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PCS Special: 07 October 2025

1. Navy commissions its second ASW-class ship INS Androth

नौसेना ने अपना दूसरा एसडब्ल्यू श्रेणी का जहाज आईएनएस एंड्रोथ नौसेना में शामिल किया

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2. Kim visits destroyer Choe Hyon, built to 'punish enemy provocations'

किम ने विध्वंसक चोए ह्योन का दौरा किया, जिसे 'शत्रु की उकसावे को दंडित करने' के लिए बनाया गया



Navy commissions its second ASW-class ship *INS Androth*

The Indian Navy commissioned *INS Androth*, the second Anti-Submarine Warfare Shallow Water Craft (ASW-SWC), at the Naval Dockyard in Visakhapatnam on Monday. The first ship to be commissioned in this category was *INS Arnala* in June. The ceremony was presided over by Vice-Admiral Rajesh Pendharkar, Flag Officer Commanding-in-Chief, Eastern Naval Command. Senior naval officers and representatives of Garden Reach Shipbuilders & Engineers were present. The ship has a length of 77m and displaces 1,500 tonnes. It is designed to undertake anti-submarine operations in coastal and shallow waters. The vessel is equipped with advanced machinery and control systems.

Shipbuilders & Engineers were present.

इस अवसर पर वरिष्ठ नौसैनिक अधिकारी और गार्डन रीच शिपबिल्डर्स एंड इंजीनियर्स के प्रतिनिधि उपस्थित थे।

- The ship has a length of 77 metres and displaces 1,500 tonnes. इस जहाज़ की लंबाई 77 मीटर है और यह 1,500 टन विस्थापित करता है।

Navy commissions its second ASW-class ship *INS Androth*
नौसेना ने अपना दूसरा एएसडब्ल्यू श्रेणी का जहाज आईएनएस एंड्रोथ नौसेना में शामिल किया

Commissioning of *INS Androth* by Indian Navy
भारतीय नौसेना द्वारा आईएनएस अंड्रोथ का कमीशनिंग

- The Indian Navy commissioned *INS Androth*, the second Anti-Submarine Warfare Shallow Water Craft (ASW-SWC), at the Naval Dockyard in Visakhapatnam on Monday.

भारतीय नौसेना ने आईएनएस अंड्रोथ, जो कि दूसरा एंटी-सबमरीन वॉरफेयर शैलो वाटर क्राफ्ट (ASW-SWC) है, को सोमवार को विशाखापट्टनम के नौसैनिक गोदी में कमीशन किया।

- The first ship to be commissioned in this category was *INS Arnala*, in June.

इस श्रेणी में पहला जहाज़ आईएनएस अर्नाला था, जिसे जून में कमीशन किया गया था।

- The ceremony was presided over by Vice-Admiral Rajesh Pendharkar, Flag Officer Commanding-in-Chief, Eastern Naval Command.

इस समारोह की अध्यक्षता पूर्वी नौसैनिक कमान के प्रमुख, वाइस-एडमिरल राजेश पेंडरकर ने की।

- Senior naval officers and representatives of Garden Reach



- It is designed to undertake anti-submarine operations in coastal and shallow waters.
यह जहाज़ तटीय और उथले जल क्षेत्रों में पनडुब्बी रोधी अभियानों को अंजाम देने के लिए डिज़ाइन किया गया है।
- The vessel is equipped with advanced machinery and control systems.
यह पोत उन्नत मशीनरी और नियंत्रण प्रणालियों से सुसज्जित है।

Kim visits destroyer *Choe Hyon*, built to 'punish enemy provocations'

PCS

Agence France-Presse
SEOUL

North Korean leader Kim Jong-un visited one of the country's warships, saying the 5,000-ton destroyer should "punish the enemy's provocations", state media reported on Monday.

The *Choe Hyon* is one of the two 5,000-ton destroyers in the North's arsenal, both launched this year as Mr. Kim seeks to ramp up the country's naval capabilities.

The warship "is a clear demonstration of the development of... [North Korea's] armed forces," Mr. Kim said during his visit on Sunday, according to state news agency KCNA.

"The tremendous ability of our Navy should be exercised in the vast ocean



Warship tour: Kim Jong-un visits the *Choe Hyon* destroyer on Sunday at an undisclosed location in North Korea. AP

to thoroughly deter or counter and punish the enemy's provocations for the sovereignty of the state," he added. Mr. Kim has vowed to build a third destroyer of a similar class by October next year.

South Korea's military has said the *Choe Hyon* could have been deve-

loped with Russian help, possibly in exchange for deploying thousands of North Korean troops to support Moscow's war in Ukraine.

KCNA's photos showed Mr. Kim seemingly overseeing a control room inside the ship with monitors showing the ocean around

the Korean Peninsula.

Another photo showed the leader pointing to a blurred map in front of military generals.

Mr. Kim's visit came a day after he announced the deployment of "special assets to major targets" in response to what he called the United States' arms build-up in South Korea, without providing further details. Pyongyang's enemies "will have to worry about which direction their security environment is moving in", he said on Saturday.

The U.S. stations about 28,500 troops in the South to fend off military threats from the nuclear-armed North, and last month conducted a joint military exercise with its security allies, South Korea and Japan.

Kim visits destroyer *Choe Hyon*, built to 'punish enemy provocations'

किम ने विध्वंसक चोए ह्योन का दौरा किया, जिसे 'शत्रु की उकसावे को दंडित करने' के लिए बनाया गया

- North Korean leader **Kim Jong-un** visited one of the country's **warships**, saying the **5,000-ton destroyer** should "punish the enemy's provocations", state media reported on **Monday**.
उत्तर कोरियाई नेता **किम जोंग-उन** ने देश के एक **युद्धपोत** का दौरा किया और कहा कि **5,000 टन का विध्वंसक** "शत्रु की उकसावे को दंडित करना चाहिए", सरकारी मीडिया ने **सोमवार** को रिपोर्ट किया।
- The **Choe Hyon** is one of the two **5,000-ton destroyers** in the North's arsenal, both launched this year as Mr. Kim seeks to ramp up the country's **naval capabilities**.
चोए ह्योन उत्तर कोरिया के शस्त्रागार में दो **5,000 टन के विध्वंसकों** में से एक है, दोनों को इस साल लॉन्च किया गया क्योंकि श्री किम देश की **नौसैनिक क्षमताओं** को बढ़ाना चाहते हैं।
- The warship "is a clear demonstration of the development of... [North Korea's] **armed forces**," Mr. Kim said during his visit on **Sunday**, according to state news agency **KCNA**.



युद्धपोत "... [उत्तर कोरिया की] सशस्त्र सेना के विकास का स्पष्ट प्रदर्शन है," श्री किम ने अपने दौरे के दौरान रविवार को कहा, सरकारी समाचार एजेंसी KCNA के अनुसार।

- "The tremendous ability of our **Navy** should be exercised in the vast ocean to thoroughly deter or counter and punish the enemy's provocations for the **sovereignty of the state**," he added.
"हमारी **नौसेना** की विशाल क्षमता का उपयोग विशाल महासागर में किया जाना चाहिए ताकि राज्य की **संप्रभुता** के लिए शत्रु की उकसावे को पूरी तरह से रोक या दंडित किया जा सके," उन्होंने जोड़ा।
- Mr. Kim has vowed to build a third **destroyer** of a similar class by **October next year**.
श्री किम ने **अक्टूबर अगले साल** तक इसी वर्ग का तीसरा **विध्वंसक** बनाने की प्रतिज्ञा की है।
- South Korea's **military** has said the **Choe Hyon** could have been developed with **Russian help**, possibly in exchange for deploying thousands of North Korean troops to support Moscow's war in **Ukraine**.
दक्षिण कोरिया की **सैन्य** ने कहा कि **चोए ह्योन** संभवतः **रूसी मदद** से विकसित किया गया हो, संभवतः हजारों उत्तर कोरियाई सैनिकों को **यूक्रेन** में मास्को के युद्ध का समर्थन करने के बदले।
- **KCNA's photos** showed Mr. Kim seemingly overseeing a **control room** inside the ship with monitors showing the ocean around the **Korean Peninsula**.
KCNA की तस्वीरों में श्री किम को जहाज के अंदर **कंट्रोल रूम** की निगरानी करते हुए दिखाया गया, जिसमें मॉनिटर पर **कोरियाई प्रायद्वीप** के आसपास का महासागर दिखाई दे रहा था।
- Another photo showed the leader pointing to a blurred **map** in front of **military generals**.
एक अन्य तस्वीर में नेता को **सैनिक जनरलों** के सामने एक धुंधली **मानचित्र (map)** की ओर इशारा करते हुए दिखाया गया।
- Mr. Kim's visit came a day after he announced the deployment of "**special assets to major targets**" in response to what he called the **United States' arms build-up** in South Korea, without providing further details.
श्री किम का दौरा उस दिन के बाद आया जब उन्होंने दक्षिण कोरिया में अमेरिका के कथित **हथियार बढ़ोतरी (arms build-up)** के जवाब में "**मुख्य लक्ष्यों पर विशेष साधन**" तैनात करने की घोषणा की, बिना और विवरण दिए।
- Pyongyang's enemies "will have to worry about which direction their **security environment** is moving in", he said on **Saturday**.
उन्होंने **शनिवार** को कहा कि प्योंगयांग के शत्रुओं को "इस बारे में चिंता करनी होगी कि उनका **सुरक्षा वातावरण (security environment)** किस दिशा में बढ़ रहा है।"
- The **U.S.** stationed about **28,500 troops** in the South to fend off military threats from the **nuclear-armed North**, and last month conducted a joint **military exercise** with its security allies, **South Korea** and **Japan**.
अमेरिका दक्षिण में लगभग **28,500 सैनिकों** को तैनात करता है ताकि **नाभिकीय हथियारयुक्त उत्तर** से सैन्य खतरे से निपटा जा सके, और पिछले महीने अपने सुरक्षा सहयोगियों **दक्षिण कोरिया** और **जापान** के साथ संयुक्त **सैन्य अभ्यास** किया।



GS Paper 1: History, Society and Geography

TOPICS COVERED 07 October 2025

1. Karnataka Minister says no force will be able to separate Veerashaivas and Lingayats
कर्नाटक के मंत्री ने कहा, कोई भी ताकत वीरशैव और लिंगायत को अलग नहीं कर पाएगी
2. Advocate throws papers at CJI-led Bench, raises slogan
वकील ने CJI की अध्यक्षता वाली बेंच पर कागज फेंके, नारेबाजी की

Karnataka Minister says no force will be able to separate Veerashaivas and Lingayats

GS I: A&C

The Hindu Bureau

BENGALURU

Karnataka Minister for Forest, Ecology and Environment Eshwar Khandre on Monday countered the demand for a separate religious status for Lingayats by the Basava Samskruthi Abhiyan, and said that “no force can separate Veerashaivas and Lingayats” in the State.

He recalled the statement made by a revered seer, the late Shivakumara Swamy, that both Veerashaiva and Lingayats were one and ruled out a separate religious tag only to Lingayats.

In reply to Minister M.B. Patil’s demand for a sepa-



Eshwar Khandre

rate religious tag for Lingayats, Mr. Khandre said, “Some vested interests are spreading misinformation about the community with political malice.”

Tag for both groups

Noting that the State would develop if Veerashaiva-Lin-

gayats remained united, he said the Mahasabha was in favour of the religious tag for the Veerashaiva-Lingayat community.

“Although we are all Hindus geographically, Sikhs, Parsis and Jains are recognised as separate religions.” Based on our customs and beliefs, he said a separate religious tag should be given to the Veerashaiva-Lingayat.

The All India Veerashaiva-Lingayat Mahasabha has been demanding the separate column in the caste census for the community since 2000.

Mr. Khandre said the issue of separate religion has nothing to do with the government.



Karnataka Minister says no force will be able to separate Veerashaivas and Lingayats

कर्नाटक के मंत्री ने कहा, कोई भी ताकत वीरशैव और लिंगायत को अलग नहीं कर पाएगी

Demand for Separate Religious Status for Lingayats and Government Response लिंगायतों के लिए अलग धार्मिक दर्जे की मांग और सरकार की प्रतिक्रिया

- **Karnataka Minister for Forest, Ecology and Environment Eshwar Khandre** on Monday countered the demand for a separate religious status for Lingayats by the **Basava Samskruthi Abhiyan**, and said that “no force can separate Veerashaivas and Lingayats” in the State.
कर्नाटक के वन, पारिस्थितिकी और पर्यावरण मंत्री ईश्वर खांदरे ने सोमवार को बसवा संस्कृति अभियान द्वारा की गई लिंगायतों को अलग धर्म का दर्जा देने की मांग का विरोध किया और कहा कि राज्य में “कोई भी शक्ति वीरशैवों और लिंगायतों को अलग नहीं कर सकती।”
- He recalled the statement made by a revered seer, the late **Shivakumara Swamy**, that both **Veerashaiva and Lingayats were one** and ruled out a separate religious tag only to Lingayats.
उन्होंने दिवंगत **शिवकुमार स्वामी** के उस बयान को याद किया जिसमें कहा गया था कि **वीरशैव और लिंगायत एक ही हैं**, और केवल लिंगायतों को अलग धार्मिक दर्जा देने से इंकार किया।
- In reply to Minister **M.B. Patil's** demand for a separate religious tag for Lingayats, Mr. Khandre said, “Some **vested interests** are spreading misinformation about the community with **political malice.**”
मंत्री **एम.बी. पाटिल** की लिंगायतों को अलग धार्मिक दर्जा देने की मांग पर प्रतिक्रिया देते हुए, श्री खांदरे ने कहा, “कुछ **स्वार्थी तत्व** समुदाय के बारे में **राजनीतिक दुर्भावना** से गलत सूचना फैला रहे हैं।”
- **Tag for both groups:** Noting that the State would develop if **Veerashaiva-Lingayats** remained united, he said the **Mahasabha** was in favour of the **religious tag for the Veerashaiva-Lingayat community.**
दोनों समूहों के लिए दर्जा: उन्होंने कहा कि यदि **वीरशैव-लिंगायत** एकजुट रहें तो राज्य का विकास होगा, और बताया कि **महासभा वीरशैव-लिंगायत समुदाय को धार्मिक दर्जा देने के पक्ष में है।**
- “Although we are all **Hindus geographically, Sikhs, Parsis and Jains** are recognised as **separate religions.** Based on our customs and beliefs, he said a **separate religious tag** should be given to the **Veerashaiva-Lingayat.**
“हालांकि हम सभी **भौगोलिक रूप से हिंदू** हैं, लेकिन **सिख, पारसी और जैन** को **अलग धर्मों** के रूप में मान्यता प्राप्त है। हमारी **परंपराओं और मान्यताओं** के आधार पर, उन्होंने कहा कि **वीरशैव-लिंगायत** को भी **अलग धार्मिक दर्जा** दिया जाना चाहिए।”
- The **All India Veerashaiva-Lingayat Mahasabha** has been demanding the **separate column in the caste census** for the community since **2000.**
अखिल भारतीय वीरशैव-लिंगायत महासभा वर्ष **2000** से समुदाय के लिए **जाति जनगणना में अलग कॉलम** की मांग कर रही है।
- Mr. Khandre said the **issue of separate religion has nothing to do with the government.**
श्री खांदरे ने कहा कि **अलग धर्म का मुद्दा सरकार से संबंधित नहीं है।**



Advocate throws papers at CJI-led Bench, raises slogan

The incident, which occurred during court proceedings, comes amid controversy over CJI Gavai's recent remarks in Vishnu idol restoration matter; Bar Council of India suspends Rakesh Kishore

GS I: Society

The Hindu Bureau

NEW DELHI

In a shocking incident, an object resembling a sheaf of papers was flung at a Supreme Court Bench of Chief Justice of India and Justice K. Vinod Chandran on Monday by a person present in the courtroom.

The incident occurred while the Bench was in the process of hearing oral mentioning listed before it.

The day started as usual, though an hour later than usual court hours, at 11.30 a.m. The court had reopened after a week-long holiday, and many urgent cases had been lined up for hearing.

The offending object flew in from the left side of the Bench while the judges were turned to their right, hearing advocate Shivam Singh mention his case for an urgent listing.

CJI remains unfazed

The CJI and Justice Chandran made an initial exclamation of surprise, but quickly collected themselves to urge Mr. Singh to continue his mentioning.



“Do not pay attention to such things. Please carry on...If we are not perturbed, why are you? Just ignore,” the CJI told the distracted lawyers present in the court room.

“I was more rattled than the judges,” Mr. Singh recounted later.

The individual, identified as advocate Rakesh Kishore, raised slogans about “Sanatana” while being escorted out of the court room by security personnel.

The CJI's recent remarks about a Vishnu idol had attracted controversy.

After incessant social media outrage for almost two days thereafter, Chief Justice Gavai had explained

in open court that he believed in all faiths and “true secularism”.

“This incident, reportedly stemming from a misguided backlash against the Chief Justice's judicious observations in the Khajuraho Vishnu Idol Restoration matter, where His Lordship emphasised respect for all religions and clarified his remarks amid social media distortions, cannot be tolerated. It constitutes a direct assault on judicial independence, violates constitutional values of decorum and discipline,” the Supreme Court Bar Association linked the incident with the CJI's earlier oral remarks.

Meanwhile, the Bar

Council of India (BCI) issued an interim suspension order signed by its Chairman, senior advocate Manan Kumar Mishra, against Mr. Kishore, who is enrolled with the Bar Council of Delhi, under the Advocates Act, 1961 and the Bar Council of India Rules on Standards of Professional Conduct and Etiquette. The BCI order even said Mr. Kishore removed his sports shoes and “attempted” to hurl them during court proceedings.

