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THE HINDU NEWSPAPER

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PCS Special:		22 June 2026
22J6	All eyes on Messi and Argentina सभी की निगाहें मेसी और अर्जेंटीना पर	
22J6	India regains Nations Cup, back in women's Pro League भारत ने नेशंस कप फिर जीता, महिला प्रो लीग में की वापसी	



All eyes on Messi and Argentina

PCS
Ayon Sengupta

Lionel Messi has spent the better part of two decades bending football's sense of time. Records that once looked permanent have become milestones in his journey through the game. Defenders have changed, managers have changed, even the shape of Argentina around him has changed, but the central question has remained stubbornly familiar – how do you stop Messi when a match begins to orbit around him?

Austria will be the next team asked to find an answer to that question.

After scoring the 61st hat-trick of his career, 50 for clubs and 11 for Argentina, in the 3-0 win over Algeria, Messi stands one goal away from moving past Miroslav Klose as the World Cup's all-time leading scorer. If he strikes against Austria, the eight-time Ballon d'Or winner will also become only the third player in the tournament history to net in six consecutive World Cup matches.

Just Fontaine did it for



Milestone beckons: Messi needs just one more goal to become the all-time leading scorer in the World Cup. GETTY IMAGES

France in 1958 and Jairzinho followed for Brazil in 1970, both across single tournaments. Messi's run began with Argentina's win over Australia in the round of 16 during its long-awaited triumph in Qatar four years ago and continues into what is expected to be his final World Cup.

Nearing 39, his influence shows little sign of fading. Against Algeria, he had a direct hand in eight of Argentina's 10 shots, taking six himself while creating two chances. Yet while

Messi stole the headlines, Argentina's defensive authority was just as important. Lionel Scaloni's midfield, led by Alexis Mac Allister and Enzo Fernandez, expertly shielded its defence and did not allow Algeria a single shot on target.

Austria arrives in Dallas after a 3-1 win over Jordan and will look to extend its four-game winning run in all competitions.

"We know how good Argentina are," young midfielder Paul Wanner said. "We respect them, but we

are confident in our strengths. If we bring our qualities to the pitch, we will pose problems for any team."

Austria's pressing game will try to disrupt Argentina's rhythm, but coach Ralf Rangnick has injury concerns. Captain David Alaba, Stefan Posch, who wore a specially designed protective mask after breaking his jaw against Jordan, and Alessandro Schopf have all trained separately and are racing against time to be fit for the all-important game. Argentina, too, is worried about the fitness of defender Gonzalo Montiel, who is still recovering from a hamstring injury.

If the South Americans beat Austria and Jordan fails to defeat Algeria, Scaloni's side will be guaranteed a place in the knockout rounds as the winner of Group J.

For Argentina, this is another step towards the ultimate goal of another World title. For Messi, it is another opportunity to claim yet another record that once seemed untouchable.

22J6. All eyes on Messi and Argentina

सभी की निगाहें मेसी और अर्जेंटीना पर

- After scoring the **61st hat-trick** of his career, 50 for clubs and 11 for **Argentina**, in the 3-0 win over **Algeria**, Messi stands one goal away from moving past **Miroslav Klose** as the **World Cup's all-time leading scorer**.

अल्जीरिया पर 3-0 की जीत में अपने करियर की **61वीं हैट्रिक** लगाने के बाद, जिसमें क्लबों के लिए 50 और अर्जेंटीना के लिए 11 हैट्रिक शामिल हैं, मेसी विश्व कप इतिहास के सर्वाधिक गोल करने वाले खिलाड़ी के रूप में मिरोस्लाव क्लोज़े को पीछे छोड़ने से केवल एक गोल दूर हैं।

India regains Nations Cup, back in women's Pro League

PCS
Press Trust of India
AUCKLAND

India defeated host New Zealand 2-0 in the final to win its second FIH Women's Nations Cup title and secure a promotion to the FIH Women's Pro League here on Sunday.

Navneet Kaur gave India an early lead in the fourth minute before Sunelita Toppo doubled the advantage in the 15th.

The team then produced a stellar defensive display to protect the lead and emerge triumphant. India had won the inaugural edition in 2022.

Lalremsiami won the Player-of-the-Match award, while Deepika with six goals finished as the joint-top scorer in the tournament along with USA's Ashley Sessa.



Cock-a-hoop: An ecstatic Salima celebrates the triumph with her teammates. SPECIAL ARRANGEMENT

ment along with USA's Ashley Sessa.

India remained unbeaten throughout the campaign, defeating USA 3-2, Japan 2-1, and Uruguay 3-2 in pool matches before routing Chile 6-0 in the semifinal.

To recognise the team's

achievements, Hockey India has announced a cash award of ₹ three lakh for each player and ₹1.5 lakh for each member of the support staff.

The result (final): India 2 (Navneet 4, Sunelita 15) bt New Zealand 0.

22J6. India regains Nations Cup, back in women's Pro League

भारत ने नेशंस कप फिर जीता, महिला प्रो लीग में की वापसी

- India defeated host New Zealand 2-0 in the final to win its second FIH Women's Nations Cup title and secure a promotion to the FIH Women's Pro League here on Sunday.
भारत ने रविवार को मेज़बान न्यूज़ीलैंड को फाइनल में 2-0 से हराकर अपना दूसरा एफआईएच महिला नेशंस कप खिताब जीता और एफआईएच महिला प्रो लीग में पदोन्नति सुनिश्चित की।
- Lalremsiami won the Player-of-the-Match award, while Deepika with six goals finished as the joint-top scorer in the tournament along with USA's Ashley Sessa.
लालरेमसियामी को प्लेयर ऑफ द मैच पुरस्कार मिला, जबकि दीपिका छह गोल के साथ अमेरिका की एशले सेसा के साथ टूर्नामेंट की संयुक्त शीर्ष गोल स्कोरर रहीं।
- India remained unbeaten throughout the campaign, defeating USA 3-2, Japan 2-1, and Uruguay 3-2 in pool matches before routing Chile 6-0 in the semifinal.
भारत पूरे अभियान में अपराजित रहा, उसने पूल मैचों में अमेरिका को 3-2, जापान को 2-1 और उरुग्वे को 3-2 से हराया, जबकि सेमीफाइनल में चिली को 6-0 से पराजित किया।
- To recognise the team's achievements, Hockey India has announced a cash award of ₹ three lakh for each player and ₹1.5 lakh for each member of the support staff.
टीम की उपलब्धियों को सम्मानित करने के लिए हॉकी इंडिया ने प्रत्येक खिलाड़ी के लिए ₹3 लाख और सहायक स्टाफ के प्रत्येक सदस्य के लिए ₹1.5 लाख के नकद पुरस्कार की घोषणा की है।



GS Paper 1: History		22 June 2026
TOPICS COVERED		
22J6	U.P. govt. must avoid targeting heritage structures, say MPs सांसदों ने कहा, उत्तर प्रदेश सरकार को विरासत संरचनाओं को निशाना बनाने से बचना चाहिए	
22J6	All convey the same truth सभी एक ही सत्य को अभिव्यक्त करते हैं	

U.P. govt. must avoid targeting heritage structures, say MPs

GS I: History
Mayank Kumar
LUCKNOW

Muslim MPs from Uttar Pradesh on Sunday said State authorities should refrain from discriminatory demolitions of historical and heritage structures as they not only violate religious and cultural rights, but also give external adversaries opportunities to speak about India's internal matters.

The MPs were questioning Pakistan President Asif Ali Zardari's comments on the alleged threat to the 1,000-year-old Masjid Ganj Shaheeda in Varanasi. They said that the Muslim community in Uttar Pradesh need not take lessons from the leader of Pakistan.

Statement condemned
Ghazipur MP Afzal Ansari said that in Uttar Pradesh, the government at times took one-sided action on heritage structures related to Muslims over encroachment claims. It was an attempt to infringe on religious and cultural rights and gave opportunities to external enemies to give lectures on minority rights to India and raise issues internationally, he said.

"I, in strongest words, condemn the statement of Pakistan's President. Muslims of India need no lessons from the Pakistan President. We are living peacefully, enjoying consti-

tutional rights in our homeland India. The Muslim community in the State of Uttar Pradesh is capable enough to raise its concern over protection of historic sites within the robust democratic framework of India through an independent judiciary and system of governance," he said. Muslims in India were living in a far better condition than people of Pakistan, Mr. Ansari added.

Zardari's comments

On Saturday, a post on X by the official account of the President of Pakistan read: "President Asif Ali Zardari expressed deep concern over the demolitions and threats to historic Muslim religious sites in India, including the 1,000-year-old Masjid Ganj Shaheeda in Varanasi. He asked India to immediately stop such actions, warning that they risk leading to the disintegration and perennial chaos of India. He called for an immediate halt to such actions and urged the protection of minority rights and shared cultural heritage."

Javed Ali Khan, Rajya Sabha member from the Samajwadi Party, and Congress leader Shahnawaz Alam also condemned the comments by the Pakistan leader. "Foreign countries or heads of state have no rights to comment on internal affairs of India," Mr. Khan said.

22J6. U.P. govt. must avoid targeting heritage structures, say MPs

सांसदों ने कहा, उत्तर प्रदेश सरकार को विरासत संरचनाओं को निशाना बनाने से बचना चाहिए

- The MPs were questioning Pakistan President Asif Ali Zardari's comments on the alleged threat to the 1,000-year-old Masjid Ganj Shaheeda in Varanasi.

सांसद पाकिस्तान के राष्ट्रपति आसिफ अली जरदारी द्वारा वाराणसी स्थित कथित रूप से खतरे में पड़ी 1,000 वर्ष पुरानी मस्जिद गंज शहीदा के संबंध में की गई टिप्पणी पर सवाल उठा रहे थे।

Ghazi Saiyyad Salar Masud (Ghazi Miyan)

Ghazi Saiyyad Salar Masud (also known as Ghazi Miyan) is a medieval figure who occupies a unique place in the history and folklore of North India. He is revered by many devotees as a warrior-saint, while historians generally view him in the context of the early Turkic military expeditions into northern India.

Historical Background

- He is believed to have lived during the early 11th century CE.
- According to traditional accounts, he was the son of Salar Sahu and a relative (often described as a nephew) of Mahmud of Ghazni.
- Medieval Persian texts, particularly the Mirat-i-Masudi written in the 17th century by Abdur Rahman Chishti, describe his military campaigns in northern India.
- Tradition states that he entered northern India with forces associated with the Ghaznavids and was killed in a battle near Bahraich around 1034 CE.

Shrine at Bahraich

- His most famous shrine is the Dargah of Ghazi Saiyyad Salar Masud.
- The shrine attracts devotees from different communities, including both Muslims and Hindus.
- An annual fair known as the Jeth Mela is organized there and has historically been one of the major religious gatherings of eastern Uttar



Pradesh.

Historical Debate

- Historians debate the extent to which the traditional narratives are historically accurate.
- Contemporary evidence from the 11th century regarding Salar Masud is limited.
- Much of the popular narrative comes from later literary and devotional traditions, especially the **Mirat-i-Masudi**, written several centuries after his death.
- As a result, historians distinguish between:
- **The historical figure**, about whom limited evidence exists.
- **The legendary Ghazi Miyan**, whose life story became enriched through folklore and popular religious traditions.

FAITH

GS I: History: A&C

All convey the same truth

Sri Kesava Vajapeya Swamy said in a discourse that the Vedas contain the *Karma Kanda* (rituals and duties) and the *Jnana Kanda* (spiritual knowledge). However, Bhakti (devotion) is hidden within them. Just as the river Sarasvathi flows invisibly beneath the confluence at Prayag, devotion remains concealed within the Vedas. Karma and knowledge without devotion are incomplete and do not yield their highest benefit.

The Bhagavad Gita teaches that spiritual knowledge and devotion do not bear fruit unless one engages in righteous action. Following the scriptural duties prescribed by the Vedas removes sins and purifies the individual.

The Vedas describe many **samskaras** (sacraments). Since elaborate Vedic sacrifices are beyond the capability of most people in this yuga, ordinary devotees are encouraged to engage in **nama sankirtana** – the chanting of the divine names of God. Daily disciplines and rituals help control the senses and keep a person on the righteous path. Such practices contribute not only to personal spiritual growth but also to **loka kshema** – the welfare of the entire world. Ramanuja taught that for ordinary people, simply walking to a temple and worshipping the Lord with devotion is equivalent to performing a yajna. Sage Vyasa taught through the Bhagavata Purana that listening to the glories of the Lord (sravanam) itself is a form of yajna. Andal emphasised devotion through singing the Lord's names and contemplating Him with the mind: "Sing with the mouth and meditate with the mind." The Vedas, the Bhagavad Gita, the Bhagavata Purana, the Ramayana, the Azhwars and the great Acharyas all convey the same truth.

एक यज्ञ के समान है।

- **Sage Vyasa** taught through the **Bhagavata Purana** that listening to the glories of the Lord (sravanam) itself is a form of yajna.

महर्षि व्यास ने भागवत पुराण के माध्यम से सिखाया कि भगवान की महिमा का श्रवण (श्रवणम्) स्वयं एक प्रकार का यज्ञ है।

- **Andal** emphasised devotion through singing the Lord's names and contemplating Him with the mind.

22J6. All convey the same truth

सभी एक ही सत्य को अभिव्यक्त करते हैं

- The Vedas describe many **samskaras** (sacraments).

वेदों में अनेक संस्कारों का वर्णन किया गया है।

- Since elaborate **Vedic sacrifices** are beyond the capability of most people in this yuga, ordinary devotees are encouraged to engage in **nama sankirtana** — the chanting of the divine names of God.

चूँकि इस युग में अधिकांश लोगों के लिए विस्तृत वैदिक यज्ञों का संपादन कठिन है, इसलिए सामान्य भक्तों को नाम-संकीर्तन अर्थात् भगवान के दिव्य नामों के जप एवं कीर्तन का अभ्यास करने के लिए प्रेरित किया जाता है।

- Such practices contribute not only to personal spiritual growth but also to **loka kshema** — the welfare of the entire world.

ऐसी साधनाएँ न केवल व्यक्तिगत आध्यात्मिक उन्नति में सहायक होती हैं, बल्कि **लोकक्षेम** अर्थात् सम्पूर्ण विश्व के कल्याण में भी योगदान देती हैं।

- **Ramanuja** taught that for ordinary people, simply walking to a temple and worshipping the Lord with devotion is equivalent to performing a **yajna**.

रामानुजाचार्य ने सिखाया कि सामान्य जनों के लिए केवल मंदिर तक जाकर श्रद्धा एवं भक्ति के साथ भगवान की उपासना करना भी

आंडाल ने भगवान के नामों का गान करने और मन में उनका चिंतन करने के माध्यम से भक्ति पर विशेष बल दिया।

- “Sing with the mouth and meditate with the mind.”
“मुख से भगवान का नाम गाओ और मन से उनका ध्यान करो।”
- The **Vedas**, the **Bhagavad Gita**, the **Bhagavata Purana**, the **Ramayana**, the **Azhwars** and the great **Acharyas** all convey the same truth.
वेद, भगवद्गीता, भागवत पुराण, रामायण, आळवार संत तथा महान आचार्य सभी एक ही सत्य का प्रतिपादन करते हैं।

Sage Vyasa

- **Sage Vyasa**, also known as **Veda Vyasa** or **Krishna Dvaipayana**, is one of the most revered sages in Indian tradition.
 - The word **Vyasa** means **compiler, arranger or divider**, which reflects his traditional role in arranging sacred knowledge.
 - He is traditionally credited with compiling or arranging the **Vedas**, composing or arranging the **Mahabharata**, and contributing to the **Puranic tradition**.
- Historical and Cultural Significance**
- Vyasa is traditionally linked with the division of Vedic knowledge into **Rigveda, Yajurveda, Samaveda and Atharvaveda**.
 - He is also connected with the **Mahabharata**, one of the greatest epics of India.
 - The **Bhagavad Gita**, which is part of the Mahabharata, became one of the most influential texts of Indian philosophy.
 - **Vyasa is also remembered on Guru Purnima**, which is observed on the full moon day of **Ashadha month**, generally falling in **June or July**.

Andal

- **Andal** was a major woman saint of the Tamil **Vaishnava Bhakti tradition**.
- She is regarded as the **only female saint among the twelve Alvars**, who were early Tamil poet-saints devoted to **Lord Vishnu**.
- Andal is closely associated with **Srivilliputhur** in present-day **Virudhunagar district of Tamil Nadu**.
- The official Tamil Nadu HRCE page identifies **Srivilliputhur Andal Temple** as one of the **108 Divya Desams** dedicated to Lord Vishnu.

Literary Contribution

- Andal is famous for **composing Tiruppavai**, a collection of **30 devotional hymns**.
- She is also associated with **Nachiyaar Tirumoli**, another important devotional composition.
- Her poetry expresses intense devotion, surrender and spiritual longing for Lord Vishnu.
- Her compositions are especially important during the Tamil month of **Margazhi**, when **Tiruppavai** is recited widely.

Historical Importance

- Andal gave a powerful voice to **women's participation in Bhakti**.
- Her devotional poetry shows that Bhakti was not limited to Sanskrit learning or elite groups.
- She used **Tamil language**, making devotion more accessible to ordinary people.
- The **Srivilliputhur temple gopuram** is widely recognized as an important symbol of Tamil cultural heritage.

Simple Example

- Andal's Bhakti can be understood as personal and emotional devotion.
- Instead of treating religion only as ritual, Andal expressed devotion as love, surrender and



direct connection with the divine.

Ramanuja

- **Ramanuja**, also known as **Ramanujacharya**, was a major philosopher, theologian and social-religious reformer of South India.
- He was born around **1017 CE** at **Sriperumbudur** and died in **1137 CE** at **Srirangam**.
- He is one of the most important teachers of **Sri Vaishnavism**.
- His philosophy is known as **Vishishtadvaita Vedanta**, meaning **qualified non-dualism**.

Philosophy of Vishishtadvaita

- Ramanuja accepted that **Brahman** is the ultimate reality.
- He identified Brahman with **Vishnu-Narayana**, along with **Lakshmi**.
- Unlike absolute non-dualism, he argued that the soul and the world are real, but they depend on God.
- In simple words, Ramanuja taught that God, soul and world are connected, but not completely identical.

Contribution to Bhakti Movement

- Ramanuja gave a strong philosophical foundation to **devotion or Bhakti**.
- He emphasized **surrender to God**, known as **prapatti**.
- He organized temple worship at **Srirangam** and helped spread Sri Vaishnava teachings.
- He connected Sanskrit Vedanta with the Tamil devotional tradition of the **Alvars**.

Social Significance

- Ramanuja is remembered for promoting the idea of wider access to devotion.
- The **216-feet Statue of Equality** in Hyderabad commemorates his teachings on equality in matters of faith, caste and creed. It was dedicated to the nation by the Prime Minister on **5 February 2022**.

Simple Example

- If Shankara emphasized the ultimate unity of reality, Ramanuja emphasized a devotional relationship between the soul and God.
- His teaching made philosophy more connected with worship, temple tradition and public devotion.

RIGVEDA (VEDA OF HYMNS)

- The **oldest Veda**, composed around **1500–1200 BCE**.
- Contains **1,028 hymns (Suktas)** dedicated to various deities such as **Agni (Fire)**, **Indra (Rain and War)**, **Varuna**, and **Soma**.
- Provides valuable information about the early Vedic society, religion, economy, and polity.
- Often called the **"Book of Prayers"**.

Yajurveda (Veda of Sacrificial Formulas)

- Contains prayers, chants, and procedures used during **sacrifices (Yajnas)**.
- Acts as a guidebook for priests conducting rituals.
- Divided into:
 - **Krishna (Black) Yajurveda**
 - **Shukla (White) Yajurveda**
- Focuses more on **rituals and ceremonies** than philosophy.

Samaveda (Veda of Melodies)

- Consists mainly of hymns borrowed from the **Rigveda** but arranged for singing.
- Contains musical notations and chants used during religious ceremonies.
- Considered the **foundation of Indian classical music**.
- Often called the **"Veda of Music"**.

Atharvaveda (Veda of Everyday Life)

- Contains hymns, prayers, charms, spells, and incantations.
- Deals with everyday concerns such as health, protection, family welfare, agriculture, and

healing.

- Provides insights into the social life and beliefs of common people.
- Sometimes called the "**Veda of Folk Traditions.**"

Quick Comparison Table

Veda	Main Focus	Popular Name
Rigveda	Hymns to gods	Veda of Hymns
Yajurveda	Sacrificial rituals	Veda of Rituals
Samaveda	Musical chants	Veda of Music
Atharvaveda	Daily life, healing, spells	Veda of Everyday Life

Difference Between Advaita and Dvaita (For a Layperson)

The simplest way to understand **Advaita** and **Dvaita** is through the relationship between **God and the individual soul (you and me)**.

Aspect	Advaita Vedanta	Dvaita Vedanta
Meaning	Non-dualism (Only One Ultimate Reality)	Dualism (God and soul are separate)
Main Philosopher	Adi Shankaracharya	Madhvacharya
Relationship between God and Soul	Soul and God are ultimately the same	Soul and God are eternally different
Nature of the World	The world is temporary and not the ultimate reality	The world is real and created by God
Goal of Life	Realize "I am one with Brahman"	Attain God's grace and remain devoted to Him
Path	Knowledge (Jnana)	Devotion (Bhakti)

Advaita (Adi Shankaracharya)

- The drop of water and the ocean are essentially made of the same substance.
- The drop appears separate, but once it merges into the ocean, it realizes it was never truly different.
- Similarly, your soul (**Atman**) and the ultimate reality (**Brahman**) are actually one.

Formula:

Atman = Brahman

Dvaita (Madhvacharya)

- The drop of water and the ocean are always different.
- The drop can be close to the ocean, depend on it, and love it, but it never becomes the ocean.
- Similarly, the soul can worship God and attain salvation, but it never becomes God.

Formula:

Atman ≠ God

Advaita

Suppose you dream at night.

- In the dream, you see many people, animals, and places.
- When you wake up, you realize everything was created by your own mind.

Advaita says:

Just as the dream ultimately comes from one mind, the entire universe ultimately comes from one reality, Brahman.

Dvaita

Think of a king and his subjects.

- The subjects depend on the king.
- They can love and serve the king.
- But they never become the king.

Dvaita says:

God is the supreme ruler, and souls are His servants forever.

Where Does Ramanuja Fit?

There is also a middle path called **Vishishtadvaita** proposed by Ramanuja.

Ramanuja said:

- The soul is not completely identical to God (unlike Advaita).
- The soul is not completely separate from God (unlike Dvaita).
- Souls and the universe are parts of God's body and depend on Him.

Simple Analogy

- God = Tree
- Souls = Leaves

Leaves are different from the tree, yet they cannot exist independently of it.

GS Paper 1: Geography	22 June 2026
TOPICS COVERED	
22J6	Over 200 teak trees illegally axed in Chalakudy चालाकुडी में 200 से अधिक सागौन के वृक्षों की अवैध कटाई

BIG SHOT



People gather at the ancient stone circle Stonehenge at sunrise to celebrate the Summer Solstice, the longest day of the year, near Salisbury, England on Sunday. AP

People gather at the ancient stone circle Stonehenge at sunrise to celebrate the **Summer Solstice**, the longest day of the year, near Salisbury, England on Sunday



A new dawn: Aymara Indigenous people raise their hands to receive the first rays of sunlight during celebrations of the Andean New Year, which marks the Southern Hemisphere's winter solstice, in El Alto, Bolivia, on Sunday. AP

A new dawn: Aymara Indigenous people raise their hands to receive the first rays of sunlight during celebrations of the Andean New Year, which marks the Southern Hemisphere's **winter solstice**, in El Alto, Bolivia, on Sunday.



Over 200 teak trees illegally axed in Chalakudy

GS I: Geography

K.S. Sudhi
KOCHI

Huge teak trees, numbering 273, were illegally sold in the territorial limits of the Chalakudy forest division, according to a preliminary investigation carried out by the Divisional Forest Officer of Flying Squad (Ernakulam). The trees were felled along an 18-km stretch from Vellikulangara junction to Vettilapala bridge. Trees on private holdings and assigned land were felled and sold cheaply, as per the report.

The trees that were felled for reportedly clearing the pathway for the State hill highway were sold to a Thiruvananthapuram-based wood industries firm for ₹8.52 lakh against its assessed value



Illicit trade: Trees were felled reportedly to clear a path for a State hill highway and then sold to a private firm. REPRESENTATIVE IMAGE.

of ₹41.55 lakh, fixed by the Assistant Conservator of Forest (Social Forestry), Thrissur. The land along the road stretch was acquired by the Kerala Road Fund Board for the highway project, according to sources.

The Forest Range Officer

(Pariyaram) also issued a No Objection Certificate for the firm to transport the felled trees under the provisions of the Kerala Promotion of Tree Growth in Non-Forest Areas Act 2005, according to the report. However, the Act specifies that a transport

pass shall be issued to transport only those trees which are legally felled by the owner of the holding on which they are located.

The circumstances under which the officials permitted the timber firm that purchased the trees to axe and transport them should be probed, the report suggested.

Lack of documentation

No files on the holdings acquired for the road project – their survey numbers and status – and the details of the trees sold and to be axed were maintained at the Forest range office, Pariyaram, or the Social Forestry, Thrissur Division.

The report also pointed out that the firm, which purchased the trees, has also started cutting trees

from the holdings.

No trees located on assigned land shall be illegally cut down, sold and transported, as their ownership is vested with the State government, pointed out another report by the Additional Principal Chief Forest Conservator (Vigilance and Forest Intelligence). In the event of cutting down such trees, they shall be transported to the timber depot of the department and sold outright. The revenue generated from such sales shall be credited to the government, said the report.

The report recommended initiating recovery proceedings for the lost funds and directed authorities to strictly prevent the illegal felling of trees on forest and revenue lands.

22J6. Over 200 teak trees illegally axed in Chalakudy

चालाकुडी में 200 से अधिक सागौन के वृक्षों की अवैध कटाई

Teak Trees (*Tectona grandis*)

- Teak is a characteristic tree of **Tropical Deciduous Forests (Monsoon Forests)**.
- More specifically, it is commonly found in **Tropical Moist Deciduous Forests**, though it can also occur in some dry deciduous areas.
- These forests shed their leaves during the dry season to conserve water.

Climatic Conditions Required

- **Rainfall: 75–200 cm annually.**
- **Temperature: 20°C–35°C.**
- **Well-drained fertile soils, especially black cotton soil, red soils, and alluvial soils.**
- Distinct wet and dry seasons.

Distribution in India

Teak is mainly found in:

- **Madhya Pradesh** (largest teak-producing state).
- Maharashtra.
- Chhattisgarh.
- Odisha.
- Telangana.
- Andhra Pradesh.
- Karnataka.
- Tamil Nadu.
- Kerala.
- Parts of Gujarat and Uttar Pradesh.

Tree Forest Type

Teak Tropical Deciduous Forest

Sal Tropical Moist Deciduous Forest

Sundari Mangrove Forest

Deodar Himalayan Coniferous Forest

GS Paper II: Polity		22 June 2026
TOPICS COVERED		
22J6	Voting should be recognised as a fundamental right, says Ramesh रमेश ने कहा, मतदान को एक मौलिक अधिकार के रूप में मान्यता दी जानी चाहिए	
22J6	Just truths केवल सत्य	
22J6	Can police re-open probe without court approval? क्या पुलिस न्यायालय की अनुमति के बिना पुनः जाँच (री-इन्वेस्टिगेशन) शुरू कर सकती है?	

Voting should be recognised as a fundamental right, says Ramesh

GS II: Polity
The Hindu Bureau
NEW DELHI

The right to vote should be recognised as a fundamental right to ensure the highest level of judicial review and protection, along with safeguards against voter suppression or arbitrary exclusions during exercises such as the special intensive revision (SIR), senior Congress leader Jairam Ramesh said on Sunday.

