughal army lacked coordination**, while Nadir Shah's 50,000 disciplined troops used **advanced tactics** like mounted musketeers with swivel guns, overpowering the Mughals' outdated cavalry charges.
- Battle & Loot of Delhi: Nadir Shah crushed the Mughal army (within 3 hours), killing commanders Khan Dauran and Sa'adat Khan and capturing Muhammad Shah.
 - He then **looted Delhi (capital Shahjahanabad)**, seizing immense wealth, including the **Peacock Throne (***takht-i-taus***)** and **Koh-i-Noor diamond**.
- Impact on the Mughal Empire: The invasion left the Mughal Empire economically shattered and weakened, fueling the rise of Bengal, Awadh, Hyderabad, the Marathas, and the Sikhs.
 - The invasion led to the annexation of the Mughal provinces to the west of the Indus viz., Afghanistan, Kashmir, Sindh and Multan to Persia.
 - This decline facilitated British expansion in India in the 18th and 19th centuries.
- Foreign Invasion Due to the Battle: Ahmad Shah Abdali, the commander of Nadir Shah, established his rule over Afghanistan after Nadir Shah's death.
 - He invaded North India many times between 1748 and 1767. The most well known was his victory over the Marathas in 1761 (the third Battle of Panipat).

Later Mughals Who Faced Foreign Invasions

- Muhammad Shah (1719-48): Titled 'Rangeela' due to his luxurious lifestyle.
 - With the help of Nizam-ul-Mulk, killed the Sayyid Brothers.

- Faced Invasion: Nadir Shah (1739) Battle of Karnal.
- Alamgir II (1754-59)
 - Faced Invasion: Ahmad Shah Abdali (January 1757).
 - **Key Battle:** Battle of Plassey (June 1757) was fought during his reign.
- Shah Alam II (1760-1806, intermittent rule)
 - Faced Invasions:
 - Third Battle of Panipat (1761) Ahmad Shah Abdali (supported by Najib-ud-Daulah (a Rohilla chieftain), nawab Shuja-ud-Daulah of Awadh).
 - Battle of Buxar (1764) British East India Company.



RBI Reduces Risk Weights on NBFCs and MFIs Loans

Source: IE

Why in News?

Reserve Bank of India (RBI) reduced the **risk weights of** bank loans to **NBFCs** and **Microfinance Institutions** to **boost credit flow** and enhance lending to the retail sector of the economy.

What is the Risk Weight on Loans and How Does It Impact NBFCs and Banks?

- About: Risk weight is a percentage factor assigned to a bank's assets, including loans, to determine the amount of capital required to cover potential losses.
 - Higher risk weight increases capital requirements, making loans costlier, while lower risk weight reduces capital needs, enabling more lending.
- Criteria: Risk weights depend on credit rating, asset type, and regulations. Highly rated borrowers get lower risk weights, while low-rated ones face higher risk weights.
- Impact of Lower Risk Weights:
 - Encouraging Bank Lending to NBFCs: Banks need to hold less capital for loans, increasing their lending capacity to NBFCs.
 - Positive Impact on Credit Growth: Enhanced liquidity will boost NBFC lending in housing, consumer finance, and MSMEs. The retail sector gains from improved access to credit.
 - Enhancing Financial Stability: Boosting credit growth increases employment, income levels and financial resilience.

Capital Adequacy Ratio (CAR)

- About: It measures a bank's financial strength, ensuring a bank has enough capital to absorb potential losses and protect depositors.
- Components:
 - **Tier-1 Capital**: Core capital (**equity, share capital, retained earnings**) used to absorb losses while the bank continues operating.
 - Tier-2 Capital: Secondary capital (unaudited reserves, subordinated debt) used when the bank is winding down.
- Regulatory Requirement: It is set by the <u>Basel Accords</u> and enforced by central banks (e.g., RBI in India).
 - As per <u>Basel III norms</u>, banks are required to maintain a minimum CAR of 8% globally, while RBI mandates 9% for <u>Indian</u> banks.
- Importance: A higher CAR indicates a bank is financially stable and capable of handling financial crises.

Non-Banking Financial Companies (NBFCs)

A Non-Banking Financial Company (NBFC) provides loans, acquires financial securities, and offers leasing & insurance services. However, it excludes companies primarily engaged in agriculture, industrial activities, trading, or real estate.



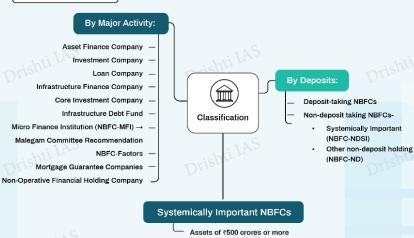
About:

- Do not have a banking license; not part of the payment system; cannot issue cheques
- not part of ue

 Insurance by Deposit Insurance ∂ Credit Guarantee Corporation→ not available for NBFC depositors
- Can accept public deposits for 12-60 months (no demand deposits)
- Registration→ Companies Act, 1956

- NBFCs require an investment-grade credit rating
 - Key Services Offered-Personal loans, Home loans, Vehicle Financing, Gold Loans, Microfinance, Infrastructure Financing, Insurance Services, Investment Management