In 2009, a woman had thrown a slipper at Justice Arijit Pasayat (now retired) during the hearing of a contempt case. The woman was taken into custody.

The Supreme Court Advocates-on-Record Association (SCAORA) expressed its deep anguish. “Such conduct is unbecoming of a member of the Bar and strikes at the very foundation of mutual respect that sustains the relationship between the Bench and the Bar,” it said and urged the top court to take suo motu cognisance and initiate proceedings for contempt of court.

Advocate throws papers at CJI-led Bench, raises slogan
वकील ने CJI की अध्यक्षता वाली बेंच पर कागज फेंके, नारेबाजी की



Incident in Supreme Court Involving Chief Justice of India भारत के मुख्य न्यायाधीश से संबंधित सर्वोच्च न्यायालय की घटना

- In a **shocking incident**, an object resembling a sheaf of papers was flung at a **Supreme Court Bench** of **Chief Justice of India (CJI)** and **Justice K. Vinod Chandran** on **Monday** by a person present in the courtroom.
एक चौकाने वाली घटना में, सोमवार को अदालत कक्ष में मौजूद एक व्यक्ति ने भारत के मुख्य न्यायाधीश (सीजेआई) और न्यायमूर्ति के. विनोद चंद्रन की सर्वोच्च न्यायालय पीठ पर कागज़ों के पुलिंदे जैसा एक वस्तु फेंका।
- The incident occurred while the Bench was in the process of **hearing oral mentioning** listed before it. यह घटना तब हुई जब पीठ अपने समक्ष सूचीबद्ध मौखिक उल्लेखों की सुनवाई कर रही थी।
- The day started as usual, though **an hour later than usual court hours**, at **11.30 a.m.** The court had **reopened after a week-long holiday**, and many **urgent cases** had been lined up for hearing. दिन सामान्य रूप से शुरू हुआ, हालांकि आम अदालत समय से एक घंटे देर, यानी सुबह 11:30 बजे। अदालत सप्ताहभर की छुट्टी के बाद फिर से खुली थी, और कई जरूरी मामले सुनवाई के लिए सूचीबद्ध थे।
- The offending object flew in from the **left side of the Bench** while the judges were turned to their right, hearing advocate **Shivam Singh** mention his case for an **urgent listing**. विवादित वस्तु पीठ के बाएं तरफ से उड़ती हुई आई, जब न्यायाधीश अधिवक्ता शिवम सिंह द्वारा अपने तत्काल सूचीकरण वाले मामले का उल्लेख सुन रहे थे।
- **CJI remains unfazed**: The CJI and Justice Chandran made an initial **exclamation of surprise**, but quickly collected themselves to urge Mr. Singh to continue his mentioning.
सीजेआई अप्रभावित रहे: सीजेआई और न्यायमूर्ति चंद्रन ने पहले आश्चर्य का भाव प्रकट किया, लेकिन शीघ्र ही स्वयं को संयमित करते हुए श्री सिंह को अपना उल्लेख जारी रखने को कहा।
- “Do not pay attention to such things. Please carry on...If we are not perturbed, why are you? Just ignore,” the **CJI told the distracted lawyers** present in the courtroom. सीजेआई ने अदालत में उपस्थित विचलित वकीलों से कहा, “ऐसी बातों पर ध्यान न दें। कृपया जारी रखें... अगर हम विचलित नहीं हैं, तो आप क्यों हैं? इसे नजरअंदाज करें।”
- “I was more rattled than the judges,” Mr. Singh recounted later. श्री सिंह ने बाद में कहा, “मैं न्यायाधीशों से अधिक हिल गया था।”
- The individual, identified as **advocate Rakesh Kishore**, raised **slogans about ‘Sanatana’** while being escorted out of the courtroom by **security personnel**. उस व्यक्ति की पहचान अधिवक्ता राकेश किशोर के रूप में हुई, जिसने ‘सनातन’ के समर्थन में नारे लगाए, जबकि सुरक्षा कर्मियों ने उसे अदालत कक्ष से बाहर ले जाया।
- The **CJI’s recent remarks about a Vishnu idol** had attracted **controversy**.
सीजेआई की हालिया विष्णु प्रतिमा संबंधी टिप्पणियों ने विवाद को जन्म दिया था।
- After incessant **social media outrage** for almost two days, **Chief Justice Gavai** had explained in open court that he believed in **all faiths** and in **true secularism**. लगभग दो दिनों तक चले सोशल मीडिया आक्रोश के बाद, मुख्य न्यायाधीश गवई ने खुली अदालत में स्पष्ट किया कि वे सभी धर्मों में विश्वास रखते हैं और सच्चे धर्मनिरपेक्षता के पक्षधर हैं।
- “This incident, reportedly stemming from a **misguided backlash** against the Chief Justice’s **judicious observations** in the **Khajuraho Vishnu Idol Restoration matter**, where His Lordship emphasised **respect for all religions**, cannot be tolerated,” the **Supreme Court Bar Association (SCBA)** stated.
“यह घटना, संभवतः खजुराहो विष्णु प्रतिमा पुनर्स्थापन मामले में मुख्य न्यायाधीश की न्यायसंगत टिप्पणियों के प्रति एक भ्रमित प्रतिक्रिया का परिणाम है, जिसमें उन्होंने सभी धर्मों के प्रति सम्मान पर जोर दिया था, और ऐसी घटना असहनीय है,” ऐसा सुप्रीम कोर्ट बार एसोसिएशन (एससीबीए) ने कहा।
- It termed the act a **direct assault on judicial independence** and a **violation of constitutional values of decorum and discipline**. एससीबीए ने इस कृत्य को न्यायिक स्वतंत्रता पर सीधा हमला और संवैधानिक मर्यादा और अनुशासन का उल्लंघन बताया।
- Meanwhile, the **Bar Council of India (BCI)** issued an **interim suspension order**, signed by its **Chairman Manan Kumar Mishra**, against **Mr. Kishore**, who is enrolled with the **Bar Council of Delhi**, under the **Advocates Act, 1961** and **Bar Council of India Rules on Standards of Professional Conduct and Etiquette**. इसी बीच, भारतीय बार परिषद (बीसीआई) ने अपने अध्यक्ष मनन कुमार मिश्रा द्वारा हस्ताक्षरित एक अंतरिम



निलंबन आदेश जारी किया, जो दिल्ली बार परिषद में नामांकित अधिवक्ता राकेश किशोर के खिलाफ था, यह अधिवक्ता अधिनियम, 1961 और पेशेवर आचरण एवं शिष्टाचार संबंधी नियमों के तहत जारी किया गया।

- The BCI order even said Mr. Kishore removed his sports shoes and attempted to hurl them during court proceedings.
बीसीआई के आदेश में यह भी कहा गया कि श्री किशोर ने अपने खेल के जूते उतार दिए और कार्यवाही के दौरान उन्हें फेंकने का प्रयास किया।
- In 2009, a woman had thrown a slipper at Justice Arijit Pasayat (now retired) during the hearing of a contempt case. The woman was taken into custody.
2009 में, एक महिला ने न्यायमूर्ति अरिजीत पसायत (अब सेवानिवृत्त) पर अवमानना मामले की सुनवाई के दौरान चप्पल फेंकी थी। उस महिला को हिरासत में ले लिया गया था।
- The Supreme Court Advocates-on-Record Association (SCAORA) expressed its deep anguish, stating that such conduct is unbecoming of a member of the Bar and strikes at the foundation of mutual respect between the Bench and the Bar.
सुप्रीम कोर्ट एडवोकेट्स-ऑन-रिकॉर्ड एसोसिएशन (एससीएओआरए) ने अपनी गहरी पीड़ा व्यक्त की और कहा कि ऐसा आचरण बार के सदस्य के लिए अनुचित है तथा यह पीठ और बार के बीच पारस्परिक सम्मान की नींव को हिलाता है।
- It urged the top court to take suo motu cognisance and initiate proceedings for contempt of court.
इसने उच्चतम न्यायालय से स्वतः संज्ञान लेने और अदालत की अवमानना की कार्यवाही शुरू करने का आग्रह किया।

GS Paper II: Polity, Governance, And International Relations

TOPICS COVERED

07 October 2025

1. Stage set for two-phase poll battle in Bihar

बिहार में दो चरणों में होने वाले चुनाव के लिए मंच तैयार

2. Kerala government tables Malayalam Language Bill in Assembly to conserve linguistic rights

केरल सरकार ने भाषाई अधिकारों के संरक्षण के लिए विधानसभा में मलयालम भाषा विधेयक पेश किया

3. India, Australia to sign joint defence and security cooperation declaration

भारत, ऑस्ट्रेलिया संयुक्त रक्षा और सुरक्षा सहयोग घोषणापत्र पर हस्ताक्षर करेंगे

4. Jaishankar says India's interests are best secured by strategic autonomy

जयशंकर ने कहा कि भारत के हित रणनीतिक स्वायत्तता से ही सर्वोत्तम रूप से सुरक्षित हैं

5. Reforming Passive Euthanasia in India

भारत में पैसिव यूथनेशिया में सुधार

6. Can a third party be liable for marital disruption?

क्या कोई तीसरा पक्ष वैवाहिक विघटन के लिए उत्तरदायी हो सकता है?



Stage set for two-phase poll battle in Bihar

Eligible voters number 7.43 crore; 3.92 crore are men, 3.5 crore women, and 1,725 transgender

Final rolls shared with all parties; names can be added 10 days before last date for nominations

Of the total 90,712 polling stations across Bihar, 13,911 are in urban areas and 76,801 in rural areas

CS II: Elections

The Hindu Bureau
NEW DELHI

The Bihar Assembly election will be conducted in two phases, covering all 243 constituencies.

The first phase of polling will be on November 6 for 121 constituencies, while the second phase on November 11 will cover the remaining 122. Counting of votes will be taken up on November 14, Chief Election Commissioner Gyanesh Kumar said on Monday.

Byelection in the Budgam and Nagrota constituencies in Jammu and Kashmir; Anta in Rajasthan; Ghatsila (reserved for Scheduled Tribes) in Jharkhand; Jubilee Hills in Telangana; Tarn Taran in Punjab; Dampa (Scheduled Tribe) in Mizoram; and Nuapada in Odisha will be held on November 11.

The votes will be counted

on November 14.

There are 203 general constituencies, two reserved for Scheduled Tribes, and 38 for Scheduled Castes in Bihar.

The State has 7.43 crore eligible voters, including close to 3.92 crore men, 3.5 crore women, and 1,725 transgender persons. About 14.01 lakh are first-time voters (18-19 age group); 1.63 crore are in the 20-29 age group; 4.04 lakh are very senior citizens (aged above 85); and about 14,000 are centenarians, besides 1.63 lakh service electors and 7.2 lakh voters with disabilities.

The Gazette notification for the first phase of polling will be issued on October 10, and the last date to file nominations is October 17.

For the second phase, the Gazette notification will be issued on October 13, and the last date to file nominations is October 20.

Battle lines drawn

The upcoming Assembly election in Bihar will be held in two phases



Assembly bypolls on November 11

- Jammu and Kashmir: Budgam, Nagrota
- Rajasthan: Anta
- Jharkhand: Ghatsila (ST)
- Telangana: Jubilee Hills
- Punjab: Tarn Taran
- Mizoram: Dampa (ST)
- Odisha: Nuapada

The counting of votes will be held on November 14

Mr. Kumar said the final electoral roll has been shared with all the parties. In case voters notice errors in the list, they can file an appeal with the District Magistrate. If any eligible person has been left out, they can have their names added until 10 days before the last date for filing nominations.

Mr. Kumar said that of the total 90,712 polling sta-

tions across the State, 13,911 will be in urban areas and 76,801 in rural areas.

While 292 of these stations will be managed by persons with disabilities, 1,044 will be managed by women, and 38 by youth. The average number of eligible voters per polling station is 818. "Webcasting will be done at all the polling stations for the first time," he said.

"Police patrolling on horseback will be done across 'diara' regions covering 250 polling stations, and patrolling parties will use boats at 197 polling stations," the CEC said.

He said there will be one general observer (senior officials from outside the State) per constituency, apart from 38 police and 67 expenditure observers in Bihar.

A total of 8.5 lakh officials, including 4.53 lakh polling and 2.5 lakh police personnel, 90,712 anganwadi sevikas (who may also assist in verifying identities of 'burqa-clad' women voters if required), 17,800 micro observers for polling and 4,800 for counting, 28,300 counting officials, and 9,600 sector officers, will be deployed.

Postal ballot counting

On the preparation of electoral rolls, Mr. Kumar said the special intensive revi-

sion (SIR) went on from June 24 to July 25, and the draft list was published and distributed among stakeholders, including political parties, on August 1.

Voters, parties, and Booth Level Agents (BLAs) were given ample opportunity to file claims and objections. The final list was published on September 30.

Describing the SIR as the process of "purification" of electoral rolls that would set a benchmark for future revisions, Mr. Kumar said close to 69 lakh names have been struck off the list.

The reasons included deaths, unproven citizenship, duplicate entries, or permanent migration to other States.

He said a breakup could not be given in a "decentralised" set-up as Electoral Registration Officers make voter lists.

It can be appealed be-

fore District Magistrates and the Chief Electoral Officer.

Given the demand from several political parties, the commission has now made it mandatory to complete postal ballot counting before the last two rounds of Electronic Voting Machine (EVM)/Voter-Verifiable Paper Audit Trail (VVPAT) counting.

The counting of VVPAT slips will be mandatory in case of a mismatch between form 17C, which contains details of votes polled per booth among other crucial data, and EVM data and wherever mock-poll data has not been erased erroneously.

Among 17 new initiatives taken by the election commission are facilities to deposit mobile phones at polling stations and a one-stop digital platform named ECINet, on which real-time voter turnout updates will be given.

Stage set for two-phase poll battle in Bihar

बिहार में दो चरणों में होने वाले चुनाव के लिए मंच तैयार

Bihar Assembly Election Schedule

बिहार विधानसभा चुनाव कार्यक्रम

- The Bihar Assembly election will be conducted in **two phases**, covering all **243 constituencies**. बिहार विधानसभा चुनाव दो चरणों में आयोजित किया जाएगा, जो **243 निर्वाचन क्षेत्रों** को कवर करेगा।
- The **first phase of polling** will be on **November 6** for **121 constituencies**, while the **second phase** on **November 11** will cover the remaining **122 constituencies**. पहला चरण मतदान 6 नवंबर को 121 निर्वाचन क्षेत्रों के लिए होगा, जबकि दूसरा चरण 11 नवंबर को शेष 122 निर्वाचन क्षेत्रों के लिए होगा।
- **Counting of votes** will be taken up on **November 14**, said **Chief Election Commissioner Gyanesh Kumar**. मुख्य चुनाव आयुक्त ज्ञानेश कुमार ने कहा कि वोटों की गिनती 14 नवंबर को की जाएगी।

By-elections in Other States

अन्य राज्यों में उपचुनाव

- **Byelection in Budgam and Nagrota** constituencies in **Jammu and Kashmir**; **Anta** in **Rajasthan**; **Ghatsila (ST)** in **Jharkhand**; **Jubilee Hills** in **Telangana**; **Tarn Taran** in **Punjab**; **Dampa (ST)** in **Mizoram**; and **Nuapada** in **Odisha** will be held on **November 11**. जम्मू और कश्मीर की बडगाम और नगरोटा सीटों पर, राजस्थान की अंता सीट पर, झारखंड की घाटशिला (अनुसूचित जनजाति) सीट पर, तेलंगाना की जुबली हिल्स, पंजाब की तरनतारन, मिजोरम की डाम्पा (अनुसूचित जनजाति) और ओडिशा की नुआपाड़ा सीट पर 11 नवंबर को उपचुनाव होंगे।
- The votes for these will be counted on **November 14**. इन उपचुनावों की वोटों की गिनती 14 नवंबर को होगी।

Constituency Composition and Voter Data

निर्वाचन क्षेत्र संरचना और मतदाता आंकड़े



- There are 203 general constituencies, 2 reserved for Scheduled Tribes, and 38 for Scheduled Castes in Bihar.
• बिहार में 203 सामान्य निर्वाचन क्षेत्र, 2 अनुसूचित जनजाति और 38 अनुसूचित जाति के लिए आरक्षित हैं।
- The State has 7.43 crore eligible voters, including 3.92 crore men, 3.5 crore women, and 1,725 transgender persons.
राज्य में 7.43 करोड़ योग्य मतदाता हैं, जिनमें 3.92 करोड़ पुरुष, 3.5 करोड़ महिलाएं, और 1,725 ट्रांसजेंडर व्यक्ति शामिल हैं।
- About 14.01 lakh first-time voters (18-19 age group); 1.63 crore in 20-29 age group; 4.04 lakh senior citizens (85+ years); and about 14,000 centenarians.
लगभग 14.01 लाख प्रथम बार मतदान करने वाले (18-19 वर्ष आयु वर्ग); 1.63 करोड़ (20-29 आयु वर्ग); 4.04 लाख वरिष्ठ नागरिक (85 वर्ष से ऊपर); और लगभग 14,000 शतायु मतदाता हैं।
- There are 1.63 lakh service electors and 7.2 lakh voters with disabilities.
1.63 लाख सेवा मतदाता और 7.2 लाख विकलांग मतदाता हैं।

Notification and Nomination Schedule

अधिसूचना और नामांकन कार्यक्रम

- Gazette notification for the first phase of polling will be issued on October 10, and the last date to file nominations is October 17.
पहले चरण के लिए राजपत्र अधिसूचना 10 अक्टूबर को जारी की जाएगी और नामांकन दाखिल करने की अंतिम तिथि 17 अक्टूबर होगी।
- For the second phase, notification will be issued on October 13, and the last date to file nominations is October 20.
दूसरे चरण के लिए अधिसूचना 13 अक्टूबर को जारी की जाएगी और नामांकन दाखिल करने की अंतिम तिथि 20 अक्टूबर होगी।
- The final electoral roll has been shared with all parties.
अंतिम मतदाता सूची सभी दलों के साथ साझा की गई है।

