

## DAILY CURRENT AFFAIRS (1 October 2024)

## TOPICS COVERED

1. Vaishnav visits Japan to clear bullet train hurdles ahead of Modi's visit (GS Paper-III: Infrastructure)
2. SC reopens IIT doors for daily wageer's son who could not pay fees on time (GS Paper-II: Polity)
3. When Jaggi Vasudev's daughter is married, why is he telling others to be hermits: HC (GS Paper-II: Polity)
4. Withdraw notification declaring parts of Western Ghats as eco-sensitive: Karnataka (GS Paper-III: Environment)
5. Manipur government extends AFSPA in hill districts for 6 months (GS Paper-III: Internal Security)
6. Air Chief Marshal A.P. Singh takes over as air force chief (GS Paper-III: Internal Security)
7. Contrary to criticism, industrial sector is growing at a fast pace: NITI Aayog CEO (GS Paper-III: Industrial Sector)
8. Frigid planet offers glimpse of earth's final fate (GS Paper-III: Basic Science)
9. Having private participation in India's nuclear energy (GS Paper-III: Energy Sector)
10. Steady but slow (GS Paper-III: S&T: Space)

The **eight core sectors** of the Indian economy have different weights in the **Index of Industrial Production (IIP)**, reflecting their relative importance to the overall industrial output. Here's a breakdown of the core sectors along with their individual percentage contributions to the IIP:

1. **Refinery Products – 28.04%**

- Largest weight in the core sector, as it contributes significantly to transportation and industrial fuel requirements.

2. **Electricity – 19.85%**

- Electricity is vital for industrial, commercial, and household consumption, making it the second-largest contributor.

3. **Steel – 17.92%**

- Steel is essential for infrastructure and manufacturing industries, contributing nearly 18%.

4. **Coal – 10.33%**

- Coal is crucial for power generation, especially in thermal power plants.

5. **Crude Oil – 8.98%**

- India is a significant importer of crude oil, which is refined to produce essential fuels.

6. **Natural Gas – 6.88%**

- Natural gas is used in electricity generation, industry, and as a feedstock in fertilizers.

7. **Cement – 5.37%**

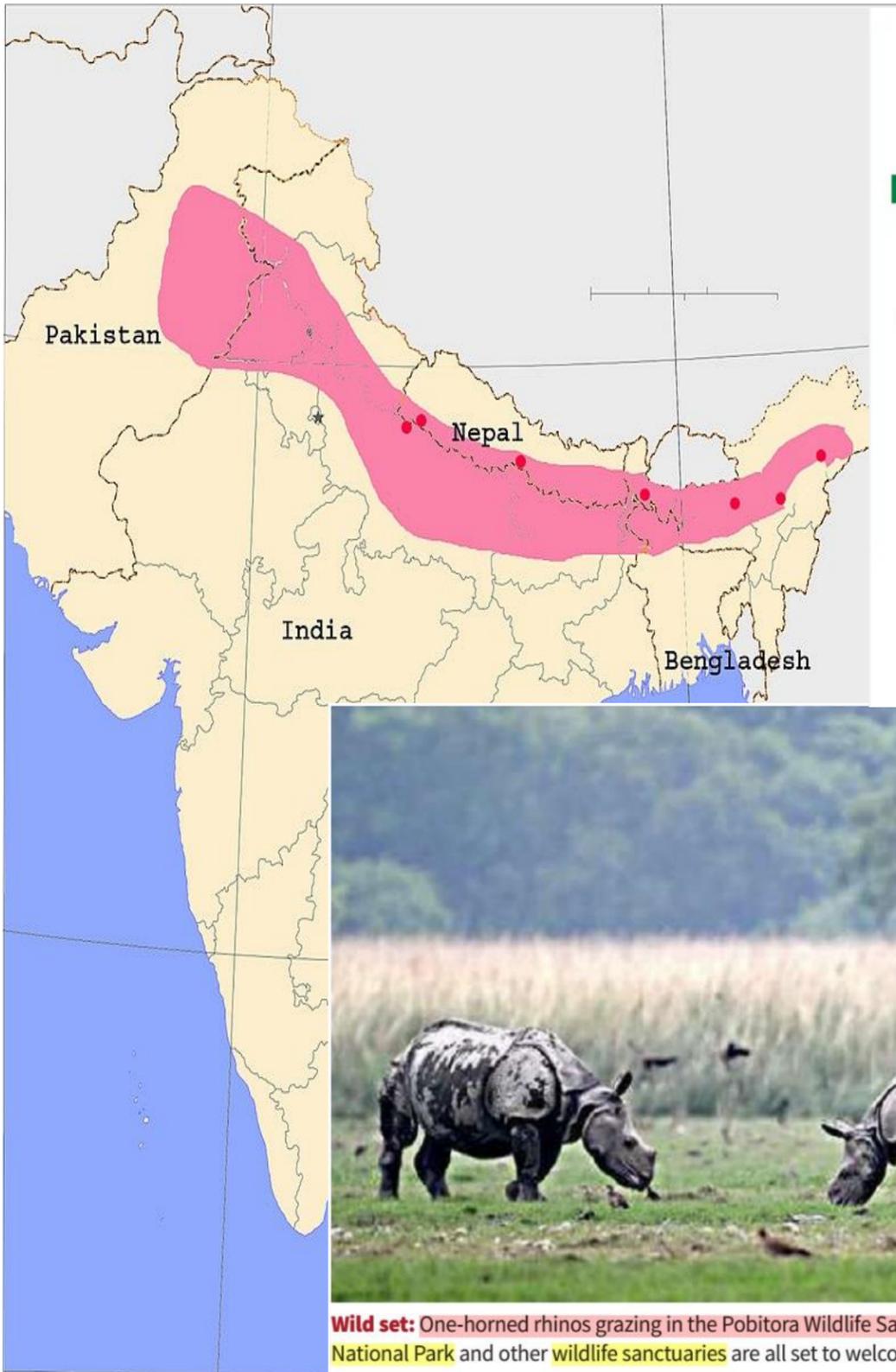
- Cement is key for infrastructure and construction activities across the country.

8. **Fertilizers – 2.63%**

- Fertilizers play a crucial role in supporting the agricultural sector, which is still a significant part of India's economy.

**Total Core Sector Weight in IIP:**

- The core sectors together account for **40.27%** of the overall Index of Industrial Production (IIP).



### 7 NATIONAL PARKS IN ASSAM

- 6th : Raimona National Park (Notified in 2021)
- 7th : Dihing Patkai National Park (Notified in June 2021)



**Wild set:** One-horned rhinos grazing in the Pobitora Wildlife Sanctuary in Morigaon district of Assam on Monday. Assam's Kaziranga National Park and other wildlife sanctuaries are all set to welcome visitors for the new season from Tuesday. RITU RAJ KONWAR

# Vaishnaw visits Japan to clear bullet train hurdles ahead of Modi's visit

GS Paper III: Infrastructure

**Maitri Porecha**  
**Suhasini Haidar**

NEW DELHI

Senior officials led by Union Railway Minister Ashwini Vaishnaw undertook a three-day trip to Japan in September to resolve several problems that have resulted in a deadlock between India and Japan over Prime Minister Narendra Modi's pet project – Mumbai-Ahmedabad bullet train. Sources said, among the problems they discussed were Japan's insistence on Japanese vendors for the trains and signalling systems, and costing and timing estimates for project completion.

Anil Kumar Khandelwal, Member (Infrastructure), Railway Board, and Vivek Kumar Gupta, Managing Director of the National High Speed Rail Corporation Ltd (NHSRCL), accompanied Mr. Vaishnaw, sources said, as pressure to complete construction milestones grows ahead of Mr. Modi's visit to Tokyo for the annual summit later this year.

Officials said that while the entire land acquisition in Gujarat and Maharashtra had been completed, and 215 km of viaduct of the total 508 km distance was completed, the deadlock over costs for supplying rolling stock or train sets and signalling systems still persists.

"Japan which is providing all the technical sup-



**Fast forward:** The Mumbai-Ahmedabad bullet train is a pet project of Prime Minister Narendra Modi. FILE PHOTO

port and technology for running the bullet trains, is keen that the train sets and the signalling system be purchased from Japanese suppliers only," sources told *The Hindu*. According to Japan International Cooperation Agency loan conditions, only Japanese manufacturers such as Kawasaki and Hitachi can participate in the bid.

### Cost troubles

The increase in the project's costing is becoming another issue. According to NHSRCL figures, an expenditure of up to ₹60,372 crore (unaudited) has already occurred between FY 2020-21 to FY 2023-24, against a total outlook budget of ₹1.08 lakh crore.

"A majority of this cost has been spent in creating infrastructure for the bul-

let train like constructing the viaduct, girder casting and launching, laying rail level slabs and so on. This leaves increasingly small margin for spending on buying the train sets and setting up the signalling systems," officials said indicating the project costs will further escalate.

The train, built with Japan's Shinkansen technology and first launched exactly 60 years ago in Japan (on October 1, 1964), will run at lightning speed, about 320 km/hour between Mumbai and Ahmedabad, covering the total distance in about three hours, and was due to begin operations in 2023.

Earlier this year, Mr. Vaishnaw said a 50-km section between Surat and Bilimora was likely to begin operations in 2026 but offi-

cially say the latest issues could push the launch further. In addition, construction of a 21 km-long tunnel between Mumbai BKC and Shilphata, including a seven km undersea tunnel at Thane creek, which was awarded in May 2023, will take at least five years to complete.

Top sources in the Ministry of Railways told *The Hindu* that discussions are still on for the Mumbai Ahmedabad High-Speed Rail (MAHSR) Corridor to receive Japanese Shinkansen trains as per the agreement between governments of India and Japan. Meanwhile, sources said that a decision on indigenous development of train sets running between 249 kmph to 280 kmph for standard gauge has been made by the Ministry. "Since there is no standard gauge track available on Indian Railway presently (India uses broad gauge tracks), trials of standard gauge train set are planned to be undertaken in the Surat-Bilimora section of MAHSR," officials said.