Mr. Ramesh made the remarks in the context of the recent Supreme Court judgment declaring the right to walk on a footpath a fundamental right. Providing historical context on the evolution of fundamental rights and electoral provisions, he argued that while the top court has already in the past recognised voters' right to know candidates' criminal re-



Jairam Ramesh

cords, funding sources, and has protected ballot secrecy and enabled NOTA, but voting itself continues to remain a statutory right. "All related rights are fundamental, but not the core right they depend on," he said.

He said elevating the right to vote has become essential in the present context. "With the blatant-

ly partisan functioning of the Election Commission of India working at the behest of the Prime Minister and the Union Home Minister having been brutally exposed, it is now time to elevate the right to vote as a fundamental right that would offer it the highest level of judicial review and protection," he said.

"It would be a powerful step in putting in place safeguards against voter suppressions or arbitrary disqualifications that have taken place in different states in astronomical numbers under the SIR process. It would also mean greater Supreme Court vigilance over the functioning of the Election Commission," he added.

Referring to the Constituent Assembly debates, Mr. Ramesh said an Advisory Committee on Funda-

mental Rights, Minorities and Tribal and Excluded Areas was set up under Sardar Patel. At its meeting on April 21-22, 1947, there was discussion on making the right to vote a fundamental right. Dr. B.R. Ambedkar and Babu Jagjivan Ram supported the proposal, he said, while Sardar Patel, C. Rajagopalachari and others opposed it.

"Sardar Patel himself took the position that universal adult franchise was, in itself, an implicit fundamental right. This is the background to Article 326 which provides for elections based on universal adult suffrage," he said.

He also cited Justice Ajay Rastogi's dissenting opinion in the *Anoop Baranwal vs. Union of India* judgment of March 2023, which held that the right to vote is a fundamental right.

22J6. Voting should be recognised as a fundamental right, says Ramesh रमेश ने कहा, मतदान को एक मौलिक अधिकार के रूप में मान्यता दी जानी चाहिए

- The right to vote should be recognised as a **Fundamental Right** to ensure the highest level of **judicial review** and **protection**, along with safeguards against **voter suppression** or arbitrary exclusions during exercises such as the **Special Intensive Revision (SIR)**, senior

Congress leader **Jairam Ramesh** said on Sunday.

कांग्रेस के वरिष्ठ नेता **जयराम रमेश** ने रविवार को कहा कि मतदान के अधिकार को **मौलिक अधिकार** के रूप में मान्यता दी जानी चाहिए, ताकि उसे सर्वोच्च स्तर की **न्यायिक समीक्षा** और संरक्षण प्राप्त हो सके तथा **विशेष गहन पुनरीक्षण (SIR)** जैसी प्रक्रियाओं के दौरान **मतदाता दमन** अथवा मनमाने बहिष्कार के विरुद्ध सुरक्षा सुनिश्चित की जा सके।

- Mr. Ramesh made the remarks in the context of the recent **Supreme Court judgment** declaring the **right to walk on a footpath** a fundamental right.
श्री रमेश ने यह टिप्पणी हाल ही में आए **उच्चतम न्यायालय के निर्णय** के संदर्भ में की, जिसमें **फुटपाथ पर चलने के अधिकार** को मौलिक अधिकार घोषित किया गया था।
- Providing historical context on the evolution of **Fundamental Rights** and electoral provisions, he argued that while the **top court has already recognised voters' right to know candidates' criminal records, funding sources, protected ballot secrecy, and enabled NOTA, voting itself continues to remain a statutory right.**
मौलिक अधिकारों और निर्वाचन संबंधी प्रावधानों के विकास का ऐतिहासिक संदर्भ देते हुए उन्होंने कहा कि यद्यपि उच्चतम न्यायालय पहले ही मतदाताओं के **उम्मीदवारों के आपराधिक रिकॉर्ड जानने के अधिकार**, **वित्तपोषण के स्रोतों की जानकारी**, **मतपत्र की गोपनीयता** तथा **NOTA** के अधिकार को मान्यता दे चुका है, फिर भी मतदान स्वयं अब भी एक **वैधानिक अधिकार** बना हुआ है।
- **It would also mean greater Supreme Court vigilance over the functioning of the Election Commission,** he added.
इसका अर्थ **निर्वाचन आयोग** के कार्यकलापों पर **उच्चतम न्यायालय की अधिक सतर्क निगरानी** भी होगा।
- Referring to the **Constituent Assembly debates**, Mr. Ramesh said an **Advisory Committee on Fundamental Rights, Minorities and Tribal and Excluded Areas** was set up under **Sardar Patel**.
संविधान सभा की बहसों का उल्लेख करते हुए श्री रमेश ने कहा कि **सरदार पटेल** की अध्यक्षता में **मौलिक अधिकार, अल्पसंख्यक तथा जनजातीय एवं बहिष्कृत क्षेत्रों संबंधी परामर्श समिति** का गठन किया गया था।
- **At its meeting on April 21-22, 1947, there was discussion on making the right to vote a fundamental right.**
21-22 अप्रैल 1947 को हुई समिति की बैठक में **मतदान के अधिकार** को मौलिक अधिकार बनाने पर चर्चा हुई थी।
- **Dr. B.R. Ambedkar and Babu Jagjivan Ram supported the proposal, he said, while Sardar Patel, C. Rajagopalachari and others opposed it.**
उन्होंने कहा कि डॉ. बी.आर. आंबेडकर और **बाबू जगजीवन राम** ने इस प्रस्ताव का समर्थन किया था, जबकि **सरदार पटेल, सी. राजगोपालाचारी** तथा अन्य सदस्यों ने इसका विरोध किया था।
- **"Sardar Patel himself took the position that universal adult franchise was, in itself, an implicit fundamental right.**
उन्होंने कहा, **"सरदार पटेल का स्वयं यह मत था कि सार्वभौमिक वयस्क मताधिकार अपने आप में एक निहित मौलिक अधिकार है।"**
- **This is the background to Article 326 which provides for elections based on universal adult suffrage,** he said.
यही **अनुच्छेद 326** की पृष्ठभूमि है, जो सार्वभौमिक वयस्क मताधिकार के आधार पर चुनावों का प्रावधान करता है।
- He also cited **Justice Ajay Rastogi's dissenting opinion** in the **Anoop Baranwal vs. Union of India** judgment of March 2023, which held that the **right to vote** is a fundamental right.
उन्होंने मार्च 2023 के **अनूप बरनवाल बनाम भारत संघ** मामले में **न्यायमूर्ति अजय रस्तोगी के असहमति मत** का भी उल्लेख किया, जिसमें कहा गया था कि **मतदान का अधिकार एक मौलिक अधिकार है।**



CS II: Polity

Just truths

DNA test for paternity, allowed as a last resort, must not violate other rights

To protect children from the stigma of illegitimacy, the erstwhile Indian Evidence Act 1872 and the Bharatiya Sakshya Adhiniyam 2023 place the burden of proof on the party denying paternity rather than the party seeking confirmation. The Supreme Court of India first considered the challenges posed by DNA evidence in this regard, in *Goutam Kundu* (1993), where it held that DNA tests could not be ordered as a matter of routine and that courts must first assess whether a strong *prima facie* case had been made out. It reiterated this position in *Shri Banarsi Dass* (2005); both cases also reinforced the protection of legitimacy over any interest in forensic curiosity. Then, in the litigation mooted by Rohit Shekhar alleging that veteran politician N.D. Tiwari was his father, the Delhi High Court and the top court called for the test despite Mr. Tiwari insisting that his right to privacy was being violated. In *Nandlal Wasudeo Badwaik* (2014), the Court said that when reliable scientific proof confronts legal fiction, the former may prevail in the interest of justice; in *Dipawita Roy* (2014), it acknowledged that refusing testing can lead to adverse inference. Both orders also confirmed the legitimacy of DNA tests based on need.

Then, in *K.S. Puttaswamy* (2017), as it encoded the right to privacy — including of genetic data — as a fundamental right under Article 21, the Court introduced a constraint that prior paternity jurisprudence did not have to reckon with. The threefold test it set up, of legality, legitimate aims, and proportionality, was brought to bear in *Aparna Ajinkya Firodia* (2023), which concluded that DNA tests should be ordered only where they are necessary and proportionate, and not if a dispute could be resolved based on other evidence. In *Ivan Rathinam* (2025), the Court said neither privacy nor knowledge were absolute and that the judiciary also has to negotiate stigma and necessity. Its order in *CP vs AP* (2026) tied all these contentions together as it upheld a trial court's direction for a DNA test on the grounds that the disputed question of paternity could not be resolved by the existing material record and required a scientific determination, by applying necessity and proportionality considerations. In the post-*Puttaswamy* era, then, the Constitution protects bodily autonomy and restricts compelled genetic disclosure — but courts could order a DNA test if paternity is directly in issue, there is no other evidence on record capable of resolving the question, and the test would serve the interest of justice. Thus, by positioning DNA testing as a last resort, the courts have to ensure that while science may be infallible, the pursuit of truth is only just when it respects a person's rights.

22J6. Just truths

केवल सत्य

- To protect children from the stigma of **illegitimacy**, the erstwhile **Indian Evidence Act 1872** and the **Bharatiya Sakshya Adhiniyam 2023** place the burden of proof on the party denying **paternity** rather than the party seeking confirmation.

बच्चों को अवैध संतति होने के सामाजिक कलंक से बचाने के लिए भारतीय साक्ष्य अधिनियम, 1872 तथा भारतीय साक्ष्य अधिनियम, 2023 में पितृत्व से इनकार करने वाले पक्ष पर प्रमाण का भार डाला गया है, न कि पितृत्व की पुष्टि चाहने वाले पक्ष पर।

- The **Supreme Court of India** first considered the challenges posed by **DNA evidence** in this regard, in **Goutam Kundu (1993)**, where it held that **DNA tests** could not be ordered as a matter of routine and that courts must first assess whether a strong **prima facie case** had been made out.

इस संदर्भ में भारत के सर्वोच्च न्यायालय ने पहली बार **Goutam Kundu (1993)** मामले में डीएनए साक्ष्य से उत्पन्न चुनौतियों पर विचार किया, जहाँ उसने कहा कि डीएनए परीक्षण नियमित रूप से आदेशित नहीं किए जा सकते तथा न्यायालयों को पहले यह देखना होगा कि क्या एक सशक्त प्रथमदृष्टया मामला स्थापित हुआ है।

- It reiterated this position in **Shri Banarsi Dass (2005)**; both cases also reinforced the protection of **legitimacy** over any interest in **forensic curiosity**.

न्यायालय ने **Shri Banarsi Dass (2005)** में भी इसी दृष्टिकोण को दोहराया; दोनों मामलों ने फॉरेंसिक जिज्ञासा की अपेक्षा वैधता की धारणा के संरक्षण को अधिक महत्व दिया।

- Then, in **K.S. Puttaswamy (2017)**, as it encoded the **right to privacy** — including of **genetic data** — as a **fundamental right** under **Article 21**, the Court introduced a constraint that prior paternity jurisprudence did not have to reckon with.

इसके बाद **K.S. Puttaswamy (2017)** मामले में, जब न्यायालय ने अनुच्छेद 21 के अंतर्गत आनुवंशिक डेटा सहित निजता के अधिकार को मौलिक अधिकार घोषित किया, तब उसने एक ऐसी सीमा निर्धारित की जिसका पूर्ववर्ती पितृत्व संबंधी न्यायशास्त्र में विचार नहीं किया गया था।

- The **threefold test** it set up, of **legality**, **legitimate aims**, and **proportionality**, was brought to bear in **Aparna Ajinkya Firodia (2023)**.

न्यायालय द्वारा निर्धारित त्रिस्तरीय परीक्षण, जिसमें वैधता, वैध उद्देश्य और अनुपातिकता शामिल हैं, को

Aparna Ajinkya Firodia (2023) मामले में लागू किया गया।

- It concluded that **DNA tests** should be ordered only where they are **necessary** and **proportionate**, and not if a dispute could be resolved based on other evidence.

इसमें निष्कर्ष निकाला गया कि डीएनए परीक्षण केवल तभी आदेशित किए जाने चाहिए जब वे आवश्यक और अनुपातिक हों तथा विवाद का समाधान अन्य साक्ष्यों के आधार पर संभव न हो।

- Its order in **CP vs AP (2026)** tied all these contentions together as it upheld a trial court's direction for a **DNA test** on the grounds that the **disputed question of paternity** could not be resolved by the existing material record and required a **scientific determination**, by applying **necessity** and **proportionality** considerations.

CP vs AP (2026) मामले में न्यायालय ने इन सभी सिद्धांतों को एक साथ समाहित करते हुए निचली अदालत द्वारा दिए गए डीएनए परीक्षण के आदेश को बरकरार रखा, क्योंकि पितृत्व से जुड़ा विवाद उपलब्ध अभिलेखों के आधार पर हल नहीं हो सकता था और उसके लिए वैज्ञानिक निर्धारण आवश्यक था; यह निर्णय आवश्यकता और अनुपातिकता के सिद्धांतों पर आधारित था।



- In the **post-Puttaswamy era**, then, the **Constitution** protects **bodily autonomy** and restricts compelled **genetic disclosure** — but courts could order a **DNA test** if **paternity** is directly in issue, there is no other evidence on record capable of resolving the question, and the test would serve the **interest of justice**.

इस प्रकार **पुट्टास्वामी-उपरांत युग** में **संविधान शारीरिक स्वायत्तता की रक्षा** करता है और बाध्यकारी **आनुवंशिक जानकारी के प्रकटीकरण** को सीमित करता है; फिर भी न्यायालय **डीएनए परीक्षण** का आदेश दे सकते हैं यदि **पितृत्व प्रत्यक्ष रूप से विवादित हो**, प्रश्न के समाधान हेतु अन्य कोई पर्याप्त साक्ष्य उपलब्ध न हो तथा परीक्षण **न्याय के हित** में हो।

Can police re-open probe without court approval?

Does Section 173(8) of CrPC permit filing of a supplementary report without Magistrate's permission?

SS II: Polity, Judiciary
EXPLAINER

R.K. Vij

The story so far:

The Supreme Court recently in *Palaniswamy Veeraraja & Ors. versus The State of Karnataka & Anr.* reiterated that the investigating authorities were required to obtain permission from the Magistrate to initiate further investigation after filing the closure report. In this case, the court quashed the First Information Report (FIR) and subsequent chargesheet noting that such permission had not been obtained.

Although an application seeking further investigation had been filed before the concerned Magistrate for a third time, no order granting permission was placed on record, the court said.

The investigating agency had earlier filed closure reports twice, stating that the dispute appeared to be entirely civil in nature. The court also relied on the principles laid down in *State of Haryana v. Bhajan Lal* (1992), holding that the civil nature of the dispute was an additional ground for quashing the FIR and subsequent proceedings.

Can supplementary report be filed without Magistrate's approval?

The sub-section (2) of Section 173 of the Criminal Procedure Code (CrPC) provides for forwarding a report to the Magistrate after completing investigation in the prescribed form. The Section 173(8) CrPC says that in case the in-charge of a police station finds additional evidence after sending final report to the Magistrate, he may send supplementary report to the Magistrate. It is silent on obtaining permission from a Magistrate for filing

supplementary report under sub-section (8). Section 193(9) of the BNSS is *pari materia* (dealing with the same subject matter) to Section 173(8) of the CrPC.

What has been held by the Supreme Court with regard to further investigation after filing a final report?

The Supreme Court in *Vinay Tyagi versus Irshad Ali* (2013) held that "though there is no specific requirement in the provisions of Section 173(8) of the code to conduct further investigation or file supplementary report with the leave of the court, the investigating agencies have not only understood but also adopted it as a legal practice to seek permission of the courts to conduct further investigation and file supplementary report with the leave of the court".

The court held that the requirement of seeking prior leave of the court to

conduct further probe will have to read into, and is necessary implication of the provisions of Section 173(8) of the code. The court held that the doctrine of *contemporanea expositio* supports such an interpretation, as a practice that has been consistently understood and implemented over time, and is backed by law, should be recognised as an integral part of the interpretative process. This proposition has been approved by the Supreme Court in subsequent cases also.

While the newly added proviso to Section 193(9) of the BNSS (which is *pari materia* to Section 173(8) of the CrPC) mandates that the permission of the court is necessary if the trial has begun, the top court, in *Rama Chaudhary versus State of Bihar* (2024) reiterated that even though the statute does not require express permission, the law has developed and seeking permission from the concerned magistrate is essential. The Supreme Court, in *Robert Lalchungnunga Chongthu v. State of Bihar* (2025), reaffirmed the ratio in *Vinay Tyagi* (supra), holding that obtaining the court's leave to file a supplementary chargesheet forms an integral part of the law.

Therefore, despite the new provision of the BNSS, once a chargesheet or closure report has been filed, further probe based on new evidence may be undertaken only with the permission of the court.

R.K. Vij is a former IPS officer.

THE GIST

The Section 173(8) CrPC says that in case the in-charge of a police station finds additional evidence after sending final report to the Magistrate, he may send supplementary report to the Magistrate.

The court held that the doctrine of *contemporanea expositio* supports such an interpretation, as a practice that has been consistently understood and implemented over time, and is backed by law, should be recognised as an integral part of the interpretative process.

22J6. Can police re-open probe without court approval?

क्या पुलिस न्यायालय की अनुमति के बिना पुनः जाँच (री-इन्वेस्टिगेशन) शुरू कर सकती है?

- Does Section 173(8) of CrPC permit filing of a supplementary report without the Magistrate's permission?**

क्या दंड प्रक्रिया संहिता (CrPC) की धारा 173(8) मजिस्ट्रेट की अनुमति के बिना अनुपूरक (सप्लीमेंट्री) रिपोर्ट दाखिल करने की अनुमति देती है?

- The **Supreme Court recently in *Palaniswamy Veeraraja & Ors. versus The State of Karnataka & Anr.*** reiterated that the investigating authorities were required to obtain permission from the Magistrate to initiate further investigation after filing the closure report.

सर्वोच्च न्यायालय ने हाल ही में *Palaniswamy Veerarajan* एवं अन्य बनाम कर्नाटक राज्य एवं अन्य मामले में पुनः स्पष्ट किया कि समापन रिपोर्ट (Closure Report) दाखिल करने के बाद आगे की जांच प्रारंभ करने के लिए जांच एजेंसियों को मजिस्ट्रेट की अनुमति प्राप्त करना आवश्यक है।

- The investigating agency had earlier filed **closure reports** twice, stating that the dispute appeared to be entirely **civil in nature**.

जांच एजेंसी ने इससे पहले दो बार **समापन रिपोर्ट** दाखिल करते हुए कहा था कि विवाद पूर्णतः **दीवानी प्रकृति** का प्रतीत होता है।

- The court also relied on the principles laid down in ***State of Haryana v. Bhajan Lal* (1992)**, holding that the **civil nature of the dispute** was an additional ground for quashing the **FIR and subsequent proceedings**.

न्यायालय ने *State of Haryana v. Bhajan Lal* (1992) में प्रतिपादित सिद्धांतों पर भी भरोसा किया और

कहा कि विवाद का दीवानी स्वरूप भी एफआईआर तथा बाद की कार्यवाहियों को निरस्त करने का एक अतिरिक्त आधार था।

Can supplementary report be filed without Magistrate's approval?

क्या मजिस्ट्रेट की अनुमति के बिना अनुपूरक रिपोर्ट दाखिल की जा सकती है?

- The **sub-section (2) of Section 173 of the Criminal Procedure Code (CrPC)** provides for forwarding a report to the **Magistrate** after completing investigation in the prescribed form. **दंड प्रक्रिया संहिता (CrPC) की धारा 173(2) में जांच पूर्ण होने के बाद निर्धारित प्रारूप में रिपोर्ट मजिस्ट्रेट को भेजने का प्रावधान है।**
- The **Section 173(8) CrPC** says that in case the in-charge of a police station finds additional evidence after sending the **final report** to the Magistrate, he may send a **supplementary report** to the Magistrate. **धारा 173(8) CrPC के अनुसार यदि पुलिस थाने का प्रभारी अंतिम रिपोर्ट भेजने के बाद कोई अतिरिक्त साक्ष्य प्राप्त करता है, तो वह अनुपूरक रिपोर्ट मजिस्ट्रेट को भेज सकता है।**
- It is silent on obtaining permission from a **Magistrate** for filing a supplementary report under sub-section (8). **यह उपधारा (8) के अंतर्गत अनुपूरक रिपोर्ट दाखिल करने के लिए मजिस्ट्रेट की अनुमति प्राप्त करने के विषय में मौन है।**
- Section 193(9) of the BNSS is pari materia (dealing with the same subject matter) to Section 173(8) of the CrPC.** **भारतीय नागरिक सुरक्षा संहिता (BNSS) की धारा 193(9), CrPC की धारा 173(8) के समान विषय-वस्तु (pari materia) से संबंधित है।**

What has been held by the Supreme Court with regard to further investigation after filing a final report?

अंतिम रिपोर्ट दाखिल करने के बाद आगे की जांच के संबंध में सर्वोच्च न्यायालय ने क्या कहा है?

- The **Supreme Court in Vinay Tyagi versus Irshad Ali (2013)** held that "though there is no specific requirement in the provisions of **Section 173(8)** of the code to conduct further investigation or file supplementary report with the leave of the court, the investigating agencies have not only understood but also adopted it as a legal practice to seek permission of the courts to conduct further investigation and file supplementary report with the leave of the court". **सर्वोच्च न्यायालय ने Vinay Tyagi बनाम Irshad Ali (2013) में कहा कि यद्यपि धारा 173(8) में आगे की जांच करने अथवा अनुपूरक रिपोर्ट दाखिल करने हेतु न्यायालय की अनुमति का कोई स्पष्ट प्रावधान नहीं है, फिर भी जांच एजेंसियों ने इसे एक स्थापित कानूनी प्रथा के रूप में स्वीकार किया है और आगे की जांच के लिए न्यायालय की अनुमति प्राप्त करती रही हैं।**
- The court held that the requirement of seeking prior leave of the court to conduct **further probe** will have to be read into, and is a necessary implication of, the provisions of **Section 173(8)** of the code. **न्यायालय ने कहा कि आगे की जांच के लिए पूर्व अनुमति प्राप्त करने की आवश्यकता को धारा 173(8) के प्रावधानों में निहित माना जाना चाहिए और यह उसका आवश्यक निहितार्थ है।**
- While the newly added **proviso to Section 193(9) of the BNSS** (which is **pari materia** to **Section 173(8) of the CrPC**) mandates that the permission of the court is necessary if the **trial** has begun, the top court, in **Rama Chaudhary versus State of Bihar (2024)** reiterated that even though the statute does not require express permission, the law has developed and seeking permission from the concerned **Magistrate** is essential. **यद्यपि BNSS की धारा 193(9) में जोड़े गए नए परंतुक (Proviso) में यह कहा गया है कि यदि विचारण (Trial) प्रारंभ हो चुका है तो न्यायालय की अनुमति आवश्यक होगी, फिर भी Rama Chaudhary बनाम**

बिहार राज्य (2024) में सर्वोच्च न्यायालय ने दोहराया कि भले ही विधि में स्पष्ट अनुमति का प्रावधान न हो, परंतु विधिक विकास के परिणामस्वरूप संबंधित मजिस्ट्रेट से अनुमति प्राप्त करना अनिवार्य है।

- The **Supreme Court**, in **Robert Lalchungnunga Chongthu v. State of Bihar (2025)**, reaffirmed the ratio in **Vinay Tyagi (supra)**, holding that obtaining the court's leave to file a **supplementary chargesheet** forms an integral part of the law.

सर्वोच्च न्यायालय ने **Robert Lalchungnunga Chongthu बनाम बिहार राज्य (2025)** में **Vinay Tyagi** के सिद्धांत की पुनः पुष्टि करते हुए कहा कि **अनुपूरक आरोपपत्र** दाखिल करने के लिए न्यायालय की अनुमति प्राप्त करना विधि का अभिन्न अंग है।

- Therefore, despite the new provision of the **BNSS**, once a **chargesheet** or **closure report** has been filed, further probe based on new evidence may be undertaken only with the permission of the court.

अतः **BNSS** के नए प्रावधान के बावजूद, एक बार **आरोपपत्र** अथवा **समापन रिपोर्ट** दाखिल हो जाने के बाद, नए साक्ष्यों के आधार पर **आगे की जांच** केवल न्यायालय की अनुमति से ही की जा सकती है।

GS Paper II: Governance		22 June 2026
TOPICS COVERED		
22J6	The lack of accountability within the NTA राष्ट्रीय परीक्षण एजेंसी (NTA) के भीतर जवाबदेही का अभाव	
22J6	Are footpaths more than safe spaces? क्या फुटपाथ केवल सुरक्षित स्थानों से कहीं अधिक हैं?	

The lack of accountability within the NTA

GS II: Governance

On June 21, more than 22.8 lakh candidates sat once again for NEET-UG after a paper leak led to the nationwide cancellation of the earlier exam. The response has followed two tracks. The first was prosecutorial, with the government handing the case to the Central Bureau of Investigation under the Public Examinations (Prevention of Unfair Means) Act, 2024. The second was administrative, with a re-examination conducted yesterday and the examination fees refunded. However, neither response engages with the question of why one compromised paper can interrupt medical admissions for an entire national cohort, and what that design choice reveals about how the state looks at the costs of its own institutional failures.

The NTA's responsibility

The National Testing Agency (NTA) was created in 2017 as a registered society under the Societies Registration Act, 1860 and not through an Act of Parliament, which means it operates without a codified liability standard toward the candidates it examines. When the NTA cancelled NEET-UG 2026, its formal obligation to candidates extended to just carrying forward registrations and refunding the examination fee, which is ₹1,700 for general category candidates. The institutional cost of failure beyond that narrow zone remains unaccounted for.

The design of NEET-UG amplifies that accountability gap directly. The examination is conducted nationwide in a single sitting on one day, with one paper and its score is used for admission across every government and private medical college in the country. And when that sitting is compromised, the state has only one instrument available, which is to cancel the test and convene a fresh sitting without any distributed fallback that would allow a limited breach to produce only a limited effect. Moreover,



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While the Public Examinations (Prevention of Unfair Means) Act, 2024 prescribes penalties and fines, it establishes no compensation mechanism for candidates when an exam is cancelled

the interval between application, examination, and result has become a prolonged administrative cycle and every disruption stretches that cycle further while shifting uncertainty onto the candidates. In a system built around a single annual test, even a short advancement can alter an entire admission year.

The National Medical Commission's (NMC) seat matrix for October 2025 lists roughly 1.26 lakh MBBS seats against more than 22 lakh candidates, a ratio that structurally ensures that a substantial cohort of aspirants are always in their second or third attempt, having already committed resources with no guarantee of admission. For those candidates, the cancellation returns a ₹1,700 fee against a preparation year that costs several lakhs in coaching and accommodation, a gap the state has never formally measured because no government survey tracks what households spend on NEET preparation. The ASER 2024 report documents persistent learning gaps between government and private school students, which means candidates who entered the race with fewer academic and financial resources are also those least able to absorb a cancelled cycle and begin again.

While the Public Examinations (Prevention of Unfair Means) Act, 2024 prescribes penalties of up to 10 years imprisonment and fines up to one crore rupees for organised leak networks, it establishes no compensation mechanism for candidates when an exam is cancelled; creates no automatic re-examination right; and introduces no liability standard for the examining body. The legislature responded to a candidate-facing catastrophe with an entirely prosecutorial instrument, leaving the structural consequences borne by those who played by the rules entirely outside the law's concern.

The announced shift of NEET to Computer-Based Testing (CBT) does not resolve this structural

problem. For in June 2024, the UGC-NET was cancelled after the question paper appeared on the darknet; the UGC-NET was already a CBT examination administered by the same agency. The leak arose not from printed papers but from a single session with no distributed architecture capable of containing the impact of a breach, which means that moving NEET to CBT changes only the delivery mechanism without changing the single point of failure.