Polling Arrangements and Security Measures

मतदान व्यवस्था और सुरक्षा उपाय

- There are 90,712 polling stations — 13,911 urban and 76,801 rural.
कुल 90,712 मतदान केंद्र हैं — 13,911 शहरी क्षेत्रों में और 76,801 ग्रामीण क्षेत्रों में।
- 292 stations will be managed by persons with disabilities, 1,044 by women, and 38 by youth.
292 केंद्र विकलांग व्यक्तियों, 1,044 केंद्र महिलाओं, और 38 केंद्र युवाओं द्वारा संचालित होंगे।
- Average voters per station: 818.
प्रति केंद्र औसत मतदाता: 818।
- Webcasting will be done at all polling stations for the first time.
पहली बार सभी मतदान केंद्रों पर वेबकास्टिंग की जाएगी।
- Police patrolling on horseback in 'diara' regions (covering 250 polling stations) and boat patrolling at 197 polling stations.
'दियारा' क्षेत्रों में (250 मतदान केंद्रों पर) घोड़े पर पुलिस गश्त और 197 मतदान केंद्रों पर नाव से गश्त की जाएगी।

Observers and Staff Deployment

पर्यवेक्षक और कर्मचारी तैनाती

- One general observer per constituency, apart from 38 police and 67 expenditure observers.
प्रत्येक निर्वाचन क्षेत्र में एक सामान्य पर्यवेक्षक, इसके अलावा 38 पुलिस और 67 व्यय पर्यवेक्षक होंगे।
- 8.5 lakh officials deployed, including 4.53 lakh polling, 2.5 lakh police personnel, 90,712 anganwadi sevikas, 17,800 micro observers (polling), 4,800 for counting, 28,300 counting officials, and 9,600 sector officers.
कुल 8.5 लाख अधिकारी तैनात किए जाएंगे, जिनमें 4.53 लाख मतदान अधिकारी, 2.5 लाख पुलिस कर्मी, 90,712 आंगनवाड़ी सेविकाएं, 17,800 सूक्ष्म पर्यवेक्षक (मतदान), 4,800 गणना पर्यवेक्षक, 28,300 गणना अधिकारी, और 9,600 सेक्टर अधिकारी शामिल हैं।



Electoral Roll Revision and Voter List Purification

मतदाता सूची संशोधन और शुद्धिकरण

- **Special Intensive Revision (SIR)** was done from **June 24 to July 25**, draft list published on **August 1**, and final list on **September 30**.
विशेष गहन पुनरीक्षण (SIR) 24 जून से 25 जुलाई तक किया गया, ड्राफ्ट सूची 1 अगस्त को प्रकाशित हुई, और अंतिम सूची 30 सितंबर को जारी की गई।
- Around **69 lakh names deleted** due to **deaths, unproven citizenship, duplicates, or migration**.
लगभग 69 लाख नाम हटाए गए — मृत्यु, अप्रमाणित नागरिकता, दोहराव या पलायन के कारण।
- **Appeals** can be made before **District Magistrates** and the **Chief Electoral Officer**.
अपीलें जिला मजिस्ट्रेट और मुख्य निर्वाचन अधिकारी के समक्ष की जा सकती हैं।

Postal Ballot and Counting Measures

डाक मतपत्र और मतगणना व्यवस्था

- **Postal ballot counting** must be completed **before the last two rounds** of **EVM/VVPAT counting**.
डाक मतपत्र की गिनती EVM/VVPAT की अंतिम दो चरणों से पहले पूरी की जाएगी।
- **VVPAT slips** will be **mandatorily counted** if there is a **mismatch between Form 17C and EVM data**.
यदि फॉर्म 17C और EVM डेटा में अंतर पाया जाता है, तो VVPAT पर्चियों की गिनती अनिवार्य होगी।

New Initiatives by Election Commission

चुनाव आयोग की नई पहलें

- **17 new initiatives**, including **mobile phone deposit facility** at polling stations and **ECINet digital platform** for **real-time voter turnout updates**.
17 नई पहलें, जिनमें मतदान केंद्रों पर मोबाइल फोन जमा सुविधा और ECINet डिजिटल प्लेटफॉर्म शामिल है, जिस पर वास्तविक समय में मतदान प्रतिशत अपडेट दिए जाएंगे।

Kerala government tables Malayalam Language Bill in Assembly to conserve linguistic rights

GS II: Polity

The Hindu Bureau

THIRUVANANTHAPURAM

The **Left Democratic Front (LDF)** government tabled the **Malayalam Language Bill, 2025**, in the Assembly on Monday.

Law Minister **P. Rajeeve** said the Bill aimed to enshrine the Malayalam language at the heart of official communications in the State. It also sought to render it the legal language in courts trying lesser offences under the respective District and Sessions Courts.

Mr. Rajeeve said the Bill also sought to protect the rights of linguistic minorities, including citizens who considered Tamil, Kanna-

da, Tulu, and Konkani their mother tongues.

“The Bill conserves their right to use their respective language or English for their communications with the government,” he added.

He said the Bill sought to render Malayalam as Kerala’s sole official language. The State now recognised English and Malayalam as official languages. The draft law also proposed to make Malayalam the first language in schools.

The Bill proposed the creation of a Malayalam Language Development Directorate under the aegis of the Official Language Wing for Personnel and Administrative Reforms.



P. RAJEEVE
Kerala Law Minister

Mr. Rajeeve said the Bill rendered Malayalam as the official language of ordinances promulgated by the Kerala Governor, bills introduced in the Assembly, Acts passed by the legislature, and also rules, orders, regulations, and by-

laws of the government, with English translations provided.

Mr. Rajeeve said that earlier versions of the Bill, aimed at preserving, nurturing, and developing Malayalam against the backdrop of the global march of

foreign languages, chiefly English, had failed to receive gubernatorial and presidential assent.

He said the Union government had raised objections regarding provisions concerned with the rights of linguistic minorities, trilingual education in compliance with the national curriculum and the Right to Education Act, 2009.

Mr. Rajeeve said the Bill sought to rectify the anomalies while safeguarding and promoting the Malayalam language and culture. He blamed the Opposition United Democratic Front for “irresponsibly disrupting” the House during crucial legislative business.



Kerala government tables Malayalam Language Bill in Assembly to conserve linguistic rights

केरल सरकार ने भाषाई अधिकारों के संरक्षण के लिए विधानसभा में मलयालम भाषा विधेयक पेश किया

Malayalam Language Bill, 2025 मलयालम भाषा विधेयक, 2025

- The Left Democratic Front (LDF) government tabled the Malayalam Language Bill, 2025, in the Assembly on Monday.
वाम लोकतांत्रिक मोर्चा (एलडीएफ) सरकार ने सोमवार को विधानसभा में मलयालम भाषा विधेयक, 2025 पेश किया।
- Law Minister P. Rajeev said the Bill aimed to enshrine the Malayalam language at the heart of official communications in the State.
कानून मंत्री पी. राजीव ने कहा कि यह विधेयक राज्य में आधिकारिक संचार के केंद्र में मलयालम भाषा को स्थापित करने का उद्देश्य रखता है।
- It also sought to render it the legal language in courts trying lesser offences under the respective District and Sessions Courts.
यह विधेयक जिला और सत्र न्यायालयों में कम अपराधों की सुनवाई करने वाले न्यायालयों में मलयालम को कानूनी भाषा बनाने का भी प्रस्ताव करता है।
- Mr. Rajeev said the Bill also sought to protect the rights of linguistic minorities, including citizens who considered Tamil, Kannada, Tulu, and Konkani their mother tongues.
श्री राजीव ने कहा कि विधेयक का उद्देश्य भाषाई अल्पसंख्यकों के अधिकारों की रक्षा करना भी है, जिनमें वे नागरिक शामिल हैं जो तमिल, कन्नड़, तुलु और कोंकणी को अपनी मातृभाषा मानते हैं।
- “The Bill conserves their right to use their respective language or English for their communications with the government,” he added.
उन्होंने जोड़ा कि “विधेयक उनके सरकारी संचार के लिए अपनी भाषा या अंग्रेज़ी के उपयोग के अधिकार की रक्षा करता है।”
- He said the Bill sought to render Malayalam as Kerala’s sole official language.
उन्होंने कहा कि यह विधेयक केरल की एकमात्र आधिकारिक भाषा के रूप में मलयालम को स्थापित करने का प्रस्ताव रखता है।
- The State now recognised English and Malayalam as official languages.
वर्तमान में राज्य अंग्रेज़ी और मलयालम दोनों को आधिकारिक भाषाओं के रूप में मान्यता देता है।
- The draft law also proposed to make Malayalam the first language in schools.
विधेयक का मसौदा मलयालम को विद्यालयों में प्रथम भाषा बनाने का भी प्रस्ताव रखता है।
- The Bill proposed the creation of a Malayalam Language Development Directorate under the aegis of the Official Language Wing for Personnel and Administrative Reforms.
विधेयक में कार्मिक और प्रशासनिक सुधारों के आधिकारिक भाषा प्रकोष्ठ के अधीन एक मलयालम भाषा विकास निदेशालय के गठन का प्रस्ताव है।
- Mr. Rajeev said the Bill rendered Malayalam as the official language of ordinances promulgated by the Kerala Governor, bills introduced in the Assembly, Acts passed by the legislature, and also rules, orders, regulations, and bylaws of the government, with English translations provided.
श्री राजीव ने कहा कि विधेयक के तहत मलयालम को केरल के राज्यपाल द्वारा जारी अध्यादेशों, विधानसभा में पेश विधेयकों, विधानमंडल द्वारा पारित अधिनियमों, तथा सरकार के नियमों, आदेशों, विनियमों और उपविधियों की आधिकारिक भाषा बनाया गया है, और इनके अंग्रेज़ी अनुवाद भी प्रदान किए जाएंगे।
- Mr. Rajeev said that earlier versions of the Bill, aimed at preserving, nurturing, and developing Malayalam against the backdrop of the global march of foreign languages, chiefly English, had failed to receive gubernatorial and presidential assent.
श्री राजीव ने कहा कि विधेयक के पूर्व संस्करण, जिनका उद्देश्य विदेशी भाषाओं, विशेष रूप से अंग्रेज़ी, के प्रसार के बीच मलयालम को संरक्षित, पोषित और विकसित करना था, उन्हें राज्यपाल और राष्ट्रपति की स्वीकृति नहीं मिल पाई थी।
- He said the Union government had raised objections regarding provisions concerned with the rights of linguistic minorities, trilingual education, in compliance with the national curriculum and the Right to Education Act, 2009.



उन्होंने कहा कि केंद्र सरकार ने विधेयक के उन प्रावधानों पर आपत्तियाँ जताई थीं जो भाषाई अल्पसंख्यकों के अधिकारों, त्रिभाषा शिक्षा, राष्ट्रीय पाठ्यक्रम और शिक्षा का अधिकार अधिनियम, 2009 से संबंधित थे।

- Mr. Rajeev said the Bill sought to rectify the anomalies while safeguarding and promoting the Malayalam language and culture.
 - श्री राजीव ने कहा कि यह विधेयक विसंगतियों को दूर करने के साथ-साथ मलयालम भाषा और संस्कृति की सुरक्षा और संवर्धन का उद्देश्य रखता है।
 - He blamed the Opposition United Democratic Front (UDF) for “irresponsibly disrupting” the House during crucial legislative business.
- उन्होंने विपक्षी संयुक्त लोकतांत्रिक मोर्चा (यूडीएफ) पर आरोप लगाया कि उसने महत्वपूर्ण विधायी कार्यवाही के दौरान सदन को “गैर-जिम्मेदाराना तरीके से बाधित किया।”

India, Australia to sign joint defence and security cooperation declaration

GS II: India-Australia

Saurabh Trivedi

NEW DELHI

Australia has acknowledged India's growing capabilities in producing high-end defence equipment, signalling potential for greater engagement with Indian defence manufacturers in the future. While Canberra has traditionally relied on American and other Western systems, sources said that they see India as an emerging and reliable partner in defence production.

Defence Minister Rajnath Singh's upcoming visit to Australia underscores the growing momentum in the defence partnership and its pivotal role in ensuring stability across the Indo-Pacific, an official said.



Rajnath Singh

Mr. Singh will be on a two-day visit on October 9 and 10, during which he will meet Australian Deputy Prime Minister and Minister for Defence Richard Marles in Sydney and observe live air-to-air refuelling activities aboard a Royal Australian Air Force (RAAF) KC-30A multi-role tanker.

Hinting at broader strategic discussions, the se-

nior official said deliberations during the visit are expected to cover major bilateral and regional issues, including countries of mutual concern.

Maritime strategy

Australia and India are also developing a Maritime Security Road Map to enhance collaboration on maritime domain awareness in the Indian Ocean.

According to sources, both countries are working toward a new Joint Declaration on Defence and Security Cooperation to set the parameters for future engagement.

This year also marks the fifth anniversary of the India-Australia Comprehensive Strategic Partnership, which has witnessed unprecedented progress

across diverse sectors – from trade and investment to education, sports, and renewable energy.

“Defence and security cooperation now stand as one of the strongest pillars of our partnership. Australia and India have emerged as top-tier security partners, with defence engagements more than tripling in the past decade – from 11 activities in 2014 to 33 in 2024,” said a source. “Our partnership enhances each other's strategic autonomy, options, and capabilities. The Air-to-Air Refuelling Implementing Arrangement - India's first with any partner - exemplifies growing interoperability,” the source added.

Australia is also a strong supporter of India's defence industry ambitions.

India, Australia to sign joint defence and security cooperation declaration
भारत, ऑस्ट्रेलिया संयुक्त रक्षा और सुरक्षा सहयोग घोषणापत्र पर हस्ताक्षर करेंगे

India–Australia Defence Partnership and Strategic Cooperation
भारत–ऑस्ट्रेलिया रक्षा साझेदारी और रणनीतिक सहयोग

- Australia has acknowledged India's growing capabilities in producing high-end defence equipment, signalling potential for greater engagement with Indian defence manufacturers in the future.



ऑस्ट्रेलिया ने भारत की उच्च-स्तरीय रक्षा उपकरण उत्पादन क्षमताओं में वृद्धि को स्वीकार किया है, जो भविष्य में भारतीय रक्षा निर्माताओं के साथ अधिक सहयोग की संभावना को दर्शाता है।

- While Canberra has traditionally relied on American and other Western systems, sources said that they see India as an emerging and reliable partner in defence production.
जहाँ कैनबरा परंपरागत रूप से अमेरिकी और अन्य पश्चिमी प्रणालियों पर निर्भर रहा है, वहीं सूत्रों का कहना है कि वे भारत को रक्षा उत्पादन में एक उभरते और विश्वसनीय साझेदार के रूप में देखते हैं।
- Defence Minister Rajnath Singh's upcoming visit to Australia underscores the growing momentum in the defence partnership and its pivotal role in ensuring stability across the Indo-Pacific, an official said.
एक अधिकारी ने कहा कि रक्षा मंत्री राजनाथ सिंह की आगामी ऑस्ट्रेलिया यात्रा रक्षा साझेदारी में बढ़ती गति और इंडो-पैसिफिक क्षेत्र में स्थिरता सुनिश्चित करने में इसकी महत्वपूर्ण भूमिका को रेखांकित करती है।
- Mr. Singh will be on a two-day visit on October 9 and 10, during which he will meet Australian Deputy Prime Minister and Defence Minister Richard Marles in Sydney and observe live air-to-air refuelling activities aboard a Royal Australian Air Force (RAAF) KC-30A multi-role tanker.
श्री सिंह 9 और 10 अक्टूबर को दो दिवसीय यात्रा पर रहेंगे, जिसके दौरान वे सिडनी में ऑस्ट्रेलियाई उप-प्रधानमंत्री एवं रक्षा मंत्री रिचर्ड मार्ल्स से मिलेंगे और रॉयल ऑस्ट्रेलियन एयर फोर्स (RAAF) के KC-30A मल्टी-रोल टैंकर पर लाइव एयर-टू-एयर रिफ्यूइलिंग गतिविधियों का निरीक्षण करेंगे।
- Hinting at broader strategic discussions, the senior official said deliberations during the visit are expected to cover major bilateral and regional issues, including countries of mutual concern.
वृहद रणनीतिक चर्चाओं के संकेत देते हुए वरिष्ठ अधिकारी ने कहा कि इस यात्रा के दौरान वार्ताएँ महत्वपूर्ण द्विपक्षीय और क्षेत्रीय मुद्दों, सहित साझा चिंता वाले देशों को कवर करने की उम्मीद है।
- Maritime strategy: Australia and India are also developing a Maritime Security Road Map to enhance collaboration on maritime domain awareness in the Indian Ocean.
समुद्री रणनीति: ऑस्ट्रेलिया और भारत भारतीय महासागर में समुद्री क्षेत्र जागरूकता पर सहयोग बढ़ाने के लिए एक समुद्री सुरक्षा रोड मैप भी तैयार कर रहे हैं।
- According to sources, both countries are working toward a new Joint Declaration on Defence and Security Cooperation to set the parameters for future engagement.
सूत्रों के अनुसार, दोनों देश रक्षा और सुरक्षा सहयोग पर एक नए संयुक्त घोषणा पत्र की दिशा में काम कर रहे हैं, ताकि भविष्य के सहयोग के मानदंड निर्धारित किए जा सकें।
- This year also marks the fifth anniversary of the India–Australia Comprehensive Strategic Partnership, which has witnessed unprecedented progress across diverse sectors — from trade and investment to education, sports, and renewable energy.
यह वर्ष भारत–ऑस्ट्रेलिया व्यापक रणनीतिक साझेदारी की पांचवीं वर्षगांठ का प्रतीक है, जिसने व्यापार और निवेश से लेकर शिक्षा, खेल और नवीकरणीय ऊर्जा तक विभिन्न क्षेत्रों में अभूतपूर्व प्रगति देखी है।
- “Defence and security cooperation now stand as one of the strongest pillars of our partnership. Australia and India have emerged as top-tier security partners, with defence engagements more than tripling in the past decade — from 11 activities in 2014 to 33 in 2024,” said a source.
एक स्रोत ने कहा, “रक्षा और सुरक्षा सहयोग अब हमारी साझेदारी के सबसे मजबूत स्तंभों में से एक बन गया है। ऑस्ट्रेलिया और भारत शीर्ष-स्तरीय सुरक्षा साझेदार के रूप में उभरे हैं, जहाँ रक्षा गतिविधियाँ पिछले दशक में तीन गुना से अधिक बढ़ी हैं — 2014 में 11 से 2024 में 33 तक।”
- “Our partnership enhances each other’s strategic autonomy, options, and capabilities. The Air-to-Air Refuelling Implementing Arrangement – India’s first with any partner – exemplifies growing interoperability,” the source added.
स्रोत ने आगे कहा, “हमारी साझेदारी एक-दूसरे की रणनीतिक स्वायत्तता, विकल्पों और क्षमताओं को बढ़ाती है। एयर-टू-एयर रिफ्यूइलिंग इम्प्लीमेंटिंग अरेजमेंट – जो भारत का किसी भी साझेदार के साथ पहला समझौता है – बढ़ती अंतरसंचालनीयता का उदाहरण है।”
- Australia is also a strong supporter of India’s defence industry ambitions.
ऑस्ट्रेलिया भारत की रक्षा उद्योग संबंधी महत्वाकांक्षाओं का एक मजबूत समर्थक भी है।



Jaishankar says India's interests are best secured by strategic autonomy

GS II: Aravalli Summit

Suhasini Haidar

NEW DELHI

India has always exerted its strategic autonomy, External Affairs Minister S. Jaishankar said on Monday, referring to the country's decision to sign a friendship pact with the Soviet Union in 1971 as a "necessary" choice, given the triangular threats India faced from the other big powers, the United States and China.