"The bullet train project is very complex and technology-intensive. Timelines for the completion of the project can be reasonably ascertained only after completion of all associated works of civil structures, track, electrical, signalling and telecommunication and supply of train sets," an official said.

## Vaishnaw visits Japan to clear bullet train hurdles ahead of Modi's visit (1 October)

- Senior officials, led by Union Railway Minister Ashwini Vaishnaw, undertook a three-day trip to Japan in September to resolve issues related to the **Mumbai-Ahmedabad bullet train project**.
- Discussions focused on Japan's insistence on using Japanese vendors for trains and **signaling systems**, as well as the costs and timelines for project completion.



- Anil Kumar Khandelwal (Member, Infrastructure, Railway Board) and Vivek Kumar Gupta (Managing Director, National High-Speed Rail Corporation Ltd - NHSRCL) accompanied Mr. Vaishnav.
- Pressure is increasing to meet construction milestones ahead of Prime Minister Narendra Modi's visit to Tokyo for the annual summit later this year.
- **Land acquisition in Gujarat and Maharashtra** has been completed, and 215 km of viaduct out of the total 508 km distance is finished.
- A deadlock over costs for rolling stock, train sets, and signaling systems continues.
- Japan, which is providing technical support for the bullet train project, insists on purchasing train sets and signaling systems only from Japanese suppliers like Kawasaki and Hitachi.
- The **Japan International Cooperation Agency (JICA)** loan conditions allow only Japanese manufacturers to participate in the bidding process.
- The total cost of the project is escalating. NHSRCL figures show that an expenditure of ₹60,372 crore (unaudited) has occurred between FY 2020-21 and FY 2023-24, against a total budget estimate of ₹1.08 lakh crore.
- Most of the cost has been spent on infrastructure, such as constructing the viaduct and laying rail-level slabs, leaving a small margin for purchasing train sets and installing signaling systems.
- The bullet train, based on **Japan's Shinkansen technology launched on October 1, 1964**, will travel at speeds of up to 320 km/hour between Mumbai and Ahmedabad, covering the distance in about three hours.
- The project was initially scheduled to begin operations in 2023.
- Mr. Vaishnav had earlier stated that a 50-km section between Surat and Bilimora could start operations by 2026.
- However, the latest issues could cause further delays in the project's launch.
- Construction of a 21 km tunnel between Mumbai BKC and Shilphata, including a 7 km undersea tunnel at Thane creek, was awarded in May 2023 and will take at least five years to complete.
- Ministry of Railways sources confirmed ongoing discussions to ensure the Mumbai-Ahmedabad High-Speed Rail (MAHSR) Corridor receives Japanese Shinkansen trains as agreed between India and Japan.
- Meanwhile, the Ministry has decided to develop indigenous train sets capable of running between 249 km/h and 280 km/h on standard gauge.
- India currently uses broad gauge tracks, and trials of the standard gauge train sets are planned for the Surat-Bilimora section of the MAHSR.



- The bullet train project is complex and technology-intensive, and the timeline for completion can only be determined after completing all associated civil works, track, electrical, signaling, telecommunication, and train set supply.

### SC reopens IIT doors for daily wager's son who could not pay fees on time (1 October)

- The Supreme Court on Monday intervened to help **a student from a Scheduled Caste community who missed admission to IIT Dhanbad due to his inability to pay ₹17,500 in fees before the admission portal closed.**
- The student, Atul Kumar, is the son of a daily wage worker and comes from a low-income family.
- Chief Justice of India D.Y. Chandrachud, heading a three-judge Bench, emphasized that no student should be disappointed when seeking education and used **Article 142 of the Constitution to grant relief.**
- **Atul Kumar had secured a rank of 1,455 in the JEE (Advanced) 2024 exam** under his category and was allotted a seat at IIT Dhanbad for a four-year Bachelor of Technology (B.Tech) course in Electrical Engineering.
- This was his **second and final attempt to secure admission to an IIT.**
- Atul Kumar had faced financial challenges, with his family's income being below the poverty line, and he had studied in a higher secondary school in Muzaffarnagar, Uttar Pradesh.
- He attempted to log into the admission portal on June 24 after his parents managed to collect ₹17,500, but the portal closed before he could complete the process.
- After unsuccessful attempts to communicate his situation to IIT Madras, he approached the Madras

# SC reopens IIT doors for daily wager's son who could not pay fees on time

**GS Paper II: Polity**

**Krishnadas Rajagopal**  
NEW DELHI

The Supreme Court on Monday came to the rescue of a student, the son of a daily wager and a member of a Scheduled Caste community, who missed admission to the Indian Institute of Technology (Dhanbad) due to his inability to pay ₹17,500 as fees on time before the admission portal closed.

“He is a brilliant student. No child seeking education should go back disappointed from the Supreme Court,” Chief Justice of India D.Y. Chandrachud, heading a three-judge Bench, said. The

**Top court uses its extraordinary powers under Article 142 to facilitate the admission**

court exercised its extraordinary power under Article 142 of the Constitution to open the doors of IIT Dhanbad to Atul Kumar, who was present in the courtroom.

**Last chance**

Mr. Kumar had secured a rank of 1,455 for the JEE (Advanced) 2024 in his category. He had been allotted a seat at IIT Dhanbad for the four-year Bachelor

of Technology course in Electrical Engineering. It was his second and final shot at securing admission.

The court noted that Mr. Kumar had struggled against the odds to achieve his dream to study at an IIT. The family income was below the poverty line. He had studied in a higher secondary school at Muzaffarnagar in Uttar Pradesh.

He had logged in to the admission portal on June 24 after his parents managed to collect ₹17,500. However, the portal closed by the time he could complete filling in his details. After his attempts to communicate his quandary with the exam authority IIT Madras,

Mr. Kumar approached the Madras High Court through legal aid. The High Court advised him to appeal to the Supreme Court for relief.

“Affirmatively, he is a talented student who belongs to a marginalised community and who has done everything to secure admission. Our power to do substantive justice under Article 142 is precisely for situations like this,” the Chief Justice noted. “All the best,” he wished Mr. Kumar at the end of the hearing.

Mr. Kumar is one of three brothers. His siblings are studying in IIT Kharagpur and NIT Hamirpur.

High Court through legal aid, which advised him to appeal to the Supreme Court.

- The Supreme Court noted that Atul Kumar is a talented student from a marginalized community and exercised its power under Article 142 to grant him justice.
- Chief Justice Chandrachud wished Atul Kumar all the best at the end of the hearing.
- Atul Kumar is one of three brothers, with his siblings studying at IIT Kharagpur and NIT Hamirpur.

# When Jaggi Vasudev's daughter is married, why is he telling others to be hermits: HC

## GS Paper II: Polity

**Mohamed Imranullah S.**  
CHENNAI

When Jaggi Vasudev, alias Sadhguru, of Isha Foundation had got his daughter married and ensured that she was well-settled in life, why was he encouraging other young women to tonsure their heads, renounce worldly life, and live like hermits at his yoga centres, asked Justices S.M. Subramaniam and V. Sivagnanam of the Madras High Court on Monday.

The judges raised the question during the hearing of a *habeas corpus* petition filed by S. Kamaraj, 69, a retired professor of the Tamil Nadu Agricultural University in Coimbatore. The petitioner had claimed that two of his well-educated daughters, aged 42 and 39, respectively, had been "brainwashed" into living at the Isha Yoga Centre permanently. Both the alleged detainees, however, appeared before the Division



Jaggi Vasudev, alias Sadhguru

Bench on Monday and made it clear that they were residing at the yoga centre on the Velliangiri foothills in Coimbatore of their own volition.

Nevertheless, after interacting with them, the judges decided to probe the issue further.

Surprised by their decision, advocate K. Rajendra Kumar, representing Isha Foundation, said the court could not expand the scope of the case. However, Justice Subramaniam said the court, exercising the writ jurisdiction under Ar-

title 226 of the Constitution, was expected to do complete justice, and it was necessary to get to the bottom of the case.

The judge also said the court had certain doubts regarding the case. When the advocate sought to know what they were, Justice Sivagnanam said, "We want to know why a person who had given his daughter in marriage and made her settle well in life is encouraging the daughters of others to tonsure their heads and live the life of a hermitess."

### 'We want to do justice'

When the advocate replied that an adult was free to choose their own path in life, and that he could not understand the court's doubt, Justice Subramaniam said, "You will not understand because you are appearing for a particular party. But this court is neither for nor against anybody. We only want to do

justice to the litigants."

When the petitioner's daughters sought to make their submissions, the senior judge in the Bench said, "You claim to be on the path of spirituality. Don't you think that neglecting your parents is a sin? We could see so much of hatred in you for your parents."

On being told by the petitioner's counsel, M. Purushothaman, that there were multiple criminal cases involving Isha Foundation, and that recently, a doctor serving there had been booked under the POCSO Act, the judges directed Additional Public Prosecutor E. Raj Thilak to file a status report by October 4, listing all the cases related to the foundation.

In his affidavit, the petitioner alleged that some kind of food and medicine was being administered to his daughters, which made them lose their cognitive faculties.