The way ahead

Article 14 guarantees everyone equal protection before the law and prohibits state action that is arbitrary in design and disproportionate in effect, while Articles 41 and 46 of the Directive Principles place a positive obligation on the state to secure equal opportunity in education and protect weaker sections from structural disadvantage. A national entrance architecture that formally treats all candidates alike but transfers all costs of institutional failure onto those least equipped to bear them is precisely the kind of design those provisions are meant to prevent.

Three corrections must follow directly. First, the NTA should be given statutory basis with codified obligations to candidates and enforceable consequences for institutional failure. Second, a mandatory compensation mechanism funded from examination fee revenue should activate automatically when cancellation results from institutional failure. Third, multiple examination windows per year would distribute risk so that a compromised sitting does not collapse the prospects of every candidate in the pool.

The re-examination has, for now, closed this episode administratively, but as long as one compromised paper can force 22 lakh candidates to begin again, the problem is not only who leaked the paper, but why the exam was designed to break so completely when they did.

22J6. The lack of accountability within the NTA

राष्ट्रीय परीक्षण एजेंसी (NTA) के भीतर जवाबदेही का अभाव

- On June 21, more than 22.8 lakh candidates sat once again for NEET-UG after a paper leak led to the nationwide cancellation of the earlier exam.

21 जून को 22.8 लाख से अधिक अभ्यर्थी प्रश्नपत्र लीक होने के कारण पूर्व परीक्षा के देशव्यापी निरस्तीकरण के बाद पुनः NEET-UG परीक्षा में सम्मिलित हुए।

- The response has followed two tracks.
इस घटना के प्रति प्रतिक्रिया दो स्तरों पर हुई है।
- The first was **prosecutorial**, with the government handing the case to the **Central Bureau of Investigation (CBI)** under the **Public Examinations (Prevention of Unfair Means) Act, 2024**.

पहला स्तर अभियोजनात्मक था, जिसमें सरकार ने मामले को लोक परीक्षा (अनुचित साधनों की रोकथाम) अधिनियम, 2024 के अंतर्गत केंद्रीय अन्वेषण ब्यूरो (CBI) को सौंप दिया।

The NTA's responsibility एनटीए की जिम्मेदारी

- The **National Testing Agency (NTA)** was created in **2017** as a registered society under the **Societies Registration Act, 1860** and not through an **Act of Parliament**, which means it operates without a codified **liability standard** toward the candidates it examines.
राष्ट्रीय परीक्षण एजेंसी (NTA) की स्थापना 2017 में सोसायटी पंजीकरण अधिनियम, 1860 के अंतर्गत एक पंजीकृत संस्था के रूप में की गई थी, न कि किसी संसदीय अधिनियम द्वारा; इसका अर्थ है कि परीक्षार्थियों के प्रति इसकी कोई स्पष्ट रूप से निर्धारित दायित्व व्यवस्था नहीं है।
- While the **Public Examinations (Prevention of Unfair Means) Act, 2024** prescribes penalties of up to **10 years imprisonment** and fines up to **one crore rupees** for organised **leak networks**, it establishes no **compensation mechanism** for candidates when an exam is cancelled.

यद्यपि लोक परीक्षा (अनुचित साधनों की रोकथाम) अधिनियम, 2024 संगठित प्रश्नपत्र लीक नेटवर्कों के लिए 10 वर्ष तक के कारावास तथा एक करोड़ रुपये तक के जुर्माने का प्रावधान करता है, फिर भी परीक्षा रद्द होने पर अभ्यर्थियों के लिए कोई क्षतिपूर्ति तंत्र स्थापित नहीं करता।

The way ahead आगे की राह

- Article 14** guarantees everyone **equal protection before the law** and prohibits state action that is **arbitrary in design** and **disproportionate in effect**.
अनुच्छेद 14 प्रत्येक व्यक्ति को कानून के समक्ष समान संरक्षण की गारंटी देता है तथा ऐसी राज्य कार्रवाई को निषिद्ध करता है जो संरचना में मनमानी और प्रभाव में असंगत हो।
- While **Articles 41 and 46** of the **Directive Principles of State Policy** place a positive obligation on the state to secure **equal opportunity in education** and protect **weaker sections** from structural disadvantage.
वहीं राज्य के नीति-निर्देशक सिद्धांतों के अनुच्छेद 41 और 46 राज्य पर शिक्षा में समान अवसर सुनिश्चित करने तथा कमजोर वर्गों को संरचनात्मक वंचना से बचाने का सकारात्मक दायित्व डालते हैं।

22J6. Are footpaths more than safe spaces?

क्या फुटपाथ केवल सुरक्षित स्थानों से कहीं अधिक हैं?

- A Bench of Justices **P.S. Narasimha** and **Atul S. Chandurkar** has, in its judgment (**Maniyar Iliyaz @ Shaik Riyaz versus P. Ayyappan**), said a **footpath's relevance** is more than that of a narrow strip of land where the 'less-fortunate' ones take cover from being knocked down by vehicles speeding on **multi-lane motorways**.
न्यायमूर्ति पी.एस. नरसिम्हा और अतुल एस. चंदुरकर की पीठ ने अपने निर्णय (**Maniyar Iliyaz @ Shaik Riyaz बनाम P. Ayyappan**) में कहा है कि फुटपाथ का महत्व केवल भूमि की उस संकरी पट्टी तक सीमित

नहीं है जहाँ कम भाग्यशाली लोग बहु-लेन राजमार्गों पर तेज़ गति से चलने वाले वाहनों से बचने के लिए आश्रय लेते हैं।

- Does the ruling disconnect the footpath from the theme of accidents?
क्या यह निर्णय फुटपाथ को दुर्घटनाओं के विषय से अलग करता है?
- Justice Narasimha's judgment divorces the footpath from the theme of motor accidents.
न्यायमूर्ति नरसिम्हा का निर्णय फुटपाथ को सड़क दुर्घटनाओं के विषय से अलग करता है।
- The sole aim of a footpath is not to avoid accidents.
फुटपाथ का एकमात्र उद्देश्य दुर्घटनाओं से बचाव नहीं है।
- The pathways have an identity and a purpose of their own.
इन मार्गों की अपनी एक पहचान और उद्देश्य है।
- The footpath caters to the most essential, the most fundamental of rights — the pleasure of walking.
फुटपाथ सबसे मूलभूत अधिकारों में से एक — पैदल चलने के आनंद — की पूर्ति करता है।
- The court said the presence of a broad footpath is a reflection of civilisational advancement and respect for the freedom to walk.
न्यायालय ने कहा कि एक विस्तृत फुटपाथ की उपस्थिति सभ्यतागत प्रगति तथा पैदल चलने की स्वतंत्रता के प्रति सम्मान को दर्शाती है।
- The tracks offer the public access to urban spaces through movement by walking.
ये मार्ग जनता को पैदल चलकर शहरी स्थानों तक पहुँच प्रदान करते हैं।
- The judgment declared that the right to walk on a comfortable and safe footpath held "priority over movement by motor vehicles".
निर्णय में कहा गया कि सुरक्षित और सुविधाजनक फुटपाथ पर चलने का अधिकार मोटर वाहनों की आवाजाही पर प्राथमिकता रखता है।
- In a way, reasoning of the judgment suggests that footpaths suffer from a situation described in environmental law as the 'tragedy of the commons' or the degradation of a precious resource when many individuals use it.
एक प्रकार से यह निर्णय संकेत देता है कि फुटपाथ उस स्थिति से ग्रस्त हैं जिसे पर्यावरण विधि में 'कॉमन्स की त्रासदी' कहा जाता है, अर्थात् जब अनेक लोग किसी साझा संसाधन का उपयोग करते हैं तो उसका क्षरण होने लगता है।
- Safe and broad footpaths have become a scarce resource, riddled by encroachments, garbage and pavement trade.
सुरक्षित और चौड़े फुटपाथ अब दुर्लभ संसाधन बन गए हैं, जो अतिक्रमण, कचरे और फुटपाथ व्यापार से प्रभावित हैं।
- Secondly, the court has reasoned that broad footpaths, besides amplifying the beauty of cities, must also enable equitable access to all.
दूसरे, न्यायालय ने कहा कि चौड़े फुटपाथ शहरों की सुंदरता बढ़ाने के साथ-साथ सभी के लिए समान पहुँच सुनिश्चित करें।
- Nothing should be done to thwart the public's free access to common spaces.
ऐसा कुछ भी नहीं किया जाना चाहिए जो जनता की सार्वजनिक स्थलों तक स्वतंत्र पहुँच को बाधित करे।
- Justice Narasimha has observed that access to common spaces, in both urban areas and rural areas, should be distributed in such a way that it was "not a monopoly of the motorised class alone".
न्यायमूर्ति नरसिम्हा ने कहा कि शहरी और ग्रामीण दोनों क्षेत्रों में सार्वजनिक स्थानों तक पहुँच इस प्रकार वितरित होनी चाहिए कि वह केवल मोटर चालित वर्ग का एकाधिकार न बन जाए।
- Article 39(b) of the Constitution mandates that material resources of a community must be distributed so as to sub-serve the common good.
संविधान का अनुच्छेद 39(b) यह निर्देश देता है कि समुदाय के भौतिक संसाधनों का वितरण सार्वजनिक हित की पूर्ति के लिए किया जाना चाहिए।



- Authorities must consider the **common good** of both **pedestrians** and **motor vehicle owners** while designing a material resource like land to build roadways.
सड़क निर्माण हेतु भूमि जैसे संसाधनों की योजना बनाते समय अधिकारियों को पैदल यात्रियों और वाहन मालिकों दोनों के सार्वजनिक हित का ध्यान रखना चाहिए।
- A wide, well-demarcated and uninterrupted **footpath** could “change the beauty of and equitable access to our cities and towns”.
एक चौड़ा, स्पष्ट रूप से चिह्नित और अवरोध-मुक्त फुटपाथ हमारे शहरों और कस्बों की सुंदरता तथा समान पहुँच को बदल सकता है।
- **Does walking still hold significance in the Indian imagination?**
क्या भारतीय मानस में पैदल चलना आज भी महत्वपूर्ण स्थान रखता है?
- The court said that the act of **walking** has had diverse roles in the **Indian imagination**.
न्यायालय ने कहा कि पैदल चलने की क्रिया का भारतीय मानस में विविध महत्व रहा है।
- Walking was a **struggle** for the not-so-unfortunate, a **meditation in motion** for many, **resistance** for others, **discovery** for the inquisitive, a cohesive strategy for sharp **socio-political minds**.
पैदल चलना कुछ लोगों के लिए संघर्ष, अनेक लोगों के लिए गतिशील ध्यान, दूसरों के लिए प्रतिरोध, जिज्ञासुओं के लिए खोज, तथा प्रखर सामाजिक-राजनीतिक चिंतकों के लिए एक संगठित रणनीति रहा है।
- From the first sparks which ignited the **national struggle for freedom** to the complexities of modern politics, the idea of **walking** as a means of expressing an opinion or drawing public attention remains a constant.
स्वतंत्रता संग्राम की प्रारंभिक चिंगारियों से लेकर आधुनिक राजनीति की जटिलताओं तक, पैदल चलना विचार व्यक्त करने और जनध्यान आकर्षित करने के माध्यम के रूप में निरंतर बना रहा है।
- Walking was not just motion, but embodied the fundamental freedoms of **speech and expression**, of **peaceful protest** and the right to form **associations and unions** for gaining the just rights of workers.
पैदल चलना केवल एक गतिविधि नहीं था, बल्कि यह वाक् एवं अभिव्यक्ति की स्वतंत्रता, शांतिपूर्ण विरोध, तथा श्रमिकों के न्यायोचित अधिकारों की प्राप्ति हेतु संघों एवं संगठनों के गठन के अधिकार का भी प्रतीक था।

Have the ‘duty-bearers’ neglected their duty to protect footpaths?

क्या ‘कर्तव्य-निर्वाहक’ ने फुटपार्थों की सुरक्षा के अपने दायित्व की उपेक्षा की है?

- However, laws like the **Motor Vehicles Act, 1988** paid homage to movement by wheels.
हालाँकि **मोटर वाहन अधिनियम, 1988** जैसे कानूनों ने पहियों द्वारा होने वाली आवाजाही को प्राथमिकता दी।
- They even “undermined the precious rights of **walkers**”.
उन्होंने तो पैदल यात्रियों के बहुमूल्य अधिकारों को भी कमजोर किया।
- **Justice Narasimha** said the tendency to subjugate safe and comfortable **footpaths** to **motor transport** was a **civilisational problem**.
न्यायमूर्ति नरसिम्हा ने कहा कि सुरक्षित और सुविधाजनक फुटपार्थों को मोटर परिवहन के अधीन कर देने की प्रवृत्ति एक सभ्यतागत समस्या है।
- The **primary “duty-bearers”** responsible for effectively managing **footpaths** are **urban development authorities, municipal corporations, municipalities, and panchayats**.
फुटपार्थों के प्रभावी प्रबंधन के लिए उत्तरदायी प्रमुख “कर्तव्य-निर्वाहक” शहरी विकास प्राधिकरण, नगर निगम, नगरपालिकाएँ और पंचायतें हैं।
- **Footpaths are held in trust by these bodies for the public’s benefit**.
ये संस्थाएँ जनता के हित में फुटपार्थों को एक न्यासीय दायित्व के रूप में संरक्षित रखती हैं।
- They are the **material resources of the community**.
ये समुदाय के भौतिक संसाधन हैं।



Is there a need for statutory law and regulator?
क्या वैधानिक कानून और नियामक की आवश्यकता है?

- The judgment is not satisfied by merely declaring the right to walk safely on a wide and clearly demarcated **footpath** as a **basic right**, but recommends to the government to implement the **fundamental right** through a **statutory law**, and moreover, establish a **regulator** to hear aggrieved pedestrians.
यह निर्णय केवल चौड़े और स्पष्ट रूप से चिह्नित **फुटपाथ** पर सुरक्षित रूप से चलने के अधिकार को **मौलिक अधिकार** घोषित करने तक सीमित नहीं है, बल्कि सरकार को इसे **वैधानिक कानून** के माध्यम से लागू करने तथा पीड़ित पैदल यात्रियों की शिकायतें सुनने के लिए एक **नियामक संस्था** स्थापित करने की भी सिफारिश करता है।
- The court recalled the positive role played by **Parliament** and **State legislatures** in the past in enabling the effective exercise and enjoyment of **fundamental rights** on the ground. न्यायालय ने अतीत में **संसद** और **राज्य विधानसभाओं** द्वारा **मौलिक अधिकारों** के प्रभावी क्रियान्वयन और उपयोग को सुनिश्चित करने में निभाई गई सकारात्मक भूमिका को स्मरण किया।
- It also noted that **modern statutes** have shaped a new framework of **institutional governance** by creating **regulatory bodies**.
न्यायालय ने यह भी कहा कि आधुनिक कानूनों ने **नियामक संस्थाओं** की स्थापना के माध्यम से **संस्थागत शासन** की एक नई संरचना विकसित की है।
- These bodies institutionalise continuity through **perpetual succession** and seal, embed expertise through **specialisation**, promote diversity through their composition, and ensure integrity through mechanisms of **accountability**.
ये संस्थाएँ **स्थायी उत्तराधिकार** और विधिक पहचान के माध्यम से निरंतरता सुनिश्चित करती हैं, **विशेषज्ञता** के माध्यम से दक्षता विकसित करती हैं, अपनी संरचना के माध्यम से विविधता को बढ़ावा देती हैं तथा **उत्तरदायित्व** की व्यवस्थाओं द्वारा पारदर्शिता सुनिश्चित करती हैं।
- One of the examples the court drew in this context was the **Right to Education Act**, which had declared the **fundamental right** to free and compulsory elementary education under **Article 21A in Sections 3 to 5**.
इस संदर्भ में न्यायालय ने **शिक्षा का अधिकार अधिनियम** का उदाहरण दिया, जिसने **अनुच्छेद 21A** के अंतर्गत निःशुल्क और अनिवार्य प्राथमिक शिक्षा के **मौलिक अधिकार** को **धारा 3 से 5** के माध्यम से लागू किया।
- The **National Commission for Protection of Child Rights** was recognised as the **regulator**.
राष्ट्रीय बाल अधिकार संरक्षण आयोग को इस व्यवस्था का **नियामक** माना गया।
- Justice Narasimha** said a similar **Act** and a **regulatory body** must be devised by the legislature to protect the **fundamental right to walk** on demarcated footpaths.
न्यायमूर्ति **नरसिम्हा** ने कहा कि चिह्नित फुटपाथों पर **पैदल चलने के मौलिक अधिकार** की रक्षा के लिए विधायिका को इसी प्रकार का एक **अधिनियम** और **नियामक निकाय** स्थापित करना चाहिए।
- The **statutory framework** would not only ensure the working of the **fundamental right** on the ground but also identify the **duty-bearers**.
यह **वैधानिक ढाँचा** न केवल **मौलिक अधिकार** के वास्तविक क्रियान्वयन को सुनिश्चित करेगा, बल्कि संबंधित **कर्तव्य-निर्वाहकों** की पहचान भी करेगा।
- The court said such an **Act** must also establish a full-time **regulator** to plan, enforce, and implement this precious right.
न्यायालय ने कहा कि ऐसा **अधिनियम** इस महत्वपूर्ण अधिकार की योजना बनाने, उसे लागू कराने और उसके क्रियान्वयन की निगरानी के लिए एक पूर्णकालिक **नियामक** भी स्थापित करे।

GS Paper II: International Relations	22 June 2026
TOPICS COVERED	
22J6	Albania's 'flamingo revolution' gathers steam over Trump family-linked project



अल्बानिया की 'फ्लेमिंगो क्रांति' ट्रम्प परिवार से जुड़ी परियोजना के खिलाफ तेज़ी पकड़ रही है

Albania's 'flamingo revolution' gathers steam over Trump family-linked project

Associated Press
TIRANA

A coastal development project in Albania linked to Donald Trump's son-in-law Jared Kushner is facing growing opposition from environmental advocates and has triggered daily protests in the capital, Tirana. To the deafening sound of drums, horns and whistles, thousands of demonstrators late Saturday chanted "Rama Leave!" — referring to longtime Socialist Prime Minister Edi Rama.

The rally drew participation from Albanian migrant communities abroad as the protests dubbed the "flamingo revolution" continue to gain momentum.

The government says the development on the Adriatic coast would be transformational for the former communist nation as it seeks to enter the high-end tourism market and pushes for European Union membership.

But the venture, spanning an abandoned island and a nearby stretch of seafront on Albania's southern coast, has drawn opposition from environmental campaigners and critics of Mr. Rama's government.

Thousands of protesters have taken to the streets in recent weeks, blowing whistles and holding up cardboard cut-outs of flamingos — one of the protect-

ed migratory bird species that could see their habitats threatened by the proposed luxury resort.

Mr. Rama has vowed not to "step back" from the development and defended his administration's environmental record. He says the protests were being encouraged by malicious cyber activists overseas and accuses Iran of targeting his government.

"There are a lot of half-truths that become bigger and bigger lies by the hour," Mr. Rama told AP in an interview.

Despite Mr. Rama's defence of the development, the protests have gathered pace, with supporters in Albanian communities in



Protesters demonstrate against Kushner's luxury resort plan in an environmentally sensitive part of Albania, on Saturday. REUTERS

neighboring Greece and other European countries also holding rallies.

Protests turn political European Union officials say they are monitoring to ensure that it complies with the terms of Albania's bid to join the EU.

The protests are also becoming increasingly political. Calls to halt the development project have been gradually replaced by overtly political demands, centered on calls for Mr. Rama's resignation and early elections. The luxury project has two compo-

nents: a coastal development in the Narta Lagoon area, which is a wildlife reserve, and a smaller resort on the nearby uninhabited island of Sazan, a communist-era military base.

The planned development is linked to Mr. Kushner and Mr. Trump's daughter, Ivanka. An investment firm linked to Mr. Kushner has been granted special investor status by Albanian authorities.

Albania has 450 kilometres of coast that remained largely undeveloped during decades of harsh communist rule. Protest groups fear sections of that pristine coastline could be snapped up by investors. And public

anger grew after video showed an activist being dragged away by a private security guard while demonstrating at the site.

The development is planned within a reserve and one of the country's most valuable biodiversity areas, a key stopover for migratory birds along the Adriatic coast.

Since May, excavators and other heavy machinery have entered the area, opening access routes, digging into the sand, clearing land among pine trees and installing fencing.

Environmental groups from Albania and elsewhere in Europe condemned the work, with one prominent local group charging

that long-protected habitats are being "irreversibly destroyed."

Albania's Special Prosecution Office Against Corruption and Organized Crime has confirmed it opened an investigation related to the project but has disclosed few details.

It recently ordered the seizure of assets worth 128.3 million euros from the Albanian Land Development LLC company concerning land sale contracts in the area where the project is planned.

The government says the land earmarked for the project is privately owned. But competing claims have emerged questioning the privatisation.

22J6. Albania's 'flamingo revolution' gathers steam over Trump family-linked project

अल्बानिया की 'फ्लेमिंगो क्रांति' ट्रम्प परिवार से जुड़ी परियोजना के खिलाफ तेज़ी पकड़ रही है

- **Albania's 'flamingo revolution' gathers steam over Trump family-linked project**
अल्बानिया की 'फ्लेमिंगो क्रांति' ट्रम्प परिवार से जुड़ी परियोजना के खिलाफ तेज़ी पकड़ रही है
- **A coastal development project in Albania linked to Donald Trump's son-in-law Jared Kushner is facing growing opposition from environmental advocates and has triggered daily protests in the capital, Tirana.**

अल्बानिया में डोनाल्ड ट्रम्प के दामाद जैरेड कुशनेर से जुड़ी एक तटीय विकास परियोजना को पर्यावरण

समर्थकों के बढ़ते विरोध का सामना करना पड़ रहा है और इसने राजधानी तिराना में रोज़ाना विरोध प्रदर्शनों को जन्म दिया है।

- To the deafening sound of **drums, horns and whistles**, thousands of demonstrators late Saturday chanted "**Rama Leave!**" — referring to longtime Socialist Prime Minister **Edi Rama**. **ढोल, हॉर्न और सीटियों** की कानफोड़ आवाज़ों के बीच, शनिवार देर रात हजारों प्रदर्शनकारियों ने "**रामा छोड़ो!**" के नारे लगाए — जो लंबे समय से समाजवादी प्रधानमंत्री **एडी रामा** की ओर संकेत था।
- The rally drew participation from **Albanian migrant communities abroad** as the protests dubbed the "**flamingo revolution**" continue to gain momentum.
इस रैली में विदेशों में रहने वाले **अल्बानियाई प्रवासी समुदायों** ने भी भाग लिया, क्योंकि "**फ्लेमिंगो क्रांति**" नामक विरोध प्रदर्शन लगातार गति पकड़ रहे हैं।
- The government says the development on the **Adriatic coast** would be transformational for the former communist nation as it seeks to enter the **high-end tourism market** and pushes for **European Union membership**.

सरकार का कहना है कि **एड्रियाटिक तट** पर यह विकास परियोजना पूर्व साम्यवादी राष्ट्र के लिए परिवर्तनकारी साबित होगी, क्योंकि वह **उच्च स्तरीय पर्यटन बाज़ार** में प्रवेश करने और **यूरोपीय संघ की सदस्यता** हासिल करने का प्रयास कर रहा है।

- But the venture, spanning an **abandoned island** and a nearby stretch of **seafront** on Albania's southern coast, has drawn opposition from **environmental campaigners** and critics of **Mr. Rama's government**.

लेकिन यह परियोजना, जो एक **परित्यक्त द्वीप** और अल्बानिया के दक्षिणी तट पर स्थित निकटवर्ती **समुद्री तट क्षेत्र** में फैली हुई है, पर्यावरण कार्यकर्ताओं और **रामा सरकार** के आलोचकों के विरोध का सामना कर रही है।



- Thousands of protesters have taken to the streets in recent weeks, blowing whistles and holding up cardboard cut-outs of **flamingos** — one of the **protected migratory bird species** that could see their habitats threatened by the proposed **luxury resort**.
हाल के सप्ताहों में हजारों प्रदर्शनकारी सड़कों पर उतर आए हैं, सीटियाँ बजा रहे हैं और **फ्लेमिंगो** के गते से बने कट-आउट उठा रहे हैं — जो उन **संरक्षित प्रवासी पक्षी प्रजातियों** में से एक हैं जिनके आवास प्रस्तावित **लक्ज़री रिसॉर्ट** से खतरे में पड़ सकते हैं।
- Mr. Rama has vowed not to “**step back**” from the development and defended his administration’s **environmental record**.
श्री रामा ने इस विकास परियोजना से “**पीछे न हटने**” की कसम खाई है और अपने प्रशासन के **पर्यावरणीय रिकॉर्ड** का बचाव किया है।
- He says the protests were being encouraged by **malicious cyber activists** overseas and accuses **Iran** of targeting his government.
उनका कहना है कि इन विरोध प्रदर्शनों को विदेशों में मौजूद **दुर्भावनापूर्ण साइबर कार्यकर्ताओं** द्वारा बढ़ावा दिया जा रहा है और उन्होंने **ईरान** पर उनकी सरकार को निशाना बनाने का आरोप लगाया है।
- “..There are a lot of **half-truths** that become bigger and bigger **lies** by the hour,” Mr. Rama told AP in an interview.
“..बहुत सारे **आधे-सच** हैं जो हर घंटे और बड़े झूठ में बदलते जा रहे हैं,” श्री रामा ने एपी को एक साक्षात्कार में बताया।
- Despite Mr. Rama’s defence of the development, the protests have gathered pace, with supporters in **Albanian communities** in neighboring **Greece** and other **European countries** also holding rallies.
विकास परियोजना के पक्ष में श्री रामा के बचाव के बावजूद, विरोध प्रदर्शनों ने रफ्तार पकड़ ली है, और पड़ोसी **ग्रीस** तथा अन्य **यूरोपीय देशों** में रहने वाले **अल्बानियाई समुदायों** के समर्थक भी रैलियाँ आयोजित कर रहे हैं।
- Protests turn political**
विरोध प्रदर्शन राजनीतिक रूप ले रहे हैं
- European Union officials** say they are monitoring to ensure that it complies with the terms of **Albania’s bid** to join the **EU**.
यूरोपीय संघ के अधिकारी कहते हैं कि वे यह सुनिश्चित करने के लिए निगरानी कर रहे हैं कि यह परियोजना **अल्बानिया की यूरोपीय संघ में शामिल होने की बोली** की शर्तों का पालन करे।
- The protests are also becoming increasingly **political**.
विरोध प्रदर्शन भी लगातार अधिक **राजनीतिक** होते जा रहे हैं।
- Calls to halt the **development project** have been gradually replaced by overtly political demands, centered on calls for **Mr. Rama’s resignation** and **early elections**.
विकास परियोजना को रोकने की मांगों की जगह धीरे-धीरे खुली **राजनीतिक मांगों** ने ले ली है, जिनका केंद्र **श्री रामा के इस्तीफे और शीघ्र चुनावों** की मांग है।
- The **luxury project** has two components: a coastal development in the **Narta Lagoon** area, which is a **wildlife reserve**, and a smaller resort on the nearby uninhabited island of **Sazan**, a communist-era military base.
इस **लक्ज़री परियोजना** के दो हिस्से हैं: **नार्टा लैगून** क्षेत्र में एक तटीय विकास, जो एक **वन्यजीव अभयारण्य** है, और पास के निर्जन द्वीप **साज़ान** पर एक छोटा रिसॉर्ट, जो साम्यवादी युग का सैन्य अड्डा था।
- The planned development is linked to **Mr. Kushner** and **Mr. Trump’s daughter, Ivanka**.
प्रस्तावित विकास परियोजना **श्री कुशनर** और **श्री ट्रम्प की बेटी इवांका** से जुड़ी हुई है।
- An **investment firm** linked to Mr. Kushner has been granted **special investor status** by Albanian authorities.
श्री कुशनर से जुड़ी एक **निवेश फर्म** को अल्बानियाई अधिकारियों द्वारा **विशेष निवेशक दर्जा** प्रदान किया गया है।
- Albania has **450 kilometres of coast** that remained largely underdeveloped during decades of harsh **communist rule**.