Speaking at the launch of the Aravalli Summit, organised by the Jawaharlal Nehru University's School of International Studies, marking its 70th anniversary, Mr. Jaishankar, an alumnus of the school himself, said that it was necessary for students of foreign policy to factor in a future of multi-alignment and multipolarity. Mr. Jaishankar said recent global volatility, including the imposition of tariffs by the U.S., had made the case for multi-alignment, more than allying with any one power, much stronger.

"Imagine if [India were] not today adopting strategic autonomy. Please tell me, which country in the world would you like to join up with and put [India's] future in their hands," he asked. "I can't think of anybody. [India's] interest is best secured by maximising its options, maintaining [its] freedom of choices," he said.

Mr. Jaishankar's comments came a day after he said that trade negotiations with the U.S. would have to respect India's "red-lines".

National interest

The government has also been facing increased pressure from the U.S. over the issue of Russian oil imports. While Mr. Jaishankar did not refer directly to India's position, amidst reports that Russian oil imports in September have been considerably reduced, he praised India's stand during the 1971 war



S. Jaishankar at the launch of the Aravalli Summit at Jawaharlal Nehru University in New Delhi on Monday. X/@DRSJAISHANKAR

The purpose of India's policy is not to solve problems, but to 'manage relationships to national advantage', says Jaishankar

with Pakistan and Liberation of Bangladesh, when India signed a Friendship Treaty with Soviet Union.

"What we did was in our national interest – we were dealing with a U.S.-China triangle and we had to find a way out of this," Mr. Jaishankar said, answering questions from students at the event, which was co-hosted by the Ministry of External Affairs, and the newly launched Delhi-based Adani Group-owned think tank Chintan Research Foundation. "So, the decision we took in the midst of an acute national security crisis, was necessary," he added, addressing the audience, which included a number of diplomats, including the Ambassador of Russia to India Denis Alipov, and Bangladesh High Commissioner Riaz Hamidullah.

Asked about India's neighbourhood first policy amid signs of strains with a number of neighbours including Bangladesh, and protest-led regime changes in Sri Lanka and Nepal, Mr. Jaishankar said India has to

be prepared to unilaterally "underwrite the infrastructure for cooperation" with countries in the region, and should become the "go-to option" for neighbouring countries when in need.

Managing relations

"Every country has problematic neighbours, and every big country has more problematic neighbours," the External Affairs Minister said, stressing that the purpose of India's policy was not merely to solve problems, but to "manage relationships to national advantage". Without directly naming Pakistan, he said that barring one country, India has effected "transformational change" in projects with neighbouring countries, in the areas of energy, roads, railway lines, and the movement of people.

Asked about the "re-hyphenation" of India with Pakistan, post Operation Sindoor, and a reference to recent developments where the U.S., Saudi Arabia, China, Turkiye, and other countries have forged closer ties with Islamabad, Mr. Jaishankar said India "cannot wish away a difficult neighbour", as that is a "reality". But he said that other countries no longer draw an equivalence between India and Pakistan.

Jaishankar says India's interests are best secured by strategic autonomy
जयशंकर ने कहा कि भारत के हित रणनीतिक स्वायत्तता से ही सर्वोत्तम रूप से सुरक्षित हैं

India's Strategic Autonomy and Foreign Policy Vision
भारत की रणनीतिक स्वायत्तता और विदेश नीति की दृष्टि

• India has always exerted its strategic autonomy, External Affairs Minister S. Jaishankar said on Monday, referring to the country's decision to sign a friendship pact with the Soviet Union in 1971 as a "necessary" choice, given the triangular threats from the United States and China.

भारत ने हमेशा अपनी रणनीतिक स्वायत्तता बनाए रखी है, यह बात विदेश मंत्री एस. जयशंकर ने सोमवार को कही, जब उन्होंने 1971 में सोवियत संघ के साथ मैत्री संधि पर हस्ताक्षर करने के निर्णय को एक "आवश्यक" कदम बताया, क्योंकि उस समय भारत संयुक्त राज्य अमेरिका और चीन से उत्पन्न त्रिकोणीय खतरों का सामना कर रहा था।

• Speaking at the launch of the Aravalli Summit, organised by the Jawaharlal Nehru University's School of International Studies, marking its 70th anniversary, Mr. Jaishankar, an alumnus of the school, said it was necessary for students of foreign policy to factor in a future of multi-alignment and multipolarity.

जवाहरलाल नेहरू विश्वविद्यालय के स्कूल ऑफ इंटरनेशनल स्टडीज़ द्वारा आयोजित अरावली समिट के उद्घाटन अवसर पर, जो अपनी 70वीं वर्षगांठ मना रहा था, जयशंकर, जो स्वयं इस विद्यालय के पूर्व छात्र हैं, ने कहा कि विदेश नीति के छात्रों को बहु-संरक्षण और बहुध्रुवीयता के भविष्य को ध्यान में रखना चाहिए।

• Mr. Jaishankar said recent global volatility, including the imposition of tariffs by the U.S., had made the case for multi-alignment much stronger than aligning with any single power.

जयशंकर ने कहा कि वैश्विक अस्थिरता, जिसमें संयुक्त राज्य द्वारा शुल्क लगाए जाना शामिल है, ने किसी एक शक्ति के साथ जुड़ने की तुलना में बहु-संरक्षण की नीति को अधिक प्रासंगिक और मजबूत बना दिया है।

• "Imagine if India were not adopting strategic autonomy. Please tell me, which country in the world would you like to join up with and put India's future in their hands," he asked.



उन्होंने कहा, “कल्पना कीजिए, यदि भारत रणनीतिक स्वायत्तता नहीं अपनाता, तो बताइए कि दुनिया में कौन-सा देश है जिसके साथ हम जुड़कर अपना भविष्य उसके हाथों में सौंप दें?”

- “India’s interest is best secured by maximising its options and maintaining its freedom of choices,” he added.
उन्होंने आगे कहा, “भारत का हित अपने विकल्पों को अधिकतम करने और निर्णय लेने की स्वतंत्रता बनाए रखने में निहित है।”
- Mr. Jaishankar’s comments came a day after he said that **trade negotiations with the U.S.** would have to **respect India’s “red-lines.”**
जयशंकर की टिप्पणियाँ उस दिन के बाद आईं जब उन्होंने कहा था कि **संयुक्त राज्य के साथ व्यापार वार्ताओं** को भारत की **“रेड-लाइन्स” का सम्मान करना होगा।**
- The government has been facing **pressure from the U.S.** over **Russian oil imports**, but Mr. Jaishankar did not refer directly to India’s position.
सरकार **रूसी तेल आयात** के मुद्दे पर **संयुक्त राज्य अमेरिका के दबाव** का सामना कर रही है, हालांकि **जयशंकर** ने भारत की स्थिति का सीधा उल्लेख नहीं किया।
- He **praised India’s stand during the 1971 war with Pakistan and the Liberation of Bangladesh**, when India **signed a Friendship Treaty with the Soviet Union.**
उन्होंने **1971 के भारत-पाक युद्ध और बांग्लादेश मुक्ति संग्राम** के दौरान भारत की भूमिका की प्रशंसा की, जब भारत ने **सोवियत संघ के साथ मैत्री संधि** पर हस्ताक्षर किए थे।
- “What we did was in our national interest — we were dealing with a **U.S.-China triangle** and we had to find a way out of this,” Mr. Jaishankar said, answering questions from students at the event.
उन्होंने छात्रों के प्रश्नों के उत्तर देते हुए कहा, “जो हमने किया वह **राष्ट्रीय हित** में था — हम **अमेरिका-चीन त्रिकोणीय स्थिति** से जुड़ा रहे थे और हमें इससे निकलने का रास्ता खोजना था।”
- He said the decision taken during an **acute national security crisis** was **necessary**, addressing an audience that included **Russian Ambassador Denis Alipov** and **Bangladesh High Commissioner Riaz Hamidullah.**
उन्होंने कहा कि **गंभीर राष्ट्रीय सुरक्षा संकट** के बीच लिया गया निर्णय **आवश्यक** था। इस कार्यक्रम में **रूसी राजदूत डेनिस अलीपोव** और **बांग्लादेश के उच्चायुक्त रियाज हमीदुल्लाह** सहित कई राजनयिक उपस्थित थे।
- Asked about **India’s neighbourhood first policy amid strains with neighbours** including **Bangladesh, Sri Lanka, and Nepal**, Mr. Jaishankar said India must be ready to “**unilaterally underwrite the infrastructure for cooperation**” with the region.
बांग्लादेश, श्रीलंका और नेपाल सहित कई पड़ोसियों के साथ **तनावपूर्ण संबंधों** के बीच **भारत की ‘पड़ोसी पहले’ नीति** पर पूछे गए प्रश्न के उत्तर में जयशंकर ने कहा कि भारत को क्षेत्रीय सहयोग के लिए “**एकतरफा रूप से बुनियादी ढांचे को समर्थन देने**” के लिए तैयार रहना चाहिए।
- He added that India should become the “**go-to option**” for neighbouring countries **when in need.**
उन्होंने जोड़ा कि भारत को अपने **पड़ोसी देशों के लिए “आश्रय विकल्प”** बनना चाहिए, **जब वे आवश्यकता में हों।**
- “Every country has problematic neighbours, and every big country has more problematic neighbours,” he said, emphasising that the purpose of India’s policy was not just to solve problems but to “**manage relationships to national advantage.**”
उन्होंने कहा, “हर देश के कुछ समस्याग्रस्त पड़ोसी होते हैं, और हर बड़े देश के अधिक समस्याग्रस्त पड़ोसी होते हैं,” और यह भी जोड़ा कि भारत की नीति का उद्देश्य केवल समस्याओं को सुलझाना नहीं बल्कि “**राष्ट्रीय हित में संबंधों का प्रबंधन करना**” है।
- Without naming Pakistan, he said that barring one country, India has achieved “**transformational change**” with its neighbours in areas of **energy, roads, railway lines, and movement of people.**
पाकिस्तान का नाम लिए बिना उन्होंने कहा कि एक देश को छोड़कर भारत ने **ऊर्जा, सड़क, रेलमार्ग और जन-आवागमन** के क्षेत्रों में अपने पड़ोसी देशों के साथ “**परिवर्तनकारी प्रगति**” हासिल की है।
- On being asked about “**rehyphenation**” of India with Pakistan after **Operation Sindoor**, and the **growing ties of the U.S., Saudi Arabia, China, Turkiye, and others with Islamabad**, he said India “**cannot wish away a difficult neighbour**”, as that is a reality.
ऑपरेशन सिंदूर के बाद भारत और पाकिस्तान के “**रीहाइफनेशन**” तथा **संयुक्त राज्य, सऊदी अरब, चीन और तुर्किये** जैसे देशों के **इस्लामाबाद के साथ बढ़ते संबंधों** पर पूछे गए प्रश्न के उत्तर में उन्होंने कहा कि भारत “**कठिन पड़ोसी को नज़रअंदाज नहीं कर सकता**”, क्योंकि यह एक **वास्तविकता** है।
- However, he asserted that **other countries no longer draw equivalence between India and Pakistan.**
हालांकि उन्होंने यह भी कहा कि **अन्य देश अब भारत और पाकिस्तान के बीच समानता नहीं करते।**



Reforming passive euthanasia in India

GS II: Polity

In June, the U.K.'s House of Commons passed the Terminally Ill Adults (End of Life) Bill, reigniting a global conversation about euthanasia. The proposed law permits physician-assisted dying for mentally competent adults expected to live fewer than six months, subject to medical certification and oversight by a national panel. While it is awaiting approval from the House of Lords, the Bill marks a bold legal and moral step that many western countries have embraced.

While India has recognised passive euthanasia through a series of Supreme Court judgments, it has consciously drawn a line against active euthanasia. Cultural values, institutional capacity, and socio-economic conditions make it unlikely that India will mirror the U.K.'s path. But that does not mean it should remain static.

Practical inaccessibility

Passive euthanasia permits the withdrawal of life-sustaining treatment when it merely prolongs suffering. It is not an act of killing but an allowance for death to take its natural course. Yet, despite legal recognition, procedural requirements, such as advance directives, dual medical board clearance, and occasional judicial oversight, make implementation painfully slow.

For patients in terminal stages or their families, these delays amount to cruelty. The law, though sound in principle, is often hollow in practice. Reports from tertiary hospitals suggest that in most cases, families are forced to make decisions informally and outside the legal framework, thus placing doctors in a difficult legal position. The absence of an efficient implementation system erodes the very dignity the law was intended to preserve.

The U.K. model, while progressive, rests on strong institutional supports such as the National Health Service, universal access to general practitioners,



K. Kannan

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India's constitutional promise of dignity in life must extend to dignity in dying

and a reliable regulatory framework. India's healthcare system is fragmented, uneven, and under-resourced. Moreover, its societal context – marked by deep family involvement, religious sensitivities, and varying literacy levels – makes end-of-life choices more complex. Introducing active euthanasia, even with safeguards, may inadvertently pressurise the elderly, disabled, or financially dependent to opt for death. As medical care is expensive and palliative care underdeveloped, this could produce ethical dilemmas of coercion.

There are also jurisprudential concerns. While Article 21 of the Constitution guarantees the right to life and has been interpreted to include the right to die with dignity, this cannot be stretched to mean a right to be killed. The Supreme Court has been cautious in maintaining the distinction between omission and commission, between allowing death and causing death. The Indian approach reflects a careful ethical conservatism suited to the realities of the country.

Charting its own course

Rather than expanding into active euthanasia, India should focus on refining its passive euthanasia protocol. A humane, efficient system can be built by leveraging digital tools and streamlining procedures. There is already growing consensus among medical professionals and legal scholars that the present system is too cumbersome.

Advance directives should be registered on a national digital portal, linked with Aadhaar for biometric verification. This system should allow patients to create, update, or revoke their directives easily. A treating physician should validate the patient's mental capacity and intent online.

Hospital ethics committees, consisting of senior doctors, a palliative care specialist, and a neutral third party, should be empowered to authorise withdrawal of life support within

48 hours. Exceptional cases can be flagged for further scrutiny.

Although a State-level ombudsman was initially proposed for oversight, India's experience with ombudsman schemes in banking and insurance has been mixed. Delays, limited enforcement powers, and public unfamiliarity have marred their effectiveness. Instead, a more transparent, decentralised review mechanism – perhaps built into hospital networks and monitored through digital dashboards – may be more suitable. Independent medical auditors or health commissioners with statutory backing could be alternatives worth exploring.

Mandatory safeguards, such as a seven-day cooling-off period, psychological counselling, and palliative care review, should remain part of the process to prevent misuse and ensure decisions are fully informed. These align with international best practices and help address fears of abuse, especially among vulnerable populations.

The way forward

India's constitutional promise of dignity in life must extend to dignity in dying. Reforming passive euthanasia does not require India to imitate the U.K.'s active euthanasia model, but it does compel it to make the current framework workable. Digitally driven procedures, local hospital-based ethics review, and effective (but not burdensome) oversight can make end-of-life decisions more accessible and humane. This path is consistent with Indian values, safeguards against abuse, and empowers patients without risking exploitation. In addition, medical education must integrate training on end-of-life care, including ethical and legal components. Public awareness campaigns are essential to normalise discussions on advance care planning. Without public trust and awareness, even the best laws will fail to serve their purpose.