## When Jaggi Vasudev's daughter is married, why is he telling others to be hermits: HC (1 October)

- The Madras High Court questioned Jaggi Vasudev, alias Sadhguru, of Isha Foundation regarding why he encouraged young women to renounce worldly life and live as hermits at his yoga centers, while ensuring his own daughter was married and settled.
- Justices S.M. Subramaniam and V. Sivagnanam raised this question during a habeas corpus petition hearing filed by S. Kamaraj, a retired professor, claiming his two well-educated daughters, aged 42 and 39, were "brainwashed" into living permanently at the Isha Yoga Centre.
- Both daughters appeared before the court and clarified they were residing at the yoga center of their own will.
- Despite their statements, the judges decided to probe the matter further, invoking the writ jurisdiction under Article 226 of the Constitution to ensure complete justice.
- Advocate K. Rajendra Kumar, representing Isha Foundation, opposed expanding the case's scope, but the court maintained it had doubts that needed further investigation.
- The court expressed curiosity about why Sadhguru, who had ensured his daughter's well-being, was encouraging others' daughters to adopt a hermit lifestyle.
- The advocate argued that adults are free to choose their path, but the court emphasized its impartiality and commitment to justice.
- Justice Subramaniam pointed out the daughters seemed to show hatred toward their parents and questioned whether neglecting parents while pursuing spirituality was a sin.
- The petitioner's counsel, M. Purushothaman, mentioned multiple criminal cases involving Isha Foundation, including a recent case where a doctor was booked under the POCSO Act.

- The judges directed the Additional Public Prosecutor E. Raj Thilak to submit a status report by October 4, listing all cases related to the Isha Foundation.
- In his affidavit, the petitioner alleged that some form of food or medicine was being administered to his daughters, affecting their cognitive abilities.

### Habeas Corpus

- **Habeas Corpus** is a Latin term meaning “**you may have the body.**”
- It is one of the most critical writs available under the Indian Constitution and is a fundamental right under **Article 32 and Article 226.**
- The writ of habeas corpus serves as a crucial safeguard against **illegal detention or unlawful deprivation** of personal liberty by the state or any other entity.

### Constitutional Provision

- **Article 32:** This article of the **Constitution of India** grants individuals the right to approach the **Supreme Court** for enforcement of fundamental rights, including the filing of the writ of habeas corpus.
- **Article 226:** This article empowers the **High Courts** to issue writs, including habeas corpus, for the enforcement of fundamental rights as well as for any other purposes.

### Historical Background

- The concept of habeas corpus originated in **English common law.**
- The writ was formalized in England under the **Habeas Corpus Act of 1679.**
- The philosophy behind the writ is based on safeguarding personal liberty and ensuring no individual is unlawfully deprived of their freedom without proper legal procedures.
- In India, habeas corpus was integrated into the judicial system through **colonial British rule** and later formalized under the Indian Constitution in 1950.
- The **Supreme Court of India** and the **High Courts** have since used the writ extensively to prevent illegal detentions.

### Purpose and Importance

- The writ of habeas corpus ensures that any person detained unlawfully can be brought before a court of law.
- The court can inquire into the **legality of the detention** and order the immediate release of the detained person if the detention is found to be unlawful.
- **Protecting Liberty:** It serves as a remedy against arbitrary arrests and detentions by authorities, ensuring that personal liberty is protected as per constitutional and legal norms.
- **Preventing Misuse of Power:** The writ acts as a check on the misuse of authority by law enforcement agencies or any other executive body.

### How It Works

- When a writ of habeas corpus is filed, the court issues an order asking the detaining authority to bring the person before it and provide reasons for the detention.
- If the detention is found to be unlawful, the court orders the immediate release of the person.

### Key Judgments and Case Laws

1. **ADM Jabalpur v. Shivkant Shukla (1976):** This case, known as the **Habeas Corpus Case**, was a landmark in Indian legal history. During the **Emergency of 1975-77**, the Supreme Court controversially ruled that habeas corpus could be suspended during the Emergency. This judgment faced immense criticism and was later overturned.
2. **Kanu Sanyal v. District Magistrate (1973):** In this case, the Supreme Court ruled that a habeas corpus petition is valid even if the person is not produced before the court. The court can investigate the legality of the detention through relevant documents.
3. **Sunil Batra v. Delhi Administration (1978):** The Supreme Court, in this case, held that the writ of habeas corpus is available not only for illegal detention but also for preventing the ill-treatment of prisoners.
4. **Prem Shankar Shukla v. Delhi Administration (1980):** The court ruled that handcuffing prisoners arbitrarily without valid reasons amounted to the violation of the right to personal liberty and dignity under Article 21.

### Recent Developments

1. **Preventive Detention:** Recently, habeas corpus writs have been filed in cases related to **preventive detention laws**, such as the **Public Safety Act** in Jammu and Kashmir and the **National Security Act** in other states like Uttar Pradesh. The judiciary has carefully scrutinized such cases, balancing security concerns with individual liberty.
2. **COVID-19 and Illegal Detentions:** During the COVID-19 lockdown, instances of habeas corpus petitions were reported in cases where individuals were allegedly detained without due process under the guise of lockdown violations.

3. **Use of Technology:** With the rise in electronic communication, there have been discussions in the legal community regarding the use of habeas corpus in digital or cyber-related cases, particularly around issues of **cybercrime** and **wrongful digital surveillance**.

#### Data and Facts

- As per official government data, the number of **habeas corpus petitions** filed in the Supreme Court and various High Courts has increased in the last few years, particularly concerning **preventive detention** cases under the **National Security Act (NSA)** and **Public Safety Act**.
- In 2022, the **Supreme Court of India** dealt with significant habeas corpus petitions in the backdrop of the **Jammu and Kashmir Reorganization Act**, with many individuals seeking relief against prolonged detentions post-Article 370 abrogation.

#### Global Context

- **Universal Declaration of Human Rights (UDHR):** Article 3 of the UDHR guarantees the right to liberty and security of person, which supports the concept of habeas corpus.
- **International Covenant on Civil and Political Rights (ICCPR):** Article 9 of the ICCPR emphasizes the importance of protection against arbitrary detention.

#### Hawala

- **Hawala**, also known as **hundi**, is an informal method of transferring money without the physical movement of cash.
- The system is commonly used in the **Middle East, South Asia, and Africa**.
- Hawala is based on trust, with intermediaries known as **hawaladars** handling transactions.
- Despite its informal nature, it is often used for legal remittances but has also gained notoriety for its role in money laundering, tax evasion, and financing terrorism.

#### Historical Background of Hawala

- The hawala system dates back several centuries, originating in **India** and spreading to the **Arab world**.
- Initially, it was used as a legitimate means of transferring money in trading economies, where trust between traders and families played a significant role.
- Its primary feature is the lack of documentation, unlike conventional banking systems.

#### How Hawala Works

1. **Step 1:** A person (sender) approaches a hawaladar in one country and gives him a sum of money to send to a recipient in another country.
  2. **Step 2:** The hawaladar contacts a counterpart in the recipient's country, instructing them to hand over an equivalent amount of money to the recipient.
  3. **Step 3:** The hawaladar in the recipient's country gives the money to the recipient. No physical transfer of money occurs between countries, and records are minimal or non-existent.
- The settlement between the hawaladars can happen through various informal means, such as counterbalancing through the exchange of goods or services.

#### Legal vs. Illegal Hawala

- **Legal Use:** Many overseas workers, particularly in the **Middle East**, use hawala to send money home to families in South Asia due to the system's efficiency, speed, and lower cost.
- **Illegal Use:** Governments view hawala as a conduit for illegal activities, including:
  - **Money Laundering:** Because hawala transactions occur outside regulated financial systems, they are often used to launder money, circumventing anti-money laundering laws.
  - **Tax Evasion:** Hawala is used to avoid paying taxes, as the informal nature of the transactions allows individuals and companies to transfer money without government oversight.
  - **Terrorism Financing:** Hawala has been implicated in the funding of terrorist organizations due to the anonymity and lack of documentation involved.

#### Recent Updates and Government Initiatives

##### Indian Context

- The Indian government has been vigilant about the misuse of hawala for illegal purposes. Under the **Foreign Exchange Management Act (FEMA)** and **Prevention of Money Laundering Act (PMLA)**, the use of hawala for illicit financial activities is a punishable offense.
- Agencies like the **Enforcement Directorate (ED)** and the **Central Bureau of Investigation (CBI)** regularly investigate hawala transactions, often linked to high-profile cases involving political corruption, black money, and terrorism.

##### Key Recent Developments:

1. **Hawala and Terrorism:** There have been multiple investigations into hawala networks linked to funding terrorism, particularly in **Jammu & Kashmir**. In recent years, cases have emerged where hawala money was funneled to separatist groups.

2. **Anti-Money Laundering Initiatives:** The **Financial Action Task Force (FATF)**, an international body, has identified India as a country needing stringent anti-money laundering measures. As a result, India has tightened its laws and surveillance of financial transactions, particularly focusing on the hawala network.
3. **Demonetization Impact:** India's 2016 **demonetization** move aimed, among other things, to curb black money and hawala transactions. The abrupt withdrawal of large-denomination notes caused disruptions in the hawala market, though its long-term impact on curbing illicit activities remains debated.

#### **Global Context**

- Hawala has come under scrutiny worldwide due to its role in tax evasion, black money transfers, and terrorism financing.
- Various international organizations, such as the **World Bank**, **International Monetary Fund (IMF)**, and **United Nations**, have been advocating for better regulation of informal money transfer systems.

#### **International Laws and Regulations:**

- The **FATF** has laid down guidelines for countries to regulate informal value transfer systems, like hawala, to ensure they are not exploited for illegal activities.
- In the **United States**, following the **9/11 attacks**, stricter laws, like the **USA PATRIOT Act**, were enacted to monitor and limit hawala's use in funding terrorism.

#### **Legal Framework in India**

1. **Foreign Exchange Management Act (FEMA), 1999:** FEMA regulates all foreign exchange transactions in India. Hawala transactions that involve foreign exchange violations are punishable under this act.
2. **Prevention of Money Laundering Act (PMLA), 2002:** This act targets money laundering activities. Any hawala transaction used for laundering proceeds of crime is punishable under PMLA.
3. **The Indian Penal Code (IPC), Section 420 (Cheating):** Engaging in fraudulent hawala transactions can lead to charges of cheating under the IPC.
4. **Unlawful Activities (Prevention) Act (UAPA):** This act is invoked in cases where hawala funds are used to finance terrorism or any unlawful activities against the state.
  - **Enforcement Directorate** reports suggest that hawala transactions in India are often linked to industries like **real estate, gold trading, and high-profile political cases**.
  - Estimates indicate that hawala remittances globally range between **\$100 billion and \$200 billion annually**, though accurate data is difficult to compile due to the system's informal nature.