अल्बानिया के पास 450 किलोमीटर लंबा तट है, जो कठोर साम्यवादी शासन के दशकों के दौरान काफी हद तक अविकसित रहा।

- Protest groups fear sections of that **pristine coastline** could be snapped up by investors. विरोध समूहों को डर है कि उस **अछूते तटीय क्षेत्र** के हिस्से निवेशकों द्वारा खरीद लिए जा सकते हैं।
- And public anger that long-protected habitats are being “**irreversibly destroyed.**” और जनता में इस बात को लेकर आक्रोश है कि लंबे समय से संरक्षित आवासों को “**अपरिवर्तनीय रूप से नष्ट**” किया जा रहा है।
- Albania’s **Special Prosecution Office Against Corruption and Organized Crime** has confirmed it opened an investigation related to the project but has disclosed few details. अल्बानिया के **भ्रष्टाचार और संगठित अपराध के विरुद्ध विशेष अभियोजन कार्यालय** ने पुष्टि की है कि उसने इस परियोजना से संबंधित जांच शुरू की है, लेकिन बहुत कम विवरण सार्वजनिक किए हैं।
- It recently ordered the seizure of assets worth **128.3 million euros** from the **Albanian Land Development LLC** company concerning land sale contracts in the area where the project is planned. हाल ही में इसने परियोजना क्षेत्र में भूमि बिक्री अनुबंधों के संबंध में **अल्बानियन लैंड डेवलपमेंट एलएलसी** कंपनी की **128.3 मिलियन यूरो** मूल्य की संपत्तियों को जब्त करने का आदेश दिया।
- The government says the land earmarked for the project is **privately owned**. सरकार का कहना है कि परियोजना के लिए चिन्हित भूमि **निजी स्वामित्व** में है।
- But competing claims have emerged questioning the **privatisation**. लेकिन **निजीकरण** पर सवाल उठाने वाले विरोधी दावे भी सामने आए हैं।
- Public **anger** grew after video showed an activist being dragged away by a **private security guard** while demonstrating at the site. एक वीडियो में प्रदर्शन स्थल पर एक कार्यकर्ता को **निजी सुरक्षा गार्ड** द्वारा घसीटकर ले जाते हुए दिखाए जाने के बाद सार्वजनिक **गुस्सा** बढ़ गया।
- The development is planned within a **reserve** and one of the country’s most valuable **biodiversity areas**, a key stopover for **migratory birds** along the Adriatic coast. यह विकास परियोजना एक **संरक्षित क्षेत्र** और देश के सबसे मूल्यवान **जैव विविधता क्षेत्रों** में से एक के भीतर प्रस्तावित है, जो एड्रियाटिक तट के साथ **प्रवासी पक्षियों** का एक प्रमुख पड़ाव है।
- Since **May**, excavators and other **heavy machinery** have entered the area, opening access routes, digging into the sand, clearing land among pine trees and installing fencing. **मई** से खुदाई मशीनें और अन्य **भारी मशीनरी** क्षेत्र में प्रवेश कर चुकी हैं, पहुंच मार्ग बना रही हैं, रेत की खुदाई कर रही हैं, चीड़ के पेड़ों के बीच भूमि साफ कर रही हैं और बाड़ लगा रही हैं।
- Environmental groups** from Albania and elsewhere in Europe condemned the work, with one prominent local group charging. अल्बानिया और यूरोप के अन्य हिस्सों के **पर्यावरण समूहों** ने इस कार्य की निंदा की, जिसमें एक प्रमुख स्थानीय समूह ने आरोप लगाया।

GS Paper III: Economy		22 June 2026
TOPICS COVERED		
22J6	India-EU trade pact to be signed by December: Goyal गोयल ने कहा, भारत-यूरोपीय संघ व्यापार समझौते पर दिसंबर तक हस्ताक्षर किए जाएंगे	
22J6	The curious case of Kerala’s committed expenditure केरल के प्रतिबद्ध व्यय का जिज्ञासापूर्ण मामला	
22J6	Basis of your investment decisions, product choice आपके निवेश निर्णयों और उत्पाद चयन का आधार	
22J6	Credit Guarantee Fund of Microfinance Units	

माइक्रोफाइनेंस इकाइयों के लिए ऋण गारंटी कोष

India-EU trade pact to be signed by December: Goyal

GS III: Economy
Press Trust of India
NEW DELHI

India and the 27-nation European Union will sign the free trade agreement (FTA) by December and are likely to implement the pact by February-March next year, Commerce and Industry Minister Piyush Goyal said on Sunday.

On January 27 this year, India and the EU announced the conclusion of negotiations for the "mother of all deals".

"Now, with almost zero duty, almost the entire European market will be open for us. The EU's FTA



Piyush Goyal

(free trade agreement) will be signed by December and will be effective by February-March," Mr. Goyal said at an interaction with chartered accountants in Mumbai.

He also said that U.S. Trade Representative Jamieson Greer is coming to India this week to hold trade pact talks with him. "The whole world is looking towards India," he added. Under the India-EU FTA, about 93% of Indian shipments will enjoy duty-free access to the 27-nation bloc, while imports of luxury cars and wines from the EU will become less expensive.

Taken together, India and the EU account for 25% of the global GDP and one-third (about \$11 trillion) of international trade (about \$33 trillion).

22J6. India-EU trade pact to be signed by December: Goyal

गोयल ने कहा, भारत-

यूरोपीय संघ व्यापार

समझौते पर दिसंबर तक

हस्ताक्षर किए जाएंगे

• India and the 27-nation European Union (EU) will sign the Free Trade Agreement (FTA) by December and are likely to implement the pact by February-March next year, Commerce and Industry Minister Piyush Goyal said on Sunday.

भारत और 27 देशों वाले यूरोपीय संघ (EU) के बीच मुक्त व्यापार समझौते (FTA) पर दिसंबर तक

हस्ताक्षर होंगे तथा इसके अगले वर्ष फरवरी-मार्च तक लागू होने की संभावना है। यह बात वाणिज्य एवं उद्योग मंत्री पीयूष गोयल ने रविवार को कही।

- On January 27 this year, India and the EU announced the conclusion of negotiations for the "mother of all deals".

इस वर्ष 27 जनवरी को भारत और यूरोपीय संघ ने "सभी समझौतों की जननी" कहे जाने वाले इस समझौते पर वार्ताओं के सफल समापन की घोषणा की थी।

- "Now, with almost **zero duty**, almost the entire European market will be open for us. "अब लगभग **शून्य शुल्क** के साथ लगभग पूरा यूरोपीय बाजार हमारे लिए खुल जाएगा।
- The EU's FTA (**Free Trade Agreement**) will be signed by December and will be effective by February-March," Mr. Goyal said at an interaction with **chartered accountants** in Mumbai. मुंबई में **चार्टर्ड अकाउंटेंट्स** के साथ एक संवाद कार्यक्रम में श्री गोयल ने कहा कि यूरोपीय संघ के साथ FTA (**मुक्त व्यापार समझौता**) दिसंबर तक हस्ताक्षरित हो जाएगा और फरवरी-मार्च तक प्रभावी हो जाएगा।
- He also said that **U.S. Trade Representative Jamieson Greer** is coming to India this week to hold trade pact talks with him. उन्होंने यह भी कहा कि **अमेरिकी व्यापार प्रतिनिधि जैमीसन ग्रीयर** इस सप्ताह व्यापार समझौते पर चर्चा करने के लिए भारत आ रहे हैं।

- "The whole world is looking towards India," he added. उन्होंने कहा, "पूरा विश्व भारत की ओर देख रहा है।"
- Under the **India-EU FTA**, about **93% of Indian shipments** will enjoy **duty-free access** to the 27-nation bloc, while imports of **luxury cars** and **wines** from the EU will become less expensive.

भारत-यूरोपीय संघ FTA के अंतर्गत भारत के लगभग **93% निर्यात माल** को 27 देशों वाले समूह में **शुल्क-मुक्त प्रवेश** मिलेगा, जबकि यूरोपीय संघ से आयातित **लक्जरी कारें** और **वाइन** अपेक्षाकृत सस्ती हो जाएंगी।



- Taken together, India and the EU account for **25% of the global GDP** and **one-third of international trade**, valued at about **\$11 trillion** and **\$33 trillion** respectively.
संयुक्त रूप से भारत और यूरोपीय संघ वैश्विक सकल घरेलू उत्पाद (GDP) के 25% तथा अंतरराष्ट्रीय व्यापार के लगभग एक-तिहाई हिस्से का प्रतिनिधित्व करते हैं, जिनका मूल्य क्रमशः लगभग 11 ट्रिलियन डॉलर और

The curious case of Kerala's committed expenditure

Despite grave concerns raised in the white paper, Kerala's budget was silent on measures to bring down the committed expenditure

GS III: Economy

DATA POINT

Devvanshi Bihani

The white paper, 'Kerala's Fiscal Health – A Status Report', released by the new United Democratic Front (UDF) government ahead of its maiden budget, raised serious concerns over the State's rising debt burden. The report in particular underscored the huge share of the State's "committed expenditure" – which includes salaries, pensions and interest payments.

It emphasised that nearly 78% share of committed expenditure in the total revenue receipts left little to no room for capital expenditure and contributed to mounting revenue deficits. Kerala's spending on salaries and pensions, as a share of its revenue receipts, is the highest among all States and its share of committed expenditure the second-highest (Chart 1). The trend has more or less remained the same over the years (Chart 2).

Noting that the State spends "almost 80%" of its revenue on committed expenditure, the white paper said, "The most direct structural explanation for Kerala's treasury stress is the share of its revenue that is pre-empted before any discretionary decision." "Now is the time for hard political decisions," it said, adding that measures such as increasing the retirement age and making pay commission revisions decennial should be considered.

Yet, the budget was conspicuously silent on any such measures, barring the exception that the National Pension System would be revamped. The silence is perhaps an acknowledgement of not just the difficulty in tackling this "structural problem," but the importance of high spending on salaries and pensions in achieving the progress the State has made on human development indicators.

Economist R. Ramakumar said retaining the idea of a welfare state

requires welfare workers and pointed out that Kerala employs significantly more teachers, healthcare professionals and other public-sector workers (Chart 4). "Kerala's achievements are due to this particular kind of salaries that you end up paying," he added. Moreover, he said that while the figure of over 75% highlighted prominently in the white paper has "shock value", a better parameter would be the committed expenditure's share in the total revenue expenditure and not revenue receipts, which would bring the share down to about 58-60%.

Economist Lekha Chakraborty, meanwhile, said the trend reflected public expenditure rigidity. "All that we can do is an episodic expenditure (sectoral) compression, given the committed nature of spending. While the state has shown revenue buoyancy, without meaningful public expenditure reforms, this pattern risks perpetuating revenue deficits and constraining Kerala's ability to sustain its social model," she said.

Kerala's State's Own Tax Revenue (SOTR) and overall revenue receipts have shown notable growth, but the tax buoyancy has dropped in recent years. Moreover, their respective Compound Annual Growth Rates (CAGRs) between 2015-16 and 2026-27 (budget estimates) show that the committed expenditure has grown faster (Chart 3). The budget, presented on Thursday, estimates the debt-to-GSDP ratio to come down marginally to 33.5% in 2026-27, compared with 34.87% (2024-25) or 34.26% (2025-26), even though it projects the total outstanding debt to rise by 11.6% (Chart 5).

These optimistic projections show that the new government is relying on a swift turnaround in tax buoyancy and GSDP growth – it estimates the GSDP to grow nominally by 14.15% and revenue receipts by 23.8% – while recognising that expenditure on salaries and pensions cannot be brought down, at least in the near future.



Challenges ahead: Kerala CM V.D. Satheesan presented the revised budget for 2026-2027 on Thursday, amid concerns over growing debt.

Chart 2: This shows year-wise committed expenditure (left axis) and its share in total revenue receipts (right axis) of Kerala

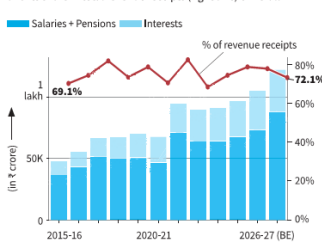
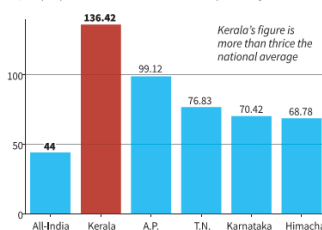


Chart 4: This shows the number of healthcare professionals per 10,000 people at national level and in the top five major States



Structural hurdles

Data were sourced from Kerala's Revised Budget 2026-27, Kerala's Fiscal Health: A Status Report, the Reserve Bank of India, the CAG and Central Bureau of Health Intelligence

Chart 1: This shows the share of committed expenditure in the revenue receipts of each State. The data shown is for the year 2024-25, taken from RBI

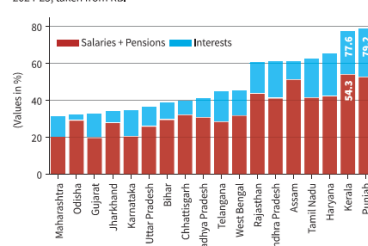


Chart 3: This shows the growth in overall revenue (●), State's Own Tax Revenue (SOTR) (●), and the committed expenditure (●), along with their respective CAGR between 2015-16 and 2026-27

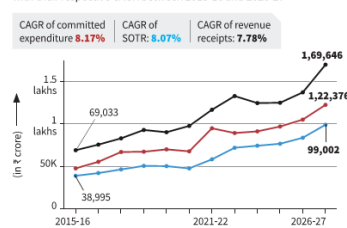
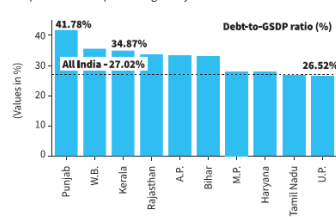


Chart 5: The debt-to-GSDP ratio of select States for 2024-25. Kerala has estimated its debt-to-GSDP ratio to come down to 33.5% despite the debt expected to grow by 11.6% to ₹ 5.46 lakh crore



33 ट्रिलियन डॉलर है।

22J6. The curious case of Kerala's committed expenditure

केरल के प्रतिबद्ध व्यय का जिज्ञासापूर्ण मामला

- Despite grave concerns raised in the white paper, Kerala's budget was silent on measures to bring down the committed expenditure
श्वेत पत्र में गंभीर चिंताएँ व्यक्त किए जाने के बावजूद, केरल के बजट में प्रतिबद्ध व्यय को कम करने के उपायों पर कोई उल्लेख नहीं किया गया।
- The white paper, 'Kerala's Fiscal Health — A Status Report', released by the new United Democratic Front (UDF) government ahead of its maiden budget, raised serious concerns



over the State's rising **debt burden**.

नवगठित **यूनाइटेड डेमोक्रेटिक फ्रंट (UDF)** सरकार द्वारा अपने प्रथम बजट से पूर्व जारी श्वेत पत्र 'केरल की राजकोषीय स्थिति — एक स्थिति रिपोर्ट' ने राज्य के बढ़ते ऋण भार को लेकर गंभीर चिंताएँ व्यक्त की हैं।

- The report in particular underscored the huge share of the State's **committed expenditure** — which includes **salaries, pensions and interest payments**. रिपोर्ट ने विशेष रूप से राज्य के प्रतिबद्ध व्यय के बड़े हिस्से को रेखांकित किया, जिसमें वेतन, पेंशन और ब्याज भुगतान शामिल हैं।
- It emphasised that nearly **78% share** of committed expenditure in the total **revenue receipts** left little to no room for **capital expenditure** and contributed to mounting **revenue deficits**. इसमें कहा गया कि कुल राजस्व प्राप्तियों का लगभग **78% हिस्सा** प्रतिबद्ध व्यय में खर्च हो जाता है, जिससे पूंजीगत व्यय के लिए बहुत कम गुंजाइश बचती है और राजस्व घाटा बढ़ता है।
- Kerala's spending on **salaries and pensions**, as a share of its revenue receipts, is the highest among all States and its share of **committed expenditure** the second-highest. राजस्व प्राप्तियों के अनुपात में वेतन और पेंशन पर केरल का व्यय सभी राज्यों में सर्वाधिक है तथा प्रतिबद्ध व्यय का हिस्सा दूसरा सबसे अधिक है।
- The trend has more or less remained the same over the years. यह प्रवृत्ति वर्षों से लगभग समान बनी हुई है।
- Noting that the State spends "almost **80%**" of its revenue on committed expenditure, the white paper said, "The most direct structural explanation for Kerala's **treasury stress** is the share of its revenue that is pre-empted before any discretionary decision." यह उल्लेख करते हुए कि राज्य अपने राजस्व का लगभग **80% प्रतिबद्ध व्यय** पर खर्च करता है, श्वेत पत्र में कहा गया कि केरल के कोषीय दबाव का सबसे प्रत्यक्ष संरचनात्मक कारण वह राजस्व है जो किसी भी विवेकाधीन निर्णय से पहले ही व्यय के लिए निर्धारित हो जाता है।
- "Now is the time for **hard political decisions**," it said, adding that measures such as increasing the **retirement age** and making **pay commission revisions** decennial should be considered. रिपोर्ट में कहा गया कि अब कठिन राजनीतिक निर्णयों का समय है और सेवानिवृत्ति आयु बढ़ाने तथा वेतन आयोग संशोधनों को दस वर्षीय बनाने जैसे उपायों पर विचार किया जाना चाहिए।
- Yet, the budget was conspicuously silent on any such measures, barring the exception that the **National Pension System (NPS)** would be revamped. फिर भी बजट में ऐसे किसी उपाय का उल्लेख नहीं किया गया, केवल यह कहा गया कि राष्ट्रीय पेंशन प्रणाली (NPS) में सुधार किया जाएगा।
- The silence is perhaps an acknowledgement of not just the difficulty in tackling this **structural problem**, but the importance of high spending on salaries and pensions in achieving the progress the State has made on **human development indicators**. यह मौन केवल इस संरचनात्मक समस्या से निपटने की कठिनाई को ही नहीं, बल्कि मानव विकास संकेतकों में राज्य द्वारा प्राप्त उपलब्धियों में वेतन और पेंशन पर उच्च व्यय की भूमिका को भी स्वीकार करता है।
- Economist **R. Ramakumar** said retaining the idea of a **welfare state** requires welfare workers and pointed out that Kerala employs significantly more **teachers, healthcare professionals** and other **public-sector workers**. अर्थशास्त्री R. Ramakumar ने कहा कि कल्याणकारी राज्य की अवधारणा को बनाए रखने के लिए कल्याणकारी कर्मियों की आवश्यकता होती है तथा केरल में अपेक्षाकृत अधिक संख्या में शिक्षक, स्वास्थ्यकर्मों और अन्य सार्वजनिक क्षेत्र के कर्मचारी कार्यरत हैं।
- "Kerala's achievements are due to this particular kind of salaries that you end up paying," he added. उन्होंने कहा कि केरल की उपलब्धियाँ काफी हद तक उन वेतन व्ययों का परिणाम हैं जो इन कर्मचारियों को दिए जाते हैं।
- Moreover, he said that while the figure of over **75%** highlighted prominently in the white paper has "**shock value**", a better parameter would be the committed expenditure's share in the

total **revenue expenditure** and not **revenue receipts**, which would bring the share down to about **58-60%**.

उन्होंने यह भी कहा कि श्वेत पत्र में प्रमुखता से दर्शाया गया **75% से अधिक** का आँकड़ा भले ही “चौंकाने वाला प्रभाव” उत्पन्न करता हो, किन्तु बेहतर मानक **राजस्व प्राप्तियों** के बजाय कुल **राजस्व व्यय** में प्रतिबद्ध व्यय का हिस्सा होगा, जिससे यह अनुपात लगभग **58-60%** रह जाएगा।

- Economist **Lekha Chakraborty**, meanwhile, said the trend reflected **public expenditure rigidity**.

वहीं अर्थशास्त्री Lekha Chakraborty ने कहा कि यह प्रवृत्ति **सार्वजनिक व्यय की कठोरता** को दर्शाती है।

- “All that we can do is an episodic expenditure (**sectoral**) compression, given the committed nature of spending. While the state has shown **revenue buoyancy**, without meaningful **public expenditure reforms**, this pattern risks perpetuating **revenue deficits** and constraining Kerala’s ability to sustain its **social model**,” she said.

उन्होंने कहा कि व्यय की प्रतिबद्ध प्रकृति को देखते हुए केवल सीमित अवधि के लिए **क्षेत्रीय व्यय संकुचन** ही संभव है। यद्यपि राज्य ने **राजस्व उछाल (Revenue Buoyancy)** प्रदर्शित किया है, परन्तु सार्थक **सार्वजनिक व्यय सुधारों** के बिना यह प्रवृत्ति **राजस्व घाटे** को बनाए रख सकती है और केरल की **सामाजिक मॉडल** को टिकाऊ बनाए रखने की क्षमता को सीमित कर सकती है।

- Kerala’s **State’s Own Tax Revenue (SOTR)** and overall **revenue receipts** have shown notable growth, but the **tax buoyancy** has dropped in recent years.

केरल के राज्य के स्वयं के कर राजस्व (**SOTR**) तथा कुल राजस्व प्राप्तियों में उल्लेखनीय वृद्धि हुई है, किन्तु हाल के वर्षों में **कर उछाल (Tax Buoyancy)** में गिरावट आई है।

- Moreover, their respective **Compound Annual Growth Rates (CAGRs)** between **2015-16** and **2026-27** (budget estimates) show that the **committed expenditure** has grown faster. इसके अतिरिक्त **2015-16** से **2026-27** (बजट अनुमान) के बीच उनके **चक्रवृद्धि वार्षिक वृद्धि दर (CAGR)** के आँकड़े दर्शाते हैं कि **प्रतिबद्ध व्यय** की वृद्धि दर अधिक रही है।

- The budget, presented on Thursday, estimates the **debt-to-GSDP ratio** to come down marginally to **33.5%** in **2026-27**, compared with **34.87%** (**2024-25**) or **34.26%** (**2025-26**), even though it projects the total **outstanding debt** to rise by **11.6%**.

गुरुवार को प्रस्तुत बजट में अनुमान लगाया गया है कि **ऋण-से-GSDP अनुपात 2026-27** में घटकर **33.5%** हो जाएगा, जबकि यह **2024-25** में **34.87%** तथा **2025-26** में **34.26%** था; इसके बावजूद कुल **बकाया ऋण** में **11.6%** वृद्धि का अनुमान लगाया गया है।

- These optimistic projections show that the new government is relying on a swift turnaround in **tax buoyancy** and **GSDP growth**.

ये आशावादी अनुमान दर्शाते हैं कि नई सरकार **कर उछाल** और **GSDP वृद्धि** में तीव्र सुधार की अपेक्षा कर रही है।

- It estimates the **GSDP** to grow nominally by **14.15%** and **revenue receipts** by **23.8%**, while recognising that expenditure on **salaries** and **pensions** cannot be brought down, at least in the near future.

सरकार ने **GSDP** में **14.15%** की नाममात्र वृद्धि तथा **राजस्व प्राप्तियों** में **23.8%** की वृद्धि का अनुमान लगाया है, साथ ही यह भी स्वीकार किया है कि निकट भविष्य में **वेतन** और **पेंशन** पर होने वाले व्यय को कम करना संभव नहीं है।



Basis of your investment decisions, product choice

You have to cut through the hype and understand how the product is suitable so as to achieve your desired financial goal within the investment horizon set by you

GS III: Economy

THE RIGHT ONE

Joydeep Sen

The basis of portfolio allocation decision is financial goals, risk tolerance, investment horizon, etc. Here, we will scratch the surface on the multiple investment products crying for attention.

Underlying for product

Any investment product invests in the underlying market. Conventionally, underlying markets are equity stocks, bonds, and gold. There are also new concepts such as real estate where you can invest via Real Estate Investment Trusts (REITs) and infrastructure via Infrastructure Investment Trusts (InvITs). Potentially, there could be other investment assets like commodities (other than gold or silver), but these are yet to emerge as popular ones via investment vehicles. For HNIs, there are things like art but these are not available in the retail space.

The staple investment base is equity stocks and bonds, also known as fixed income or debt. Equity represents part ownership of the firm whose stock you are buying. As the firm grows, and new investors come in, the value improves and price increases. This leads to returns from investments in equity. Bonds represent 'I owe you' or loans given by the investor to the issuing entity. There is a defined inter-



At bottom of pyramid are bank term deposits where there is a defined rate of interest and maturity and the rate is not market dependent

est payable on a defined date and maturity of bond or debenture is defined as well. The typical aspect is equity has given relatively higher returns than debt but has been relatively more volatile as prices fluctuate more. Gold is known as a 'portfolio diversifier,' with some allocation to gold, the volatility-adjusted return of a portfolio is better.

At the bottom of the pyramid, there are bank term deposits where there is a defined rate of interest and maturity. The interest rate is not dependent on any market condition. Bank FDs are not transferable. At the higher end of the pyramid, there are derivatives where the base is equity/government bonds/commodities, which are more risky.

Investment vehicles

You can invest directly. You can buy equity stocks from the exchange via stock broker. These days there are multiple apps where you can do KYC online and start buying/selling stocks. For buying bonds online, there is Reserve Bank of India's platform called Direct Gilt, where you can buy government instruments. For



Every investment product will have an investment objective, portfolio disclosure and track record unless it is a newly launched product.

buying corporate bonds, there are Online Bond Provider platforms (OBPPs). You can invest in gold via Exchange Traded Funds (ETFs) or Electronic Gold Receipts (EGRs).

However, to manage a fund of equities and/or bonds, you need a professional. Therein comes the concept of investment vehicle: a fund management entity which will run a fund and will charge a fee.

The most popular investment vehicle is a mutual fund (MF), where you can buy units of a professionally-managed fund and liquidity is high. There are portfolio management services (PMS) with a minimum ticket size of ₹50 lakh and alternative investment funds (AIF) with a minimum ticket of ₹1 crore. Insurers offer Unit Linked Insurance Plans (ULIPs).

Choosing a product

The investment vehicles mentioned earlier, known as product manufacturers, offer a plethora of products, which are a combination of the base mentioned earlier with packaging.

You have to look at:

1. The risk in the underlying base: equity is more

volatile than debt; within equity small cap or sectoral/thematic funds are relatively more volatile. In debt, higher rated bonds carry less credit risk.

2. Required investment horizon: historic performance of any asset i.e. equity or debt, gives an idea how volatile it has been, hence how long you should be in the product at the minimum.

Every investment product will have an investment objective, portfolio disclosure and track record unless it is a newly launched product. There is a concept called drawdown, which shows in the worst phase of performance, what was the return from that product. You need a horizon longer than the drawdown and recovery phase.

3. Liquidity: you may need cash flow at any time for an eventuality. You need to be aware upfront on product liquidity. Some products are not liquid by definition e.g. RBI Floating Rate Bonds. Equity is liquid but it is a function of the market level at that point of time. If the market is correcting you may redeem the fund subject to exit load but you would be taking home less.

While liquidity is desirable, it is not compulsory everything in portfolio should be liquid. There would be a certain liquid component, say 10% and a major 'saleable' or 'if required' component.

