



**VAJIRAM & RAVI**  
Institute for IAS Examination

# The Analyst

**CURRENT AFFAIRS Handout**

**29th May 2025**

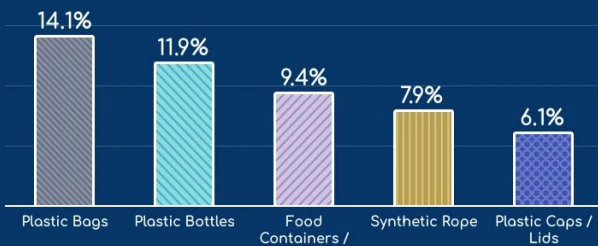


**CONTEXT:** Ship capsizing off Kerala coast

## Marine Pollution :

- **Marine pollution:** hazardous substances, debris, microplastics, antibiotics, POPs
- **Global plastic production:** 359 million tonnes (2020)
- India - Plastic Waste - 63% of total marine litter
- CPCB - 26k tonnes a day
- Indian Ocean second-most polluted after North Pacific
- Abandoned fishing gear, plastic bags, microbeads
- Suffocates mangrove seedlings
- Turtle nesting and feeding habits

The Primary Types of Ocean Pollution and Waste That Are Currently Present in Aquatic Ecosystems



## Challenges:

- Land based sources
- Monsoon Sediment Influx
- Recreation
- Recycling
- Microplastic
- Civic participation

## Impact of Marine Pollution:

### Health:

- **Marine organisms:**
  - a. Biodiversity
  - b. Coral Bleaching
  - c. Food Chain disruption
- **Humans:**
  - a. Ingestion via seafood
  - b. Endocrine disruption, respiratory issues, potential carcinogenic effects

## Economic:

- Tourism Potential
- Coastal Communities Livelihood

## Environmental:

- Altering Habitat - Artificial structures e.g. Breakwaters, oil rigs
- Invasive species, act as ecological traps
- Climate Change



## Effects of Pollutants:

### Nutrient Enrichment

- Causes eutrophication, algal blooms, dead zones
- From kelps/corals to turf algae

### Heavy Metals

- Sources: industrial runoff, shipping
- Toxic metals bioaccumulate
- Essential metals toxic at high levels

### POPs

- hormonal & reproductive damage

### Plastic Debris

- Microplastics in food chains



**CONTEXT:** Ship capsizing off Kerala coast

## Mitigation Strategies:

### Technological solutions:

- Membrane filtration
- Magnetic nanoparticles, photocatalytic degradation
- Bioremediation (seagrasses, mussels as natural traps)

### Innovations:

- Self-propelled nanomotors for microplastic capture
- Renewable-based biodegradable plastics

### Policy:

- **International Efforts**
  - MARPOL Convention
  - UNEP's Clean Seas Campaign
  - Global Partnership on Marine Litter
  - G20 Action Plan on Marine Litter
  - Basel Convention
  - UNCLOS
  - Blue Flag beach certification initiative
- **National Efforts**
  - Plastic Waste Management (Amendment) Rules, 2022
  - Single-Use Plastic Ban
  - Merchant Shipping Rules, 2009
  - Draft National Marine Litter Policy
  - NGOs
  - Promoting Circular Economy

## Replicable Models:

### Case Study 1: Nutrient Pollution (Chesapeake Bay)

- Reduced runoff, improved sewage treatment
- Restored seagrass, monitored via Annual Ecological Report Card

### Case Study 2: Plastic Debris (Taiwan)

- Banned single-use plastics, enforced recycling
- Fines for improper waste sorting

### Case Study 3: Artificial Structures (Australia)

- Eco-engineered seawalls with rock pools, mangroves
- Enhanced biodiversity

## Approaches to Monitoring:

### Unmanned Platforms

- Drones, satellites, AUVs monitor remote areas
- Limitations: biofouling, depth constraints

### AI & Machine Learning

- Oil spill detection, benthic monitoring, fish tracking
- Potential for large-scale pollution analysis

### Concluding Thoughts

- Global monitoring, restoration for SDG 14.1
- UN Ocean Decade (2021-2030) - cleaner, safer oceans
- Global Plastic Treaty
- Frame a National Marine Litter Policy

## THE WAY FORWARD

World leaders who take bold, evidence-based action to stop pollution at source will be critical to preventing ocean pollution and safeguarding human health. Measures such as these could help with the six problems.