#### **Challenges in Regulation**

- **Lack of Transparency:** The informal nature of hawala makes it difficult for regulators to track and control these transactions.
- **International Cooperation:** Since hawala often operates across borders, effective regulation requires cooperation between multiple countries, something that has been challenging to achieve.
- **Public Perception:** Many people view hawala as a cost-effective and fast method of remittance, making it difficult to curb the system's legitimate uses without affecting those who rely on it.

# Withdraw notification declaring parts of Western Ghats as eco-sensitive: Karnataka

GS Paper III:  
Environment

The Hindu  
BENGALURU

The Karnataka government has asked the Union Ministry of Environment, Forest and Climate Change (MoEF&CC) to withdraw the sixth draft notification issued by it for declaration of Eco-Sensitive Area (ESAs) of the Western Ghats. The State government on Monday submitted its stand on the draft notification with respect to the Dr. Kasturirangan committee report on the Western Ghats issued by MoEF&CC on July 31.

## Draft notification

On July 31, the Union government had reissued – for the sixth time in a decade – a draft notification



On July 31, the Centre had reissued a draft notification classifying parts of the Western Ghats as ESAs. K. BHAGYA PRAKASH

classifying parts of the Western Ghats in six States as ESAs. Following this, MoEF&CC has called for objections or suggestions within a period of 60 days.

Additional Chief Secretary Forest, Ecology and Environment Department, N. Manjunatha Prasad in his reply to MoEF&CC said the State government re-

commends the rejection of the Kasturirangan committee report. “In view of the same, the State government requests the MoEF&CC for withdrawal of the notification dated July 31,” Mr. Prasad stated in his reply.

The State government on September 26 had rejected the Kasturirangan

committee report following a cabinet meeting.

Mr. Prasad said that the Cabinet sub-committee, which was constituted under the Chairmanship of Forest, Environment, and Ecology Minister Eshwar B. Khandre, met and sought the opinion of all elected representatives of 10 districts of the Western Ghats region in the State on the draft notification of the Central government.

“Public representatives of all 10 districts belonging to all political parties unanimously expressed their views that the draft notification if implemented would create hardships to lakhs of people residing in 1,499 villages across 33 taluks and 10 districts,” Mr. Prasad said.

## Withdraw notification declaring parts of Western Ghats as eco-sensitive: Karnataka (1 October)

- The Karnataka government requested the Union Ministry of Environment, Forest and Climate Change (MoEF&CC) to withdraw the sixth draft notification for the declaration of Eco-Sensitive Areas (ESAs) of the Western Ghats.
- The State government submitted its stand on the draft notification on Monday concerning the Dr. Kasturirangan committee report on the Western Ghats, which was issued by MoEF&CC on July 31.
- On July 31, the Union government reissued the draft notification for the sixth time in a decade, classifying parts of the Western Ghats in six states as ESAs. MoEF&CC invited objections or suggestions within a 60-day period.
- N. Manjunatha Prasad, Additional Chief Secretary of the Forest, Ecology, and Environment Department, responded to MoEF&CC, recommending the rejection of the Kasturirangan committee report. He requested the withdrawal of the notification dated July 31.
- On September 26, the State government officially rejected the Kasturirangan committee report after a cabinet meeting.
- The Cabinet sub-committee, led by Forest, Environment, and Ecology Minister Eshwar B. Khandre, gathered input from elected representatives of 10 districts in the Western Ghats region.
- Public representatives from all 10 districts, across all political parties, unanimously expressed concerns that the draft notification, if implemented, would create hardships for lakhs of people in 1,499 villages across 33 taluks and 10 districts.

# Manipur government extends AFSPA in hill districts for 6 months

## GS Paper III: Internal Security

**The Hindu Bureau**

NEW DELHI

The Manipur government has extended the **Armed Forces (Special Powers) Act (AFSPA)** in the hill districts of the State for another six months, a September 26 notification said.

Effective October 1, the provisions of the Act will be extended to the whole State, except 19 police station limits in seven valley districts, thus maintaining the *status quo*, since three such notifications were passed since March 2023.

### Valley areas exempted

The notification said the “Governor of Manipur is of the opinion that the violent activities of various extremist/insurgent groups warrant the use of Armed Forces in aid of civil administration in the entire State of Manipur except the areas falling under the jurisdiction of the 19 police stations under Imphal, Lamphel, City, Singjamei, Sekmai, Lamsang, Patsoi, Wangoi, Porompat, Heingang, Lamlai, Irilbung, Leimakhong, Thoubal, Bishnupur, Nambol, Moirang, Kakching and Jiribam.”

It added that the “**disturbed area**” status could

### Provisions of Act will cover whole State, except for 19 police station limits in seven valley districts

not be reviewed and a detailed ground assessment could not be done as “the sister security agencies are preoccupied with maintenance of law and order” and “it will be premature to arrive at any conclusion or decision on such sensitive matter without detailed assessment.”

The 1958 law gives power to the Army and the Central Armed Police Forces deployed in “disturbed areas” to arrest or kill anyone acting in contravention of law, search any premises without a warrant, and grant them protection from prosecution and legal suits without the Union government’s sanction.

Both the State and Centre can issue notification regarding AFSPA. Currently, the Ministry of Home Affairs issues “disturbed area” notifications only for Nagaland and Arunachal Pradesh. The notification for Manipur and Assam are issued by the State governments.

### Manipur government extends AFSPA in hill districts for 6 months (1 October)

- The Manipur government has extended the Armed Forces (Special Powers) Act (AFSPA) in the hill districts of the state for another six months, as per a notification dated September 26.

- Effective from October 1, the provisions of AFSPA will be extended to the entire state except for 19 police station limits in seven valley districts, maintaining the status quo since March 2023.
- The valley areas exempted from AFSPA include police stations under Imphal, Lamphel, City, Singjamei, Sekmai, Lamsang, Patsoi, Wangoi, Porompat, Heingang, Lamlai, Iribung, Leimakhong, Thoubal, Bishnupur, Nambol, Moirang, Kakching, and Jiribam.
- The notification stated that the "Governor of Manipur is of the opinion that the violent activities of various extremist/insurgent groups warrant the use of Armed Forces in aid of civil administration in the entire State of Manipur except in the exempted areas."
- A detailed ground assessment could not be conducted as security agencies are preoccupied with maintaining law and order, making it premature to make decisions on the disturbed area status.
- The AFSPA, enacted in 1958, gives powers to the Army and Central Armed Police Forces deployed in "disturbed areas" to arrest or kill anyone acting in contravention of the law, search premises without a warrant, and grants protection from prosecution without Union government sanction.
- Both the State and Centre have the authority to issue notifications regarding AFSPA. Currently, the Ministry of Home Affairs issues disturbed area notifications only for Nagaland and Arunachal Pradesh, while notifications for Manipur and Assam are issued by the state governments.

## Sea warrior

## GS Paper III: Internal Security



Navy personnel during the ninth anniversary celebration of *INS Kochi*, the second indigenous P15A class destroyer. PTI

### INS Kochi

- **INS Kochi** is the **second** ship of the **Kolkata-class stealth guided missile destroyers** of the Indian Navy.
- It is one of India's most advanced and formidable warships, commissioned on **September 30, 2015**, at the Naval Dockyard in Mumbai.
- Built at **Mazagon Dock Limited (MDL)** in Mumbai, INS Kochi exemplifies India's push towards self-reliance in defense manufacturing under the "Make in India" initiative.

#### Key Features and Specifications

1. **Class:** Kolkata-class destroyer
2. **Commissioning Date:** September 30, 2015
3. **Length:** 163 meters
4. **Displacement:** 7,500 tonnes
5. **Speed:** Capable of speeds in excess of 30 knots (about 56 km/h)
6. **Crew:** Around 300 personnel, including officers and sailors
7. **Builder:** Mazagon Dock Shipbuilders Limited (MDL), Mumbai

#### Design and Technology

- INS Kochi is part of the **Project 15A Kolkata-class** destroyers, a series of indigenously designed ships developed by the Indian Navy's Directorate of Naval Design.
- The warship incorporates stealth technology to reduce its radar signature, making it difficult for enemies to detect.
- It is equipped with advanced weapons, sensors, and electronic warfare capabilities, giving it substantial strike power.

- **Stealth Features:** The design minimizes the radar cross-section, infrared and acoustic signatures.
- **Automation:** The ship has state-of-the-art automation and control systems, making it capable of swift operations with reduced manpower.

#### Armament

INS Kochi is heavily armed with both offensive and defensive weapons systems, which make it a potent platform for surface warfare, anti-submarine warfare, and air defense.

- **Missile Systems:**
  - **BrahMos Cruise Missiles:** A supersonic cruise missile that can strike targets up to **290 kilometers** away with precision. It is one of the ship's most prominent weapons.
  - **Barak-8 Surface-to-Air Missiles:** Designed to intercept airborne threats at ranges up to **70 kilometers**.
- **Artillery:**
  - **76 mm Super Rapid Gun Mount (SRGM):** Used for surface-to-air and surface-to-surface engagements.
  - **AK-630 Close-In Weapon System (CIWS):** For defense against incoming missiles and aircraft at close ranges.
- **Anti-Submarine Warfare (ASW):**
  - **Torpedoes and Rocket Launchers:** Equipped with anti-submarine rockets and torpedoes to engage enemy submarines.
  - **Sonar:** The ship is fitted with bow-mounted and towed-array sonar systems to detect submarines.
- **Radar and Sensors:**
  - The ship is equipped with advanced radar systems like **EL/M-2248 MF-STAR** for detecting and tracking aerial and surface threats.
  - It also has a **seeker control radar** that helps in guiding missiles.