(Joydeep Sen is a corporate trainer (financial markets) and author)

22J6. Basis of your investment decisions, product choice आपके निवेश निर्णयों और उत्पाद चयन का आधार

- You have to cut through the hype and understand how the product is suitable so as to achieve your desired financial goal within the investment horizon set by you.

- आपको बढ़ा-चढ़ाकर किए गए दावों (हाइप) से अलग होकर यह समझना होगा कि उत्पाद (प्रोडक्ट) आपके लिए कितना उपयुक्त है, ताकि आप अपने द्वारा निर्धारित वित्तीय लक्ष्य को अपनी तय की गई निवेश अवधि (इन्वेस्टमेंट होराइजन) के भीतर प्राप्त कर सकें।
- The basis of portfolio allocation decision
पोर्टफोलियो आवंटन निर्णय का आधार
- The basis of portfolio allocation decisions is financial goals, risk tolerance, investment horizon, etc.
- पोर्टफोलियो आवंटन का निर्णय वित्तीय लक्ष्यों, जोखिम सहनशीलता, निवेश अवधि, आदि पर आधारित होता है।
- Here, we will scratch the surface on the multiple investment products crying for attention.
- यहाँ, हम ध्यान आकर्षित करने वाले विभिन्न निवेश उत्पादों की केवल सतही चर्चा करेंगे।
- Underlying for product
उत्पाद का आधारभूत परिसंपत्ति (अंडरलाइंग)
- Any investment product invests in the underlying market.
- कोई भी निवेश उत्पाद किसी आधारभूत बाजार (अंडरलाइंग मार्केट) में निवेश करता है।
- Conventionally, underlying markets are equity stocks, bonds, and gold.
- परंपरागत रूप से, आधारभूत बाजार इक्विटी शेयर, बॉण्ड, और सोना होते हैं।
- There are also new concepts such as real estate where you can invest via Real Estate Investment Trusts (REITs) and infrastructure via Infrastructure Investment Trusts (InvITs).
- इसके अतिरिक्त रियल एस्टेट जैसे नए विकल्प भी हैं, जहाँ आप रियल एस्टेट इन्वेस्टमेंट ट्रस्ट्स (REITs) के माध्यम से निवेश कर सकते हैं, तथा इन्फ्रास्ट्रक्चर में इन्फ्रास्ट्रक्चर इन्वेस्टमेंट ट्रस्ट्स (InvITs) के माध्यम से निवेश किया जा सकता है।
- Potentially, there could be other investment assets like commodities (other than gold or silver), but these are yet to emerge as popular ones via investment vehicles.
- संभावित रूप से, कमोडिटीज़ (सोना या चाँदी के अतिरिक्त) जैसी अन्य निवेश परिसंपत्तियाँ भी हो सकती हैं, लेकिन वे अभी तक निवेश साधनों के माध्यम से लोकप्रिय नहीं हुई हैं।
- For HNIs, there are things like art but these are not available in the retail space.
- उच्च निवल मूल्य वाले व्यक्तियों (HNIs) के लिए कला (आर्ट) जैसी परिसंपत्तियाँ भी होती हैं, लेकिन ये खुदरा निवेशकों के लिए उपलब्ध नहीं हैं।
- The staple investment base is equity stocks and bonds, also known as fixed income or debt.
- निवेश का मुख्य आधार इक्विटी शेयर और बॉण्ड हैं, जिन्हें निश्चित आय (फिक्स्ड इनकम) या ऋण (डेट) भी कहा जाता है।
- Equity represents part ownership of the firm whose stock you are buying.
- इक्विटी उस कंपनी में आंशिक स्वामित्व का प्रतिनिधित्व करती है, जिसके शेयर आप खरीद रहे हैं।
- As the firm grows, and new investors come in, the value improves and price increases.
- जैसे-जैसे कंपनी बढ़ती है और नए निवेशक जुड़ते हैं, उसका मूल्य बढ़ता है तथा कीमत में वृद्धि होती है।
- This leads to returns from investments in equity.
- इससे इक्विटी निवेश पर प्रतिफल प्राप्त होता है।
- Bonds represent 'I owe you' or loans given by the investor to the issuing entity.
- बॉण्ड 'मैं आपका ऋणी हूँ' या निवेशक द्वारा जारीकर्ता संस्था को दिए गए ऋण का प्रतिनिधित्व करते हैं।
- There is a defined interest payable on a defined date and maturity of bond or debenture is defined as well.
- इन पर एक निश्चित तिथि को देय ब्याज निर्धारित होता है तथा बॉण्ड या डिबेंचर की परिपक्वता अवधि (मैच्योरिटी) भी पूर्वनिर्धारित होती है।
- The typical aspect is equity has given relatively higher returns than debt but has been relatively more volatile as prices fluctuate more.



- सामान्यतः इक्विटी ने ऋण (डेट) की तुलना में अधिक प्रतिफल दिया है, लेकिन कीमतों में अधिक उतार-चढ़ाव के कारण यह अपेक्षाकृत अधिक अस्थिर (वोलाटाइल) रही है।
- Gold is known as a **portfolio diversifier**; with some allocation to gold, the volatility-adjusted return of a portfolio is better.
- सोना एक पोर्टफोलियो विविधीकरण साधन माना जाता है; पोर्टफोलियो में कुछ निवेश सोने में रखने से जोखिम-समायोजित प्रतिफल बेहतर हो सकता है।
- At the bottom of the pyramid, there are **bank term deposits** where there is a defined rate of **interest** and **maturity**.
- पिरामिड के निचले स्तर पर बैंक सावधि जमा (टर्म डिपॉजिट) होते हैं, जिनमें ब्याज दर और परिपक्वता अवधि पूर्वनिर्धारित होती है।
- The interest rate is not dependent on any market condition.
- ब्याज दर किसी भी बाजार परिस्थिति पर निर्भर नहीं होती।
- Bank FDs are not transferable.
- बैंक एफडी हस्तांतरणीय नहीं होती हैं।
- At the higher end of the pyramid, there are **derivatives** where the base is **equity**, **government bonds**, or **commodities**, which are more risky.
- पिरामिड के ऊपरी स्तर पर डेरिवेटिव्स होते हैं, जिनका आधार इक्विटी, सरकारी बॉण्ड, या कमोडिटीज़ होती हैं, और ये अपेक्षाकृत अधिक जोखिमपूर्ण होते हैं।

Investment vehicles

निवेश साधन

- You can invest directly.
- आप सीधे निवेश कर सकते हैं।
- You can buy **equity stocks** from the exchange via a stock **broker**.
- आप स्टॉक ब्रोकर के माध्यम से एक्सचेंज से इक्विटी शेयर खरीद सकते हैं।
- These days there are multiple apps where you can do **KYC** online and start buying/selling stocks.
- आजकल कई ऐसे ऐप उपलब्ध हैं जहाँ आप ऑनलाइन **KYC** कर सकते हैं और शेयरों की खरीद-बिक्री शुरू कर सकते हैं।
- For buying **bonds** online, there is **Reserve Bank of India's** platform called **Direct Gilt**, where you can buy **government instruments**.
- ऑनलाइन बॉण्ड खरीदने के लिए भारतीय रिज़र्व बैंक का डायरेक्ट गिल्ट नामक प्लेटफॉर्म है, जहाँ आप सरकारी प्रतिभूतियाँ खरीद सकते हैं।
- For buying **corporate bonds**, there are **Online Bond Provider Platforms (OBPPs)**.
- कॉर्पोरेट बॉण्ड खरीदने के लिए ऑनलाइन बॉण्ड प्रोवाइडर प्लेटफॉर्म (OBPPs) उपलब्ध हैं।
- You can invest in **gold** via **Exchange Traded Funds (ETFs)** or **Electronic Gold Receipts (EGRs)**.
- आप एक्सचेंज ट्रेडेड फंड्स (ETFs) या इलेक्ट्रॉनिक गोल्ड रिसीट्स (EGRs) के माध्यम से सोने में निवेश कर सकते हैं।
- However, to manage a fund of **equities** and/or **bonds**, you need a professional.
- हालाँकि, इक्विटी और/या बॉण्ड के फंड का प्रबंधन करने के लिए आपको एक पेशेवर की आवश्यकता होती है।
- Therein comes the concept of **investment vehicle**: a **fund management entity** which will run a fund and will charge a fee.
- यहीं निवेश साधन (इन्वेस्टमेंट व्हीकल) की अवधारणा आती है: एक फंड प्रबंधन संस्था जो फंड का संचालन करती है और इसके लिए शुल्क लेती है।
- The most popular investment vehicle is a **mutual fund (MF)**, where you can buy units of a professionally-managed fund and liquidity is high.

- सबसे लोकप्रिय निवेश साधन **म्यूचुअल फंड (MF)** है, जहाँ आप पेशेवर रूप से प्रबंधित फंड की यूनिटें खरीद सकते हैं और इसकी **तरलता (लिक्विडिटी)** अधिक होती है।
- There are **portfolio management services (PMS)** with a minimum ticket size of **₹50 lakh** and **alternative investment funds (AIF)** with a minimum ticket of **₹1 crore**.
- **पोर्टफोलियो मैनेजमेंट सर्विसेज (PMS)** में न्यूनतम निवेश राशि **₹50 लाख** होती है और **ऑल्टरनेटिव इन्वेस्टमेंट फंड्स (AIF)** में न्यूनतम निवेश **₹1 करोड़** होता है।
- Insurers offer **Unit Linked Insurance Plans (ULIPs)**.
- बीमा कंपनियाँ **यूनिट लिंकड इश्योरेंस प्लान्स (ULIPs)** प्रदान करती हैं।
- **Choosing a product**

उत्पाद का चयन

- The investment vehicles mentioned earlier, known as **product manufacturers**, offer a plethora of products, which are a combination of the base mentioned earlier with packaging.
- पहले उल्लिखित **उत्पाद निर्माता** कहलाने वाले निवेश साधन अनेक प्रकार के उत्पाद प्रदान करते हैं, जो पहले बताए गए आधारभूत परिसंपत्तियों और उनकी प्रस्तुति (पैकेजिंग) का संयोजन होते हैं।
- You have to look at:
- आपको निम्नलिखित बातों पर ध्यान देना होगा:
- The risk in the **underlying base: equity** is more volatile than **debt**; within equity **small cap** or **sectoral/thematic funds** are relatively more volatile.
- **आधारभूत परिसंपत्ति** में जोखिम: **इक्विटी, ऋण (डेट)** की तुलना में अधिक अस्थिर होती है; और इक्विटी के भीतर **स्मॉल कैप** या **सेक्टरल/थीमैटिक फंड्स** अपेक्षाकृत अधिक अस्थिर होते हैं।
- In debt, higher rated bonds carry less **credit risk**.
- ऋण निवेश में, उच्च रेटिंग वाले बॉण्ड में **क्रेडिट जोखिम** कम होता है।
- Required **investment horizon**: historic performance of any asset i.e. equity or debt, gives an idea how volatile it has been, hence how long you should be in the product at the minimum.
- आवश्यक **निवेश अवधि**: किसी भी परिसंपत्ति जैसे **इक्विटी** या **डेट** का ऐतिहासिक प्रदर्शन यह संकेत देता है कि वह कितनी अस्थिर रही है, और इसलिए उसमें न्यूनतम कितने समय तक निवेश बनाए रखना चाहिए।
- Every investment product will have an **investment objective, portfolio disclosure** and **track record** unless it is a newly launched product.
- प्रत्येक निवेश उत्पाद का एक **निवेश उद्देश्य, पोर्टफोलियो प्रकटीकरण** और **ट्रैक रिकॉर्ड** होता है, जब तक कि वह नया लॉन्च किया गया उत्पाद न हो।
- There is a concept called **drawdown**, which shows in the worst phase of performance, what was the return from that product.
- **ड्रॉडाउन** नामक एक अवधारणा होती है, जो यह दर्शाती है कि प्रदर्शन के सबसे खराब दौर में उस उत्पाद का प्रतिफल कितना था।
- You need a horizon longer than the **drawdown** and **recovery phase**.
- आपकी **निवेश अवधि ड्रॉडाउन और रिकवरी चरण** से अधिक लंबी होनी चाहिए।



Credit guarantee fund of microfinance units

GS III: Economy
OPINION

Jiji Mammen

The credit guarantee fund of microfinance institutions (CGSMFI 2.0) has come as a boon to a sector reeling under liquidity deficit for more than a year. Many lenders kept away from MFIs or enhanced underwriting norms in the past two years. Some institutions that supported the microfinance sector even during worst times in the past have stepped back at the moment, mirroring the sector in uncertainty. At this juncture, the announcement of the CGSMFI 2.0 scheme for guaranteeing funders' money has come as a great relief.

Similar to a fund created during the Covid-19 pan-



Looking up: The funding under the guarantee scheme would speed up the revival. GETTY IMAGES/ISTOCK

demic, the CGSMFI 2.0 has almost three times the allocation at ₹20,000 crore. It has been designed to ensure every institution can benefit equitably. Additionally, 15% has been earmarked for small and mid-segment MFIs.

The scheme also prescribed a cap of 20% of as-

sets under management (AUM) for individual borrowers to ensure the money was better distributed. The maximum amount eligible for each institution was also capped at ₹100 crore, ₹200 crore or ₹1,000 crore, depending on institution's size.

The limit for the larger

MFIs was increased subsequently. Similarly, the scheme has been extended up to August 31.

Signs of revival

Thankfully, the scheme comes at a time when the sector is showing signs of revival. The past few months have seen a positive trajectory of disbursements and outstanding. There are indications that disbursements in May may have been much higher. The funding under the guarantee scheme would speed up the revival.

Self-regulation

The microfinance sector – which enables easy access to credit without collateral for low-income individuals, marginalised groups, and small entrepreneurs – was hit badly

by the Covid-19 pandemic. The borrowers are among the most vulnerable in such calamities. The sector catered to the post-pandemic surge in demand for credit. But the higher credit flow without commensurate revival of the economy saw some households ending up in an over-leveraged position, leading to higher indebtedness and sector-wide stress.

As a corrective measure, self-regulatory organisations came up with a set of guardrails, first in July 2024 and again in April 2025. They were finalised jointly with the CEOs of MFIs and their diligent implementation has put the sector back in order.

There has been an improvement in several parameters in the last few quarters. The portfolio size

declined from ₹4.4 lakh crore in March 2024 to ₹3.71 lakh crore in March 2025 and ₹3.34 lakh crore in March 2026. It had dipped below ₹3.2 lakh crore during the year, but showed growth in the last two months of the financial year to close at ₹3.34 trillion, below the previous year's close. However, the numbers for May would be more encouraging, given the higher lending. When it comes to the portfolio at risk (PAR) value, the PAR 30-179 days has improved from 6.65% in March 2025 to 2.31% in March 2026. Similar, the PAR 90-plus improved from 3.93% to 1.49%. The PAR 179-plus, has stabilised in last six months.

(The writer is ED and CEO of Sa-Dhan. The views expressed are personal)

22J6. Credit Guarantee Fund of Microfinance Units

माइक्रोफाइनेंस इकाइयों के लिए ऋण गारंटी कोष

- **Credit Guarantee Fund of Microfinance Institutions (CGSMFI 2.0)**
माइक्रोफाइनेंस संस्थानों के लिए ऋण गारंटी कोष (CGS MFI 2.0)
- The **credit guarantee fund of microfinance institutions (CGSMFI 2.0)** has come as a boon to a sector reeling under **liquidity deficit** for more than a year.
- **माइक्रोफाइनेंस संस्थानों के ऋण गारंटी कोष (CGS MFI 2.0)** ने एक वर्ष से अधिक समय से **तरलता संकट** से जूझ रहे क्षेत्र के लिए वरदान का कार्य किया है।
- Many lenders kept away from **MFIs** or enhanced **underwriting norms** in the past two years.
- पिछले दो वर्षों में अनेक ऋणदाताओं ने **एमएफआई (MFIs)** से दूरी बनाए रखी या **अंडरराइटिंग मानदंडों** को और सख्त कर दिया।
- Some institutions that supported the microfinance sector even during the worst times in the past have stepped back at the moment, mirroring the sector in uncertainty.
- कुछ संस्थान, जिन्होंने अतीत के सबसे कठिन समय में भी माइक्रोफाइनेंस क्षेत्र का समर्थन किया था, वर्तमान में पीछे हट गए हैं, जिससे यह क्षेत्र अनिश्चितता में फँस गया है।
- At this juncture, the announcement of the **CGSMFI 2.0 scheme** for guaranteeing funders' money has come as a great relief.
- ऐसे समय में, निवेशकों के धन की गारंटी देने हेतु **CGSMFI 2.0 योजना** की घोषणा एक बड़ी राहत के रूप में सामने आई है।
- Similar to a fund created during the **Covid-19 pandemic**, the **CGSMFI 2.0** has almost three times the allocation at **₹20,000 crore**.
- **कोविड-19 महामारी** के दौरान बनाए गए कोष की तरह, **CGSMFI 2.0** में लगभग तीन गुना अधिक **₹20,000 करोड़** का आवंटन किया गया है।
- It has been designed to ensure every institution can benefit equitably.
- इसे इस प्रकार तैयार किया गया है कि प्रत्येक संस्था को समान रूप से लाभ मिल सके।
- Additionally, **15%** has been earmarked for **small and mid-segment MFIs**.
- इसके अतिरिक्त, **15%** राशि **छोटे और मध्यम श्रेणी के एमएफआई** के लिए आरक्षित की गई है।
- The scheme also prescribed a cap of **20% of assets under management (AUM)** for individual borrowers to ensure the money was better distributed.



- योजना में व्यक्तिगत उधारकर्ताओं के लिए प्रबंधनाधीन परिसंपत्तियों (AUM) का 20% सीमा निर्धारित की गई है ताकि धन का बेहतर वितरण सुनिश्चित किया जा सके।
- The maximum amount eligible for each institution was also capped at ₹100 crore, ₹200 crore or ₹1,000 crore, depending on institution's size.
- प्रत्येक संस्था के लिए पात्र अधिकतम राशि भी संस्था के आकार के अनुसार ₹100 करोड़, ₹200 करोड़ या ₹1,000 करोड़ तक सीमित की गई थी।
- The limit for the larger MFIs was increased subsequently.
- बाद में बड़े एमएफआई के लिए यह सीमा बढ़ा दी गई।
- Similarly, the scheme has been extended up to August 31.
- इसी प्रकार, इस योजना को 31 अगस्त तक बढ़ा दिया गया है।
- **Signs of revival**
पुनरुद्धार के संकेत
- Thankfully, the scheme comes at a time when the sector is showing signs of revival.
- सौभाग्य से, यह योजना ऐसे समय में आई है जब यह क्षेत्र पुनरुद्धार के संकेत दिखा रहा है।
- The past few months have seen a positive trajectory of disbursements and outstanding.
- पिछले कुछ महीनों में ऋण वितरण (डिस्बर्समेंट) और बकाया ऋण (आउटस्टैंडिंग) में सकारात्मक रुझान देखा गया है।
- There are indications that disbursements in May may have been much higher.
- संकेत मिल रहे हैं कि मई में ऋण वितरण काफी अधिक रहा होगा।
- The funding under the guarantee scheme would speed up the revival.
- गारंटी योजना के अंतर्गत मिलने वाला वित्तपोषण इस पुनरुद्धार की गति को और तेज करेगा।

Self-regulation

स्व-नियमन

- The microfinance sector — which enables easy access to credit without collateral for low-income individuals, marginalised groups, and small entrepreneurs — was hit badly by the Covid-19 pandemic.
- माइक्रोफाइनेंस क्षेत्र — जो कम आय वाले व्यक्तियों, वंचित समूहों और छोटे उद्यमियों को बिना संपाश्विक (कोलेटरल) के ऋण तक आसान पहुँच प्रदान करता है — कोविड-19 महामारी से बुरी तरह प्रभावित हुआ।
- The borrowers are among the most vulnerable in such calamities.
- ऐसी आपदाओं में उधारकर्ता सबसे अधिक संवेदनशील वर्गों में शामिल होते हैं।
- The sector catered to the post-pandemic surge in demand for credit.
- इस क्षेत्र ने महामारी के बाद ऋण की मांग में आई तेज वृद्धि को पूरा किया।
- But the higher credit flow without commensurate revival of the economy saw some households ending up in an over-leveraged position, leading to higher indebtedness and sector-wide stress.
- लेकिन अर्थव्यवस्था में समानुपाती सुधार के बिना बढ़े हुए ऋण प्रवाह के कारण कुछ परिवार अत्यधिक ऋणग्रस्त स्थिति में पहुँच गए, जिससे कर्जदारी बढ़ी और पूरे क्षेत्र में दबाव उत्पन्न हुआ।
- As a corrective measure, self-regulatory organisations came up with a set of guardrails, first in July 2024 and again in April 2025.
- सुधारात्मक उपाय के रूप में, स्व-नियामक संगठनों ने दिशानिर्देशों (गार्डरेल्स) का एक समूह तैयार किया, पहले जुलाई 2024 में और फिर अप्रैल 2025 में।
- They were finalised jointly with the CEOs of MFIs and their diligent implementation has put the sector back in order.
- इन्हें एमएफआई के मुख्य कार्यकारी अधिकारियों (CEO) के साथ मिलकर अंतिम रूप दिया गया और इनके सावधानीपूर्वक क्रियान्वयन ने क्षेत्र को पुनः व्यवस्थित कर दिया।
- There has been an improvement in several parameters in the last few quarters.

- पिछली कुछ तिमाहियों में कई मानकों में सुधार देखा गया है।
- The portfolio size declined from ₹4.4 lakh crore in March 2024 to ₹3.71 lakh crore in March 2025 and ₹3.34 lakh crore in March 2026.
- पोर्टफोलियो का आकार मार्च 2024 में ₹4.4 लाख करोड़ से घटकर मार्च 2025 में ₹3.71 लाख करोड़ और मार्च 2026 में ₹3.34 लाख करोड़ रह गया।
- It had dipped below ₹3.2 lakh crore during the year, but showed growth in the last two months of the financial year to close at ₹3.34 trillion, below the previous year's close.
- वर्ष के दौरान यह ₹3.2 लाख करोड़ से नीचे चला गया था, लेकिन वित्तीय वर्ष के अंतिम दो महीनों में वृद्धि दर्ज करते हुए ₹3.34 ट्रिलियन पर बंद हुआ, जो पिछले वर्ष के स्तर से कम था।
- However, the numbers for May would be more encouraging, given the higher lending.
- हालाँकि, अधिक ऋण वितरण को देखते हुए मई के आँकड़े अधिक उत्साहजनक हो सकते हैं।
- When it comes to the portfolio at risk (PAR) value, the PAR 30–179 days has improved from 6.65% in March 2025 to 2.31% in March 2026.
- जोखिमग्रस्त पोर्टफोलियो (PAR) के संदर्भ में, PAR 30–179 दिन मार्च 2025 के 6.65% से सुधरकर मार्च 2026 में 2.31% हो गया है।
- Similarly, the PAR 90-plus improved from 3.93% to 1.49%.
- इसी प्रकार, PAR 90-प्लस 3.93% से सुधरकर 1.49% हो गया है।
- The PAR 179-plus has stabilised in last six months.
- PAR 179-प्लस पिछले छह महीनों में स्थिर हो गया है।
- (The writer is ED and CEO of Sa-Dhan. The views expressed are personal)
- (लेखक सा-धन के कार्यकारी निदेशक (ED) और मुख्य कार्यकारी अधिकारी (CEO) हैं। व्यक्त विचार उनके निजी हैं।)

GS Paper III: Science and Technology		22 June 2026
TOPICS COVERED		
22J6	Biochar offers a way to turn India's farm smoke into 'black gold' बायोचार भारत के कृषि धुएँ को 'काले सोने' में बदलने का एक मार्ग प्रदान करता है।	
22J6	No alcohol when it's hot गर्मी के मौसम में शराब का सेवन नहीं करना चाहिए।	
22J6	Kerala's battle with water-borne diseases जलजनित रोगों के विरुद्ध केरल की लड़ाई	
22J6	What is Google's Project Nimbus, and why are students protesting against it? गूगल का प्रोजेक्ट निम्बस क्या है, और छात्र इसके विरुद्ध प्रदर्शन क्यों कर रहे हैं?	
22J6	Tales TDS tells टीडीएस जो कहानी कहता है	



Biochar offers a way to turn India's farm smoke into 'black gold'

When added to poor, degraded soils, biochar can increase their ability to store water and stimulate the growth of beneficial microbes; studies have indicated that it can improve crop productivity by 10% to 30% and water-holding capacity by 10% to 25%, particularly in soils low in nutrients

SS III, S&T
Vinaya Kumar H.M.
Vikram Patil

India's agriculture faces a serious paradox: a large amount of biomass that could improve soil health is instead being burned. This threatens soil health and food security. Punjab and Haryana burn more than 20 million tonnes of paddy straw in their open fields every year. This is due to the short post-harvest periods and a lack of practical alternatives.

Burning these residues releases large quantities of greenhouse gases and fine particles into the air and soil, causing serious air pollution in the region as well as a major loss of organic matter that could otherwise be returned to the increasingly depleted soils.

At the same time, large tracts of agricultural land, from the black soils of Maharashtra to the red soils of Kerala, suffer from very low soil organic carbon, poor water-holding capacity, and rapid loss of nutrients, reducing crop productivity even with better seeds and irrigation.

Both these problems are symptoms of the same larger failure to recycle natural resources efficiently.

Value to agriculture

This is where biochar emerges as a carbon negative solution. Biochar is made by heating agricultural waste in low-oxygen conditions. What remains is a carbon-rich material that breaks down very slowly in the soil, helping to keep carbon locked away for long periods of time. The benefits extend well beyond carbon capture. Biochar is highly porous and contributes to aggregating soil particles, holding water, and creating a suitable environment for microorganisms.

Given these properties, the value of biochar to agriculture should be obvious. When added to poor, degraded soils, it can increase their ability to store water and stimulate the growth of beneficial microbes.

Studies have indicated that it can improve crop productivity by 10% to 30% and water-holding capacity by 10% to 25%, particularly in soils low in nutrients.

Biochar derived from maize stalks and applied to black soils in Akola district of Maharashtra has improved soil organic carbon content and overall soil fertility in field trials. Research from Kerala has shown that biochar made from coconut leaf stalks increased soil quality in different cropping systems, emphasising the need to use local resources effectively. Perhaps most significantly, long-term studies have shown that biochar has the benefit of enhancing soil health and maintaining higher crop output over time.

Wider vision

This approach also supports India's wider vision of sustainable agriculture and climate resilience. As droughts,



A biochar mixture ready to be applied to soil. Biochar is made by heating agricultural waste in low-oxygen conditions. What remains is a carbon-rich material that breaks down very slowly in the soil. NAMBIACBU (CC BY)

heatwaves, and erratic rainfall become more frequent and more intense, improving soil health will be crucial to sustaining agricultural productivity.

By increasing the water-holding capacity and the ability to use nutrients efficiently, thus, biochar can help crops withstand moisture stress while reducing dependency on external inputs. This is particularly important for small and marginal farmers who are often the most exposed to the climate's vagaries.

Integrating biochar into the existing initiatives on natural farming, soil health management, and carbon farming can deliver environmental and economic benefits at scale. Yet in India, biochar remains largely confined to research trials and pilot projects, and is very much alien to many farmers.

In fact, agricultural residues are generally seen only as a problem of disposal. But they are an important resource that can generate additional income, create jobs, can deliver environmental benefits, and could even support payments for ecosystem services.

Carbon credits

As one way forward, the government could package the activities of turning agricultural waste into biochar and putting it on soil into carbon credit markets, creating a strong economic incentive for mass adoption.