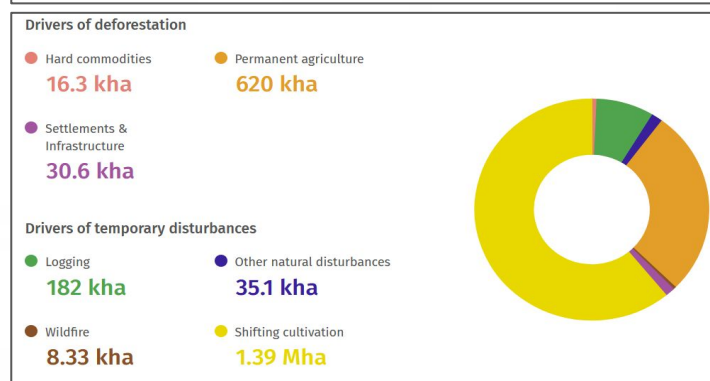
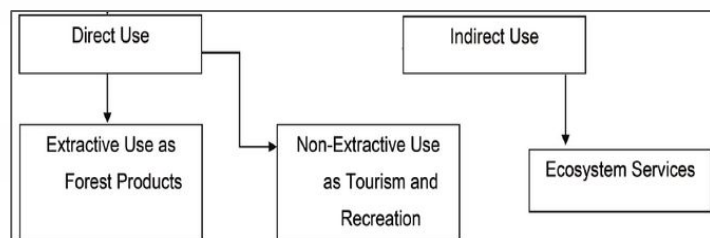




**CONTEXT:** Deforestation in Delhi Ridge

## Causes:

- Overgrazing
- Shifting Cultivation
- Fuel Wood
- Forest Fires
- Commercial Logging
- Industries
- Encroachment
- Landslides
- Population & Urbanisation



## Impacts of Deforestation:

### 1. Impact on Global Climate

- CO<sub>2</sub> levels
- Regional radiation flux
- Evapotranspiration
- Shifts cloud formation
- Polar ice melting, biodiversity loss, food insecurity

### 2. Impact on Hydrology & Soil Quality

- Water cycle
- Flood risks
- Soil erosion & compaction
- Siltation
- Degrades watersheds, reducing water quality & availability

### 3. Impact on Biodiversity

- Tropical forests host  $\frac{2}{3}$  of known species
- 65% of IUCN-endangered species
- Human-wildlife conflicts
- Himalayas at risk: By 2100, only 10% dense forest
- Traditional medicine loss

### 4. Economic & Social Welfare

- Annual loss: ~\$45B from tropical deforestation
- Livelihood impacts:
  - 30% income for poor rural households in MP, Chattis
  - Loss of timber, forest products, ecotourism
- Cultural erosion

## Forest Conservation Laws:

- **The Indian Forest Act, 1927**
  - procedures for declaring
- **Forest Conservation Act, 1980**
  - prior approval for diversion
- **National Forest Policy**
  - sustainable utilization, maintenance, restoration and enhancement
- **Wildlife Protection Act, 1972**
  - protect wild animals, birds and plants
- **The Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006**
  - responsibilities and authority for sustainable use, conservation of biodiversity



# Deforestation & Judicial Activism



**CONTEXT:** Deforestation in Delhi Ridge

## Other Initiatives:

- CAMPA
- Integrated Forest Protection Scheme
- National Mission for a Green India
  - 5 mn + 5 mn hectares
- National Afforestation Programme
  - people's participation
- Nagar Van Yojana
- Local BMCs – 1/3 women reservation