#### Operational Role

INS Kochi is a versatile destroyer capable of operating in a variety of roles:

1. **Surface Warfare:** Equipped with BrahMos and long-range artillery, it can take on enemy ships and coastal targets.
2. **Anti-Submarine Warfare (ASW):** With its sonar systems and anti-submarine weapons, it can detect and destroy underwater threats.
3. **Air Defense:** The Barak-8 missile system provides robust defense against enemy aircraft and incoming missiles.
4. **Maritime Surveillance and Patrolling:** Its high speed and advanced sensors allow for effective maritime surveillance.

#### Key Operations and Exercises

Since its commissioning, INS Kochi has participated in numerous naval exercises and missions to enhance India's maritime security.

- **Exercise Malabar:** INS Kochi has been a part of the **Malabar naval exercise**, a trilateral naval exercise between India, the United States, and Japan, focusing on maritime security, anti-submarine warfare, and joint operations.
- **Mission SAGAR:** As part of India's "Security and Growth for All in the Region" (SAGAR) initiative, INS Kochi has taken part in missions to provide humanitarian aid and disaster relief, as well as to ensure maritime security in the Indian Ocean.

#### Recent Developments and News

1. **Enhanced Defense Collaboration:** In recent times, INS Kochi has been involved in several naval exercises that emphasize India's strengthening ties with other navies, including the **Quad countries** (India, the United States, Japan, and Australia).
2. **Operational Readiness:** INS Kochi participated in **TROPEX (Theatre Level Operational Readiness Exercise)**, the Indian Navy's largest war game that tests the force's battle preparedness across the spectrum of naval operations.
3. **Indigenous Content:** Approximately **65% of the components** used in INS Kochi are indigenously sourced, contributing to India's efforts to promote domestic manufacturing in defense production under the **Atmanirbhar Bharat** initiative.

#### Ships in the Kolkata-class (Project 15A):

1. **INS Kolkata (D63):**
  - **Commissioned:** August 16, 2014
  - Lead ship of the class and based at Mumbai, Maharashtra.
2. **INS Kochi (D64):**
  - **Commissioned:** September 30, 2015
  - Second ship of the class.
3. **INS Chennai (D65):**
  - **Commissioned:** November 21, 2016
  - Third and final ship of the class.

# Air Chief Marshal A.P. Singh takes over as air force chief

GS Paper III: Internal Security

**The Hindu Bureau**

NEW DELHI

Air Chief Marshal (ACM) A. P. Singh took over as the Chief of Air Staff on Monday as the incumbent Air Chief Marshal V. R. Chaudhari retired from service.

ACM Singh was commissioned into the Fighter Stream of the IAF on December 21, 1984. He is a qualified flying instructor and an experimental test pilot with more than 5,000 hours of flying experience.

He has commanded an operational fighter squadron and a frontline air base. As a test pilot, he led the MiG-29 Upgrade Project Management Team in Moscow, Russia. He was al-



**Handing over:** Outgoing Air Chief Marshal V.R. Chaudhari, left, with the new ACM A.P. Singh on Monday. SPECIAL ARRANGEMENT

so the Project Director at the National Flight Test Centre looking after the flight testing of the Light Combat Aircraft (Tejas). He served as the Air Officer Commanding-in-Chief at

Central Air Command before taking over as the Vice-Chief of the Air Staff in 2023. The ACM is a recipient of the Param Vishisht Seva Medal and Ati Vishisht Seva Medal.

## Air Chief Marshal A.P. Singh takes over as air force chief (1 October)

- Air Chief Marshal (ACM) A. P. Singh took over as the Chief of Air Staff on Monday, succeeding Air Chief Marshal V. R. Chaudhari who retired.
- ACM A. P. Singh was commissioned into the Fighter Stream of the Indian Air Force (IAF) on December 21, 1984.
- He is a qualified flying instructor and an experimental test pilot with over 5,000 hours of flying experience.
- He has commanded an operational fighter squadron and a frontline airbase.
- As a test pilot, ACM Singh led the MiG-29 Upgrade Project Management Team in Moscow, Russia.
- He also served as Project Director at the National Flight Test Centre, overseeing the flight testing of the Light Combat Aircraft (Tejas).
- ACM Singh was the Air Officer Commanding-in-Chief at Central Air Command before assuming the role of Vice-Chief of the Air Staff in 2023.
- He has been awarded the Param Vishisht Seva Medal and the Ati Vishisht Seva Medal.

# Mithun Chakraborty to get Dadasaheb Phalke Award

It will be presented to the veteran actor during the 70th National Film Awards ceremony on Oct. 8, says Vaishnav: Prime Minister Modi calls him a 'cultural icon', who is admired across generations

PCS

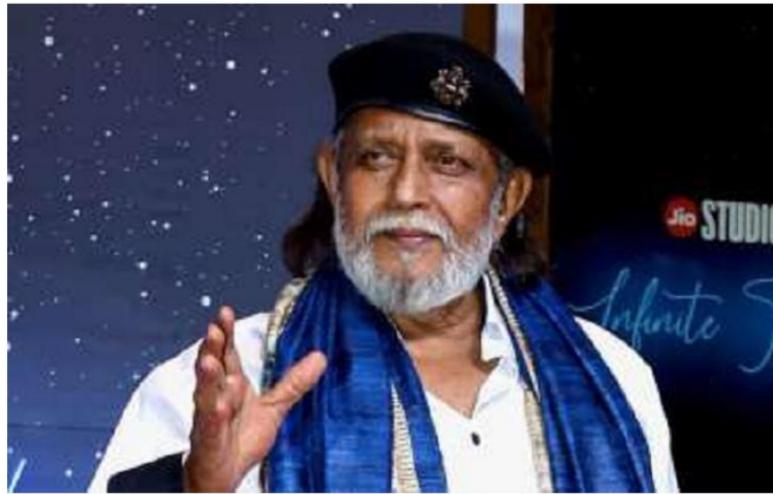
**The Hindu Bureau**  
NEW DELHI

Veteran actor Mithun Chakraborty was on Monday named recipient of the Dadasaheb Phalke Award, the government's highest recognition in the field of cinema, for the year 2022. It will be presented during the 70th National Film Awards ceremony on October 8.

Union Minister for Information and Broadcasting Ashwini Vaishnav made the announcement on X.

The Minister said Mr. Chakraborty's journey from a young man with humble beginnings to a celebrated film icon embodied the spirit of hope and perseverance, proving that, with passion and dedication, one can achieve even the most ambitious dreams. His dedication and hard work have made him a role model for aspiring actors and artists, he said.

Congratulating Mr. Chakraborty, who is also a



Mithun Chakraborty has acted in more than 350 films across various Indian languages, giving diverse performances. ANI

member of the Bharatiya Janata Party, Prime Minister Narendra Modi said the actor was a "cultural icon" admired across generations.

"Delighted that Shri Mithun Chakraborty Ji has been conferred the prestigious Dadasaheb Phalke Award, recognising his unparalleled contributions to Indian cinema. He is a cultural icon, admired across generations for his versatile performances," Mr. Modi said in a post on X.

Mr. Chakraborty bagged the National Film Award

for Best Actor in his first film, *Mrigayaa* (1976). An alumnus of the prestigious Film and Television Institute of India, Mr. Chakraborty's portrayal of a Santal rebel in the film by Mrinal Sen earned him national accolade.

He gained significant popularity in the 1980s with his role in *Disco Dancer* (1982), a film that became a major success both in India and internationally, establishing him as a dancing sensation.

His performance in *Agneepath* also won him the

Filmfare Award for Best Supporting Actor in 1990.

Later, he won two more National Film Awards for his work in *Tahader Katha* (1992) and *Swami Vivekananda* (1998).

"Over his extensive career, Mithun has acted in more than 350 films across various Indian languages, including Hindi, Bengali, Odia, Bhojpuri, and Telugu. He is known for his diverse performances, ranging from action to drama and comedy, and has won several awards," the Ministry said.

"The Union Minister emphasised that Mithun Da is not only celebrated for his cinematic achievements but also for his dedication to social causes. He has been actively involved in various charitable initiatives aimed at education, healthcare, and supporting underprivileged communities, reflecting his commitment to giving back to society," it said.

He was recently conferred the Padma Bhushan.

ये दाग दाग उजाला, ये शबगज़ीदा सहर  
वो इन्तज़ार था जिस का, ये वो सहर तो नहीं

ये वो सहर तो नहीं जिस की आरजू लेकर  
चले थे यार कि मिल जायेगी कहीं न कहीं  
फलक के दशत में तरों की आखरी मंज़िल  
कहीं तो होगा शब-ए-सुस्त मौजू का साहिल  
कहीं तो जा के रुकेगा सफ़िना-ए-गम-ए-दिल  
जवाँ लहू की पुर-असरार शाहराहों से  
चले जो यार तो दामन पे कितने हाथ पड़े  
दयार-ए-हुस्न की बे-सब्र ख्वाब-गाहों से  
पुकरती रहीं बाहें, बदन बुलाते रहे  
बहुत अज़ीज़ थी लेकिन रुख-ए-सहर की लगन  
बहुत करी थी हसीनान-ए-नूर का दामन  
सुबुक सुबुक थी तमन्ना, दबी दबी थी थकन  
सुना है हो भी चुका है

सुना है हो भी चुका है फिरक-ए-जुल्मत-ए-नूर  
 सुना है हो भी चुका है विसाल-ए-मंज़िल-ओ-गाम  
 बदल चुका है बहुत अहल-ए-दर्द का दस्तूर  
 निशात-ए-वस्ल हलाल-ओ-अज़ाब-ए-हिज़्र-ए-हराम  
 जिगर की आग, नज़र की उमंग, दिल की जलन  
 किसी पे चारा-ए-हिज़्रों का कुछ असर ही नहीं  
 कहाँ से आई निगार-ए-सबा, किधर को गई  
 अभी चिराग-ए-सर-ए-रह को कुछ खबर ही नहीं  
 अभी गरानि-ए-शब में कमी नहीं आई  
 नजात-ए-दीद-ओ-दिल की घड़ी नहीं आई  
 चले चलो कि वो मंज़िल अभी नहीं आई

# Contrary to criticism, industrial sector is growing at a fast pace: NITI Aayog CEO

## GS Paper III: Industrial Sector

THE HINDU BUREAU  
 NEW DELHI

India's industrial sector is growing at a fast pace, NITI Aayog CEO B.V.R. Subrahmanyam said on Monday while releasing the Annual Survey of Industries.