Classification:



About

Regulation:

Type of Institution	Regulatory Authority
NBFCs registered with RBI	RBI
Housing Finance Institutions	National Housing Bank
Merchant Banking Companies, Venture Capital Fund Companies, Stock Broking, Collective Investment Schemes (CIS)	SEBI
Nidhi Companies, Mutual Benefit Companies	Ministry of Corporate Affairs (MCA)
Chit Fund Companies	State Government
Insurance Companies	IRDAI
Non-Banking Non-Financial Companies	Statute- Companies Act 1956 Regulator- Ministry of Corporate Affairs Enforcement Agency- State Governments

Benefits of NBFCs:

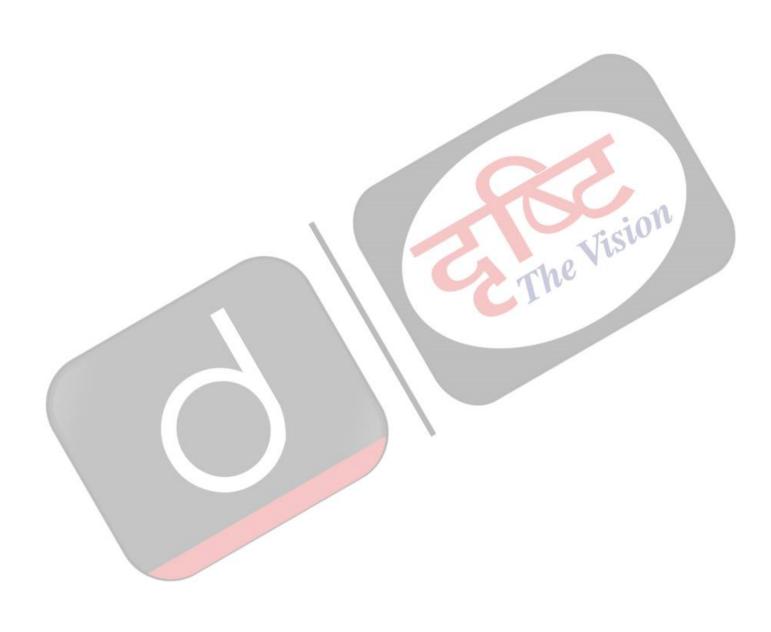
- Financial Inclusion
- Innovative Products
- Liquidity
- Support for MSMEs

Challenges of NBFCs:

- Funding Constraints
- Asset Quality & Credit Risk
- Regulatory Compliance
- Corporate Governance









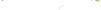
About MFIs

orishi+IAS

- Provides financial services & small-value loans
- Targets Low-income households, small businesses, & entrepreneurs in rural & urban areas Drishti IAS
- Maximum annual income criteria Rs 3 lakh (for collateral-free microloans)

Evolution of Microfinance Sector

- Initial Period (1974-1984):
 - Shri Mahila Sewa Sahakari Bank established for women
 - NABARD promoted SHG linkage
 - Change Period (2002-2006):
 - Unsecured lending norms for SHGs were aligned with secured loans
 - RBI included microfinance in the priority sector
- Growth and Crisis (2007-2010):
 - Private equity investments→ Rapid MFI growth
 - Microfinance Institutions Network (MFIN) formed
- Consolidation and Maturity (2012-2015):
 - Malegam Committee (2012) recommended regulatory changes
 - New Category of NBFCs Non Banking Financial Company-Micro Finance Institutions (NBFC-MFIs)
 - Universal banking license to Bandhan Bank (largest microlender) by RBI (2014)
 - MUDRA Bank launched (2015)



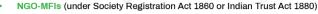


Business Models

- Self Help Groups (SHGs):
 - Informal groups (10-20 members) saving together ϑ accessing credit
 - Linked to banks through the SHG-Bank Linkage Programme
 - Microfinance Institutions (MFIs):
 - Offer micro-credit & financial services
 - Loans through Joint Lending Groups (JLGs) of 4-10 members

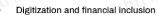
Types of MFIs





- **Co-operative Societies**
- Section 8 Companies (under Companies Act, 2013)
- NBFC-MFIs (accounts for 80% of microfinance market)

Benefits



- Self-sufficiency (entrepreneurship and improved livelihoods)
- Steady income (assets building)
- Women entrepreneurship



Challenges of MFIs	Way Forward
ligh Interest Rates	Improve regulatory oversight and encourage interest rate caps
Over-Indebtedness of Borrowers	Strengthen credit risk assessment and promote financial literacy
Dependency on External Funding	Diversify funding sources through partnerships and capital markets
Low Financial Literacy Among Borrowers	Promoting financial education programs/campaigns







UPSC Civil Services Examination Previous Year Questions (PYQ)

Prelims

Q. Microfinance is the provision of financial services to people of low-income groups. This includes both the consumers and the self-employed. The service/services rendered under microfinance is/are (2011)

- 1. Credit facilities
- 2. Savings facilities
- 3. Insurance facilities
- 4. Fund Transfer facilities

Select the correct answer using the codes given below the lists:

- (a) 1 only
- (b) 1 and 4 only
- (c) 2 and 3 only
- (d) 1, 2, 3 and 4

Ans: (d)

Hydrocarbon Exploration in Gulf of Mannar

Source: TH

The Indian government has included a around **10,000** sq km deep-sea region of the <u>Gulf of Mannar</u> (<u>GoM</u>) in Tamil Nadu in its latest <u>hydrocarbon exploration</u> tender, raising concerns over its impact on marine biodiversity and local <u>livelihoods</u>.