Biochar carbon already passes rigorous stability criteria for long-term sequestration, and it can be classified as a persistent carbon dioxide removal technology under internationally accepted accounting standards. For

Biochar is highly porous and contributes to aggregating soil particles, holding water, and creating a suitable environment for microorganisms

instance, VM0042 agricultural land management methodology quantifies both avoided emissions from residue burning and long-term carbon sequestration in soils. In this protocol, each tonne of certified biochar can generate 2.2.8 t carbon dioxide-equivalent in carbon credits. Depending on carbon market prices, certified biochar can thus provide an additional source of income for project developers, farmers, and cooperatives.

This approach is already being tested in projects such as those using the KISAN kiln from IIT-Kharagpur, which allows smallholders to monetise farm waste.

Several international examples also illustrate the scalability of biochar systems. In Kenya, turning rice husks into biochar has produced thousands of certified carbon credits and improved soil pH and phosphorus content. Thailand has pushed biochar use through national initiatives on soil rehabilitation and carbon management, and tied certification to access to the national carbon registry system, providing a policy-to-market pipeline. High carbon retention and large yield gains have also been reported from Brazil's Embrapa Institute after using on-farm biochar generated from sugarcane bagasse.

These examples also show that success

depends on integrated strategies that combine decentralised, appropriately scaled pyrolysis technology with strong measurement, reporting, and verification systems.

Urban organic waste

The feedstock for biochar is also not limited to agricultural waste and can encompass urban organic waste as well. India generates around 62 million tonnes of municipal solid garbage per year and more than 50% of that is biodegradable. Sewage sludge and crop residues can also be converted into biochar.

This is in keeping with the precepts of the circular economy, as organic waste is diverted from landfills that produce methane and is converted to a useful product for agriculture. By systematically implementing these measures, India can turn its large waste streams into 'black gold', thus ensuring a more resilient agricultural future while making a meaningful contribution to global climate mitigation efforts.

Overall, the value of biomass can only be realised through an integrated ecosystem that catalyses innovation, entrepreneurship, market linkages, investment, and cost-effective access to biochar for farmers.

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THE GIST

▼ Biochar is made by heating agricultural waste in low-oxygen conditions

▼ Integrating biochar into existing initiatives on natural farming, soil health management, and carbon farming can deliver environmental and economic benefits at scale

▼ As droughts, heatwaves, erratic rainfall become more frequent and more intense, improving soil health is crucial to sustaining agricultural productivity

▼ In India, however, biochar remains largely confined to research trials and pilot projects, and is very much alien to many farmers

22J6. Biochar offers a way to turn India's farm smoke into 'black gold'

बायोचार भारत के कृषि धुएँ को 'काले सोने' में बदलने का एक मार्ग प्रदान करता है।

- When added to poor, degraded soils, **biochar** can increase their ability to store **water** and stimulate the growth of **beneficial microbes**.

जब बायोचार को गरीब एवं क्षीणित मिट्टियों में मिलाया जाता है, तो यह उनकी जल संचित करने की क्षमता को बढ़ा सकता है तथा लाभकारी सूक्ष्मजीवों की वृद्धि को प्रोत्साहित कर सकता है।

- Studies have indicated that it can improve **crop productivity** by **10% to 30%** and **water-holding capacity** by **10% to 25%**, particularly in soils low in **nutrients**.

अध्ययनों से संकेत मिला है कि यह फसल उत्पादकता में 10% से 30% तक तथा जल धारण क्षमता में 10% से 25% तक वृद्धि कर सकता है, विशेष रूप से उन मिट्टियों में जिनमें पोषक तत्वों की कमी होती है।

- India's agriculture faces a serious **paradox**: a large amount of **biomass** that could improve **soil health** is instead being burned.
भारत की कृषि एक गंभीर **विरोधाभास** का सामना कर रही है: **मृदा स्वास्थ्य** में सुधार करने वाली बड़ी मात्रा में **जैविक अवशेष (बायोमास)** का उपयोग करने के बजाय उसे जला दिया जाता है।
- This threatens soil health and food security.**
यह **मृदा स्वास्थ्य** और **खाद्य सुरक्षा** के लिए खतरा उत्पन्न करता है।
- Punjab and Haryana burn more than 20 million tonnes of paddy straw in their open fields every year.**
पंजाब और हरियाणा में प्रत्येक वर्ष खुले खेतों में **धान के पुआल** की **20 मिलियन टन** से अधिक मात्रा जलाई जाती है।
- At the same time, large tracts of agricultural land, from the **black soils of Maharashtra** to the **red soils of Kerala**, suffer from very low **soil organic carbon**, poor **water-holding capacity**, and rapid loss of **nutrients**, reducing **crop productivity** even with better seeds and irrigation.
साथ ही, **महाराष्ट्र की काली मिट्टी** से लेकर **केरल की लाल मिट्टी** तक कृषि भूमि के विशाल क्षेत्र अत्यंत कम **मृदा कार्बनिक कार्बन**, कमजोर **जल धारण क्षमता**, तथा **पोषक तत्वों** की तीव्र हानि से ग्रस्त हैं, जिससे बेहतर बीजों और सिंचाई के बावजूद **फसल उत्पादकता** कम हो जाती है।
- Biochar is made by heating agricultural waste in low-oxygen conditions.**
बायोचार का निर्माण **कृषि अपशिष्ट** को **कम ऑक्सीजन वाली परिस्थितियों** में गर्म करके किया जाता है।
- What remains is a carbon-rich material that breaks down very slowly in the soil, helping to keep carbon locked away for long periods of time.**
इसके परिणामस्वरूप एक **कार्बन-समृद्ध पदार्थ** प्राप्त होता है जो मृदा में बहुत धीरे-धीरे विघटित होता है और लंबे समय तक **कार्बन को सुरक्षित रूप से संचित रखने** में सहायता करता है।
- The benefits extend well beyond **carbon capture**.
इसके लाभ केवल **कार्बन अवशोषण** तक सीमित नहीं हैं।
- Biochar is highly porous and contributes to aggregating soil particles, holding water, and creating a suitable environment for microorganisms.**
बायोचार अत्यधिक **छिद्रयुक्त** होता है तथा **मृदा कणों** के एकीकरण, **जल धारण करने** और **सूक्ष्मजीवों** के लिए अनुकूल वातावरण बनाने में योगदान देता है।
- When added to poor, degraded soils, it can increase their ability to store water and stimulate the growth of beneficial microbes.**
जब इसे कमजोर एवं अवनत मृदाओं में मिलाया जाता है, तो यह उनकी **जल संग्रहण क्षमता** को बढ़ाता है तथा लाभकारी **सूक्ष्मजीवों** की वृद्धि को प्रोत्साहित करता है।
- Studies have indicated that it can improve crop productivity by 10% to 30% and water-holding capacity by 10% to 25%, particularly in soils low in nutrients.**
अध्ययनों से संकेत मिला है कि यह **फसल उत्पादकता** में **10% से 30%** तथा **जल धारण क्षमता** में **10% से 25%** तक वृद्धि कर सकता है, विशेषकर उन मृदाओं में जहाँ पोषक तत्वों की कमी होती है।
- Biochar derived from maize stalks and applied to black soils in Akola district of Maharashtra has improved soil organic carbon content and overall soil fertility in field trials.**
मक्का के डंठलों से निर्मित बायोचार को **महाराष्ट्र के अकोला जिले** की **काली मिट्टियों** में प्रयोग करने पर क्षेत्रीय परीक्षणों में **मृदा कार्बनिक कार्बन की मात्रा** तथा समग्र **मृदा उर्वरता** में सुधार देखा गया है।
- Research from **Kerala** has shown that **biochar made from coconut leaf stalks increased soil quality** in different cropping systems, emphasising the need to use local resources effectively.
केरल में किए गए अनुसंधान से पता चला है कि **नारियल की पत्ती के डंठलों** से निर्मित बायोचार ने विभिन्न फसल प्रणालियों में **मृदा गुणवत्ता** को बढ़ाया है, जिससे स्थानीय संसाधनों के प्रभावी उपयोग की आवश्यकता पर बल मिलता है।
- By increasing the **water-holding capacity** and the ability to use **nutrients** efficiently, thus, **biochar** can help crops withstand **moisture stress** while reducing dependency on external

inputs.

जल धारण क्षमता तथा पोषक तत्वों के कुशल उपयोग की क्षमता को बढ़ाकर, बायोचार फसलों को नमी तनाव का सामना करने में सहायता कर सकता है तथा बाहरी संसाधनों पर निर्भरता को कम कर सकता है।

- This is particularly important for **small and marginal farmers** who are often the most exposed to the climate's vagaries.
यह विशेष रूप से **लघु एवं सीमांत किसानों** के लिए महत्वपूर्ण है, जो प्रायः जलवायु की अनिश्चितताओं से सबसे अधिक प्रभावित होते हैं।
- Integrating **biochar** into the existing initiatives on **natural farming, soil health management, and carbon farming** can deliver environmental and economic benefits at scale.
बायोचार को प्राकृतिक खेती, मृदा स्वास्थ्य प्रबंधन तथा कार्बन खेती से संबंधित वर्तमान पहलों में सम्मिलित करने से बड़े स्तर पर पर्यावरणीय एवं आर्थिक लाभ प्राप्त किए जा सकते हैं।
- But they are an important **resource** that can generate additional **income**, create **jobs**, can deliver **environmental benefits**, and could even support **payments for ecosystem services**.
किन्तु वे एक महत्वपूर्ण **संसाधन** हैं, जो अतिरिक्त **आय** उत्पन्न कर सकते हैं, **रोजगार** सृजित कर सकते हैं, **पर्यावरणीय लाभ** प्रदान कर सकते हैं तथा **पारिस्थितिकी तंत्र सेवाओं के लिए भुगतान** का आधार भी बन सकते हैं।

Carbon credits

कार्बन क्रेडिट

- As one way forward, the government could package the activities of **turning agricultural waste into biochar** and putting it on soil into **carbon credit markets**, creating a strong economic incentive for mass adoption.
आगे बढ़ने के एक उपाय के रूप में सरकार **कृषि अपशिष्ट** को **बायोचार** में परिवर्तित करने और उसे मृदा में उपयोग करने की गतिविधियों को **कार्बन क्रेडिट बाजारों** से जोड़ सकती है, जिससे इसके व्यापक अपनाने हेतु एक सशक्त आर्थिक प्रोत्साहन उत्पन्न होगा।
- **Biochar carbon** already passes rigorous **stability criteria** for long-term **sequestration**, and it can be classified as a **persistent carbon dioxide removal technology** under internationally accepted accounting standards.
बायोचार कार्बन पहले से ही दीर्घकालिक कार्बन पृथक्करण के लिए कठोर स्थिरता मानदंडों को पूरा करता है और अंतरराष्ट्रीय स्तर पर स्वीकृत लेखांकन मानकों के अंतर्गत इसे **स्थायी कार्बन डाइऑक्साइड निष्कासन प्रौद्योगिकी** के रूप में वर्गीकृत किया जा सकता है।
- For instance, **VM0042 agricultural land management methodology** quantifies both **avoided emissions** from residue burning and long-term **carbon sequestration** in soils.
उदाहरण के लिए, **VM0042 कृषि भूमि प्रबंधन पद्धति** अवशेष जलाने से बचाई गई **उत्सर्जन मात्रा** तथा मृदा में दीर्घकालिक कार्बन पृथक्करण दोनों का आकलन करती है।
- In this protocol, each tonne of **certified biochar** can generate **2-2.8 t carbon dioxide-equivalent in carbon credits**.
इस प्रोटोकॉल के अंतर्गत प्रत्येक टन प्रमाणित बायोचार से कार्बन क्रेडिट के रूप में **2-2.8 टन कार्बन डाइऑक्साइड-समतुल्य** प्राप्त किया जा सकता है।
- Depending on **carbon market prices**, certified **biochar** can thus provide an additional source of **income** for **project developers, farmers, and cooperatives**.
इस प्रकार कार्बन बाजार मूल्यों के आधार पर प्रमाणित बायोचार, परियोजना विकासकर्ताओं, किसानों तथा सहकारी समितियों के लिए अतिरिक्त आय का स्रोत प्रदान कर सकता है।
- This approach is already being tested in projects such as those using the **KISAN kiln from IIT-Kharagpur**, which allows **smallholders** to monetise **farm waste**.



इस दृष्टिकोण का परीक्षण पहले से ही ऐसी परियोजनाओं में किया जा रहा है, जिनमें IIT-खड़गपुर द्वारा विकसित KISAN भट्ठी का उपयोग किया जा रहा है, जो लघु किसानों को कृषि अपशिष्ट का आर्थिक मूल्य प्राप्त करने में सक्षम बनाती है।

- In **Kenya**, turning **rice husks into biochar** has produced thousands of **certified carbon credits** and improved **soil pH** and **phosphorus content**.
केन्या में धान की भूसी को बायोचार में परिवर्तित करने से हजारों प्रमाणित कार्बन क्रेडिट प्राप्त हुए हैं तथा मृदा pH और फॉस्फोरस की मात्रा में सुधार हुआ है।
- **Thailand** has pushed **biochar use** through national initiatives on **soil rehabilitation and carbon management**, and tied certification to access to the national **carbon registry system**, providing a **policy-to-market pipeline**.
थाईलैंड ने मृदा पुनर्वास और कार्बन प्रबंधन से संबंधित राष्ट्रीय पहलों के माध्यम से बायोचार के उपयोग को बढ़ावा दिया है तथा प्रमाणन को राष्ट्रीय कार्बन रजिस्ट्री प्रणाली तक पहुँच से जोड़कर नीति से बाजार तक की प्रक्रिया विकसित की है।
- These examples also show that success depends on **integrated strategies that combine decentralised, appropriately scaled pyrolysis technology with strong measurement, reporting, and verification systems**.
ये उदाहरण यह भी दर्शाते हैं कि सफलता ऐसी समेकित रणनीतियों पर निर्भर करती है, जो विकेन्द्रीकृत एवं उपयुक्त स्तर की पायरोलिसिस प्रौद्योगिकी को सुदृढ़ मापन, प्रतिवेदन एवं सत्यापन प्रणालियों के साथ जोड़ती हैं।

Urban organic waste

शहरी जैविक अपशिष्ट

- The **feedstock for biochar** is also not limited to **agricultural waste** and can encompass **urban organic waste** as well.
बायोचार के लिए उपयोग किया जाने वाला कच्चा पदार्थ (फीडस्टॉक) केवल कृषि अपशिष्ट तक सीमित नहीं है, बल्कि इसमें शहरी जैविक अपशिष्ट भी सम्मिलित किया जा सकता है।
- **India generates around 62 million tonnes of municipal solid garbage per year and more than 50% of that is biodegradable**.
भारत प्रतिवर्ष लगभग 62 मिलियन टन नगर ठोस कचरा उत्पन्न करता है, जिसमें से 50 प्रतिशत से अधिक जैव-अपघटनीय होता है।
- **Sewage sludge and crop residues** can also be converted into **biochar**.
सीवेज कीचड़ तथा फसल अवशेषों को भी बायोचार में परिवर्तित किया जा सकता है।

- This is in keeping with the precepts of the **circular economy**, as **organic waste** is diverted from **landfills** that produce **methane** and is converted to a **useful product for agriculture**.

यह परिपत्र अर्थव्यवस्था (सर्कुलर इकोनॉमी) के सिद्धांतों के अनुरूप है, क्योंकि जैविक अपशिष्ट को लैंडफिल स्थलों से हटाकर, जहाँ से मीथेन उत्पन्न होती है, कृषि के लिए उपयोगी उत्पाद में परिवर्तित किया जाता है।

22J6. No alcohol when it's hot

गर्मी के मौसम में शराब का सेवन नहीं करना चाहिए।

- It causes the body to produce more **urine**, and thus increases the risk of **dehydration**.

No alcohol when it's hot

GS III: S&T
Vasudevan Mukunth

In response to a new heatwave alert across Europe, France has partially banned the consumption of alcohol. The restriction is a public health measure as part of reducing heat-related illnesses.

Alcohol affects the body in many ways that become more dangerous if the person is also exposed to extreme heat. It causes the body to produce more urine, and thus increases the risk of dehydration. It impairs the body's ability to regulate temperature by dilating blood vessels in the skin and suppressing the hormone vasopressin. And it lowers their awareness of early warning signs such as dizziness and nausea and makes them less likely to seek shade or drink water.

These risks are compounded at large outdoor events like the annual Fête de la Musique, where people may spend hours standing in crowded spaces under direct sunlight.

As Reuters reported, "After a crisis meeting, Prime Minister Sebastian Lecornu pre-emptively banned alcohol consumption on Sunday at the annual Fête de la Musique festivals and other public events" scheduled in the 35 regions with heat alerts. It added that Paris authorities had "ordered parks to remain open around the clock". Since



A person cools off from a public fountain near the Colosseum during a heatwave in Rome. REUTERS

the city is a concrete jungle, parks could keep people cool at night.

Since the deadly 2003 heatwave in Europe, which killed nearly 15,000 people in France alone, French authorities have adopted more interventionist responses to heat, including opening cooling centres, checking on vulnerable residents, and restricting activities that could increase health risks.

For feedback and suggestions for 'Science', please write to letters@thehindu.co.in with the subject 'Science'

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यह शरीर में अधिक मूत्र उत्पादन कराती है और इस प्रकार निर्जलीकरण के जोखिम को बढ़ाती है।

- It impairs the body's ability to regulate **temperature** by dilating **blood vessels** in the skin and suppressing the hormone **vasopressin**.

यह त्वचा की रक्त वाहिकाओं को फैलाकर तथा वासोप्रेसिन हार्मोन को दबाकर शरीर की तापमान नियंत्रण क्षमता को प्रभावित करती है।

Kerala's battle with water-borne diseases

The State's under-investment in proper sewerage networks is costing it dearly

STATE OF PLAY

GS III: S&T
C. Maya

A State renowned for being the model of public health in the country and one which has consistently recorded some of the best health indicators nationwide, is now battling recurrent outbreaks of various water-borne diseases such as shigellosis. The irony is stark, for Kerala has demonstrated the responsiveness and resilience of its health system by having a firm grip on a disease as unpredictable and complex as Nipah.

Now, rapid urbanisation and social development on the one side and inadequate attention paid to environmental health, water quality measures, poor sewage and sanitation infrastructure on the other, is threatening to undo the State's reputation as a beacon of good public health. The explosion of water-borne diseases and zoonotic diseases in the State points to the system's failure to pay attention to the social and environmental determinants of health.

Scale of contamination

A look at the outbreaks of Acute Diarrhoeal Diseases (ADD), Hepatitis A, shigellosis and norovirus in recent years gives an indication of the impact of groundwater contamination on people's health.

Between four to five lakh cases of ADD are reported every year in the State. Since the past two decades, Kerala has also been experiencing several large and small Hepatitis A outbreaks. In 2025, the State reported 31,536 cases and 82 deaths due to Hep A. This year too, as of June 15, close to 9,000 cases and 25 confirmed deaths have been reported.



Amoebic meningoencephalitis, which has also emerged as a significant public health problem in Kerala, is being linked to the faecal contamination in domestic wells, in which free-living amoeba thrive. This infection has claimed the highest number of lives in the State, with 134 cases and 34 deaths reported as of June 15 this year.

Various studies have reported that groundwater resources in the State have been under increasing stress, with 62% of the population depending on ground water from close to 7 million wells.

Lack of sewage system

As of 2025, Kerala has less than 6% proper sewerage network coverage, with most major cities having virtually no household sewage collection systems. The CAG's 2025 report stated that at the closure of the AMRUT Mission, a Central initiative aimed at ensuring universal access to safe water and reliable sewerage connections across urban areas, Kerala's overall achievement was just 11.25% and only 0.13% households got sewerage connections.

While Kerala does have high sanitation coverage with a significant proportion of households relying on septic tanks or on-site sanitation systems, these septic tanks are poorly designed and located close to domestic wells which lead to groundwater contamination.

The fact that Kerala is one of the most densely populated States with small land-holdings and houses situated close to each other aggravates the issue. High levels of faecal contamination have been reported in over 70% of the open wells in the State by agencies such as the Centre for Water Resources Development and Management. A study in the urban areas of Thiruvananthapuram in 2018 had reported that coliform contamination was prevalent in 73% of wells and that well chlorination and cleaning practices were inadequate.

Recurring outbreaks of Hepatitis A and shigellosis in the State showed that almost all outbreaks had been in rural areas and were linked to the local source of drinking water. Epidemiological investigations have revealed that water for regional supply systems is often pumped into supply lines without adequate chlorination or filtration, and that these lines often run close to sewage drains – any breaks in the pipeline can lead to major contamination.

It is also true that most of the interventions to provide safe drinking water to people lie outside the health sector, demanding coordinated inter-sectoral efforts. Thus, rather than a failure of public health, the current problem of water-borne diseases seems to be the result of the State's under-investment in establishing proper sewerage networks.

Prevention of water-borne diseases requires long-term investments in urban planning, establishing safe water distribution systems, sewer networks, wastewater treatment plants as well as measures for environmental and water quality surveillance.

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- And it lowers their awareness of early **warning signs** such as **dizziness** and **nausea** and makes them less likely to seek shade or drink water.

साथ ही यह चक्कर आना और मतली जैसे प्रारंभिक चेतावनी संकेतों के प्रति व्यक्ति की जागरूकता को कम कर देती है तथा उन्हें छाया में जाने या पानी पीने के प्रति कम प्रेरित करती है।

- As Reuters reported, "After a crisis meeting, Prime Minister **Sebastien Lecornu** pre-emptively banned alcohol consumption on Sunday at the annual **Fete de la Musique** festivals and other public events" scheduled in the **35 regions** with heat alerts.

जैसा कि रॉयटर्स ने रिपोर्ट किया, "संकट बैठक के बाद प्रधानमंत्री सेबास्टियन लेकोर्नु ने हीट अलर्ट वाले 35 क्षेत्रों में आयोजित वार्षिक Fete de la Musique उत्सवों तथा अन्य सार्वजनिक आयोजनों में रविवार को एहतियातन शराब सेवन पर प्रतिबंध लगा दिया।"

- Since the city is a **concrete jungle**, parks could keep people cool at night. चूँकि यह शहर एक कंक्रीट जंगल है, इसलिए उद्यान रात के समय लोगों को ठंडक प्रदान कर सकते हैं।

22J6. Kerala's battle

with water-borne diseases

जलजनित रोगों के विरुद्ध केरल की लड़ाई

- A look at the outbreaks of **Acute Diarrhoeal Diseases (ADD)**, **Hepatitis A**, **shigellosis** and **norovirus** in recent years gives an indication of the impact of **groundwater contamination** on people's health.

हाल के वर्षों में तीव्र अतिसार रोग (ADD), हेपेटाइटिस-ए, शिगेलोसिस और नोरोवायरस के प्रकोपों का अध्ययन लोगों के स्वास्थ्य पर भूजल प्रदूषण के प्रभाव का संकेत देता है।

- Since the past two decades, **Kerala** has also been experiencing several large and small **Hepatitis A outbreaks**.

पिछले दो दशकों से केरल में बड़े और छोटे स्तर पर कई हेपेटाइटिस-ए प्रकोप देखे जा रहे हैं।

- **Amoebic meningoencephalitis**, which has also emerged as a significant **public health problem** in Kerala, is being linked to the **faecal contamination** in domestic wells, in which **free-living amoeba** thrive.

अमीबिक मेनिंगोएन्सेफेलाइटिस, जो केरल में एक महत्वपूर्ण सार्वजनिक स्वास्थ्य समस्या के रूप में उभरा है, घरेलू कुओं में होने वाले मलजनित प्रदूषण से जुड़ा माना जा रहा है, जहाँ स्वतंत्र रूप से रहने वाले अमीबा पनपते हैं।

- The **CAG's 2025 report** stated that at the closure of the **AMRUT Mission**, a Central initiative aimed at ensuring universal access to **safe water** and reliable **sewerage connections across urban areas**, Kerala's overall achievement was just **11.25%** and only **0.13%** households got sewerage connections.

CAG की 2025 की रिपोर्ट के अनुसार, शहरी क्षेत्रों में सुरक्षित पेयजल और विश्वसनीय सीवेज कनेक्शन सुनिश्चित करने के उद्देश्य से संचालित अमृत मिशन (AMRUT Mission) की समाप्ति तक केरल की कुल उपलब्धि केवल 11.25% रही और मात्र 0.13% परिवारों को सीवेज कनेक्शन प्राप्त हुए।

- While Kerala does have high **sanitation coverage** with a significant proportion of households relying on **septic tanks** or **on-site sanitation systems**, these septic tanks are poorly designed and located close to **domestic wells** which lead to **groundwater contamination**.

यद्यपि केरल में स्वच्छता कवरेज अपेक्षाकृत उच्च है और बड़ी संख्या में परिवार सेप्टिक टैंकों अथवा स्थानीय स्वच्छता प्रणालियों पर निर्भर हैं, किन्तु ये सेप्टिक टैंक अक्सर खराब डिज़ाइन वाले होते हैं तथा घरेलू कुओं के निकट स्थित होते हैं, जिससे भूजल प्रदूषण की समस्या उत्पन्न होती है।

- **Epidemiological investigations** have revealed that water for regional supply systems is often pumped into supply lines without adequate **chlorination or filtration**, and that these lines often run close to **sewage drains** — any breaks in the pipeline can lead to major contamination.

महामारी विज्ञान संबंधी जांचों से पता चला है कि क्षेत्रीय जलापूर्ति प्रणालियों में पानी को पर्याप्त क्लोरीनीकरण या निस्पंदन (फिल्ट्रेशन) के बिना आपूर्ति लाइनों में प्रवाहित किया जाता है तथा ये लाइनें अक्सर सीवेज नालों के निकट से गुजरती हैं; पाइपलाइन में किसी भी प्रकार की क्षति व्यापक प्रदूषण का कारण बन सकती है।



What is Google's Project Nimbus, and why are students protesting against it?

Amazon and Google's Project Nimbus cloud contract with Israel has sparked protests over U.S. Big Tech enabling the Israeli military's violence against Palestinians; the row has intensified internal unrest within companies, with employees raising ethical concerns over how their work is being used

GS III: S&T
Sahana Venugopal

The story so far:

On June 14, Google CEO Sundar Pichai's speech at Stanford was disrupted as more than 100 students walked out in protest. Some carried Palestinian flags, others draped black-and-white patterned keffiyeh as scarves, and they shouted, "Free, free Palestine!"

The students were protesting against Google's Project Nimbus, a tech contract between the search giant and the Israeli government that is linked with violence against Palestinian civilians.

What is Project Nimbus?

Project Nimbus is a technology contract between the Israeli government and Google and Amazon. It is worth over \$1 billion. In May 2021, Google said the agreement would deliver cloud services to Israeli government entities, including ministries, authorities, and government-owned companies. The project was scheduled to run for an initial period of seven years, and the Israeli government could extend it for up to 23 years. A month later, Amazon said the Israeli government had selected Amazon Web Services (AWS) as its primary cloud provider, under the Nimbus contract for government ministries and its subsidiaries.

In 2024, an investigation by Israeli media outlets +972 Magazine and Local Call found that the country's army stored

information on servers managed by AWS. That data came from the surveillance of Palestinians, as per the investigation. Sources quoted by the media outlets alleged such information could be used to help plan airstrikes.

Furthermore, the outlets reported an increase in Israeli service demands from Google Cloud, AWS, and Microsoft Azure since October 2023, as army units sought data storage and AI services.

Why are protesters against Project Nimbus?

Project Nimbus has been facing backlash since it was first announced. In 2021, an anonymous letter signed internally by 90 Google workers and over 300 Amazon workers criticised the partnership, per *The Guardian*. They condemned Project Nimbus and the Israeli military's killings of Palestinian civilians, claiming that their employers would be "selling dangerous technology to the Israeli military and government."

The workers claimed that cloud service technology would help expand the surveillance of Palestinians, as well as illegal Israeli settlements on Palestinian land.