Reforming Passive Euthanasia in India भारत में पैसिव यूथनेशिया में सुधार

Terminally III Adults (End of Life) Bill

टर्मिनली इल व एडल्ड्स (एंड ऑफ लाइफ) बिल

- In June, the U.K.'s House of Commons passed the **Terminally III Adults (End of Life) Bill**, reigniting a global conversation about **euthanasia**.
जून में, यू.के. हाउस ऑफ कॉमन्स ने टर्मिनली इल व एडल्ड्स (एंड ऑफ लाइफ) बिल पास किया, जिससे यूटेनेशिया पर वैश्विक चर्चा फिर से शुरू हुई।
- The proposed law permits **physician-assisted dying** for **mentally competent adults** expected to live **fewer than six months**, subject to **medical certification** and oversight by a **national panel**.
प्रस्तावित कानून मानसिक रूप से सक्षम वयस्कों के लिए फिजिशियन-असिस्टेड डेथ की अनुमति देता है, जिनकी उम्मीद की जाने वाली आयु छह महीने से कम है, और यह मेडिकल सर्टिफिकेशन और राष्ट्रीय पैनल की निगरानी के अधीन है।
- While it is awaiting approval from the **House of Lords**, the Bill marks a **bold legal and moral step** that many **western countries** have embraced.
जबकि यह हाउस ऑफ लॉर्ड्स से अनुमोदन की प्रतीक्षा कर रहा है, यह बिल एक साहसिक कानूनी और नैतिक कदम को दर्शाता है जिसे कई पश्चिमी देश अपना चुके हैं।

India's Position on Euthanasia

भारत की यूटेनेशिया पर स्थिति

- India has recognised **passive euthanasia** through a series of **Supreme Court judgments**.
भारत ने सीमित यूटेनेशिया (पासिव यूटेनेशिया) को सुप्रीम कोर्ट के फैसलों के माध्यम से मान्यता दी है।
- India has consciously drawn a line against **active euthanasia**.
भारत ने जानबूझकर सक्रिय यूटेनेशिया के खिलाफ सीमा तय की है।
- **Cultural values, institutional capacity, and socio-economic conditions** make it unlikely that India will mirror the U.K.'s path.
सांस्कृतिक मूल्य, संस्थागत क्षमता और सामाजिक-आर्थिक परिस्थितियां भारत के यू.के. के मार्ग का पालन करने की संभावना को कम करती हैं।
- But that does not mean it should remain **static**.
लेकिन इसका अर्थ यह नहीं है कि यह स्थिति स्थिर रहे।

Practical Inaccessibility

व्यावहारिक अनुपलब्धता

- **Passive euthanasia** permits the withdrawal of **life-sustaining treatment** when it merely prolongs **suffering**.
पासिव यूटेनेशिया तब जीवन-रक्षक उपचार को रोकने की अनुमति देता है जब यह केवल दुःख को बढ़ाता है।
- It is not an act of **killing** but an allowance for **death to take its natural course**.
यह हत्या का कार्य नहीं है बल्कि मृत्यु को प्राकृतिक मार्ग पर जाने देने की अनुमति है।
- Despite legal recognition, **procedural requirements**, such as **advance directives, dual medical board clearance**, and occasional **judicial oversight**, make implementation painfully slow.
कानूनी मान्यता के बावजूद, प्रक्रियात्मक आवश्यकताएँ, जैसे एडवांस डायरेक्टिव, डुअल मेडिकल बोर्ड मंजूरी, और कभी-कभी न्यायिक निगरानी, कार्यान्वयन को बहुत धीमा बनाती हैं।
- For patients in **terminal stages** or their families, these delays amount to **cruelty**.
टर्मिनल अवस्था के रोगियों या उनके परिवारों के लिए, ये देरी क्रूरता के बराबर है।
- The law, though sound in principle, is often **hollow in practice**.
कानून, सिद्धांत में सही होने के बावजूद, अक्सर व्यवहार में खोखला है।
- Reports from **tertiary hospitals** suggest that in most cases, families are forced to make decisions **informally** and outside the **legal framework**, thus placing **doctors** in a difficult legal position.
टर्शियरी अस्पतालों की रिपोर्ट से पता चलता है कि अधिकांश मामलों में, परिवारों को अनौपचारिक रूप से और



कानूनी ढांचे के बाहर निर्णय लेने के लिए मजबूर किया जाता है, जिससे डॉक्टरों की कानूनी स्थिति कठिन हो जाती है।

- The absence of an **efficient implementation system** erodes the very **dignity** the law was intended to preserve.
एक **प्रभावी कार्यान्वयन प्रणाली** की अनुपस्थिति उस **गरिमा** को कम कर देती है जिसे कानून बनाए रखने का इरादा रखता था।

Comparison with U.K. Model यू.के. मॉडल के साथ तुलना

- The **U.K. model**, while progressive, rests on **strong institutional supports** such as the **National Health Service, universal access to general practitioners, and a reliable regulatory framework.**
जबकि **यू.के. मॉडल** प्रगतिशील है, यह **मजबूत संस्थागत समर्थन** जैसे **नेशनल हेल्थ सर्विस, सामान्य चिकित्सकों तक सार्वभौमिक पहुंच, और भरोसेमंद नियामक ढांचे** पर आधारित है।
- India's **healthcare system** is fragmented, uneven, and under-resourced.
भारत की **स्वास्थ्य प्रणाली** खंडित, असमान और संसाधनों से कम है।
- Societal context — marked by **deep family involvement, religious sensitivities, and varying literacy levels** — makes **end-of-life choices** more complex.
सामाजिक संदर्भ — जिसमें **गहरा पारिवारिक जुड़ाव, धार्मिक संवेदनशीलताएं और विभिन्न साक्षरता स्तर** शामिल हैं — **अंतिम जीवन विकल्पों** को अधिक जटिल बनाता है।
- Introducing **active euthanasia**, even with safeguards, may inadvertently **pressurise the elderly, disabled, or financially dependent** to opt for death.
सक्रिय यूटेनेशिया को लागू करना, सुरक्षा उपायों के साथ भी, अनजाने में **बुजुर्ग, विकलांग या वित्तीय रूप से निर्भर** लोगों को मृत्यु के विकल्प के लिए दबाव डाल सकता है।
- As **medical care** is expensive and **palliative care** underdeveloped, this could produce **ethical dilemmas of coercion.**
चूंकि **चिकित्सा देखभाल** महंगी है और **पैलिएटिव केयर** अपर्याप्त है, यह **जबरदस्ती के नैतिक दुविधाओं** को जन्म दे सकता है।

Jurisprudential Concerns न्यायशास्त्रीय चिंताएँ

- Article 21** of the Constitution guarantees the **right to life** and has been interpreted to include the **right to die with dignity**, but this cannot be stretched to mean a **right to be killed.**
संविधान का **अनुच्छेद 21** **जीवन का अधिकार** गारंटी देता है और इसे **गरिमा के साथ मरने के अधिकार** के रूप में व्याख्यायित किया गया है, लेकिन इसे **हत्या किए जाने के अधिकार** के रूप में नहीं बढ़ाया जा सकता।
- The **Supreme Court** has been cautious in maintaining the distinction between **omission and commission**, between **allowing death and causing death.**
सुप्रीम कोर्ट ने **उपेक्षा और कृत्य** के बीच, **मृत्यु को अनुमति देने और मृत्यु का कारण बनने** के बीच अंतर बनाए रखने में सतर्कता बरती है।
- The **Indian approach** reflects a careful **ethical conservatism** suited to the realities of the country.
भारतीय दृष्टिकोण देश की वास्तविकताओं के अनुरूप सावधान **नैतिक संरक्षणवाद** को दर्शाता है।

Charting its own course अपना मार्ग तय करना

- Rather than expanding into **active euthanasia**, India should focus on refining its **passive euthanasia protocol.**
सक्रिय यूटेनेशिया में विस्तार करने के बजाय, भारत को अपने **पासिव यूटेनेशिया प्रोटोकॉल** को परिष्कृत करने पर ध्यान केंद्रित करना चाहिए।
- A humane, efficient system can be built by leveraging **digital tools** and streamlining **procedures.**
एक मानवीय, कुशल प्रणाली **डिजिटल उपकरणों** का उपयोग और **प्रक्रियाओं** को सुव्यवस्थित करके बनाई जा सकती है।



- There is already growing consensus among **medical professionals** and **legal scholars** that the present system is too **cumbersome**.
चिकित्सा पेशेवरों और कानूनी विद्वानों के बीच पहले से ही यह बढ़ता हुआ सहमति है कि वर्तमान प्रणाली बहुत जटिल है।

Advance Directives and Digital Integration एडवांस डायरेक्टिव और डिजिटल इंटीग्रेशन

- **Advance directives** should be registered on a **national digital portal**, linked with **Aadhaar** for **biometric verification**.
एडवांस डायरेक्टिव को राष्ट्रीय डिजिटल पोर्टल पर पंजीकृत किया जाना चाहिए, और बायोमेट्रिक सत्यापन के लिए आधार से जोड़ा जाना चाहिए।
- This system should allow patients to **create, update, or revoke** their directives easily.
इस प्रणाली से मरीजों को अपने डायरेक्टिव को आसानी से बनाने, अपडेट करने या रद्द करने की अनुमति मिलनी चाहिए।
- A treating **physician** should validate the patient's **mental capacity** and **intent** online.
उपचार करने वाले डॉक्टर को मरीज की मानसिक क्षमता और इरादा को ऑनलाइन सत्यापित करना चाहिए।

Hospital Ethics Committees अस्पताल नैतिकता समितियाँ

- Hospital **ethics committees**, consisting of **senior doctors**, a **palliative care specialist**, and a **neutral third party**, should be empowered to authorize **withdrawal of life support** within **48 hours**.
अस्पताल की नैतिकता समितियाँ, जिसमें वरिष्ठ डॉक्टर, पैलियेटिव केयर विशेषज्ञ, और एक तटस्थ तीसरी पार्टी शामिल हो, को 48 घंटे के भीतर लाइफ सपोर्ट हटाने का अधिकार होना चाहिए।
- Exceptional cases can be flagged for further **scrutiny**.
असाधारण मामलों को आगे की जांच के लिए चिन्हित किया जा सकता है।

State-level Ombudsman and Review Mechanism राज्य स्तरीय ओम्बड्समैन और समीक्षा तंत्र

- Although a **State-level ombudsman** was initially proposed for oversight, India's experience with ombudsman schemes in **banking** and **insurance** has been **mixed**.
हालांकि निगरानी के लिए प्रारंभ में राज्य स्तरीय ओम्बड्समैन का प्रस्ताव था, भारत का बैंकिंग और बीमा में ओम्बड्समैन योजनाओं का अनुभव मिश्रित रहा है।
- **Delays, limited enforcement powers, and public unfamiliarity** have marred their effectiveness.
विलंब, सीमित प्रवर्तन शक्तियाँ, और जनता की अपरिचितता ने उनकी प्रभावशीलता को प्रभावित किया है।
- Instead, a more **transparent, decentralized review mechanism** — perhaps built into **hospital networks** and monitored through **digital dashboards** — may be more suitable.
इसके बजाय, एक अधिक पारदर्शी, विकेंद्रीकृत समीक्षा तंत्र — संभवतः अस्पताल नेटवर्क में निर्मित और डिजिटल डैशबोर्ड के माध्यम से निगरानी की गई — अधिक उपयुक्त हो सकती है।
- **Independent medical auditors** or **health commissioners** with **statutory backing** could be alternatives worth exploring.
स्वतंत्र चिकित्सा ऑडिटर्स या स्वास्थ्य आयुक्त, जिनके पास कानूनी समर्थन हो, विकल्प के रूप में परखे जा सकते हैं।

Mandatory Safeguards अनिवार्य सुरक्षा उपाय

- Mandatory safeguards, such as a **seven-day cooling-off period**, **psychological counselling**, and **palliative care review**, should remain part of the process to prevent **misuse** and ensure **decisions are fully informed**.
अनिवार्य सुरक्षा उपाय, जैसे सात दिन की शीतल अवधि, मानसिक परामर्श, और पैलियेटिव केयर समीक्षा, प्रक्रिया का हिस्सा बने रहना चाहिए ताकि दुरुपयोग को रोका जा सके और निर्णय पूरी तरह से सूचित हों।



- These align with **international best practices** and help address fears of **abuse**, especially among **vulnerable populations**.
ये अंतर्राष्ट्रीय सर्वोत्तम प्रथाओं के अनुरूप हैं और अधिकारों के दुरुपयोग के भय को कम करने में मदद करते हैं, विशेष रूप से असुरक्षित जनसंख्या में।

The Way Forward

आगे का मार्ग

- India's constitutional promise of **dignity in life** must extend to **dignity in dying**.
भारत का संवैधानिक वादा **जीवन में गरिमा** का **मृत्यु में गरिमा** तक विस्तार होना चाहिए।
- Reforming **passive euthanasia** does not require India to imitate the **U.K.'s active euthanasia model**, but it does compel it to make the **current framework workable**.
पासिव यूटेनेशिया को सुधारने के लिए भारत को यू.के. के सक्रिय यूटेनेशिया मॉडल की नकल करने की आवश्यकता नहीं है, लेकिन इसे **वर्तमान ढांचे को व्यावहार्य** बनाना अनिवार्य है।
- **Digitally driven procedures, local hospital-based ethics review, and effective (but not burdensome) oversight** can make **end-of-life decisions** more **accessible and humane**.
डिजिटल संचालित प्रक्रियाएँ, स्थानीय अस्पताल-आधारित नैतिक समीक्षा, और प्रभावी (लेकिन बोझिल नहीं) निगरानी से अंतिम जीवन निर्णय अधिक सुलभ और मानवीय बन सकते हैं।
- This path is consistent with **Indian values**, safeguards against **abuse**, and empowers **patients** without risking **exploitation**.
यह मार्ग भारतीय मूल्यों के अनुरूप है, दुरुपयोग से सुरक्षा करता है, और मरीजों को सशक्त बनाता है बिना शोषण के जोखिम के।
- Medical education must integrate training on **end-of-life care**, including **ethical and legal components**.
चिकित्सा शिक्षा में अंतिम जीवन देखभाल पर प्रशिक्षण शामिल होना चाहिए, जिसमें नैतिक और कानूनी घटक शामिल हों।
- **Public awareness campaigns** are essential to **normalise discussions on advance care planning**.
जन जागरूकता अभियान आवश्यक हैं ताकि एडवांस केयर प्लानिंग पर चर्चाओं को सामान्य बनाया जा सके।
- Without **public trust and awareness**, even the **best laws** will fail to serve their purpose.
सार्वजनिक विश्वास और जागरूकता के बिना, सबसे बेहतरीन कानून भी अपने उद्देश्य को पूरा करने में विफल रहेंगे।



Can a third party be liable for marital disruption?

What is the alienation of affection tort? Do States in the U.S. enforce this common law? Does the Delhi High Court's move go against the Supreme Court's judgment in the Joseph Shine case? Can a family court decide damages against a third-party?

SS II Judiciary

EXPLAINER

Shubham Shukla
Kartikey Singh

The story so far:

Recently, the Delhi High Court (HC), in a first-of-its-kind move in *Shelly Mahajan versus MS Bhanushree Bahl & Anr*, has opened the door for spouses to seek damages, in the civil sphere, from third parties who interfered in their marriage with mala fide intention, causing its breakdown. Overruling the objections to the suit's maintainability, the High Court issued summons in a wife's suit seeking damages for Alienation of Affection (AoA), against her husband's alleged affair partner. The decision revived an old Anglo-American concept, long abolished globally, putting the spotlight on a rarely tested legal idea in India. Seen as sidestepping the Supreme Court's mandate in *Joseph Shine versus Union of India*, it also raises fresh questions on whether Indian civil courts can impose liability for third-party interference in marriage.

What is alienation of affection?

AoA is a term from common law referring to a "heart-balm" tort, which allows a spouse to sue a third party, usually the lover, for wilfully interfering in the marriage and causing 'loss of affection and companionship'. The doctrine rests on the idea that marriage carries legal interests like consortium, intimacy, support and a shared life. Notably, the Indian legal framework neither codifies nor prohibits AoA, yet in *Pinakin Mahipatray Rawal versus State of Gujarat* (2013), the Supreme Court held that "alienation of affection by a stranger, if proved, is an intentional tort." In *Indra Sarma versus V.K.V. Sarma*, the top court further noted that AoA could even give children a cause of action against a third party for alienating their father. However, the doctrine has never been used to award damages in India.

How do U.S. courts view AoA?

In the U.S., AoA lawsuits remain in only a few States, like Hawaii, Mississippi, New Mexico, North Carolina, South Dakota, and Utah, while most others have abolished them over the past century as outdated or prone to abuse. In these States, for establishing a claim, the aggrieved spouse must prove three elements – (1) existence of genuine love and affection in the marriage; (2) its loss; and (3) that a third party's malicious conduct caused the loss. In contrast, States that have abolished AoA, through legislation or court rulings, consider such claims to be against public policy or incompatible with modern views of marriage. Thus, U.S. courts' stance on AoA varies, as a small number of courts still uphold the tort with strict proof requirements, while the majority reject it, treating marital breakdowns as private matters not suitable for compensation under tort.

What did Supreme Court decide in Joseph Shine's case?