The report was released by the Ministry of Statistics and Programme Implementation for the financial year 2022-23. Mr. Subrahmanyam said contrary to the criticism against the Centre, the manufacturing sector was growing at a fast pace and providing jobs. "We have added 22 lakh jobs in 2022-23," he said.

The report said the Gross Value Added (GVA) grew by 7.3% in current prices in 2022-23 over 2021-22.

"Increase in input was 24.4%, while output grew by 21.5% in the sector in 2022-23 over 2021-22," the report said.

The year 2022-23 witnessed a growth in industrial sector for majority of the important economic parameters like invested



A government report said that for 2022-23, the industrial sector witnessed a growth on major economic parameters. REUTERS

capital, input, output, GVA, employment, and wages, and even surpassed the pre-pandemic level in absolute value terms. Asked about the recent Periodic Labour Force Survey (PLFS) results that cited stagnation in labour force in the manufacturing sector, Mr. Subrahmanyam said the PLFS also looked at the agriculture sector, including food processing sectors.

"PLFS is across the sectors. Contract labour is stagnant. This survey lar-

gely covers small and medium sectors," he said.

According to the survey, the main drivers of this growth in 2022-23 were industries like manufacture of basic metal, coke and refined petroleum products, food products, chemical and chemical products, and motor vehicles.

"These industries, taken together, contributed about 58% of the total output of the sector and showed output growth of 24.5% and GVA growth of 2.6% in comparison to

2021-22," the government said. The estimated number of persons engaged in this sector in 2022-23 has exceeded the pre-pandemic level by more than 22.14 lakh.

"Average emoluments also registered an increase over previous year. Average emoluments per persons engaged in this sector had gone up by 6.3% in 2022-23 in comparison to 2021-22," the report said.

Among the major States, in terms of GVA, Maharashtra ranked first in 2022-23, followed by Gujarat, Tamil Nadu, Karnataka, and Uttar Pradesh. "The top five States taken together contributed more than 54% of the total manufacturing GVA of the country.

The top five States employing highest number of persons in this sector were Tamil Nadu, Maharashtra, Gujarat, Uttar Pradesh and Karnataka in ASI 2022-23. These States contributed about 55% of total manufacturing employment," the report added.

## Contrary to criticism, industrial sector is growing at a fast pace: NITI Aayog CEO (1 October)

- NITI Aayog CEO B.V.R. Subrahmanyam stated that India's industrial sector is growing rapidly, releasing the Annual Survey of Industries for FY 2022-23.
- The report was issued by the Ministry of Statistics and Programme Implementation for the financial year 2022-23.

# Frigid planet offers glimpse of earth's final fate

GS Paper III: Basic Science

Reuters

The first rocky planet ever spotted orbiting a burnt-out star called a white dwarf offers a glimpse of what may be in store for the earth billions of years from now – showing it is possible our planet might survive the death of the Sun, albeit as a cold and desolate outpost in space. The planet, with a mass about 1.9 times that of the earth, is orbiting the white dwarf about 4,200 lightyears away from our Solar System near the bulge at the centre of the Milky Way galaxy, according to a study using data from Hawaii-based telescopes.

The white dwarf began as an ordinary star, one or two times the mass of the Sun. Its current mass is about half the Sun's. Stars with a mass less than eight times the Sun's end their lives as a white dwarf, the most common type of stellar remnant.

Before its host star's death, the planet orbited at a distance, possibly placing it in the "habitable zone" – not too hot and not too cold – where liquid water could exist on the surface and perhaps support life. It originally orbited at about the same distance as the earth is from the sun.

**Astronomers are debating if the earth will be engulfed when the Sun expands during its red giant phase. It will become a white dwarf a billion years after that**

Following its star's demise, it is at 2.1 times that distance.

"It's currently a freezing world because the white dwarf, which is in fact smaller than the planet, is extremely faint compared to when it was a normal star," said University of California (UC), San Diego astronomer Keming Zhang, lead author of the study published on September 26 in the journal Nature Astronomy.

The Sun, roughly four and a half billion years old, is destined to become a white dwarf.

"At the end of our Sun's life, it will puff up to enormous size – astronomers call it a red giant – and gently blow off its outer layers in a wind," UC Berkeley astronomer and study co-author Jessica Lu said. "As our Sun loses mass, the planets' orbits will expand to larger sizes. Eventually, the sun loses all of its outer layers and leaves behind a hot, compact core. This is called a white dwarf."

Astronomers have debated whether the earth would be engulfed and destroyed when the Sun expands during its red giant phase, estimated to occur seven billion years from now. It will become a white dwarf a billion years after that.

Until now, only gas giant planets larger than Jupiter, our Solar System's biggest planet, had been spotted orbiting white dwarfs.

The white dwarf is orbited by two bodies: the earth-like planet and, further out, a brown dwarf, an object bigger than a planet but smaller than a star.

As the sun ages and heats up, our solar system's habitable zone would move outward. The earth will remain habitable for less than about a billion more years from now, by which point its oceans likely will have evaporated, Zhang said.

- Mr. Subrahmanyam emphasized that the manufacturing sector is growing quickly and creating jobs, with 22 lakh jobs added in 2022-23.
- The Gross Value Added (GVA) in the industrial sector grew by 7.3% in current prices during 2022-23 compared to 2021-22.
- Input in the sector increased by 24.4%, while output grew by 21.5% in 2022-23 over 2021-22.
- The year 2022-23 witnessed growth in key economic parameters such as invested capital, input, output, GVA, employment, and wages, surpassing pre-pandemic levels in absolute value terms.
- Regarding the Periodic Labour Force Survey (PLFS) results showing stagnation in the labour force, Mr. Subrahmanyam clarified that PLFS covers multiple sectors, including agriculture and food processing, and contract labour is stagnant.
- The main drivers of industrial growth in 2022-23 included industries like basic metal manufacturing, coke and refined petroleum products, food products, chemicals, and motor vehicles.
- These industries together contributed about 58% of the total sector output, with output growth of 24.5% and GVA growth of 2.6% compared to 2021-22.
- The number of persons engaged in the sector in 2022-23 exceeded pre-pandemic levels by more than 22.14 lakh.
- Average emoluments per person in this sector increased by 6.3% in 2022-23 compared to 2021-22.
- Maharashtra ranked first in terms of GVA in 2022-23, followed by Gujarat, Tamil Nadu, Karnataka, and Uttar Pradesh.
- The top five states contributed more than 54% of the country's total manufacturing GVA.
- Tamil Nadu, Maharashtra, Gujarat, Uttar Pradesh, and Karnataka employed the highest number of persons in the manufacturing sector, contributing about 55% of total manufacturing employment.

## Frigid planet offers glimpse of earth's final fate (1 October)

- The first rocky planet was discovered orbiting a white dwarf, offering insights into Earth's possible future after the Sun's death.
- The planet has a mass about 1.9 times that of Earth and is located 4,200 lightyears away, near the center of the Milky Way galaxy.
- The white dwarf began as a normal star with 1-2 times the Sun's mass but now has about half the Sun's current mass.
- Stars with less than eight times the Sun's mass eventually become white dwarfs, the most common type of stellar remnant.
- Before the star's death, the planet orbited in the "habitable zone" where liquid water could exist, at a distance similar to Earth from the Sun.
- After the star's demise, the planet now orbits at 2.1 times the original distance.
- The planet is now a freezing world because the white dwarf is much fainter than the star was when it was alive.
- The Sun, currently about 4.5 billion years old, will eventually become a white dwarf.
- Before becoming a white dwarf, the Sun will expand into a red giant and shed its outer layers, causing planets' orbits to expand.

- Astronomers are unsure if Earth will be engulfed during the Sun's red giant phase, which is expected to occur in about 7 billion years.
- Until now, only gas giant planets larger than Jupiter have been observed orbiting white dwarfs.
- The white dwarf is orbited by two objects: an Earth-like planet and a brown dwarf, which is larger than a planet but smaller than a star.
- As the Sun ages and heats up, the habitable zone will move outward, and Earth will remain habitable for less than a billion more years.

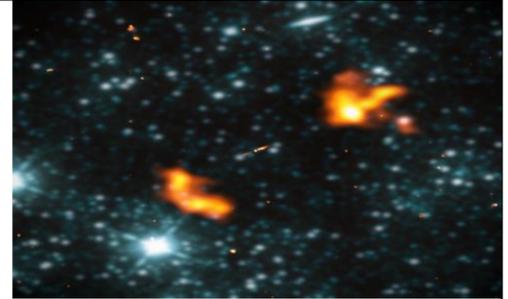
**IC 1101**

- **Location:** Abell 2029 galaxy cluster, about 1.04 billion light-years away in the constellation Virgo.
- **Diameter:** Approximately 6 million light-years across.
- **Description:** IC 1101 is the largest known galaxy in the universe and is a supergiant elliptical galaxy. Its enormous size is due to interactions with and the merging of other galaxies over time.

At **16.3 million light-years wide**, the Alcyoneus galaxy has a diameter 160 times wider than the Milky Way and four times that of the previous title holder.