- Exploration Tender: The Ministry of Petroleum and Natural Gas, under the 10th Open
 Acreage Licensing Policy (a mechanism under India's <u>Hydrocarbon Exploration and Licensing Policy</u> that allows investors to select blocks for oil and gas exploration), has included 25 offshore areas.
- Gulf of Mannar: It is a part of the Laccadive Sea in the Indian Ocean, containing 21 islands. It spans between the northwest coast of Sri Lanka and the southeast coast of India.
 - It is bordered by Rameswaram, the Ram Sethu bridge (also known as Adam's Bridge), and Mannar Island (Sri Lanka).
 - It receives rivers like the **Tambraparni** (India) and Aruvi (Sri Lanka) and hosts the **Tuticorin port**.
 - It is home to the **Gulf of Mannar Marine National Park**, the first **Marine Biosphere Reserve** in South and South-East Asia.
 - It hosts 117 coral species, over 450 fish species, and globally threatened

species like dugongs, whale sharks, and sea turtles.



Read more: Coral Breach in Gulf of Mannar

Unusual Materials

Source: TH

- Gallium (Ga): It is a non-radioactive metal that melts near room temperature (similar to Cesium, Rubidium, and Mercury).
 - It exhibits the rare property of being denser as a liquid than as a solid, like Silicon,
 Germanium, Bismuth, and Plutonium.



- Aerogel: Aerogel is an extremely light solid, composed mostly of air (over 99% by volume).
 - It is made by removing the liquid component of a gel through supercritical drying, preserving its porous structure.
- Concrete: Concrete is the second most used material after water. While strong in compression, it has low tensile strength, making it susceptible to cracking.
 - Scientists have explored self-healing concrete using bacteria which
 uses Bacillus species to produce calcium carbonate upon water exposure, sealing
 cracks and enhancing durability.
- Aluminium Oxynitride (ALON): ALON is a transparent ceramic compound made of aluminum, oxygen, and nitrogen. It is extremely durable and has been tested to resist armorpiercing bullets.
- Tin (Sn): Stanene (Sn) is a one-atom-thick layer of tin atoms with a honeycomb structure, similar to graphene.
 - It is expected to be a topological insulator, conducting electricity along its edges with minimal energy loss, while its interior remains insulting.

Read More: Moiré Materials and Superconductivity

Hague Service Convention

Source: TH

The US **Securities and Exchange Commission (SEC)** has invoked the **Hague Service Convention** to issue summons to Indian billionaire **Gautam Adani** and his associates in a securities and wire fraud case.

- Hague Service Convention (1965): A multilateral treaty that facilitates the cross-border service of legal documents in civil or commercial matters among 84 signatory states, including India (acceded to the Convention in 2006 with certain reservations) and the US.
- SEC's Request to India: The SEC invoked Convention to request India's Ministry of Law and

- **Justice** to serve summons on Adani and his associates.
- India's Stance on Service of Process: India rejects alternative service methods under the Article 10 of the Convention, including postal service, diplomatic channels, or direct service by foreign courts.
 - All requests must go through the Law Ministry, which can reject them if they threaten sovereignty or security.
- Judicial Precedents on Alternative Service: Courts worldwide have debated using email and social media for summons.
 - US courts allowed service through Facebook and email. In *Punjab National Bank v. Boris Shipping Ltd. (2019)*, a UK court invalidated a summons served through alternative means, reaffirming India's strict adherence to the Convention.

4,000-Year-Old Wooden Circle of Denmark

Source: TH

Archaeologists in **Denmark** have discovered a **4,000-year-old Neolithic wooden circle**, resembling **Stonehenge (3100-1600 BCE) in England**.

Key Findings:

- The structure consists of 45 wooden piles arranged in a 30-meter diameter, likely used for rituals or sun worship.
- Nearby, a Bronze Age (1700-1500 BCE) settlement was found, including a chieftain's grave and a bronze sword.
 - The Bronze Age was the time from around 2,000BC to 700 BC when people used bronze.
- The discovery provides insights into Denmark's neolithic rituals and possible cultural links with Britain through shared artifacts like pottery and graves.

Stonehenge:

- Stonehenge is a prehistoric megalithic monument in Wiltshire, England (3100-1600 BCE), with massive standing stones in concentric circles, likely used for astronomical, ritualistic, or burial purposes.
- It was built with Sarsen sandstone and Bluestone, with associated monuments like the Avenue and Cursuses.
- It was recognised as a <u>UNESCO World Heritage Site</u> in 1986.

Read More: Wooden Artifacts of Stone Age, World Heritage Sites in India

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