In *Joseph Shine versus Union of India* (2018), a five-judge Constitution Bench led by then Chief Justice of India (CJI) Dipak Misra decriminalised adultery, striking it from the Indian Penal Code while clarifying it remains a civil wrong and valid ground for divorce. In 2020, another five-judge Bench headed by former CJI Sharad A. Bobde dismissed review petitions as meritless. Earlier, the law



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punished a man with up to five years' imprisonment for sexual relations with another man's wife, but exempted the consenting wife from prosecution and did not apply it if the married man engaged in sexual relations with an unmarried woman or widow.

The 2018 *Joseph Shine* verdict held that consensual extramarital sexual relationships are no longer criminal, that is, no one can be jailed or fined for adultery. Striking down the colonial provision, the Supreme Court highlighted that adultery is not a crime if the husband consents or consents to his wife's extramarital affair, thereby treating a married woman as her husband's 'chattel'. Emphasising that adultery is "absolutely a matter of privacy at its pinnacle," the top court reasoned it should remain only a ground for divorce, not a crime. Thus, while decriminalised, adultery still carries civil consequences in family law or tort, as *Joseph Shine* did not expressly or impliedly foreclose such implications.

What did the Delhi High Court say?

In *Shelly Mahajan*, the Delhi High Court issued summons by taking a *prima facie* view that a spouse can sue the partner's paramour for interfering in the marriage and seek compensation. The HC clarified that while *Joseph Shine* decriminalised adultery, it did not grant a licence for 'extramarital relationships' free of civil or

legal implications. Matrimonial statutes like the Hindu Marriage Act, 1955, offer remedies between spouses (for example, divorce), but none against a third party intruding into the marriage, the court further stressed.

Since matrimonial laws like the Hindu Marriage Act, 1955, provide remedies only between spouses, a civil tort claim against a third party for such interference remains open, in the absence of a specific bar, the court further stressed. However, the HC also acknowledged an important limitation that there has to be wrongful inducement or misconduct by the third party that caused the marital breakdown. When one spouse claims to have suffered legal injury on account of the disruption of the marital relationship, the law, under tort, recognises that compensation may be sought from those alleged to have contributed to the breach, the court noted.

The ruling clarified that while adultery is decriminalised and not punishable by the state, it still carries civil consequences in India. These include loss of consortium claims, compensation suits like the AoA case, and the personal remedy of divorce, where a betrayed spouse may petition the family court to dissolve the marriage on grounds of adultery. More importantly, the HC also laid down a three-fold test to decide such a claim. First, intentional and wrongful conduct by the paramour directed at alienating the marital

relationship of the aggrieved spouse. Second, clear causation linking that conduct to a legally cognisable injury to the aggrieved spouse. Third, the loss claimed is susceptible to rational assessment.

Who has jurisdiction to decide the AoA claim?

One key issue before the Delhi HC was whether AoA suits should go for trial in family courts or civil courts. It held that family courts have exclusive jurisdiction over matrimonial causes between spouses (divorce, alimony, custody, etc.), but a claim against a third party for interfering in a marriage is an independent civil injury (a tort), not arising from the marital relationship itself. Therefore, a family court cannot adjudicate a tort claim against a third person, and the civil court retains the jurisdiction. The Court added that if a spouse has a protectable interest in the marriage, third parties bear a correlative duty not to intentionally and wrongfully alienate that affection.

The Delhi High Court's ruling marks a significant step in recognising civil recourse for spouses affected by interference in marriage. It opens the door for carefully framed claims that respect both personal autonomy and marital rights, offering a path for justice where harm has been caused.

Shubham Shukla and Kartikey Singh are lawyers based in New Delhi.

THE GIST

Alienation of Affection is a term from common law referring to a "heart-balm" tort, which allows a spouse to sue a third party, usually the lover, for wilfully interfering in the marriage and causing 'loss of affection and companionship'.

In *Shelly Mahajan*, the Delhi High Court issued summons by taking a *prima facie* view that a spouse can sue the partner's paramour for interfering in the marriage and seek compensation.

Since matrimonial laws like the Hindu Marriage Act, 1955, provide remedies only between spouses, a civil tort claim against a third party for such interference remains open, in the absence of a specific bar, the court further stressed.

Can a third party be liable for marital disruption?
क्या कोई तीसरा पक्ष वैवाहिक विघटन के लिए उत्तरदायी हो सकता है?



Delhi High Court on Alienation of Affection (AoA)

दिल्ली उच्च न्यायालय द्वारा "एलियनशन ऑफ अफेक्शन (AoA)" पर निर्णय

- **Recently, the Delhi High Court (HC)**, in a first-of-its-kind move in **Shelly Mahajan versus MS Bhanushree Bahl & Anr**, has opened the door for spouses to seek **damages** in the civil sphere from **third parties** who interfered in their marriage with mala fide intention, causing its breakdown.
हाल ही में, दिल्ली उच्च न्यायालय (HC) ने शैली महाजन बनाम एमएस भावना बहर और अन्य मामले में अपनी तरह का पहला निर्णय देते हुए पति या पत्नी को तीसरे पक्ष से दुर्भावनापूर्ण हस्तक्षेप के कारण विवाह टूटने पर क्षतिपूर्ति (damages) मांगने की अनुमति दी है।
- Overruling the objections to the suit's maintainability, the **High Court issued summons** in a wife's suit seeking damages for **Alienation of Affection (AoA)** against her husband's alleged affair partner.
मुकदमे की स्वीकार्यता पर आपत्तियों को खारिज करते हुए, उच्च न्यायालय ने पत्नी द्वारा अपने पति की कथित प्रेमिका के खिलाफ एलियनशन ऑफ अफेक्शन (AoA) के लिए क्षतिपूर्ति मांगने वाले मुकदमे में समन जारी किए।
- The decision revived an **old Anglo-American concept**, long abolished globally, putting the spotlight on a **rarely tested legal idea** in India.
इस निर्णय ने एक पुरानी एंग्लो-अमेरिकन अवधारणा को पुनर्जीवित किया है, जिसे विश्व स्तर पर समाप्त कर दिया गया था, और इसने भारत में एक कभी-कभार लागू होने वाले कानूनी विचार पर ध्यान केंद्रित किया है।
- Seen as **sidestepping the Supreme Court's mandate** in **Joseph Shine versus Union of India**, it also raises **fresh questions** on whether Indian civil courts can impose liability for **third-party interference in marriage**.
इसे जोसफ शाइन बनाम भारत संघ में सुप्रीम कोर्ट के निर्देशों से हटने के रूप में देखा जा रहा है और इसने यह नया प्रश्न उठाया है कि क्या भारतीय दीवानी न्यायालय विवाह में तीसरे पक्ष के हस्तक्षेप के लिए दायित्व तय कर सकते हैं।

What is Alienation of Affection?

एलियनशन ऑफ अफेक्शन क्या है?

- **AoA** is a term from **common law** referring to a "**heart-balm**" tort, which allows a spouse to sue a **third party**, usually the lover, for wilfully interfering in the marriage and causing **loss of affection and companionship**.
AoA कॉमन लॉ (common law) से लिया गया एक शब्द है, जो एक "हार्ट-बालम" टॉर्ट (heart-balm tort) को संदर्भित करता है। यह किसी पति या पत्नी को तीसरे पक्ष, आमतौर पर प्रेमी/प्रेमिका, पर जानबूझकर विवाह में हस्तक्षेप और स्नेह व साथ की हानि के लिए मुकदमा दायर करने की अनुमति देता है।
- The doctrine rests on the idea that **marriage carries legal interests** like **consortium, intimacy, support, and a shared life**.
यह सिद्धांत इस विचार पर आधारित है कि विवाह में कानूनी अधिकार जैसे सहजीवन (consortium), निकटता (intimacy), सहयोग (support) और साझा जीवन (shared life) शामिल होते हैं।
- Notably, the **Indian legal framework** neither **codifies nor prohibits** AoA, yet in **Pinakin Mahipatray Rawal versus State of Gujarat (2013)**, the **Supreme Court** held that "alienation of affection by a stranger, if proved, is an intentional tort."
ध्यान देने योग्य है कि भारतीय कानूनी ढांचा AoA को न तो संहिताबद्ध करता है और न ही प्रतिबंधित, लेकिन पिनाकिन महिपत्राय रावल बनाम गुजरात राज्य (2013) में सुप्रीम कोर्ट ने कहा कि यदि कोई "अजनबी स्नेह को दूर करता है, तो वह एक जानबूझकर किया गया टॉर्ट (intentional tort)" है।
- In **Indra Sarma versus V.K.V. Sarma**, the **top court** further noted that AoA could even give **children a cause of action** against a third party for **alienating their father**.
इंद्रा शर्मा बनाम वी.के.वी. शर्मा में सुप्रीम कोर्ट ने आगे यह भी कहा कि AoA के तहत बच्चे भी किसी तीसरे व्यक्ति पर अपने पिता को दूर करने (alienating their father) के लिए मुकदमा कर सकते हैं।
- However, the doctrine has **never been used to award damages** in India.
हालांकि, इस सिद्धांत का उपयोग भारत में कभी भी क्षतिपूर्ति देने के लिए नहीं किया गया है।



How do U.S. Courts View AoA?

अमेरिकी न्यायालय AoA को कैसे देखते हैं?

- In the U.S., AoA lawsuits remain in only a few States like Hawaii, Mississippi, New Mexico, North Carolina, South Dakota, and Utah, while most others have abolished them over the past century as outdated or prone to abuse.
अमेरिका में AoA मुकदमे केवल कुछ राज्यों — जैसे हवाई, मिसिसिपी, न्यू मैक्सिको, नॉर्थ कैरोलाइना, साउथ डकोटा और यूटा — में ही मौजूद हैं, जबकि अधिकांश राज्यों ने पिछले शताब्दी में इसे पुराना (outdated) या दुरुपयोग योग्य (prone to abuse) मानते हुए समाप्त कर दिया है।
- In these States, to establish a claim, the aggrieved spouse must prove three elements —
 - (1) existence of genuine love and affection in the marriage;
 - (2) its loss; and
 - (3) that a third party's malicious conduct caused the loss.इन राज्यों में, पीड़ित जीवनसाथी को दावा सिद्ध करने के लिए तीन बातें साबित करनी होती हैं —
 - (1) विवाह में सच्चे प्रेम और स्नेह का अस्तित्व,
 - (2) उसका हानि होना, और
 - (3) यह कि किसी तीसरे व्यक्ति के दुर्भावनापूर्ण व्यवहार ने उस हानि का कारण बना।
- In contrast, States that have abolished AoA, through legislation or court rulings, consider such claims against public policy or incompatible with modern views of marriage.
इसके विपरीत, जिन राज्यों ने कानून या न्यायालय के निर्णयों के माध्यम से AoA समाप्त किया है, वे ऐसे दावों को लोक नीति (public policy) के विरुद्ध या आधुनिक विवाह दृष्टिकोणों के असंगत मानते हैं।
- Thus, U.S. courts' stance on AoA varies, as a small number of courts still uphold the tort with strict proof requirements, while the majority reject it, treating marital breakdowns as private matters not suitable for compensation under tort.
इसलिए, अमेरिकी न्यायालयों का दृष्टिकोण AoA पर भिन्न है — कुछ न्यायालय इसे कठोर प्रमाण मानकों (strict proof) के साथ स्वीकार करते हैं, जबकि अधिकांश न्यायालय इसे अस्वीकार करते हुए विवाहिक टूटन को निजी मामला मानते हैं, जो टॉर्ट के तहत क्षतिपूर्ति के योग्य नहीं है।

What did Supreme Court decide in Joseph Shine's case?

जोसेफ शाइन मामले में सुप्रीम कोर्ट ने क्या निर्णय दिया?

- In Joseph Shine versus Union of India (2018), a five-judge Constitution Bench led by then Chief Justice of India (CJI) Dipak Misra decriminalised adultery, striking it from the Indian Penal Code (IPC) while clarifying it remains a civil wrong and a valid ground for divorce.
जोसेफ शाइन बनाम भारत संघ (2018) में तत्कालीन मुख्य न्यायाधीश दीपक मिश्रा की अध्यक्षता वाली पाँच-सदस्यीय संविधान पीठ ने व्यभिचार (adultery) को भारतीय दंड संहिता (IPC) से हटाते हुए अपराधमुक्त (decriminalise) किया, साथ ही स्पष्ट किया कि यह अब भी एक नागरिक गलत (civil wrong) है और तलाक का वैध आधार है।
- In 2020, another five-judge Bench headed by former CJI Sharad A. Bobde dismissed review petitions as meritless.
2020 में पूर्व मुख्य न्यायाधीश शरद ए. बोबडे की अध्यक्षता वाली एक अन्य पाँच-सदस्यीय पीठ ने पुनर्विचार याचिकाओं को निराधार बताते हुए खारिज कर दिया।
- Earlier, the law punished a man with up to five years' imprisonment for sexual relations with another man's wife, but exempted the consenting wife and did not apply if the married man engaged in relations with an unmarried woman or widow.
पहले कानून के तहत किसी पुरुष को दूसरे की पत्नी से यौन संबंध रखने पर पाँच वर्ष तक की कैद की सजा थी, लेकिन सहमति देने वाली पत्नी को दंड से छूट थी और यदि विवाहित पुरुष ने अविवाहित महिला या विधवा से संबंध बनाए तो वह लागू नहीं होता था।
- The 2018 Joseph Shine verdict held that consensual extramarital relationships are no longer criminal, i.e., no one can be jailed or fined for adultery.
2018 के जोसेफ शाइन निर्णय में कहा गया कि सहमति से बने विवाहेतर संबंध अब अपराध नहीं हैं, अर्थात् किसी को भी व्यभिचार के लिए जेल या जुर्माना नहीं हो सकता।
- Striking down the colonial provision, the Supreme Court highlighted that adultery is not a crime if the husband connives or consents to his wife's affair, thereby treating a married woman as her husband's "chattel".



औपनिवेशिक प्रावधान को रद्द करते हुए, सुप्रीम कोर्ट ने कहा कि यदि पति अपनी पत्नी के संबंधों में सहमति या मौन स्वीकृति देता है, तो उसे अपराध नहीं माना जा सकता, क्योंकि यह एक विवाहित महिला को पति की संपत्ति (“chattel”) की तरह मानता है।

- Emphasising that adultery is “**absolutely a matter of privacy at its pinnacle**”, the Court reasoned it should remain **only a ground for divorce**, not a crime.
न्यायालय ने यह कहते हुए जोर दिया कि व्यभिचार “पूर्णतः गोपनीयता का विषय” है और इसे केवल तलाक का आधार रहना चाहिए, न कि अपराध।
- Thus, while **decriminalised**, adultery still carries **civil consequences in family law or tort**, as **Joseph Shine** did not expressly or impliedly foreclose such implications.
इस प्रकार, यद्यपि व्यभिचार अपराध नहीं रहा, फिर भी पारिवारिक कानून (family law) या टॉर्ट (tort) के तहत इसके नागरिक परिणाम बने रहते हैं, क्योंकि जोसेफ शाइन निर्णय ने इन्हें समाप्त नहीं किया।

What did the Delhi High Court say?

दिल्ली उच्च न्यायालय ने क्या कहा?

- In **Shelly Mahajan**, the **Delhi High Court** issued **summons** by taking a **prima facie view** that a **spouse can sue the partner's paramour** for interfering in the marriage and seek **compensation**.
शैली महाजन मामले में, दिल्ली उच्च न्यायालय ने प्रथम दृष्टया (prima facie) यह मानते हुए समन जारी किए कि पति या पत्नी अपने साथी के प्रेमी/प्रेमिका पर विवाह में हस्तक्षेप के लिए मुकदमा दायर कर क्षतिपूर्ति मांग सकता/सकती है।
- The HC clarified that while **Joseph Shine decriminalised adultery**, it did **not grant a licence** for **extramarital relationships** free of **civil or legal implications**.
उच्च न्यायालय ने स्पष्ट किया कि यद्यपि जोसेफ शाइन निर्णय ने व्यभिचार को अपराधमुक्त किया है, लेकिन इसने विवाहेतर संबंधों को नागरिक या कानूनी परिणामों से मुक्त करने का कोई अधिकार (licence) नहीं दिया।
- **Matrimonial statutes** like the **Hindu Marriage Act, 1955**, offer **remedies between spouses** (for example, **divorce**), but **none against a third party intruding into the marriage**, the court stressed.
न्यायालय ने कहा कि हिंदू विवाह अधिनियम, 1955 जैसे वैवाहिक कानून केवल पति-पत्नी के बीच उपाय प्रदान करते हैं (जैसे तलाक), लेकिन विवाह में तीसरे व्यक्ति के हस्तक्षेप के खिलाफ कोई उपाय नहीं देते।
- Since matrimonial laws provide **remedies only between spouses**, a **civil tort claim** against a **third party** for such interference remains open, in the absence of a specific bar, the court further stressed.
न्यायालय ने आगे कहा कि चूंकि वैवाहिक कानून केवल पति-पत्नी के बीच उपाय प्रदान करते हैं, इसलिए यदि कोई विशिष्ट रोक (bar) नहीं है, तो तीसरे व्यक्ति के खिलाफ टॉर्ट के तहत दीवानी दावा (civil tort claim) किया जा सकता है।
- However, the HC also acknowledged that there must be **wrongful inducement or misconduct** by the **third party** that **caused the marital breakdown**.
हालांकि, उच्च न्यायालय ने यह भी माना कि तीसरे व्यक्ति द्वारा गलत प्रेरणा (wrongful inducement) या अनुचित आचरण (misconduct) होना चाहिए जिसने विवाह टूटने का कारण बना।
- When one spouse claims to have suffered **legal injury** due to **disruption of the marital relationship**, the law under **tort** recognises that **compensation** may be sought from those who contributed to the breach.
जब कोई जीवनसाथी वैवाहिक संबंध के टूटने से कानूनी चोट (legal injury) का दावा करता है, तो टॉर्ट कानून यह मान्यता देता है कि क्षतिपूर्ति उन व्यक्तियों से मांगी जा सकती है जिन्होंने इस विवाह भंग में योगदान दिया।
- The ruling clarified that while **adultery is decriminalised**, it still carries **civil consequences** in India, such as **loss of consortium claims**, **compensation suits like AoA**, and **divorce** as a personal remedy.
इस निर्णय ने स्पष्ट किया कि भले ही व्यभिचार अब अपराध नहीं, फिर भी भारत में इसके नागरिक परिणाम जैसे सहजीवन हानि दावे (loss of consortium), AoA जैसी क्षतिपूर्ति याचिकाएँ, और तलाक का अधिकार बने रहते हैं।
- More importantly, the HC laid down a **three-fold test** to decide such a claim —
 - (1) **Intentional and wrongful conduct** by the **paramour** directed at alienating the marriage;
 - (2) **Clear causation** linking that conduct to a **legal injury**; and
 - (3) The **loss claimed** must be **susceptible to rational assessment**.