## Forest Conservation :

### Case Study 1

- **Miyawaki: Japan**
- dense, native forests in a short period
- variety of indigenous species close together
- mutual support and competition
- India – land availability, funding

### Case Study 2

- **Biomimicry: USA**
- Prairie Restoration Project
- restore native grasslands

### Case Study 3

- **Erodium copy technique: Australia**
- designing seed pods that mimic the Erodium's spiral shape, which helps seeds drill into the soil and germinate
- potential to transform drylands into productive landscapes

## Judicial Activism:

### 1. Subhash Kumar v. State of Bihar (1991)

- Right to pollution-free environment
- Public Trust Doctrine

### 2. Vellore Citizens' Welfare Forum v. Union of India (1996)

- Polluter Pays Principle
- Industries must compensate for environmental damage

### 3. T.N. Godavarman Thirumulpad v. Union of India (1996)

- Expanded forest conservation under FCA, 1980.
- Banned non-forest activities without central approval

### 4. Karnataka Industrial Areas Dev. Board v. C. Kenchappa (2006)

- Quashed illegal encroachment on wetlands

### 5. Lafarge Umiam Mining Pvt. Ltd. v. Union of India (2011)

- Mining in eco-sensitive zones requires prior environmental clearance

### 6. Kancha Gachibowli Forest, In re (2025)

- No deforestation of University land



**SYLLABUS : GS Paper 3:** Indian Economy and issues relating to Planning  
**Newspaper:** Indian Express **Page Number: 10**

## Determinants of FDI:

- Stable policies
- Economic factors – tax exemption, subsidies to foreign investors
- Low cost labour
- Infrastructure facility
- Availability of natural resources

## Advantages of FDI:

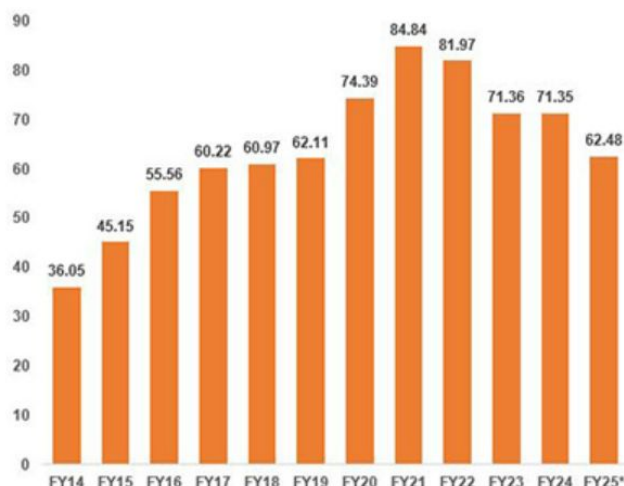
- Development of industries = quality of life
- More opportunities in trading
- Employment
- Technological Advancement
- Outsourcing of knowledge

**I**N 2024-25, FOREIGN direct investment (gross) into India stood at \$81 billion. But net FDI – essentially the difference between direct investment to and that by India – fell to just \$353 million, down from \$10.1 billion in the previous year. The reasons for this stunning collapse can be traced to an increase in investments by Indian firms abroad and greater repatriation/disinvestment by foreign firms from the country. Coming at a time of subdued domestic private investments, and when the country is trying to emerge as an attractive destination for firms moving operations out of China and integrate itself to a greater

to be more sanguine about these trends. In its monthly bulletin, the Bank says that the moderation in net FDI, which reflects a rise in net outward FDI and repatriation FDI, "is a sign of a mature market where foreign investors can enter and exit smoothly, which reflects positively on the Indian economy". Compared to India, UBS says that the "ASEAN 6's FDI dynamics are robust" based on the first three quarters of 2024, and McKinsey has recently noted that most Southeast Asian economies are "seeing higher FDI in the fourth quarter" than in previous quarters. As these countries are India's competitors in the China+1 play, these trends call for policy intervention at multiple levels to address the issues/impediments that are holding back investments from both domestic and foreign firms.