Opposition to Project Nimbus has grown since the Hamas attacks against Israeli civilians on October 7, 2023, followed by Israel's airstrikes and blockades in Gaza. In 2024, protesting Google employees even carried out sit-ins at Google locations in the U.S. Later, 28 employees were fired.

Pro-Palestinian protests by employees have also taken place at Big Tech company events, such as during Microsoft's 50th anniversary celebrations in 2025.

Last year, *The Guardian*, +972 Magazine, and *Local Call* cited leaked documents revealing that under the Project Nimbus contract, Israel mandated that Google and Amazon would not restrict how its governmental units used the tech companies' cloud services – even if Israel violated their terms of service.

However, Google has in the past stressed that Project Nimbus workloads are not related to the military, weapons, or classified intelligence. Amazon too highlighted its privacy commitments to its customers.

Which other tech companies have links to Israel?

A Palestinian-led movement, called Boycott, Divestment and Sanctions (BDS), has identified large technology companies that have formal contracts with Israel and its military sector.

The BDS website alleges these companies "technologically equip the Israeli military with computing systems as well as surveillance and communications technologies to accelerate the genocide in Gaza and automate apartheid in the West Bank, including East Jerusalem."

In September, Microsoft Vice-Chair & President Brad Smith said the company had "ceased and disabled a set of services to a unit within the Israel Ministry of

Defense (IMOD)." This announcement came after media outlets *The Guardian*, +972 Magazine, and *Local Call* reported that the Israel Defense Forces (IDF) was using Microsoft's Azure to store Palestinians' recorded phone calls data that could be leveraged for mass surveillance or even military action.

Did Microsoft truly sever its ties with Israel's defense surveillance systems?

While Mr. Smith said that Microsoft does not provide technology to facilitate the mass surveillance of civilians, he affirmed the company's "important work" to protect the cybersecurity of Israel and other West Asian countries.

In a conclusion to the external investigation that Microsoft commissioned after the Azure surveillance allegations, the tech giant said it would implement better review processes, provide more guidance to employees, and let employees anonymously report potential policy violations.

The No Azure for Apartheid group, which is made up of Microsoft workers, claimed on June 6 that Microsoft still allowed the Israeli military and government to host other surveillance projects on Azure. "Nothing short of cutting all ties with the genocidal Israeli military and government will be enough. We will show up to escalate, confront, and disrupt in every place, at every moment, announced and unannounced," said the group.

22J6. What is Google's Project Nimbus, and why are students protesting against it?

गूगल का प्रोजेक्ट निम्बस क्या है, और छात्र इसके विरुद्ध प्रदर्शन क्यों कर रहे हैं?

- The students were protesting against **Google's Project Nimbus**, a tech contract between the search giant and the **Israeli government** that is linked with violence against **Palestinian civilians**.

छात्र गूगल के प्रोजेक्ट निम्बस का विरोध कर रहे थे, जो गूगल और इज़राइली सरकार के बीच एक तकनीकी अनुबंध है और जिसे फिलिस्तीनी नागरिकों के विरुद्ध हिंसा से जोड़ा जाता है।

What is Project Nimbus?

प्रोजेक्ट निम्बस क्या है?

- Project Nimbus** is a technology contract between the **Israeli government** and **Google** and **Amazon**.

प्रोजेक्ट निम्बस इज़राइली सरकार, गूगल और अमेज़न के बीच एक प्रौद्योगिकी अनुबंध है।

- It is worth over **\$1 billion**.

इसका मूल्य 1 अरब डॉलर से अधिक है।

- In May 2021, **Google** said the agreement would deliver **cloud services** to Israeli government entities, including ministries, authorities, and government-owned companies.

मई 2021 में गूगल ने कहा था कि यह समझौता मंत्रालयों, प्राधिकरणों और सरकारी स्वामित्व वाली कंपनियों सहित इज़राइली सरकारी संस्थाओं को क्लाउड सेवाएँ प्रदान करेगा।



- The project was scheduled to run for an initial period of **seven years**, and the Israeli government could extend it for up to **23 years**.
यह परियोजना प्रारंभिक रूप से सात वर्षों तक चलने वाली थी और इज़राइली सरकार इसे 23 वर्षों तक बढ़ा सकती थी।
- A month later, **Amazon** said the Israeli government had selected **Amazon Web Services (AWS)** as its primary cloud provider, under the Nimbus contract for government ministries and its subsidiaries.
एक महीने बाद अमेज़न ने कहा कि इज़राइली सरकार ने सरकारी मंत्रालयों और उनकी सहायक संस्थाओं के लिए निम्बस अनुबंध के अंतर्गत **अमेज़न वेब सर्विसेज (AWS)** को अपना प्रमुख क्लाउड सेवा प्रदाता चुना है।
- In 2024, an investigation by Israeli media outlets **+972 Magazine** and **Local Call** found that the country's army stored information on servers managed by **AWS**.
2024 में इज़राइली मीडिया संस्थानों **+972 मैगज़ीन** और **लोकल कॉल** की एक जांच में पाया गया कि देश की सेना **AWS** द्वारा प्रबंधित सर्वरों पर सूचनाएँ संग्रहीत कर रही थी।
- That data came from the **surveillance of Palestinians**, as per the investigation.
जांच के अनुसार यह डेटा **फिलिस्तीनियों की निगरानी** से प्राप्त किया गया था।

Why are protesters against Project Nimbus? प्रदर्शनकारी प्रोजेक्ट निम्बस का विरोध क्यों कर रहे हैं?

- However, **Google** has in the past stressed that **Project Nimbus workloads** are not related to the **military, weapons, or classified intelligence**.
हालाँकि, **गूगल** ने पूर्व में स्पष्ट किया है कि **प्रोजेक्ट निम्बस** के अंतर्गत किए जाने वाले कार्य **सैन्य गतिविधियों, हथियारों** अथवा **गोपनीय खुफिया सूचनाओं** से संबंधित नहीं हैं।
- Amazon** too highlighted its **privacy commitments** to its customers.
अमेज़न ने भी अपने ग्राहकों के प्रति **गोपनीयता संबंधी प्रतिबद्धताओं** पर बल दिया।

Which other tech companies have links to Israel? इज़राइल से किन अन्य प्रौद्योगिकी कंपनियों के संबंध हैं?

- In a conclusion to the **external investigation** that **Microsoft** commissioned after the **Azure surveillance allegations**, the tech giant said it would implement better **review processes**, provide more guidance to employees, and let employees anonymously report potential **policy violations**.
एज़्योर निगरानी आरोपों के बाद **माइक्रोसॉफ्ट** द्वारा कराई गई **बाह्य जांच** के निष्कर्ष में कंपनी ने कहा कि वह बेहतर **समीक्षा प्रक्रियाएँ** लागू करेगी, कर्मचारियों को अधिक मार्गदर्शन प्रदान करेगी तथा संभावित **नीति उल्लंघनों** की गुमनाम रिपोर्टिंग की सुविधा देगी।
- The **No Azure for Apartheid** group, which is made up of **Microsoft workers**, claimed on **June 6** that Microsoft still allowed the **Israeli military and government** to host other **surveillance projects** on Azure.
माइक्रोसॉफ्ट कर्मचारियों से बने **No Azure for Apartheid** समूह ने **6 जून** को दावा किया कि **माइक्रोसॉफ्ट** अभी भी **इज़राइली सेना और सरकार** को एज़्योर पर अन्य **निगरानी परियोजनाएँ** संचालित करने की अनुमति देता है।



Serious charges: In May, farmlands at Ulikurukkal were flooded by the water that had overflowed from the percolation ponds of the Tata Electronics plant. The company said only rainwater was let out of the ponds. But farmers alleged that it was "chemical water". S. Jothi Balamangalam

Tales TDS tells

Farmers in Hosur have accused the Tata Electronics plant of discharging effluents into farmlands and contaminating the groundwater. **P.V. Srividya** takes a deep dive to study the situation on the ground

By P.V. Srividya

The farm wells of Ulikurukkal village in Thinnipalli panchayat of Krishnagiri district are filled to the brim in summer. It is time for paddy crop. Elsewhere in the district, nurseries are being raised and fields prepared to raise the crop. But the *punjali* lands (dry agricultural lands) of the village, close to the iPhone manufacturing plant of Tata Electronics Private Limited (TEPL), have fallen disquietingly silent. A hundred metres away, this jarring silence is interrupted by the sounds of construction activity. Workers are busy building a wall to demarcate the boundary of the TEPL plant from the adjoining farmlands. A steady flow of water discharges from under the plinth of the new boundary wall of the plant and into an exit channel running through the farmlands.

A few metres inside the boundary wall, there are large embankments of sprawling rain-water-harvesting structures or percolation ponds of the plant. In the last week of May, acres of Ulikurukkal's farmlands were flooded by the water that had reportedly overflowed from the plant's percolation ponds. The company told officials then that it was only rainwater from the ponds. Collector C. Dinesh Kumar said, "There were two instances of breach [in the last few months] from the plant and both times, the rainfall recorded was 5 cm and 6.75 cm." But the farmers insist it was not just rainwater, but "chemical water" that entered their fields from these ponds that overflowed.

The Tamil Nadu Pollution Control Board (TNPCB) issued a show-cause notice to TEPL in May 2026. It flagged the TDS (total dissolved solids) range of 1,916 milligrams per litre (mg/L) to 2,450 mg/L against the norm of under 500 ppm or not above 1,000 ppm for percolation ponds in the water sample collected from the rainwater pond. It also flagged BOD, or Biological Oxygen Demand (dissolved oxygen needed for breakdown of organic matter), in the range of 12 mg/L to 78 mg/L and COD (Chemical Oxygen Demand indicating contamination) in the range of 48 mg/L to 160 mg/L — both values significantly exceeding permissible limits of under 30 mg/L. The TDS range was ascertained from samples collected on three occasions at three different points between December and May.

Off to a promising start
It was in 2021 that TEPL, chose Nagamangalam, near Hosur, to set up its iPhone component manufacturing unit. The move was seen as a big win for Tamil Nadu's industrial portfolio and Hosur's manufacturing ecosystem that was diversifying into electronics. The facility expanded with operations beginning at the Phase II plant last November. Farmers had rejoiced at the arrival of a "good corporate company" in their midst. "They say Tata is a good company. If they are giving jobs to so many people, they will only do good, we thought," says Pushparaj, who now leads the farmers' protests against the alleged effluent discharge. "Don't we know what rainwater is? This is not rainwater," Mr. Pushparaj says repeatedly. "We grew up on this soil and in this water."

One night in December 2025, the pumping system of the sewage treatment plant (STP) on the TEPL premises malfunctioned, two sources in the district administration told *The Hindu*. The untreated water was discharged into the rainwater-



The water in our wells used to taste like 'tender coconut' water. Until a year and a half ago, people working in the fields drank from these wells, but workers now carry their own water because the water now stinks

KRISHNAN,
Village head

harvesting pond. There were complaints from farmers then. When the water was collected, the stench was bad. But, if it was trade effluent, the TDS would be much higher. It cannot be said that it was completely untreated trade discharge, but definitely partially treated effluent," said one of them.

Trade effluents

Trade effluent is any liquid waste discharged from business, trade, or industrial premises. Conventional trade effluent treatment systems do not fix high TDS levels. TEPL is a Zero Liquid Discharge (ZLD) unit that uses Multiple Effect Evaporator (MEE) for its effluent treatment. Raw trade effluent is treated through the Reverse Osmosis (RO) process that returns low TDS water, which can be reused for gardening. The discharge from the RO process (RO reject) will, however, have a greater TDS concentration. This RO reject then passes through a series of evaporators (MEE) and the water is condensed for reuse. The MEE reject, which again will have high TDS values, is finally passed through an Agitated Thin Film Dryer (ATFD) that turns the high-TDS reject into a powder. This makes TEPL a zero discharge plant, where no water or waste technically exits the plant.

However, accounts of two witnesses at the plant echo the charges farmers make. They indicate that the ZLD environmental mandate may exist only on paper. According to them, trade effluents routinely bypass the ETP and enter collection ponds along with the STP discharge. When the production is high and effluent output outstrips the ETP capacity, the trade effluent from the anodizing process will be stored in tanks and discharged at night and during rain, claim two persons from the plant. "The incoming production effluent (trade effluent) will be highly acidic, with pH levels of 0.4. The pH value must be chem-

ically boosted to reach neutral before the effluent is fed into the treatment line. But that is chemical intensive for high volumes, expensive, and time-consuming. The capacity of the ETP initially was only 60 kilolitres (60,000 litres), but the plant may sometimes generate up to 100 kilolitres of trade effluent, and the excess will reach the drain," said a source, who had worked in the ETP. How often is sometimes? "Two or three times a week, but depending on production output," said the other source. "The trade effluent will have very high TDS — 6,000 or even 10,000. But when linked with the STP line, which will have a higher volume but far less TDS, the final TDS numbers fall and are offset to permissible limits. The valves will be opened in the rain, with TDS diluted."

"We use caustic soda to boost the pH value. The production team will send a mail informing of the incoming effluent the next day. Either we receive it by dumping the effluent already filled up in tanks (pending treatment) into the drain or ask them to stop production. Production cannot be stopped or can be stopped only for a day or two. So the effluent would be sent into the drain and STP water poured over it." But what of the metal residue? "There will be no metal residue, that will settle, but the TDS of the trade effluent will show up as high, and this is fixed when mixed with the STP water," the source said.

Consent to Operate

On November 24, 2025, the TNPCB issued a Consent to Operate approval for expansion of Phase I of TEPL. The order mentions the manufacture of 3.74 crore metal cases for iPhones per annum. The order also mentions points of disposal of sewage discharge (for gardening, toilet flushing, and cooling tower) and trade effluent discharge (recycling process and conversion into salts), none of which is to be let out to percolation ponds, which are for groundwater recharge. On December 8, 2025, Mr. Pushparaj, on behalf of the farmers, petitioned TEPL "about inaction on their earlier complaints of stench and dumping of 'chemical water' in the percolation ponds." The petition stated that this had been going "on for three months" (before December) but no action was taken on their complaint.

This February, his coriander fields, among others, faced another such flooding from the plant's ponds, he said, showing colour printouts of the inundated crop to the district administration. "I was asked to be patient, as the treatment plant will be

ready soon," says Mr. Pushparaj. "Production began a year ago in Phase II, but the ETP was commissioned only four months ago," said the source.

The Hindu sent questions to TEPL to comment on these witness accounts from inside the plant, but no official communication was received in response. However, TEPL released a statement last week saying its TDS numbers were within permissible limits and the TNPCB had dropped its scrutiny. The TNPCB did not respond to calls to confirm the development.

Adequate treatment facilities

Collector Mr. Kumar dismissed testimonies of residents and said the plant was a ZLD facility and adequacy of the treatment facilities was ensured before the grant of consent. Based on inspections, verification of records and analysis of samples, no evidence was found to establish that industrial effluents were bypassed from the treatment system or mixed with sewage for dilution and discharged into percolation ponds. "Further, samples collected from the ponds and nearby wells were analysed and the results did not indicate contamination attributable to discharge of industrial effluents from the unit," he said. Another official also claimed Mr. Pushparaj was working with the agenda of seeking material compensation from the company.

However, the fields tell a different story, and Mr. Pushparaj is not the only one affected. Nagalakshmi, who holds a mere three-fourths of an acre of land, had harvested 300 sacks of cucumber last summer and 500 sacks the year before. This week, she stood beside the cucumber crop that was only ankle high on day 25, when it should have reached her waist. Ms. Nagalakshmi had set up a bund so that the "dirty water" does not enter her field. "Till yesterday, that 'dirty water' was here, it had just drained. That is why the soil is wet." The story of low yield echoes throughout the area. Horticultural crops are grown here round the year, except the small window for paddy this time of the year. The farmers cultivate cauliflower, beans, cucumber, ragi, and flowers through drip irrigation. They suspect that since the plant channels effluents into the rainwater percolation ponds, which are designed to facilitate percolation in the soil, the effluents seep into their wells. "In other villages, water levels are low. Here, our wells are brimming, showing seepage from their effluent ponds," says Ramesh. "The water in our wells used to taste like 'tender coconut' water," says Krishnan, the village head. "Until a year and a half, people working in the fields drank out of these wells, but farmworkers now carry their own water because well water has gone bad and stinks."

The *Hindu* collected two water samples: one from the exit channel, which is also the first point of the discharged water that was steadily flowing under the plinth of the newly constructed boundary wall of the plant, and the other from an adjoining farm well. The TDS values were 1,789 and 1,539 respectively (safe limit 1,000 ppm), while the pH was 7.88 and 6.81 respectively (acceptable range 5.5 to 6.5). Mr. Pushparaj's water sample from April has a TDS of 1,721 and pH of 8.09. "This is not at all conducive for agriculture. Farmers will also get skin irritation," says a former joint Director of Horticulture in Hosur, adding that the high TDS will affect the drip lines and borewells. "They can shift to oil seeds, but eventually they will have to leave their lands because it will suck out all the nutrients."

Asked about reparations for the damage suffered by farmers, the Collector said the company was asked to conduct continuous TDS monitoring. It would also have to ensure that there was no waterlogging in times of excess rain. "If necessary, we will tell them to use HTPS (high-density polyethylene) lining in rainwater-harvesting ponds to prevent further mixing with the groundwater, as the farmers have demanded," he added.



Dipping harvest: Farmers in the area complain of low yield because of the polluted water entering their fields. S. Jothi Balamangalam



There were two instances of breach [in the last few months] from the plant and both times, the rainfall recorded was 5 cm and 6.75 cm

C. DINESH KUMAR,
Krishnagiri Collector

कहता है

- It flagged the **TDS (Total Dissolved Solids) range of 1,916 mg/L to 2,450 mg/L** against the norm of under **500 ppm** or not above **1,000 ppm** for percolation ponds.

इसने TDS (कुल घुलित ठोस पदार्थ) की मात्रा 1,916 mg/L से 2,450 mg/L पाई, जबकि मानक 500 ppm से कम या अधिकतम 1,000 ppm है।



- It also flagged **BOD (Biological Oxygen Demand)** in the range of **12 mg/L to 78 mg/L**.
इसने BOD (जैविक ऑक्सीजन मांग) को 12 mg/L से 78 mg/L के बीच पाया।
- And **COD (Chemical Oxygen Demand)** in the range of **48 mg/L to 160 mg/L**.
साथ ही COD (रासायनिक ऑक्सीजन मांग) को 48 mg/L से 160 mg/L के बीच पाया गया।
- Both values significantly exceeded permissible limits of under 30 mg/L.**
दोनों मान अनुमेय सीमा 30 mg/L से काफी अधिक थे।
- Conventional trade effluent treatment systems do not fix high **TDS** levels.
सामान्य अपशिष्ट जल उपचार प्रणालियां उच्च TDS स्तरों को नियंत्रित नहीं कर पातीं।
- TEPL is a Zero Liquid Discharge (ZLD) unit.**
TEPL एक जीरो लिक्विड डिस्चार्ज (ZLD) इकाई है।
- It uses a **Multiple Effect Evaporator (MEE)** for effluent treatment.
यह अपशिष्ट जल उपचार के लिए मल्टीपल इफेक्ट इवैपोरेटर (MEE) का उपयोग करती है।
- This makes TEPL a **zero discharge plant**, where no water or waste technically exits the plant.
इससे TEPL एक शून्य-निर्गमन संयंत्र बन जाता है, जहां तकनीकी रूप से कोई पानी या अपशिष्ट बाहर नहीं निकलता।

GS Paper III: Environment		22 June 2026
TOPICS COVERED		
22J6	Similipal's black tigers are getting help सिमिलिपाल के काले बाघों को मिल रही है मदद	



Similipal's black tigers are getting help

Zeenat, a tigress translocated from Maharashtra's Tadoba-Andhari Tiger Reserve to Odisha's Similipal Tiger Reserve two years ago, has given birth to four cubs. **Satyasundar Barik** speaks to the people behind the high-stakes conservation effort to rescue Similipal's tigers from a genetic mutation that has fuelled the rise of pseudo-melanism, or dense, thick, merging stripes

A pseudo-melanic tiger captured by a camera trap inside Odisha's Similipal Tiger Reserve in Mayurbhanj district. SPECIAL ARRANGEMENT

GS III Environment & S&T

Parakash Chand Gogineni, Field Director of the Similipal Tiger Reserve in Odisha, is still coming to terms with the thrill of a moment he witnessed on May 28. A camera trap had captured a rare sight of a tigress named Zeenat, gently carrying her four cubs one by one in her mouth. Gogineni saw the images in his modest office in Baripada, the district headquarters of Mayurbhanj, where Similipal is located. He knew immediately that he was experiencing a key moment in India's wildlife history.

Zeenat is one of the two tigers introduced into Similipal from Maharashtra's Tadoba-Andhari Tiger Reserve through translocation in 2024. "Similipal was heading towards a genetic collapse, largely due to inbreeding among big cats. While the tiger population was stagnating, the rising number of pseudo-melanic tigers in the reserve had become a matter of concern," recalls Odisha's former Principal Chief Conservator of Forests (Wildlife) Susanta Nanda.

Pseudo-melanic tigers (often called black tigers) are a rare variant of the Bengal tiger, distinguished by a genetic mutation that causes their black stripes to widen and merge, giving them a dramatically dark coat where shades of golden yellow barely peek through.

It was during Nanda's tenure that the two tigresses were introduced to Similipal. He says Zeenat's translocation to Similipal was a necessity, not an experiment. "Maharashtra agreed to part with nine tigers (seven females and two males) in three phases over five years," he says.

Similipal, which derives its name from *simul* or the silk cotton tree, is a 2,750-square-kilometre UNESCO Biosphere Reserve. In 1973, the Indian government declared it a tiger reserve. Currently, Gogineni says his priority is the safety of the tigress and her cubs. "This can be seen as India's first successful inter-State tiger translocation from a reserve with a surplus population to one with low density," says the 48-year-old Indian Forest Service (IFS) officer, who has been tracking Zeenat for 20 months.

"The tigers were brought to Similipal, where breeding females already existed, a scenario that had not occurred earlier," Gogineni points out. He believes the development could serve as a compelling case study for future efforts to revive tiger population.

Genetic decoding

This is Odisha's second attempt at translocation – a process of bringing tigers into a new habitat. In 2018, the State brought in two tigers from Madhya Pradesh's Kanha Tiger Reserve and Bandhavgarh Tiger Reserve to its Satkosaj Tiger Reserve. Central India tigers were believed to adapt to the terrain and ecosystem of Odisha faster than those of States further away. The operation went haywire. One of the tigers was poached; the second was returned to its home State due to resistance by locals.

Earlier, translocations in India were aimed at reviving tiger population within States. Spearheaded by the National Tiger Conservation Authority (NTCA), Sariska Tiger Reserve in Rajasthan saw India's first successful tiger reintroduction in 2008. In Madhya Pradesh's Panna Tiger Reserve,



From day one, we sensed that Zeenat was both headstrong and intelligent. She would do exactly what she chose to. We simply couldn't force a response from her

SWARUP FULLANTON
Wildlife biologist and member of the tracking team, Similipal Tiger Reserve, Odisha



After giving birth to four cubs, Zeenat carries one in her mouth, inside Odisha's largest biosphere, the Similipal Tiger Reserve in Mayurbhanj district, where she was translocated to in 2024, from Maharashtra's Tadoba-Andhari Tiger Reserve. SPECIAL ARRANGEMENT

NTCA and the Wildlife Institute of India (WII) conducted a similar programme in 2009. In both cases, the tigers came from within the States.

In 2021, molecular ecologist Uma Ramakrishnan, who is also a professor at the National Centre for Biological Sciences, Bengaluru, and her co-researchers found that Similipal's tiger population remained small and isolated with minimal genetic exchange with other landscapes.

In her tiger population genetic analysis, presented in PNAS, a multidisciplinary scientific journal established in 1914, she and her team found that "Similipal has a small and isolated population." In the paper "high frequency of an otherwise rare phenotype in a small and isolated tiger population," the team found that approximately 37% of Similipal's tigers were pseudo-melanic. "Small and isolated populations have low genetic variation... making them prone to extinction," the paper said. It also makes the population more vulnerable to diseases.

"These factors might also lead to greater genetic load (harmful genes) in the population. The translocation aimed to reverse all of these. For the long-term survival of a species such as the tiger, genetic diversity becomes the bedrock," Gogineni emphasises.

The 2014 All India Tiger Estimation (ATIE), a four-yearly survey led by NTCA and WII, recorded a drastic decline in the tiger population in Similipal to just five individuals (one male and four females). Only one of them exhibited the pseudo-melanic coat pattern, placing its prevalence at 20%. Subsequent ATIEs in 2018 and 2022 indicated a recovery in numbers from five to eight and then 16 tigers. However, the rise was accompanied by the worrying genetic drift: pseudo-melanic tigers increased to 37.5% in 2018 and 42.75% in 2022. The 2023 All Odisha Tiger Estimation, a State-level survey and census conducted by the Odisha Forest Department, found that nearly half of Similipal's tiger population displayed pseudo-melanism. The 2024 ATIE further raised concern putting the figure at 59.37%.

Nanda says it was not easy to get tigers from other States. "With a comprehensive report detailing pseudo-melanism in tigers, a strong prey base, and an increased patrolling system in Similipal, we approached the Ministry of Environment, Forest and Climate Change. After much

persuasion, the Ministry agreed and the approval of the NTCA followed in May 2024," he recalls.

From Maharashtra to Odisha

The approval paved the way for the translocation. Jamuna, 2.5 years, was released in October 2024 into a specially designed soft enclosure at a meadow in southern Similipal's Jenabli.

Two weeks later, on November 15, Zeenat, the second tigress from Tadoba-Andhari, then three years old, was released in the early hours into an enclosure at Tiger meadow in Chahala, in northern Similipal.

Learning from the setbacks in Satkosaj, the Similipal authorities made extensive preparations. A team comprising two Deputy Directors (IFS officers), 15 tracking personnel, along with a veterinarian and a biologist, led by Gogineni was sent to Tadoba for specialised training. The tracking teams were trained in very high frequency (VHF) telemetry and other monitoring systems.

Jamuna made her way to the Kuldiha forest, which lies outside Similipal's core area. She has since remained there. Zeenat, however, traversed three States: Odisha, Jharkhand and West Bengal. This is now regarded as one of India's most intense pursuits of a single tiger, says Nanda.

Zeenat was kept in the soft enclosure for 10 days. Just three days after she was released into the wild, she began moving in the north-west direction. Ten days later, she was sighted in the Musabani range near Jamshedpur in Jharkhand. By then, Odisha had already deployed a special team to translocate her and bring her back to Similipal.

The operation to track and recapture Zeenat lasted over a month and involved nearly 200 personnel, including senior IFS officers, biologists, veterinarians, and tracking teams. The teams pursued Zeenat over nearly 300 kilometres.

"From day one we sensed that Zeenat was both headstrong and intelligent. She would do exactly what she chose to. We simply couldn't force a response from her," says Swarup Fullanton, a wildlife biologist with the Similipal Tiger Reserve and a key member of the tracking team.

"We had never experienced such a chase in our lives," Fullanton recalls.

"On a couple of occasions Zeenat was right behind us. The tracking antenna showed zero gain, meaning there was virtually no distance between

her and us. At times, it registered three to six gains, indicating she was within 12 feet," he describes.

As Zeenat moved across States, the operation demanded close inter-State coordination. Biologists and veterinarians from all three States endured long hours inside camouflaged vehicles, often in sub-zero night temperatures. At times, they climbed onto elephants or were hoisted by earth-moving machines to gain a clear line of sight.

Finally on December 29, the tigress was translocated near a dam area in the Ranibandh Range of West Bengal's Bankura district. Gogineni says the West Bengal government was reluctant to hand Zeenat over to Odisha, but he and the NTCA teams persuaded the authorities and the tigress was brought to Similipal through a green corridor, with wildlife veterinarians and biologists keeping a close watch on her health while administering the sedative.