सबसे महत्वपूर्ण बात, उच्च न्यायालय ने ऐसे मामलों को तय करने के लिए **तीन-स्तरीय परीक्षण (three-fold test)** दिया —

- (1) प्रेमी/प्रेमिका द्वारा जानबूझकर और अनुचित आचरण (intentional and wrongful conduct),
- (2) उस आचरण और कानूनी चोट (legal injury) के बीच स्पष्ट कारण संबंध (clear causation), और
- (3) दावा की गई हानि का तार्किक मूल्यांकन (rational assessment) संभव होना चाहिए।

Who has jurisdiction to decide the AoA claim?

AoA दावा तय करने का अधिकार क्षेत्र किसके पास है?

- One key issue before the **Delhi High Court** was whether **AoA suits** should be tried in **family courts** or **civil courts**.
दिल्ली उच्च न्यायालय के समक्ष एक प्रमुख प्रश्न यह था कि क्या **AoA** मुकदमे **पारिवारिक न्यायालयों (family courts)** या **दीवानी न्यायालयों (civil courts)** में चलाए जाने चाहिए।
- It held that **family courts** have **exclusive jurisdiction** over **matrimonial causes between spouses** (like divorce, alimony, custody), but a claim against a **third party** for interfering in a marriage is an **independent civil injury (tort)**.
न्यायालय ने कहा कि **पारिवारिक न्यायालयों** के पास केवल **पति-पत्नी के बीच वैवाहिक विवादों** (जैसे तलाक, भरण-पोषण, अभिरक्षा) पर **विशेष अधिकार क्षेत्र** है, लेकिन **तीसरे व्यक्ति के हस्तक्षेप** से जुड़ा मामला एक **स्वतंत्र दीवानी चोट (civil injury)** है।
- Therefore, a **family court cannot adjudicate a tort claim** against a third person, and the **civil court retains jurisdiction**.
अतः, **पारिवारिक न्यायालय** किसी तीसरे व्यक्ति के खिलाफ **टॉर्ट दावा** नहीं सुन सकता, और यह अधिकार **दीवानी न्यायालय** के पास रहता है।
- The Court added that if a **spouse has a protectable interest** in the marriage, **third parties bear a duty not to intentionally and wrongfully alienate that affection**.
न्यायालय ने यह भी कहा कि यदि किसी **पति या पत्नी के पास विवाह में संरक्षित हित (protectable interest)** है, तो तीसरे पक्ष का **कर्तव्य (duty)** है कि वह **जानबूझकर या अनुचित रूप से उस स्नेह को दूर न करे**।
- The **Delhi High Court's ruling** marks a **significant step** in recognising **civil recourse** for spouses affected by **interference in marriage**, opening a path for **justice** balancing **personal autonomy and marital rights**.
दिल्ली उच्च न्यायालय का यह निर्णय **विवाह में हस्तक्षेप से प्रभावित जीवनसाथियों के लिए नागरिक उपाय (civil recourse)** को मान्यता देने की एक **महत्वपूर्ण पहल** है, जो **व्यक्तिगत स्वतंत्रता (personal autonomy)** और **वैवाहिक अधिकारों (marital rights)** के बीच **संतुलित न्याय (justice)** का मार्ग खोलता है।

GS Paper III: Economy, S&T, Environment, DM, &IS

TOPICS COVERED 07 October 2025

- 1. Operation Sindoor demonstrated Indian Army's AI-driven capabilities'**
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- 2. Deliberations continue on proposed nuclear Bill**
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- 3. Ensure compliance**
पालन सुनिश्चित करें
- 4. Kept in check**
नियंत्रण में रखा गया
- 5. We need an urban climate emergency fund**
हमें शहरी क्लाइमेट इमरजेंसी फंड की आवश्यकता है
- 6. Could hidden dental bacteria help explain sudden and deadly heart attacks?**
क्या छिपे हुए दंत बैक्टीरिया अचानक और घातक दिल के दौरे की व्याख्या करने में मदद कर सकते हैं?



7. Medicine Nobel for scientists who demystified the immune system
वैज्ञानिकों को चिकित्सा नोबेल जिन्होंने इम्यून सिस्टम का रहस्य सुलझाया

GS III: S&T

Practising restraint

Mary Brunkow, Fred Ramsdell, and Shimon Sakaguchi won the 2025 Nobel Prize for medicine/physiology for revealing how the body restrains its own defences to stay healthy

■ The immune system must distinguish the self from invaders to avoid attacking the body itself

■ Shimon Sakaguchi discovered regulatory T-cells that calm immune reactions and preserve self-tolerance



Image Credit: Nobel Prize Outreach



Mary Brunkow

Fred Ramsdell

Shimon Sakaguchi

■ Mary Brunkow and Fred Ramsdell traced the scurfy mouse's fatal autoimmunity to a faulty Foxp3 gene

■ They linked FOXP3 mutations to human IPEX syndrome, proving its vital role in tolerance

■ Together, their work revealed FOXP3 controls regulatory T-cell development and prevents immune 'mutiny'

■ Today, the findings guide new therapies for autoimmune disease, cancer, and transplantation

PATRIOTIC



‘Operation Sindoor demonstrated Indian Army’s AI-driven capabilities’

GS III: Defence

Saurabh Trivedi

NEW DELHI

The Indian Army has embarked on a major modernisation drive under its “Decade of Transformation” initiative, focusing on automation, digitisation, and the adoption of emerging technologies such as Artificial Intelligence (AI) and Big Data Analytics to enhance operational readiness, said Lieutenant-General Rajiv Kumar Sahni, Director General of Electronics and Mechanical Engineers (DG EME) on Monday.

He said that the years 2024-2025 have been declared the “Year of Technology Absorption”, aimed at ensuring technological upgrades reach soldiers on the ground. The



Lt. Gen. Rajiv Kumar Sahni

initiative runs in parallel with the Ministry of Defence’s “Year of Reforms”, designed to accelerate institutional change and strengthen joint capabilities.

Mr. Sahni was Director General of Information Systems during Operation Sindoor. During his tenure, the Army achieved a 1,200% increase in digital users and a 620% rise in

data storage capacity, creating an efficient digital ecosystem.

‘Enhanced surveillance’

“AI has become a force multiplier for the Army, demonstrated during Operation Sindoor, where AI-based tools enhanced surveillance, intelligence, and precision targeting. Key systems include the Electronic Intelligence Collation and Analysis System (ECAS), TRINETRA (integrated with Project SANJAY), and predictive modelling and weather forecasting tools, all of which improved coordination and situational awareness,” he said while speaking to media persons here.

He further said that the Army is pursuing responsible and phased AI adop-

tion, focusing on areas that reduce risk to personnel and improve decision making, while maintaining meaningful human control and strong ethical governance.

To sustain this digital shift, personnel are being upskilled in AI and data science, and a Defence AI Governance Council is being established to align practices with international standards.

Unified AI Platform, an indigenous initiative, is also under development to integrate operational, intelligence, logistics, and training applications. Together, these initiatives aim to make the Indian Army a technology-driven, future-ready force, supporting the vision of Viksit Bharat 2047.

‘Operation Sindoor demonstrated Indian Army’s AI-driven capabilities’ ‘ऑपरेशन सिंदूर ने भारतीय सेना की एआई-संचालित क्षमताओं का प्रदर्शन किया’

Indian Army’s ‘Decade of Transformation’ Initiative भारतीय सेना की ‘दशक परिवर्तन’ पहल

- The Indian Army has embarked on a major modernisation drive under its “Decade of Transformation” initiative, focusing on automation, digitisation, and the adoption of emerging technologies such as Artificial Intelligence (AI) and Big Data Analytics to enhance operational readiness, said Lieutenant-General Rajiv Kumar Sahni, Director General of Electronics and Mechanical Engineers (DG EME) on Monday.
भारतीय सेना ने अपने “दशक परिवर्तन” पहल के तहत एक बड़े आधुनिकीकरण अभियान की शुरुआत की है, जो स्वचालन, डिजिटलीकरण और कृत्रिम बुद्धिमत्ता (AI) तथा बिग डेटा एनालिटिक्स जैसी उभरती तकनीकों को अपनाने पर केंद्रित है ताकि संचालनिक तत्परता को बढ़ाया जा सके, यह बात लेफ्टिनेंट-जनरल राजीव कुमार साहनी, इलेक्ट्रॉनिक्स और मैकेनिकल इंजीनियर्स के महानिदेशक (डीजी ईएमई) ने सोमवार को कही।
- He said that the years 2024–2025 have been declared the “Year of Technology Absorption”, aimed at ensuring technological upgrades reach soldiers on the ground.



उन्होंने कहा कि 2024-2025 को “प्रौद्योगिकी आत्मसात वर्ष” घोषित किया गया है, जिसका उद्देश्य तकनीकी उन्नयन को जमीनी स्तर पर सैनिकों तक पहुँचाना है।

- The initiative runs in parallel with the Ministry of Defence’s “Year of Reforms”, designed to accelerate institutional change and strengthen joint capabilities.
यह पहल रक्षा मंत्रालय के “सुधार वर्ष” के समानांतर चल रही है, जिसका उद्देश्य संस्थागत बदलाव को तेज़ करना और संयुक्त क्षमताओं को मजबूत करना है।
- Mr. Sahni was Director General of Information Systems during Operation Sindoor. During his tenure, the Army achieved a 1,200% increase in digital users and a 620% rise in data storage capacity, creating an efficient digital ecosystem.
श्री साहनी ऑपरेशन सिंदूर के दौरान सूचना प्रणाली के महानिदेशक थे। उनके कार्यकाल में सेना ने डिजिटल उपयोगकर्ताओं में 1,200% वृद्धि और डेटा भंडारण क्षमता में 620% वृद्धि हासिल की, जिससे एक कुशल डिजिटल पारिस्थितिकी तंत्र तैयार हुआ।
- ‘Enhanced surveillance’: “AI has become a force multiplier for the Army, demonstrated during Operation Sindoor, where AI-based tools enhanced surveillance, intelligence, and precision targeting.”
‘उन्नत निगरानी’: “कृत्रिम बुद्धिमत्ता (AI) सेना के लिए एक बल गुणक बन गई है, जैसा कि ऑपरेशन सिंदूर के दौरान प्रदर्शित हुआ, जहाँ AI-आधारित उपकरणों ने निगरानी, खुफिया और सटीक लक्ष्य साधन में सुधार किया।”
- Key systems include the Electronic Intelligence Collation and Analysis System (ECAS), TRINETRA (integrated with Project SANJAY), and predictive modelling and weather forecasting tools, all of which improved coordination and situational awareness.
मुख्य प्रणालियों में इलेक्ट्रॉनिक इंटेलिजेंस कोलेशन एंड एनालिसिस सिस्टम (ECAS), ट्रिनेत्रा (प्रोजेक्ट संजय के साथ एकीकृत) और पूर्वानुमान मॉडलिंग और मौसम पूर्वानुमान उपकरण शामिल हैं, जिन्होंने समन्वय और स्थितिजन्य जागरूकता में सुधार किया।
- He further said that the Army is pursuing responsible and phased AI adoption, focusing on areas that reduce risk to personnel and improve decision-making, while maintaining meaningful human control and strong ethical governance.
उन्होंने आगे कहा कि सेना जिम्मेदार और चरणबद्ध AI अपनाने की दिशा में काम कर रही है, जो ऐसे क्षेत्रों पर केंद्रित है जो कर्मियों के जोखिम को कम करते हैं और निर्णय लेने की क्षमता को बेहतर बनाते हैं, साथ ही मानवीय नियंत्रण और नैतिक शासन को भी बनाए रखते हैं।
- To sustain this digital shift, personnel are being upskilled in AI and data science, and a Defence AI Governance Council is being established to align practices with international standards.
इस डिजिटल बदलाव को बनाए रखने के लिए, सैनिकों को AI और डेटा साइंस में नई क्षमताओं से प्रशिक्षित किया जा रहा है, और एक रक्षा AI गवर्नेंस परिषद स्थापित की जा रही है ताकि प्रक्रियाओं को अंतरराष्ट्रीय मानकों के अनुरूप बनाया जा सके।
- Unified AI Platform, an indigenous initiative, is also under development to integrate operational, intelligence, logistics, and training applications.
एक स्वदेशी पहल, एकीकृत AI प्लेटफॉर्म, भी विकासाधीन है ताकि संचालन, खुफिया, रसद और प्रशिक्षण अनुप्रयोगों को एकीकृत किया जा सके।
- Together, these initiatives aim to make the Indian Army a technology-driven, future-ready force, supporting the vision of Viksit Bharat 2047.
सामूहिक रूप से, ये पहल भारतीय सेना को एक प्रौद्योगिकी-आधारित, भविष्य के लिए तैयार बल बनाने का लक्ष्य रखती हैं, जो विकसित भारत 2047 के दृष्टिकोण का समर्थन करती हैं।



Deliberations continue on proposed nuclear Bill

Questions on private sector's role, radioactive waste disposal yet to be settled; Finance Minister said in Feb. that govt. intends to amend Atomic Energy Act, Civil Liability for Nuclear Damage Act

GS III: Energy

Jacob Koshy

NEW DELHI

Deliberations within the government continue on bringing in new legislation to allow the private sector to operate nuclear plants in India with questions regarding management of nuclear waste and determining if private players can conduct core research into nuclear technologies still being ironed out.

Drafts of the proposed new Bill were still being deliberated upon by an inter-governmental committee of experts as well as the Law Ministry though there was a "good chance" of it being introduced in the forthcoming Winter Session of Parliament, an official privy to the proceedings told *The Hindu* on condition of anonymity.

Currently, only Nuclear Power Corporation of India Ltd. (NPCIL), Bhartiya Nabhikiya Vidyut Nigam Ltd. (BHAVINI), and NPCIL-NTPC joint venture Anushakti Vidhyut Nigam Limited (ASHVINI) can build and operate nuclear power plants in the country.

In February, however,



Nuclear reforms: Currently, only three PSUs can build and operate nuclear power plants in the country. FILE PHOTO

Finance Minister Nirmala Sitharaman said in her Budget speech that the government intended to amend two Acts – the Atomic Energy Act and the Civil Liability for Nuclear Damage Act – to enable private companies, including foreign companies, to form partnerships, and build and operate nuclear plants in India.

Despite the India-U.S. nuclear deal of 2008 formally allowing sale of nuclear technologies to India, though with built-in periodic checks and scrutiny by the International Atomic Energy Agency, clauses in India's Atomic Energy Act and the Civil Liability for Nuclear Damage Act

(2010) have been impediments since they impose practically unlimited liability on foreign suppliers of nuclear equipment in case of an accident.

Alignment of laws

"The effort is to align India's laws on liability with that of conventions such as the Convention on Supplementary Compensation for Nuclear Damage (CSC)," the official noted. "However, we also have to bring clarity on questions such as who will be responsible, whether it is the private sector or the government power plant operators, for safe disposal of nuclear waste as well as the re-processing of spent nuclear

fuel. There is also discussion on enabling research and development of core nuclear technologies."

The government's thrust to encourage greater private sector participation is with the larger objective of installing 100 GW of nuclear capacity by 2047. This is premised not only on importing foreign reactors but also developing Bharat Small Reactors (BSRs) and exploring partnerships with the private sector. BSRs are 220 MW Pressurized Heavy Water Reactors (PHWRs). These reactors are being upgraded to reduce land requirements, making them suitable for deployment near industries such as steel, aluminium, and metals units, serving as captive power plants to aid in decarbonisation efforts.

The plan involves private entities providing land, cooling water, and capital, while the NPCIL handles design, quality assurance, and operation and maintenance. This initiative aligns with India's commitment to achieving 500 GW of non-fossil fuel-based energy generation and meeting 50% of requirements from renewable energy by 2030.

Deliberations continue on proposed nuclear Bill

प्रस्तावित परमाणु विधेयक पर विचार-विमर्श जारी है

Proposed Nuclear Legislation for Private Sector Participation in India

भारत में निजी क्षेत्र की भागीदारी के लिए प्रस्तावित परमाणु विधेयक

- Deliberations within the government continue on bringing in new legislation to allow the private sector to operate nuclear plants in India, with questions regarding management of nuclear waste and determining if private players can conduct core research into nuclear technologies still being ironed out.