The near-term outlook for investments remains muddled as both firms and households face uncertainty due to US President Donald Trump's tariffs. The finance ministry's monthly review also notes that private sector capex "could lag behind, with firms adopting a more cautious stance amid global uncertainty". However, a successful conclusion of the ongoing trade talks with the US and the EU could have a positive impact on investments and exports. After all, investment is more likely to flow to regions with broader and deeper trade agreements. The finance ministry also notes that "a successful US-India trade agreement could flip current headwinds into tailwinds, opening up new market access and energising exports". The government must press ahead with these trade deals.

FDI Inflow (US\$ billion)



(Note-\* Up to December 2024)

**Table II. Share Of Top Investing Countries' Fdi Equity Inflows (Financial Years):**

**Amount: Rupees in Crores (US\$ in Millions)**

Ranks	Country	Cumulative Inflows (April,00-March,19)	Percentage of Total Inflows (in terms of US \$)
1.	Mauritius	738,156 (134,469)	32%
2.	Singapore	505,946 (82,998)	20%



**SYLLABUS : GS Paper 2:** Indian Constitution— Significant Provisions

**Newspaper:** The Hindu **Page Number: 12**

## Background :

- **Romesh Thappar v. State of Madras (1950)**
  - freedom of the press at the foundation of all democratic organizations
- **Abbas v. UoI (1970)**
  - censorship of films including pre-censorship
- **Bennett Coleman and Co. v. UoI (1972)**
  - struck down Newsprint Control Order
- **Maneka Gandhi vs UoI (1978)**
  - FoS&E not confined to National boundaries
- **Indian Express v. UoI (1985)**
  - courts duty to uphold the freedom of press
- **Bijoe Emmanuel v. State of Kerala (1986)**
  - includes the right to be silent
- **UoI v. ADR (2002)**
  - includes the right to impart and receive information, hold opinions

### *Right to Freedom*

19. (1) All citizens shall have the right—

- (a) to freedom of speech and expression;
- (b) to assemble peaceably and without arms;
- (c) to form associations or unions <sup>1</sup>[or co-operative societies];
- (d) to move freely throughout the territory of India;
- (e) to reside and settle in any part of the territory of India; <sup>2</sup>[and]

3\*

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(g) to practise any profession, or to carry on any occupation, trade or business.

<sup>4</sup>[(2) Nothing in sub-clause (a) of clause (1) shall affect the operation of any existing law, or prevent the State from making any law, in so far as such law imposes reasonable restrictions on the exercise of the right conferred by the said sub-clause in the interests of <sup>5</sup>[the sovereignty and integrity of India,] the security of the State, friendly relations with foreign States, public order, decency or morality, or in relation to contempt of court, defamation or incitement to an offence.]

its direction to Ashoka University associate professor Ali Khan Mahmudabad, accused of making contentious social media posts on Operation Sindoor, to not post online content related to the cases against him.

The court gave the direction on May 21 while granting bail to the academic.

A Bench headed by Justice Surya Kant said the direction did not interfere with the academic's fundamental right to speech and expression.



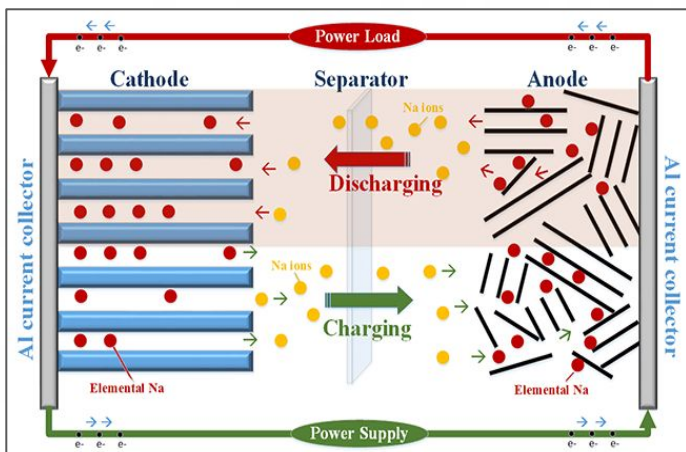
**SYLLABUS : GS Paper 3: Science and Technology**