Once Zeenat reached Similipal, authorities placed her inside a soft enclosure spread over 7 hectares under 24-hour surveillance. Gogineni says, "As the days passed, the local resident male T12 visited the enclosure and we could record their interactions through a bispectral thermal camera (capturing both images and heat)." Finally on December 29, the tigress was translocated near a dam area in the Ranibandh Range of West Bengal's Bankura district. Gogineni says the West Bengal government was reluctant to hand Zeenat over to Odisha, but he and the NTCA teams persuaded the authorities and the tigress was brought to Similipal through a green corridor, with wildlife veterinarians and biologists keeping a close watch on her health while administering the sedative.

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Fantastic four!

Nanda says India's tiger conservation programme is facing the challenge of habitat connectivity. "In that context, Zeenat broke the barrier of discontinuity in the habitat." Now 25% of cubs in Similipal have a diverse gene pool and it will grow stronger in three-four years if Zeenat's cubs survive, he adds.

Gogineni is optimistic too. "Currently, there are 32 tigers in Similipal. As the tiger population in Similipal reaches its carrying capacity of 75, tigers from the reserve will move towards the forests in Keonjhar, Dhenkanal, Deogarh, and further to south into Angul districts and maybe to Satkosaj Tiger Reserve," he says.

Towards the north, tigers will be dispersed in all the forests of the Chota Nagpur Plateau. "This can potentially repopulate tigers in Saranda forests, Palamu Tiger Reserve, Jhargram forests and beyond into Mayurbhanj Elephant Reserve. The movement of males will be quick, but females might take longer," adds Gogineni.

This inter-State tiger translocation programme has achieved its medium-term objective. Now, Odisha awaits the decision of a high-level committee on the translocation of the remaining seven of the nine tigers from Maharashtra. Of these, six (five females, one male) were to be translocated to Similipal, while the other three (two males and one female) to Debrigarh Wildlife Sanctuary.

If Jamuna comes into estrus (in heat) and Zeenat is ready to mate over the next 18 months, the tiger population could grow naturally. In that case, the proposed translocation of seven more tigers from Tadoba may be reconsidered.

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Beyond bloodlines and borders



22J6. Similipal's black tigers are getting help
सिमिलिपाल के काले बाघों को मिल रही है मदद



- **Zeenat**, a tigress translocated from **Maharashtra's Tadoba-Andhari Tiger Reserve to Odisha's Similipal Tiger Reserve** two years ago, has given birth to **four cubs**.
ज़ीनत, जिसे दो वर्ष पहले महाराष्ट्र के ताडोबा-अंधारी टाइगर रिजर्व से ओडिशा के सिमिलिपाल टाइगर रिजर्व में स्थानांतरित किया गया था, ने चार शावकों को जन्म दिया है।
- **Satyasundar Barik** speaks to the people behind the **high-stakes conservation effort to rescue Similipal's tigers from a genetic mutation** that has fuelled the rise of **pseudo-melanism**, or dense, thick, merging stripes.
सत्यसुंदर बारिक उन लोगों से बातचीत करते हैं जो उच्च-स्तरीय संरक्षण प्रयास के पीछे हैं, जिसका उद्देश्य सिमिलिपाल के बाघों को उस आनुवंशिक उत्परिवर्तन से बचाना है जिसने छद्म-मेलैनिज़्म (Pseudo-melanism) अर्थात घनी, मोटी और आपस में मिलती धारियों की प्रवृत्ति को बढ़ावा दिया है।
- **Prakash Chand Gogineni**, Field Director of the **Similipal Tiger Reserve in Odisha**, is still coming to terms with the thrill of a moment he witnessed on **May 28**.
ओडिशा के सिमिलिपाल टाइगर रिजर्व के फील्ड डायरेक्टर प्रकाश चंद गोगिनेनी अभी भी 28 मई को देखे गए एक रोमांचक क्षण को याद कर रहे हैं।
- **A camera trap had captured a rare sight of a tigress** named **Zeenat**, gently carrying her four cubs one by one in her mouth.
एक कैमरा ट्रैप ने ज़ीनत नामक बाघिन को अपने चार शावकों को एक-एक करके मुंह में उठाकर ले जाते हुए दुर्लभ दृश्य कैद किया।
- Gogineni saw the images in his modest office in **Baripada**, the district headquarters of **Mayurbhanj**, where **Similipal** is located.
गोगिनेनी ने ये तस्वीरें बारिपदा स्थित अपने कार्यालय में देखीं, जो मयूरभंज जिले का मुख्यालय है और जहां सिमिलिपाल स्थित है।
- He knew immediately that he was experiencing a key moment in **India's wildlife history**.
उन्हें तुरंत एहसास हो गया कि वे भारत के वन्यजीव इतिहास के एक महत्वपूर्ण क्षण के साक्षी बन रहे हैं।
- **Pseudo-melanistic tigers** (often called **black tigers**) are a rare variant of the **Bengal tiger**, distinguished by a genetic mutation that causes their black stripes to widen and merge.
छद्म-मेलैनिस्टिक बाघ (जिन्हें अक्सर काला बाघ कहा जाता है) बंगाल टाइगर का एक दुर्लभ रूप हैं, जिनमें आनुवंशिक परिवर्तन के कारण काली धारियां चौड़ी होकर आपस में मिल जाती हैं।
- **This gives them a dramatically dark coat where slivers of golden yellow barely peek through**.
इससे उनका शरीर अत्यंत गहरे रंग का दिखाई देता है, जिसमें सुनहरे पीले रंग की झलक बहुत कम दिखाई देती है।
- **Similipal**, which derives its name from **simul** or the **silk cotton tree**, is a **2,750-square-kilometre UNESCO Biosphere Reserve**.
सिमिलिपाल, जिसका नाम सिमुल या सेमल वृक्ष से लिया गया है, एक 2,750 वर्ग किलोमीटर का यूनेस्को बायोस्फीयर रिजर्व है।
- **In 1973**, the Indian government declared it a **tiger reserve**.
1973 में भारत सरकार ने इसे टाइगर रिजर्व घोषित किया था।
- Currently, Gogineni says his priority is the safety of the tigress and her cubs.
वर्तमान में गोगिनेनी का कहना है कि उनकी प्राथमिकता बाघिन और उसके शावकों की सुरक्षा है।
- "This can be seen as **India's first successful inter-State tiger translocation from a reserve with a surplus population to one with low density**," says the 48-year-old **Indian Forest Service (IFS)** officer.
"इसे भारत का पहला सफल अंतर-राज्यीय बाघ स्थानांतरण माना जा सकता है, जिसमें अधिक बाघों वाले रिजर्व से कम घनत्व वाले रिजर्व में बाघ भेजे गए," 48 वर्षीय भारतीय वन सेवा (IFS) अधिकारी कहते हैं।
- In **2018**, the State brought in two tigers from **Madhya Pradesh's Kanha Tiger Reserve and Bandhavgarh Tiger Reserve to its Satkosia Tiger Reserve**.
2018 में राज्य ने मध्य प्रदेश के कान्हा टाइगर रिजर्व और बांधवगढ़ टाइगर रिजर्व से दो बाघों को सतकोसिया टाइगर रिजर्व में लाया था।

- Spearheaded by the **National Tiger Conservation Authority (NTCA)**, **Sariska Tiger Reserve** in Rajasthan saw India's first successful tiger reintroduction in **2008**.
राष्ट्रीय बाघ संरक्षण प्राधिकरण (NTCA) के नेतृत्व में राजस्थान के सरिस्का टाइगर रिजर्व में 2008 में भारत का पहला सफल बाघ पुनर्प्रवेश कार्यक्रम हुआ।

From Maharashtra to Odisha

महाराष्ट्र से ओडिशा तक

- In **Madhya Pradesh's Panna Tiger Reserve**, **NTCA** and the **Wildlife Institute of India (WII)** conducted a similar programme in **2009**.
मध्य प्रदेश के पन्ना टाइगर रिजर्व में एनटीसीए (NTCA) और भारतीय वन्यजीव संस्थान (WII) ने 2009 में इसी प्रकार का कार्यक्रम संचालित किया था।
- In the paper '**high frequency of an otherwise rare phenotype in a small and isolated tiger population**,' the team found that approximately **37%** of Similipal's tigers were **pseudo-melanistic**.
'एक छोटी और पृथक बाघ आबादी में अन्यथा दुर्लभ फीनोटाइप की उच्च आवृत्ति' नामक शोधपत्र में टीम ने पाया कि सिमिलिपाल के लगभग **37%** बाघ छद्म-मेलैनिस्टिक थे।
- "**Small and isolated populations** have low genetic variation...making them prone to **extinction**," the paper said.
शोधपत्र में कहा गया कि "छोटी और पृथक आबादियों में आनुवंशिक विविधता कम होती है, जिससे वे विनष्टि के प्रति अधिक संवेदनशील हो जाती हैं।"
- The **2014 All India Tiger Estimation (AITE)**, a four-yearly survey led by **NTCA** and **WII**, recorded a drastic decline in the tiger population in Similipal to just **five individuals** (one male and four females).
2014 ऑल इंडिया टाइगर एस्टीमेशन (AITE), जो NTCA और WII द्वारा संचालित चार वर्षीय सर्वेक्षण है, ने सिमिलिपाल में बाघों की संख्या घटकर केवल पांच (एक नर और चार मादा) रह जाने का उल्लेख किया।
- Only one of them exhibited the pseudo-melanistic coat pattern, placing its prevalence at 20%.**
इनमें से केवल एक बाघ में छद्म-मेलैनिस्टिक कोट पैटर्न पाया गया, जिससे इसकी हिस्सेदारी 20% रही।
- Pseudo-melanistic tigers increased to 37.5% in 2018 and 43.75% in 2022.**
छद्म-मेलैनिस्टिक बाघों की संख्या 2018 में 37.5% और 2022 में 43.75% हो गई।
- Zeenat**, however, traversed three States: **Odisha, Jharkhand and West Bengal**.
हालाँकि ज़ीनत ने ओडिशा, झारखंड और पश्चिम बंगाल तीन राज्यों की यात्रा की।
- Of these, **six were to be translocated to Similipal**, while **three were planned for Debrigarh Wildlife Sanctuary**.
इनमें से छह को सिमिलिपाल और तीन को देब्रीगढ़ वन्यजीव अभयारण्य में स्थानांतरित किया जाना प्रस्तावित है।

GS Paper III: Internal Security		22 June 2026
TOPICS COVERED		
22J6	'Maritime sector a major engine of economic growth' 'समुद्री क्षेत्र आर्थिक विकास का एक प्रमुख प्रेरक इंजन है'	
22J6	Police begin collecting DNA records under 2022 law; over one lakh profiles generated 2022 के कानून के तहत पुलिस ने डीएनए अभिलेख एकत्र करना शुरू किया; एक लाख से अधिक प्रोफाइल तैयार किए गए	
22J6	CISF to be deployed at five more prisons in J&K	



जम्मू-कश्मीर की पाँच और जेलों में सीआईएसएफ की तैनाती की जाएगी

'Maritime sector a major engine of economic growth'

GS III: Internal Security: Defence
Shiv Sahay Singh

KOLKATA

Prime Minister Narendra Modi on Sunday said no nation could emerge as a major power without strong maritime capabilities.

He was speaking at an event here after commissioning three **indigenously-built naval ships** — **INS Dunagiri**, an advanced stealth frigate; **INS Sanshodhak**, a survey vessel (large); and the **INS Agray**, an anti-submarine warfare shallow watercraft.

Describing the event as a milestone in the journey towards "an Aatmanirbhar Bharat, a secure India, and a developed India", Mr. Modi said the government viewed the maritime sector not as an isolated industry but as a major engine of employment and economic growth. "The country whose maritime strength is robust, its economic and strategic influence will be equally ro-

bust. India is preparing itself for this," he said, asserting that India did not wish to be merely a buyer in the defence sector.

"The strength of the nation's military cannot be measured by its dependence on global markets but by its ability to become self-reliant. India seeks to become a producer and a manufacturer, because nations that manufacture become decisive players on the global stage," he said.

Highlighting recent achievements in indigenous shipbuilding capabilities of the country, the Prime Minister noted that more than 40 indigenously built warships and submarines have been inducted into the Indian Navy over the past few years.

Defence Minister Rajnath Singh said the tri-commissioning of **INS Dunagiri**, **INS Agray**, and **INS Sanshodhak** was going to be a "defining moment" in India's maritime capability development.

22J6. 'Maritime sector a major engine of economic growth'

'समुद्री क्षेत्र आर्थिक विकास का एक प्रमुख प्रेरक इंजन है'

• He was speaking at an event here after commissioning three **indigenously-built naval ships** — **INS Dunagiri**, an advanced stealth frigate; **INS Sanshodhak**, a survey vessel (large); and **INS Agray**, an anti-submarine warfare shallow watercraft.

वह यहाँ एक कार्यक्रम में स्वदेशी रूप से निर्मित तीन नौसैनिक पोतों — आईएनएस दुनागिरी, एक उन्नत स्टेल्थ फ्रिगेट; आईएनएस संशोधक, एक बड़ा सर्वेक्षण पोत; तथा आईएनएस अग्रय, एक पनडुब्बी-रोधी उथले जल युद्धपोत — के कमीशनिंग के बाद संबोधित कर रहे थे।

• Defence Minister Rajnath Singh said that the tri-commissioning of **INS Dunagiri**, **INS Agray**, and **INS Sanshodhak** was going to be a "defining moment" in India's maritime capability development.

रक्षा मंत्री राजनाथ सिंह ने कहा कि आईएनएस दुनागिरी, आईएनएस अग्रय और आईएनएस संशोधक की एक साथ कमीशनिंग भारत की समुद्री क्षमता के विकास में एक "निर्णायक क्षण" सिद्ध होने जा रही है।

22J6. Police begin collecting DNA records under 2022 law; over one lakh profiles generated
2022 के कानून के तहत पुलिस ने डीएनए अभिलेख एकत्र करना शुरू

Police begin collecting DNA records under 2022 law; over one lakh profiles generated

GS III: Internal Security
Vijaita Singh
NEW DELHI

The police in several States have started collecting DNA records, primarily from blood samples, of suspects arrested for heinous crimes. Along with DNA profiles, photographs, fingerprints, and iris scans, the government is creating a unique identification record of arrested persons and convicts that can be retained for up to 75 years.

Over the past five months, the DNA records of more than one lakh suspects have been stored in a central database operated by the National Crime Records Bureau (NCRB) under the Union Home Ministry.

The samples are being collected under the Criminal Procedure (Identification) Act (CrPI), a law passed in Parliament in 2022. More than 2,600 measurement collection units have been estab-



The biological samples can be matched with records to identify habitual offenders.

lished across the country, and the CrPI system is now available in police districts and prisons. It is also accessible to Central agencies such as the Central Bureau of Investigation, the National Investigation Agency, and the Narcotics Control Bureau.

The contours of the CrPI system were showcased on June 19 at an NCRB event presided over by Home Minister Amit Shah.

"The samples are at present being collected by police in cases punishable by seven years. The DNA, mostly drawn from blood and in some cases saliva too, is then sent to a forensic laboratory, which generates a unique number. The NCRB preserves the code in its records. The sanctity of the samples depends on the police," an NCRB official said.

NAFIS

"CrPI Act, 2022 allows police and prison officers to take physical and biological samples of arrested and convicted individuals. To make these provisions effective, there was a need for a national platform that could integrate and make identification-related data useful across the country. In this direction, the NCRB launched the **National Automated Fingerprint Identification System (NAFIS)** in the year 2022, which fully automated the fingerprint matching process. Today, with more than 1.27 crore

fingerprint records, NAFIS has played a significant role in solving many old inter-State criminal cases," a presentation on the CrPI system said.

"Through CrPI, now all information related to identification, including face, iris, and biological samples is available in a national-level searchable database, making accurate and scientific identification possible within moments. Now, a photo obtained from a crime scene can be instantly matched with records across the country. CrPI functions as a unified system across the country, where every identification-based measurement is securely stored in a standardised system. As per standards, while taking photos, clarity of the eyes is ensured so that identification is not hindered despite any disguise or changes. CrPI ensures enrolment of face and iris measurements of arrested and convicted persons, and in special cas-

es, registration of biological samples as well. There is a provision to retain all these measurements securely for 75 years," it said.

According to the NCRB presentation, biological samples recovered from crime scenes can be directly matched with existing records, enabling the identification of habitual offenders through scientific methods.

Video analytics feature

The NCRB said the CrPI system also has an advanced video analytics feature through which investigating officers can upload CCTV footage to identify faces of suspicious persons and match them with the national database. "What earlier took hours of manual investigation is now possible in just a few minutes. This feature also simplifies and speeds up identification of interstate criminals, as their records can be matched instantly across the country," it said.

किया; एक लाख से अधिक प्रोफाइल तैयार किए गए

- The police in several States have started collecting **DNA records**, primarily from **blood samples**, of suspects arrested for **heinous crimes**.
कई राज्यों की पुलिस ने जघन्य अपराधों में गिरफ्तार संदिग्धों के डीएनए अभिलेख एकत्रित करना शुरू कर दिया है, जो मुख्यतः रक्त नमूनों से प्राप्त किए जा रहे हैं।
- Along with **DNA profiles**, photographs, fingerprints, and iris scans, the government is creating a unique **identification record** of arrested persons and convicts that can be retained for up to **75 years**.
डीएनए प्रोफाइल, फोटोग्राफ, फिंगरप्रिंट और आइरिस स्कैन के साथ सरकार गिरफ्तार व्यक्तियों और दोषसिद्ध अपराधियों का एक विशिष्ट पहचान अभिलेख तैयार कर रही है, जिसे 75 वर्षों तक सुरक्षित रखा जा सकता है।
- Over the past five months, the DNA records of more than **one lakh suspects** have been stored in a central database operated by the **National Crime Records Bureau (NCRB)** under the Union Home Ministry.
पिछले पाँच महीनों में एक लाख से अधिक संदिग्धों के डीएनए अभिलेखों को केंद्रीय गृह मंत्रालय के अधीन राष्ट्रीय अपराध अभिलेख ब्यूरो (NCRB) द्वारा संचालित केंद्रीय डेटाबेस में संग्रहीत किया गया है।
- The samples are being collected under the **Criminal Procedure (Identification) Act (CrPI)**, a law passed in Parliament in **2022**.
ये नमूने आपराधिक प्रक्रिया (पहचान) अधिनियम (CrPI) के अंतर्गत एकत्र किए जा रहे हैं, जो 2022 में संसद द्वारा पारित किया गया था।
- More than **2,600 measurement collection units** have been established across the country, and the CrPI system is now available in police districts and prisons.
देशभर में 2,600 से अधिक मापन संग्रह इकाइयाँ स्थापित की गई हैं और अब CrPI प्रणाली पुलिस जिलों तथा कारागारों में उपलब्ध है।
- It is also accessible to Central agencies such as the **Central Bureau of Investigation (CBI)**, the **National Investigation Agency (NIA)**, and the **Narcotics Control Bureau (NCB)**.
यह प्रणाली केंद्रीय अन्वेषण ब्यूरो (CBI), राष्ट्रीय अन्वेषण अभिकरण (NIA) तथा स्वापक नियंत्रण ब्यूरो (NCB) जैसी केंद्रीय एजेंसियों के लिए भी उपलब्ध है।
- The contours of the **CrPI system** were showcased on June 19 at an NCRB event presided over by **Home Minister Amit Shah**.
गृह मंत्री अमित शाह की अध्यक्षता में 19 जून को आयोजित NCRB कार्यक्रम में CrPI प्रणाली की रूपरेखा प्रस्तुत की गई।
- "The samples are at present being collected by police in cases punishable by **seven years**.
"वर्तमान में पुलिस ऐसे मामलों में नमूने एकत्र कर रही है जिनमें सात वर्ष तक की सजा का प्रावधान है।
- The DNA, mostly drawn from blood and in some cases saliva too, is then sent to a **forensic laboratory**, which generates a unique number.
डीएनए, जो प्रायः रक्त तथा कुछ मामलों में लार से प्राप्त किया जाता है, को फॉरेंसिक प्रयोगशाला भेजा जाता है, जहाँ एक विशिष्ट संख्या उत्पन्न की जाती है।
- The NCRB preserves the code in its records.
NCRB इस कोड को अपने अभिलेखों में सुरक्षित रखता है।
- The sanctity of the samples depends on the police," an NCRB official said.
नमूनों की विश्वसनीयता पुलिस की कार्यप्रणाली पर निर्भर करती है," एक NCRB अधिकारी ने कहा।

NAFIS

एनएफआईएस (NAFIS)

- "CrPI Act, 2022 allows police and prison officers to take **physical and biological samples** of arrested and convicted individuals.

“CrPI अधिनियम, 2022 पुलिस और कारागार अधिकारियों को गिरफ्तार तथा दोषसिद्ध व्यक्तियों के भौतिक एवं जैविक नमूने लेने की अनुमति देता है।

- To make these provisions effective, there was a need for a national platform that could integrate and make identification-related data useful across the country.
इन प्रावधानों को प्रभावी बनाने के लिए ऐसे राष्ट्रीय मंच की आवश्यकता थी जो पहचान संबंधी आंकड़ों को एकीकृत कर पूरे देश में उपयोगी बना सके।
- In this direction, the **NCRB launched the National Automated Fingerprint Identification System (NAFIS) in the year 2022**, which fully automated the fingerprint matching process.
इसी दिशा में NCRB ने वर्ष 2022 में **राष्ट्रीय स्वचालित अंगुलीछाप पहचान प्रणाली (NAFIS)** प्रारंभ की, जिसने फिंगरप्रिंट मिलान प्रक्रिया को पूर्णतः स्वचालित बना दिया।
- **Today, with more than 1.27 crore fingerprint records**, NAFIS has played a significant role in solving many old interstate criminal cases,” a presentation on the CrPI system said.
CrPI प्रणाली की प्रस्तुति के अनुसार, आज **1.27 करोड़ से अधिक फिंगरप्रिंट अभिलेखों** के साथ NAFIS ने अनेक पुराने अंतर्राज्यीय आपराधिक मामलों के समाधान में महत्वपूर्ण भूमिका निभाई है।
- **“Through CrPI, now all information related to identification, including face, iris, and biological samples is available in a national-level searchable database, making accurate and scientific identification possible within moments.**
“CrPI के माध्यम से अब पहचान से संबंधित समस्त जानकारी, जिसमें **चेहरा, आइरिस तथा जैविक नमूने** शामिल हैं, राष्ट्रीय स्तर के खोजयोग्य डेटाबेस में उपलब्ध है, जिससे कुछ ही क्षणों में सटीक एवं वैज्ञानिक पहचान संभव हो गई है।
- Now, a photo obtained from a crime scene can be instantly matched with records across the country.
अब अपराध स्थल से प्राप्त किसी फोटो का पूरे देश के अभिलेखों से तत्काल मिलान किया जा सकता है।
- CrPI functions as a **unified system** across the country, where every identification-based measurement is securely stored in a standardized system.
CrPI पूरे देश में एक **एकीकृत प्रणाली** के रूप में कार्य करता है, जहाँ पहचान आधारित प्रत्येक मापन को मानकीकृत प्रणाली में सुरक्षित रखा जाता है।
- As per standards, while taking photos, clarity of the eyes is ensured so that identification is not hindered despite any disguise or changes.
मानकों के अनुसार, फोटो लेते समय आँखों की स्पष्टता सुनिश्चित की जाती है ताकि किसी भेष परिवर्तन या अन्य बदलाव के बावजूद पहचान में बाधा न आए।
- **CrPI ensures enrolment of face and iris measurements of arrested and convicted persons, and in special cases, registration of biological samples as well.**
CrPI गिरफ्तार एवं दोषसिद्ध व्यक्तियों के **चेहरे और आइरिस मापनों** के पंजीकरण तथा विशेष मामलों में **जैविक नमूनों** के पंजीकरण को सुनिश्चित करता है।
- There is a provision to retain all these measurements securely for **75 years**,” it said.
इसमें इन सभी मापनों को **75 वर्षों** तक सुरक्षित रखने का प्रावधान है,” प्रस्तुति में कहा गया।
- According to the NCRB presentation, biological samples recovered from crime scenes can be directly matched with existing records, enabling the identification of **habitual offenders** through scientific methods.
NCRB की प्रस्तुति के अनुसार, अपराध स्थलों से प्राप्त जैविक नमूनों का सीधे मौजूदा अभिलेखों से मिलान किया जा सकता है, जिससे **आदतन अपराधियों** की वैज्ञानिक तरीकों से पहचान संभव हो जाती है।

Video analytics feature वीडियो विश्लेषण सुविधा

- The NCRB said the CrPI system also has an advanced **video analytics feature** through which investigating officers can upload **CCTV footage** to identify faces of suspicious persons and match them with the national database.



NCRB ने कहा कि CrPI प्रणाली में उन्नत **वीडियो विश्लेषण सुविधा** भी उपलब्ध है, जिसके माध्यम से जांच अधिकारी **सीसीटीवी फुटेज** अपलोड कर संदिग्ध व्यक्तियों के चेहरों की पहचान कर उन्हें राष्ट्रीय डेटाबेस से मिला सकते हैं।

- "What earlier took hours of manual investigation is now possible in just a few minutes. "जिस कार्य में पहले घंटों की मैन्युअल जांच लगती थी, वह अब कुछ ही मिनटों में संभव हो गया है।
- This feature also simplifies and speeds up identification of **interstate criminals**, as their records can be matched instantly across the country," it said.
यह सुविधा **अंतर्राज्यीय अपराधियों** की पहचान को भी सरल और तेज बनाती है, क्योंकि उनके अभिलेखों का पूरे देश में तत्काल मिलान किया जा सकता है," प्रस्तुति में कहा गया।



GS III: Internal Security

CISF to be deployed at five more prisons in J&K

The Union Home Ministry is set to deploy the Central Industrial Security Force (CISF) at five more prisons in Jammu & Kashmir, including a high-security prison in Kathua, a CISF spokesperson said on Sunday. The high-security jail, which will house inmates involved in serious offences, including terrorism, is yet to be operationalised, the official added. The CISF was earlier given the charge of providing armed security to the Central jails in Srinagar and Jammu (Kot Bhalwal) in October 2023. The force is responsible for securing both the inner and outer perimeters of these sensitive facilities through a combination of trained manpower, modern surveillance systems, and strict access control measures, the CISF spokesperson said.

22J6. CISF to be deployed at five more prisons in J&K जम्मू-कश्मीर की पाँच और जेलों में सीआईएसएफ की तैनाती की जाएगी

- The **Union Home Ministry** is set to deploy the **Central Industrial Security Force (CISF)** at **five more prisons in Jammu & Kashmir**, including a **high-security prison in Kathua**, a CISF spokesperson said on Sunday.
केंद्रीय गृह मंत्रालय जम्मू-कश्मीर की पाँच और जेलों में केंद्रीय औद्योगिक सुरक्षा बल (CISF) की तैनाती करने जा रहा है, जिनमें कठुआ की एक उच्च-सुरक्षा जेल भी शामिल है। यह जानकारी रविवार को CISF के एक प्रवक्ता ने दी।
- The **high-security jail, which will house inmates involved in serious offences, including terrorism**, is yet to be operationalised, the official added.
अधिकारी ने बताया कि यह उच्च-सुरक्षा जेल, जिसमें आतंकवाद सहित गंभीर अपराधों में संलिप्त कैदियों को रखा जाएगा, अभी तक संचालन में नहीं लाई गई है।
- The **CISF was earlier given the charge of providing armed security to the Central Jails in Srinagar and Jammu (Kot Bhalwal) in October 2023**.
इससे पहले अक्टूबर 2023 में CISF को श्रीनगर और जम्मू (कोट भलवाल) की केंद्रीय जेलों को सशस्त्र सुरक्षा प्रदान करने की जिम्मेदारी सौंपी गई थी।