The smallest known galaxy in mass and size is M60-UCD1, a dwarf galaxy with a mass of 140 million solar masses and a diameter of about 300 light-years

The Andromeda Galaxy, also called Messier 31 or M31, is the nearest major galaxy to the Milky Way. It is 2.5 million light years away from Earth and is the other major member of the Local Group, our local collection of galaxies.



# Having private participation in India's nuclear energy

## GS Paper III: Energy Sector

In July 2024, the Government of India, while presenting the Union Budget for FY 2024-25, *inter alia*, made announcements on the expansion of India's nuclear energy sector, proposing partnerships with the private sector for research and developing Bharat Small Reactors (BSR), Bharat Small Modular Reactors (BSMR) as well as newer nuclear energy technologies. Presumably, this announcement is aimed at India's ambitious pursuit of the decarbonisation of energy generation and achieving 500 Gigawatts of non-fossil fuel-based energy generation in India by 2030, as pledged at the COP26 Summit in Glasgow, in 2021.

With the government's new announcement, there is renewed interest in revisiting the existing framework governing the Indian nuclear energy sector to assess what kind of changes that may be required. The Atomic Energy Act, 1962 (AEA) – it was amended as the Atomic Energy (Amendment) Act, 1987 (No. 29 of 1987) – is the primary governing statute at the helm of the development and the operation of the nuclear energy sector. Pertinently, Section 3(a) of the AEA, 1962 empowers only the central government "to produce, develop, use and dispose of atomic energy".

Ironically, on September 17, 2024, the Supreme Court of India dismissed a petition, *Sandeep T.S. vs Union of India & Ors.*, challenging the provisions of the AEA, which restrict involvement of private entities in the licensing of nuclear power, observing that "The Parliamentary regime envisages a calibrated exploitation of atomic power, subject to stringent safeguards, bearing in mind the likely consequences of misuse and, for that matter, of an accident".

In addition to the challenges listed above, there is also the issue of the pending challenge to the constitutionality of the Civil Liability for Nuclear Damage Act, 2010 (CLNDA), which seeks a declaration for the act to be void *ab initio*. These challenges not only introduce a high degree of regulatory uncertainty but also have the potential to leave private investments in the sector in a state of limbo.

Thus, the road map for private participation in the Indian nuclear energy sector must run consonance, and not in conflict with the applicable laws.

### AEA, restrictions on private sector

The governing scheme, i.e., the AEA, gives the government sole control and responsibility over all activities in respect of nuclear energy either through an authority or company established by it. In essence, the Department of Atomic Energy (DAE) and the Nuclear Power Corporation of India Limited (NPCIL) currently have overarching control over the nuclear energy infrastructure.

This, however, does not suggest that there is



**Akash Lamba**

Senior Associate at SKV Law Offices



**Vineet Kumar**

Senior Associate at SKV Law Offices



**Bharath Gangadharan**

Counsel at SKV Law Offices

With the government proposing such a partnership, the existing framework governing the nuclear energy sector needs to be assessed

no record of or attempt to alter this situation. Last year, the DAE and NITI Aayog released "A Report on the Role of Small Modular Reactors in the energy Transition", which specifically discusses key enablers to promote the private sector in Small Modular Reactors (SMRs). The report focuses on "Conducive SMR regulatory framework led by national regulators" and "Unambiguous Civil Nuclear Liability Framework and supporting legal structure" to ensure a sustainable and continuous engagement of the private sector.

Historically, the NPCIL has involved the private sector only in engineering, procurement and construction (EPC) where the infrastructure for the reactor is developed by private entities such as Megha Engineering & Infrastructures and Reliance.

In so far as the cost implications are concerned, the NITI Aayog report, and the Union Minister of Finance's statement contemplate partnering with private participants to attract nearly \$26 billion of investments into the sector. Such involvement, specifically for research and development (R&D), is strictly prohibited as in Section 3(a) of the AEA.

Rule 35 of the Atomic Energy (Radiation Protection) Rules, 2004, grants Atomic Energy Regulatory Board (AERB) authority over radioactive technology. But concerns about its lack of independence persist. The Nuclear Safety Regulatory Authority Bill 2011 aimed to address this but it was never enacted. Attracting private investment in nuclear energy will require significant changes to the AERB's structure and functions, alongside efforts by organisations such as the NPCIL and the DAE to create programmes that encourage private participation while ensuring a robust regulatory oversight of the sector.

### A possible structure

A possible approach is in forming public-private partnerships, where the NPCIL or a similar government body/authority holds 51% ownership of nuclear plants, aligning with existing laws. This structure may invite private capital while keeping responsibility, ownership, and accountability with the government. Additionally, entities with a majority government stake would also be covered under Section 2(h) of the Right to Information Act (RTI) Act, ensuring transparency. The entity would also be required to make disclosures under Section 4 and respond to reasonable public queries under Section 6 of the RTI Act, maintaining public accountability.

The other large concern is a significantly higher standards of liability with nuclear infrastructure. For reasons that are obvious to anyone who is vaguely familiar with nuclear technology, the presence of nuclear reactors in

the vicinity of human settlements introduces a gnarly threat. The Chernobyl disaster of 1986 and the Fukushima Daiichi accident of 2011 are near synonymous with the word nuclear in this context.

In India, compensation for nuclear disasters is given to affected parties under the CLNDA. The CLNDA aims to provide civil liability for nuclear damage and prompt compensation to victims of a nuclear incident through a no-fault liability to the operator. As mentioned at the outset, the constitutionality of this act is presently challenged in a writ petition and is pending adjudication before the Supreme Court. This petition challenges the constitutionality of the CLNDA, *inter alia*, on the grounds of: violation of absolute liability principle; violation of polluter pays principle and serious dangers to nuclear safety.

The judgment in *G. Sundarajan vs Union Of India and Ors.* (2013) has references to the Chernobyl and Fukushima disasters while addressing a Special Leave Petition (SLP) concerning protests over the Kundankulam nuclear power plant in Tamil Nadu. Although the Supreme Court allowed the plant's commissioning, it issued directions for regular inspections, reports, and due diligence by the DAE, the NPCIL, and Ministry of Environment, Forest, and Climate Change.

### Specific needs

India's country profile, as published by the World Nuclear Association in September 2024 recognises an in-principle proposed gross increment of 32 GWe in the Indian nuclear energy production capacity. It is evident that this ambitious growth in nuclear energy infrastructure is very capital intensive and requires extremely skilled construction resources due to high-risk physical reactions.

Given the sensitive requirements for nuclear technology, strict and comprehensive legislation is crucial to address these needs and ensure ease of business. The legislative restriction on R&D under the AEA is just one issue, while litigation on the constitutionality of the Civil Liability Law, has been pending before the top court for over 12 years now. These factors only contribute to uncertainty of this ambitious target.

Energy generation capacity has been central to all economic development across the globe after the Industrial Revolution and a commitment to achieving the same through renewable sources makes India's ambition just as admirable as it is challenging. It will undoubtedly be interesting to see how legislative and policy changes will shape the Indian nuclear energy sector.

*The writers have significant experience in dispute resolution and litigation in the energy sector*

### Having private participation in India's nuclear energy (1 October)

- In July 2024, the Indian government announced partnerships with the private sector to expand nuclear energy through Bharat Small Reactors (BSR), Bharat Small Modular Reactors (BSMR), and new nuclear technologies.
- This announcement aligns with India's goal to decarbonize energy generation and achieve 500 GW of non-fossil fuel energy by 2030, as pledged at COP26 in Glasgow in 2021.
- The Atomic Energy Act, 1962 (amended in 1987) governs the nuclear energy sector in India, with Section 3(a) empowering only the central government to manage atomic energy.
- On September 17, 2024, the Supreme Court dismissed a petition challenging the provisions of the Atomic Energy Act that restrict private sector involvement in nuclear energy, citing safety concerns.
- The constitutionality of the Civil Liability for Nuclear Damage Act, 2010 (CLNDA) is still under challenge, creating regulatory uncertainty that could affect private sector investments.
- The road map for private participation in India's nuclear energy sector must comply with existing laws, specifically the AEA, which gives the government control over nuclear energy activities.
- The Department of Atomic Energy (DAE) and the Nuclear Power Corporation of India Limited (NPCIL) currently manage nuclear energy infrastructure, with private sector involvement limited to engineering, procurement, and construction (EPC).
- A report by the DAE and NITI Aayog in 2023 discusses promoting the private sector in Small Modular Reactors (SMRs) through a conducive regulatory framework and clear civil nuclear liability laws.
- NPCIL has involved private companies like Megha Engineering & Infrastructures and Reliance in reactor infrastructure development, but private R&D remains prohibited under Section 3(a) of the AEA.
- NITI Aayog's report and the finance minister's statement estimate a potential \$26 billion investment from private participation in the sector.
- Rule 35 of the Atomic Energy (Radiation Protection) Rules, 2004, gives the Atomic Energy Regulatory Board (AERB) authority over radioactive technology, but concerns exist about its independence.
- The Nuclear Safety Regulatory Authority Bill 2011 aimed to enhance AERB's independence but was never enacted.
- Attracting private investment in nuclear energy will require changes in the AERB's structure and efforts from organizations like NPCIL and DAE to encourage private sector involvement while ensuring strong regulatory oversight.