**Newspaper: Indian Express Page Number: 13**

- **Ultra-fast charging:** 80% in 6 minutes
- **Long lifespan:** Over 3,000 charge cycles (comparable to lithium-ion)
- Developed by: JNCASR (Bengaluru), DST-funded

## Why Sodium-Ion?

- **Abundant & cheap:** Extracted from seawater (vs. lithium's limited reserves)
- **Safer:**
  - Transportable at zero volt (lithium requires charge)
  - No thermal runaway risk (stable in extreme temps)
- **Eco-friendly:** No rare metals (cobalt, nickel) like lithium-ion



## Challenges:

- **Lower energy density**
- **Limited flexibility:** Cannot be molded into shapes (prismatic/cylindrical)
- **Early-stage tech:** Higher costs, fewer manufacturers

## Indian Advancements:

- **JNCASR's innovation:**
  - NASICON-type cathode material
  - Nanoscale + carbon-coated anode for faster ion movement
- **Other Indian players:**
  - **KPIT-Trentar collab:** 3,000–6,000 cycle lifespan
  - **IIT Bombay:** Solved cathode instability issues (2023)

## Global Context:

- China's dominance: Controls 80%+ lithium-ion supply chain
- China's Na-ion push: CATL's 500km-range Naxtra battery by 2025

## Potential Applications

- EVs, solar grids, drones, rural electrification
- Scalable for mass adoption in energy storage

## Next Steps

- **Commercialization:** Further R&D needed
- **Cost reduction:** Scaling production





**SYLLABUS : GS Paper 2: Parliament and State Legislatures**

**Newspaper: The Hindu Page Number: 10**

## Decoding the News:

- **6-year vacancy:** since 2019 (17th LS)
- **18th LS (2024):** No indication of appointment
- **Allegation:** Government unwilling to offer post to Opposition
- Government's refusal disrupts **power-sharing** norms

## Constitutional Provisions:

- **Article 93:** Mandates election of Speaker & Deputy Speaker "**as soon as may be**" (implies urgency)
- **Article 94:** Deputy Speaker serves until resignation/removal (ensures continuity)
- **Article 180:** Empowers Deputy Speaker to act as Speaker if chair is vacant

## Role of Deputy Speaker:

- **Critical functions:**
  - Presides over LS in Speaker's absence
  - Chairs key committees (Private Members' Bills, Budget Committee)
- **Not ceremonial:** checks and balances in parliamentary democracy

## Implications of Vacancy:

- **Centralization of power:** Weakens Opposition's role in parliamentary oversight
- **Constitutional vacuum:** Risk of crisis if Speaker resigns or is incapacitated
- **Undermines democracy:** Erodes Westminster model principles of deliberation and accountability
- **Legal and Procedural Lapses**
  - **Rule 8 (Lok Sabha Rules, 1952):** Speaker must fix election date for Deputy Speaker

## Broader Concerns:

- **Precedent-setting**
- **Democratic resilience:** consensus-driven governance
- **Accountability:** Reduces parliamentary scrutiny of executive actions



**SYLLABUS : GS Paper 3:** Indian Economy and issues relating to Planning  
**Newspaper:** Indian Express **Page Number: 9**

## SPOTTING DARK PATTERNS

### ■ FALSE URGENCY

Falsely implying a sense of urgency to mislead a user into making an immediate purchase or taking an immediate action

### ■ BASKET SNEAKING

Inclusion of additional items at the time of checkout without consent

### ■ CONFIRM SHAMING

Creating fear, shame or guilt to nudge the user to purchase a product

### ■ FORCED ACTION

Forcing a user into taking an action that would require them to buy additional good(s) or subscribe or sign up for an unrelated service, in order to get the the product originally intended

### ■ SUBSCRIPTION TRAP

Making cancellation of a paid subscription impossible or complex and hiding the cancellation option, among others

### ■ INTERFACE

### INTERFERENCE

Manipulating user interface in ways that highlights certain specific information and obscures others. A common example is designing a light-coloured option for selecting 'no' in response to a pop-up

### ■ BAIT AND SWITCH

Advertising a particular outcome based on user action but serving an alternate outcome

### ■ DRIP PRICING

Elements of prices are not revealed upfront or are revealed surreptitiously

### ■ DISGUISED ADS

Masking advertisements as other types of content such as user generated content or news articles.

### ■ NAGGING

Buyers facing overload of unrelated requests, information, options or interruptions

Dark patterns are tactics used by online platforms to mislead customers and prevent them from making the right choices. On December 1, 2023, the CCPA issued guidelines for the “prevention and regulation” of dark patterns. **ENS**

New Delhi: The Centre has asked e-commerce platforms to conduct regular internal audits to identify and eliminate dark patterns on their platforms. Consumer Affairs Minister Pralhad Joshi, after a high-level stakeholders meeting Wednesday, said, “Companies must not wait for the Central Consumer

Protection Authority (CCPA) to intervene. They should proactively recognize and remove these deceptive practices before notices are issued. This is not regulatory compliance: it's about building trust with your consumers.”

The meeting was attended by Consumer Affairs Secretary Nidhi Khare,



**Q1. Consider the following international initiatives and conventions:**

1. MARPOL Convention
2. UNEP's Clean Seas Campaign
3. Global Partnership on Marine Litter
4. G20 Action Plan on Marine Litter
5. United Nations Convention on the Law of the Sea (UNCLOS)

**How many of the above aim to combat marine litter and ocean pollution?**

- a) Only Two
- b) Only Three
- c) Only Four
- d) All Five

**Answer: d**

**Q2. Consider the following landmark environmental judgments in India:**

1. Subhash Kumar v. State of Bihar recognised the right to a pollution-free environment under Article 21 and upheld the Public Trust Doctrine.
2. Vellore Citizens' Welfare Forum v. Union of India established the Polluter Pays Principle and mandated compensation for environmental damage.
3. T.N. Godavarman Thirumulpad v. Union of India expanded the scope of forest conservation under the Forest Conservation Act, of 1980.

**Which of the statements given above are correct?**

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

**Answer: d**

**Q3. Consider the following statements regarding Foreign Direct Investment (FDI):**

1. It leads to the development of industries, thereby improving the quality of life
2. It increases opportunities in trading and global market integration
3. It generates employment in both skilled and unskilled sectors
4. It facilitates technological advancement and innovation
5. It promotes the outsourcing of knowledge and expertise

**Which of the above are commonly recognized as advantages of FDI?**

- a) 1, 2 and 3 only
- b) 2, 3 and 5 only
- c) 1, 3, 4 and 5 only
- d) All five

**Answer: d**

**Q4. Consider the following statements regarding Sodium-Ion batteries:**

1. Sodium is abundant and inexpensive and can be extracted from seawater, unlike lithium which has limited global reserves.
2. Sodium-ion batteries are safer than lithium-ion batteries, as they are transportable at zero volts and pose no risk of thermal runaway at all.
3. Sodium-ion batteries are more eco-friendly, as they require less percentage of rare metals such as cobalt or nickel.

**Which of the statements given above are correct?**

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

**Answer: c**

**Q5. Consider the following provisions related to the office of the Deputy Speaker of the Lok Sabha:**

1. Article 93 mandates the election of the Speaker and Deputy Speaker "as soon as may be," indicating urgency in filling these positions.
2. Article 180 states that the Deputy Speaker continues to hold office until resignation or removal ensuring continuity.
3. Article 94 empowers the Deputy Speaker to perform the duties of the Speaker when the office is vacant or the Speaker is absent.

**Which of the statements given above are correct?**

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

**Answer: c**







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