### A possible structure

- A potential approach is forming public-private partnerships where the NPCIL or a similar government body holds 51% ownership of nuclear plants, which aligns with existing laws.
- This structure can invite private capital while keeping responsibility, ownership, and accountability with the government.
- Entities with majority government ownership would fall under Section 2(h) of the Right to Information (RTI) Act, ensuring transparency.
- These entities would also need to make disclosures under Section 4 and respond to public queries under Section 6 of the RTI Act, maintaining public accountability.
- A major concern with nuclear infrastructure is the higher liability standards due to the potential risks posed by nuclear reactors near human settlements.
- The Chernobyl disaster of 1986 and Fukushima Daiichi accident of 2011 highlight the risks associated with nuclear technology.
- In India, compensation for nuclear disasters is provided under the Civil Liability for Nuclear Damage Act (CLNDA), which ensures no-fault liability for operators and compensation for victims of nuclear incidents.
- The constitutionality of the CLNDA is being challenged in the Supreme Court on the grounds of violating the absolute liability principle, the polluter pays principle, and nuclear safety concerns.
- The Supreme Court's 2013 judgment in *G. Sundarajan vs Union Of India* allowed the commissioning of the Kundankulam nuclear plant in Tamil Nadu but mandated regular inspections and due diligence by the DAE, NPCIL, and Ministry of Environment, Forest, and Climate Change.

- India's nuclear energy production capacity aims to grow by 32 GWe, according to the World Nuclear Association in September 2024, which requires significant capital and highly skilled construction resources due to the risks involved.
- Strict and comprehensive legislation is essential to address the needs of nuclear technology and ensure ease of business in the sector.
- Restrictions on R&D under the Atomic Energy Act (AEA) and ongoing litigation on the Civil Liability Law contribute to uncertainty surrounding India's nuclear energy ambitions.
- Energy generation capacity is crucial for economic development, and India's commitment to achieving this through renewable sources makes its goals both admirable and challenging.
- Legislative and policy changes will play a crucial role in shaping the future of India's nuclear energy sector.

### India's 'silver dividend', challenge to opportunity (1 October)

- The rising elderly population in India and China is a growing global concern due to their large population sizes and increasing longevity.
- The focus should not only be on the number of elderly people but also on their quality of life, which requires attention and reforms.
- The health-care consumption of the elderly in India is currently estimated at \$7 billion, with most elderly individuals suffering from at least one chronic ailment.
- Many elderly people also face limitations in daily living, depressive symptoms, and low life satisfaction, combined with economic insecurities.
- Reform initiatives should address multiple sectors, including health, social, economic, and digital domains, to ensure better care for the elderly.
- Improving health literacy for the elderly and their caregivers is essential for health empowerment and inclusion.
- The Ayushman Arogya Mandir (AAM) initiative, under the AYUSH system, is a good example of providing comprehensive health care for the elderly, covering preventive, curative, and rehabilitative aspects.
- Strengthening health-care infrastructure, expanding tele-consultation services, and enhancing the skilled workforce for elderly care are crucial steps to improve health care access for seniors.
- Mental health services and nutrition-related services are also essential components of this all-inclusive package to ensure holistic care for the elderly.

### Addressing financial insecurities

- Social inclusion of the elderly can be promoted by sensitizing the community about their needs and sensitivities and by forming peer support groups for interaction.
- The elderly should be made aware of their entitlements and legal protections on inheritance, succession, and other safeguards to help them handle potential challenges confidently.
- Economic and financial insecurities can be addressed through innovative schemes, such as investment plans and well-designed insurance products, like ₹5 lakh coverage for individuals over 70 years old, to reduce their financial burden, especially health care costs.
- Reskilling the younger population, who are also aging, can help them remain engaged in the labor market, supporting the economic independence of the elderly.
- It is important to include the elderly in the digital environment, as many schemes and benefits are now delivered digitally. However, digital adoption among the elderly is still low, and efforts should target both current and aging populations to improve their access to digital services.
- The silver economy, which includes economic activities, goods, and services catering to the elderly, is growing and is estimated to be worth ₹73,082 crore, with significant potential for growth as the elderly population increases.
- By 2031, the 60-plus population is projected to make up 13.2% of the population and 19% by mid-century, becoming a major consumer segment, with the 45-64 age group being the wealthiest.
- Health care consumption accounts for about a third of elderly consumption, creating opportunities for growth in health and wellness-related businesses in the senior care segment.

- The government has launched initiatives like the Senior Able Citizens for Re-Employment in Dignity (SACRED) portal to connect elderly citizens with job providers and the Senior care Ageing Growth Engine (SAGE) to promote senior care products.

### The edge of war (1 October)

#### Iran should not give Israel an excuse to widen the war

- Hassan Nasrallah, the Secretary-General of Hezbollah, was killed by Israel during the 2023 war in West Asia, marking a significant action.
- Under Nasrallah's leadership for over three decades, Hezbollah became a parallel state in Lebanon and was considered Israel's most powerful non-state enemy.
- Hezbollah is viewed as a terrorist group by the U.S. and is a key part of Iran's "axis of resistance," helping Iran project its influence across the region.
- By killing Nasrallah, Israel weakened Hezbollah and impacted Iran's influence, but this act crossed Iran's major red lines, bringing the region close to a war between Israel and Iran.
- Following the October 7, 2023, Hamas attack on Israel, Nasrallah opened a second front by firing rockets into northern Israel to apply pressure on the Israeli Defense Forces while Israel focused on Gaza.
- Israel initially engaged in limited exchanges of fire with Hezbollah but, after its campaign in Gaza, escalated the conflict by targeting Hezbollah's commanders and Nasrallah.
- Israel's goal in the north is to allow over 60,000 displaced Israelis to return home. It weakened Hezbollah but did not destroy its missile capabilities, which may lead Israel to launch a ground offensive into Lebanon.
- A ground offensive would likely cause significant casualties and displacement in Lebanon, which is already facing severe economic struggles.
- Israel's invasion of Gaza has not yet achieved its goal of destroying Hamas or securing the release of hostages, and it may face similar challenges in Lebanon.
- Israeli Prime Minister Benjamin Netanyahu views the crisis as an opportunity to weaken Israel's non-state enemies, even if it risks war with Iran.
- While the U.S. calls for ceasefires in Gaza and Lebanon, it continues to supply arms to Israel, making these statements less impactful.
- Iran has shown restraint despite provocations but may be tempted to retaliate for Nasrallah's killing, though this could give Netanyahu an excuse to escalate the conflict into a wider regional war.

GS Paper III: S&T: Space

## Steady but slow

### India's space programme needs more resources to realise its full potential

In July, NASA cancelled its Volatiles Investigating Polar Exploration Rover (VIPER) mission to the moon after the development was beset by delays and costs had ballooned. By this time its engineers had fully assembled it and completed some tests, but NASA held its ground. The sudden decision dismayed scientists. VIPER was designed to map the distribution of water-ice in the moon's south pole region and the soils in which it occurred, over three months. In all, the golf-cart-sized rover was to be launched by a SpaceX Falcon Heavy rocket and deployed using Astrobotic's 'Griffin' lander, all managed through NASA's Commercial Lunar Payload Services programme. Landing on the moon is an expensive, time-consuming exercise. NASA's decision to cancel VIPER at this late stage thus drew the attention of the U.S. House Committee on Science, Space, and Technology and of the wider international community, which sees in VIPER's absence an opportunity for China's increasingly complex lunar programme to lead the way. The world's rush back to the moon offers potentially significant commercial and geopolitical gains. VIPER was expected to be a pivotal component of the US-led 'lunar axis' defined by the Artemis Accords, which counts India among its leaders. Yet, India missed a trick when, on September 18, the Union Cabinet approved a proposal by the Indian Space Research Organisation (ISRO) to begin the second phase of the country's lunar programme with Chandrayaan-4, a sample-return mission.

Moments after the Chandrayaan-3 lander descended on the moon's surface on August 23, 2023, reports erupted to claim India had yet again admitted itself into a small, elite group of countries that have achieved an autonomous lunar soft-landing. But such proclamations overlook the considerable gaps between these countries' space agencies from an operations perspective. One pertinent difference is that ISRO is unable to execute multiple flagship missions in parallel. Instead, it follows a 'one major mission at a time' cadence that, in exchange for maximising resource use efficiency, leaves the organisation incapable of manoeuvring rapidly to respond to new opportunities. Had it been able, ISRO could have sought the Cabinet's approval for the 'Lunar Polar Explorer' mission it is planning with its Japanese counterpart, to land a rover on the moon to perform many of the crucial tasks VIPER was expected to, especially prospecting for large water-ice deposits. Even now, the VIPER incident should remind the Centre that despite an expanding allocation and new funding modes in the offing, the Indian space programme needs more resources to realise its full potential.

### Steady but slow (1 October)

#### India's space programme needs more resources to realise its full potential

- In July, NASA canceled its VIPER mission to the moon due to delays and rising costs, despite the rover being fully assembled and partially tested.
- VIPER was designed to map the distribution of water-ice at the moon's south pole and study the soil over a three-month mission.
- The rover was supposed to be launched by a SpaceX Falcon Heavy rocket and deployed using Astrobotic's Griffin lander through NASA's Commercial Lunar Payload Services program.
- NASA's decision to cancel VIPER drew attention from the U.S. House Committee on Science, Space, and Technology and the international community, raising concerns about the impact on the U.S. lunar program.
- The world is rushing back to the moon, seeing it as a potential source of commercial and geopolitical gains. VIPER was seen as a key component of the US-led 'lunar axis' under the Artemis Accords, which India is a part of.
- On September 18, 2023, the Indian Union Cabinet approved ISRO's proposal for Chandrayaan-4, a sample-return mission, as part of India's second phase of the lunar program.
- After the successful landing of Chandrayaan-3 on the moon on August 23, 2023, India was recognized for achieving another autonomous lunar soft-landing.
- However, there are operational differences between ISRO and other space agencies. ISRO follows a "one major mission at a time" approach, limiting its ability to quickly respond to new opportunities.
- If ISRO had more resources and flexibility, it could have pursued the 'Lunar Polar Explorer' mission with Japan to take on some of the tasks VIPER was meant to accomplish, such as searching for water-ice deposits on the moon.
- The cancellation of VIPER highlights the need for more resources for India's space program, despite the recent increase in funding, to fully realize its potential.