सरकार के भीतर नई विधेयक लाने पर विचार-विमर्श जारी है ताकि निजी क्षेत्र को भारत में परमाणु संयंत्र चलाने की अनुमति दी जा सके, जबकि परमाणु अपशिष्ट प्रबंधन और यह निर्धारित करने जैसे मुद्दों पर कि क्या निजी क्षेत्र परमाणु तकनीकों पर मूल अनुसंधान कर सकता है, अभी भी चर्चा चल रही है।

- Drafts of the proposed new Bill were still being deliberated upon by an intergovernmental committee of experts as well as the Law Ministry, though there was a “good chance” of it being introduced in the forthcoming Winter Session of Parliament, an official said.
प्रस्तावित नए विधेयक के मसौदे पर अभी भी विशेषज्ञों की अंतर-मंत्रालयी समिति और कानून मंत्रालय द्वारा विचार किया जा रहा है, हालांकि एक अधिकारी के अनुसार इसे आगामी शीतकालीन सत्र में पेश किए जाने की “अच्छी संभावना” है।
- Currently, only Nuclear Power Corporation of India Ltd. (NPCIL), Bhartiya Nabhikiya Vidyut Nigam Ltd. (BHAVINI), and the NPCIL-NTPC joint venture Anushakti Vidhyut Nigam Limited (ASHVINI) can build and operate nuclear power plants in the country.
वर्तमान में केवल न्यूक्लियर पावर कॉरपोरेशन ऑफ इंडिया लिमिटेड (NPCIL), भारतीय नाभिकीय विद्युत निगम लिमिटेड (BHAVINI) और NPCIL-NTPC का संयुक्त उपक्रम अनुषक्ति विद्युत निगम लिमिटेड (ASHVINI) को देश में परमाणु ऊर्जा संयंत्र बनाने और संचालित करने की अनुमति है।
- In February, Finance Minister Nirmala Sitharaman said in her Budget speech that the government intended to amend the Atomic Energy Act and the Civil Liability for Nuclear Damage Act to enable private and foreign companies to form partnerships and build and operate nuclear plants in India.
फरवरी में वित्त मंत्री निर्मला सीतारमण ने अपने बजट भाषण में कहा कि सरकार परमाणु ऊर्जा अधिनियम और परमाणु क्षति के लिए नागरिक दायित्व अधिनियम में संशोधन करने का इरादा रखती है ताकि निजी और विदेशी कंपनियाँ साझेदारी कर सकें और भारत में परमाणु संयंत्रों का निर्माण और संचालन कर सकें।
- Despite the India-U.S. nuclear deal of 2008 allowing sale of nuclear technologies to India, clauses in the Atomic Energy Act and the Civil Liability for Nuclear Damage Act (2010) have been impediments since they impose practically unlimited liability on foreign suppliers in case of an accident.
हालाँकि 2008 के भारत-अमेरिका परमाणु समझौते ने भारत को परमाणु तकनीक की बिक्री की अनुमति दी थी, लेकिन परमाणु ऊर्जा अधिनियम और 2010 के परमाणु क्षति नागरिक दायित्व अधिनियम की धाराएँ बाधा बन गई हैं, क्योंकि वे किसी दुर्घटना की स्थिति में विदेशी आपूर्तिकर्ताओं पर असीमित दायित्व थोपती हैं।
- The effort is to align India’s liability laws with international conventions such as the Convention on Supplementary Compensation for Nuclear Damage (CSC).
सरकार का प्रयास है कि भारत के दायित्व कानूनों को अंतरराष्ट्रीय संधियों जैसे कि न्यूक्लियर डैमेज के लिए पूरक मुआवजा सम्मेलन (CSC) के अनुरूप बनाया जाए।
- However, clarity is also needed on responsibility for nuclear waste disposal and re-processing of spent nuclear fuel, whether it lies with private operators or government power plant agencies.
हालाँकि, यह स्पष्ट करना भी आवश्यक है कि परमाणु अपशिष्ट निपटान और प्रयुक्त परमाणु ईंधन के पुनः प्रसंस्करण की जिम्मेदारी निजी संचालकों या सरकारी एजेंसियों पर होगी।
- There is also discussion on enabling research and development (R&D) of core nuclear technologies.
मुख्य परमाणु प्रौद्योगिकियों के अनुसंधान और विकास (R&D) को सक्षम बनाने पर भी चर्चा हो रही है।
- The government’s thrust to encourage greater private sector participation is with the larger objective of installing 100 GW of nuclear capacity by 2047.
सरकार का निजी क्षेत्र की अधिक भागीदारी को प्रोत्साहित करने का प्रयास 2047 तक 100 गीगावाट परमाणु क्षमता स्थापित करने के व्यापक लक्ष्य से जुड़ा हुआ है।
- This includes importing foreign reactors and developing Bharat Small Reactors (BSRs), which are 220 MW Pressurized Heavy Water Reactors (PHWRs).
इसमें विदेशी रिएक्टरों का आयात और भारत स्मॉल रिएक्टर (BSR) का विकास शामिल है, जो कि 220 मेगावाट प्रेशराइज्ड हेवी वाटर रिएक्टर (PHWRs) हैं।
- These reactors are being upgraded to reduce land requirements, making them suitable for deployment near industries such as steel, aluminium, and metals units, to serve as captive power plants and aid in decarbonisation efforts.
इन रिएक्टरों को भूमि आवश्यकता कम करने के लिए उन्नत किया जा रहा है, ताकि उन्हें इस्पात, एल्युमिनियम और धातु उद्योगों के पास स्थापित किया जा सके, जहाँ वे कैप्टिव पावर प्लांट्स के रूप में कार्य करेंगे और कार्बन न्यूनीकरण प्रयासों में सहायता करेंगे।
- The plan involves private entities providing land, cooling water, and capital, while NPCIL handles design, quality assurance, and operation and maintenance.
इस योजना के अंतर्गत निजी कंपनियाँ भूमि, ठंडा करने का पानी और पूंजी प्रदान करेंगी, जबकि NPCIL डिजाइन, गुणवत्ता आश्वासन और संचालन व रखरखाव का कार्य संभालेगी।



- This initiative aligns with India's commitment to achieving 500 GW of non-fossil fuel-based energy generation and meeting 50% of energy requirements from renewables by 2030.
यह पहल भारत की इस प्रतिबद्धता के अनुरूप है कि वह 500 गीगावाट गैर-जीवाश्म ईंधन आधारित ऊर्जा उत्पादन हासिल करेगा और 2030 तक अपनी 50% ऊर्जा आवश्यकताएँ नवीकरणीय स्रोतों से पूरी करेगा।



GS III: S&T

Ensure compliance

Firms that make poor quality drugs must face consequences

Atmanirbhar Bharat is an aspirational ideal well worth pursuing, but not without a sustained quality control framework in place. Time and again, there have been serious threats to the goal of 'making in India', particularly in the pharmaceutical sector. The issue of quality of cough syrups has repeatedly been raised, and India with great ambitions in the global pharmaceutical sector has often been short of what is required to build a robust and trustworthy industry. Recently, the Union Health Ministry sought strict drug compliance from all Indian drug manufacturers, in line with the revised Schedule M norms for pharmaceutical products in India. This came after a report from the Tamil Nadu Drugs Control Department found above permissible limits of diethylene glycol (DEG) in samples of Coldrif, a cough syrup being manufactured by a private company. The tests were initiated after cough syrup was suspected to be behind the recent deaths of at least 14 children in Rajasthan and Madhya Pradesh. Strangely, while the Health Ministry ruled out the presence of DEG, in initial tests conducted on samples from the two States, it was detected in one of the batches lifted by Tamil Nadu within the State. The State's Drugs Control Department also recorded several non-compliance factors in the Good Manufacturing Practices and Good Laboratory Practices of the Drugs Rules, at the manufacturing facility. Its report mentioned that the contaminated batch was manufactured using non-pharmacopoeial grade propylene glycol as an excipient. It mentioned that this might have contaminated the drug with DEG and ethylene glycol, known nephrotoxic substances. The Central Drugs Standard Control Organisation has recommended cancellation of the firm's manufacturing licence. Meanwhile, a doctor who reportedly recommended the cough syrup to many of the children who died in Madhya Pradesh was arrested.

While these measures are good to address the situation in the instant case, what the Indian state must do is have a zero threshold for poor quality drugs. Hawk-like monitoring is necessary, and action when violations are detected. It is criminal to act only when deaths have occurred; that is indefensible. A framework of proven Good Laboratory Practices already exists; what is needed is seriousness in handling every such reported violation, along with regular, surprise inspections of drug batches, with appropriate action taken for every violation. It is important to send the message down the assembly line that the government will not brook any shoddiness or violations that endanger the lives of people.

DEG की उपस्थिति को खारिज कर दिया, लेकिन यह तमिलनाडु द्वारा उठाए गए एक बैच में पाया गया।

- The State's Drugs Control Department also recorded several **non-compliance factors** in the **Good Manufacturing Practices** and **Good Laboratory Practices** of the Drugs Rules, at the

Ensure compliance

पालन सुनिश्चित करें

- Firms that make poor quality drugs must face consequences जो कंपनियां खराब गुणवत्ता वाली दवाएं बनाती हैं उन्हें परिणाम भुगतने चाहिए

Atmanirbhar Bharat and Pharmaceutical Quality

आत्मनिर्भर भारत और फार्मास्यूटिकल गुणवत्ता

- Atmanirbhar Bharat is an aspirational ideal well worth pursuing, but not without a sustained **quality control framework** in place.

आत्मनिर्भर भारत एक महत्वाकांक्षी आदर्श है जिसे आगे बढ़ाना जरूरी है, लेकिन इसके लिए एक निरंतर गुणवत्ता नियंत्रण ढांचे की आवश्यकता है।

- Time and again, there have been serious threats to the goal of 'making in India', particularly in the **pharmaceutical sector**.

बार-बार, 'मेक इन इंडिया' के लक्ष्य को गंभीर खतरे का सामना करना पड़ा है, विशेष रूप से फार्मास्यूटिकल सेक्टर में।

- The issue of **quality of cough syrups** has repeatedly been raised, and India with great ambitions in the global pharmaceutical sector has often been short of what is required to build a **robust and trustworthy industry**.

कफ सिरप की गुणवत्ता का मुद्दा बार-बार उठाया गया है, और वैश्विक फार्मास्यूटिकल सेक्टर में बड़ी महत्वाकांक्षाओं वाले भारत में अक्सर मजबूत और भरोसेमंद उद्योग बनाने के लिए आवश्यक चीजों की कमी रही है।

- Recently, the **Union Health Ministry** sought strict **drug compliance** from all Indian drug manufacturers, in line with the revised **Schedule M norms for pharmaceutical products in India**.

हाल ही में, **केंद्रीय स्वास्थ्य मंत्रालय** ने सभी भारतीय दवा निर्माताओं से कड़े **ड्रग अनुपालन** की मांग की, जो भारत में फार्मास्यूटिकल उत्पादों के लिए संशोधित **शेड्यूल M मानकों** के अनुरूप है।

- This came after a report from the **Tamil Nadu Drugs Control Department** found above permissible limits of **diethylene glycol (DEG)** in **samples of Coldrif**, a cough syrup being manufactured by a private company.

यह रिपोर्ट तब आई जब **तमिलनाडु ड्रग्स कंट्रोल विभाग** ने एक निजी कंपनी द्वारा निर्मित **Coldrif** कफ सिरप के नमूनों में **डाइएथिलीन ग्लाइकोल (DEG)** की अनुमत सीमा से अधिक मात्रा पाई।

- The tests were initiated after cough syrup was suspected to be behind the recent deaths of at least **14 children** in **Rajasthan** and **Madhya Pradesh**.

परीक्षण उस समय शुरू किए गए जब यह संदेह था कि कफ सिरप हाल ही में **राजस्थान** और **मध्य प्रदेश** में कम से कम **14 बच्चों** की मौत का कारण हो सकता है।

- Strangely, while the Health Ministry ruled out the presence of **DEG** in initial tests conducted on samples from the two States, it was detected in one of the batches lifted by **Tamil Nadu** within the State.

अजीब बात यह है कि स्वास्थ्य मंत्रालय ने दो राज्यों के नमूनों पर प्रारंभिक परीक्षण में



manufacturing facility.

राज्य के ड्रग्स कंट्रोल विभाग ने निर्माण सुविधा में गुड मैनुफैक्चरिंग प्रैक्टिसेस और गुड लैबोरेटरी प्रैक्टिसेस के कई अपालन कारक दर्ज किए।

- Its report mentioned that the contaminated batch was manufactured using **non-pharmacopoeial grade propylene glycol** as an excipient.
इसकी रिपोर्ट में उल्लेख किया गया कि संदूषित बैच का निर्माण गैर-फार्माकोपियल ग्रेड प्रोपलीन ग्लाइकोल का उपयोग करके किया गया था।
- It mentioned that this might have contaminated the drug with **DEG** and **ethylene glycol**, known **nephrotoxic substances**.
रिपोर्ट में कहा गया कि इससे दवा में **DEG** और **एथिलीन ग्लाइकोल**, जो कि ज्ञात **नेफ्रोटॉक्सिक पदार्थ** हैं, का संदूषण हो सकता है।
- The **Central Drugs Standard Control Organisation** has recommended **cancellation of the firm's manufacturing licence**.
सेंट्रल ड्रग्स स्टैंडर्ड कंट्रोल ऑर्गनाइजेशन ने फर्म के निर्माण लाइसेंस की **रद्द करने की सिफारिश** की है।
- Meanwhile, a doctor who reportedly recommended the cough syrup to many of the children who died in **Madhya Pradesh** was **arrested**.
इस बीच, एक डॉक्टर, जिसने कथित तौर पर कफ सिरप कई बच्चों को सुझाया था, जो **मध्य प्रदेश** में मरे, उसे **गिरफ्तार** किया गया।
- While these measures are good to address the situation in the instant case, what the Indian state must do is have a **zero threshold for poor quality drugs**.
जबकि ये उपाय तत्काल मामले में स्थिति को संभालने के लिए अच्छे हैं, भारत राज्य को **कम गुणवत्ता वाली दवाओं के लिए शून्य सहनशीलता** रखना चाहिए।
- **Hawk-like monitoring** is necessary, and action when **violations are detected**.
सतर्क निगरानी आवश्यक है, और जब **उल्लंघन पाए जाएं** तो कार्रवाई की जानी चाहिए।
- It is **criminal** to act only when deaths have occurred; that is **indefensible**.
केवल मौत होने पर कार्रवाई करना **अपराध** है; यह **असाध्य** है।
- A framework of proven **Good Laboratory Practices** already exists; what is needed is **seriousness in handling every reported violation**, along with **regular, surprise inspections** of drug batches, with **appropriate action** taken for every violation.
प्रमाणित **गुड लैबोरेटरी प्रैक्टिसेस** का ढांचा पहले से मौजूद है; आवश्यक है कि हर रिपोर्ट किए गए उल्लंघन को गंभीरता से संभाला जाए, साथ ही दवा बैचों की **नियमित और आकस्मिक निरीक्षण** की जाए, और हर उल्लंघन के लिए **उचित कार्रवाई** की जाए।
- It is important to send the message down the assembly line that the government will not **brook any shoddiness or violations** that endanger the lives of people.
यह संदेश उत्पादन लाइन तक पहुंचाना महत्वपूर्ण है कि सरकार किसी भी **गैर-गुणवत्ता या उल्लंघनों** को बर्दाश्त नहीं करेगी जो लोगों के जीवन को खतरे में डालते हैं।



GS III: S&T

Kept in check

The Nobel laureates' work has redefined the immune system itself

The 2025 Nobel Prize in Physiology or Medicine has recognised discoveries that transformed the scientific understanding of autoimmune regulation. Today, researchers are exploring these conditions' genetic, molecular, and environmental determinants, paving the way for early diagnoses and targeted interventions. An important chunk of this advance is owed to the work of Mary Brunkow, Fred Ramsdell, and Shimon Sakaguchi, who established the role of regulatory T-cells (Tregs) and the transcription factor FOXP3. In the 1990s, immunologists had already defined the deletion of self-reactive T-cells during maturation, yet this process could not account for the persistence of autoreactive T-cells in healthy individuals. Sakaguchi figured that an additional mechanism must operate in the periphery. In 1995, his team identified a subset of CD4⁺ T-cells that, when they were removed from mice, led to multiple autoimmune disorders, while restoring the cells prevented disease. Next, Brunkow and Ramsdell, then at Celltech Chiroscience, found that male scurfy mice developed severe multi-organ autoimmunity and died within weeks of birth. They were able to narrow the mutation to the X chromosome, identifying an insertion in the DNA that truncated a previously unknown gene. They named it FOXP3, and found that losing it led to immune collapse. Soon, clinical collaborations reported mutations in FOXP3 in boys with a lethal autoimmune disorder. These findings together established that self-tolerance rested on a molecular switch governing the differentiation and maintenance of Tregs.

Today, in autoimmune diseases, experimental treatments aim to expand or stabilise Tregs. Early clinical trials have shown that reinforcing this cell population can mitigate harmful immune activation without broad immunosuppression. In transplantation, engineered Tregs are being infused to improve graft acceptance. In cancer, researchers are exploring selective depletion or reprogramming of tumour-associated Tregs to enhance immunity without triggering autoimmunity. Beyond therapy, the conceptual shift brought on by the laureates' work has redefined the immune system: from an on/off apparatus to a dynamic ecosystem of activation and restraint. That Brunkow and Ramsdell conducted their work within industry also underscores how private sector research can yield significant discoveries. But even now, some immunologists caution against underestimating the field's incremental nature. In a testament to the broader landscape including overlapping layers of control rather than a single molecular pathway, researchers face several obstacles to translating what they know to safe, scalable therapies. Cell-based therapies' high cost has also accentuated inequities in access, creating ethical and policy challenges.

ने पाया कि नर scurfy चूहे में गंभीर मल्टी-ऑर्गन ऑटोइम्यूनैटी विकसित हुई और वे जन्म के कुछ हफ्तों में मर गए।

Kept in check नियंत्रण में रखा गया

The Nobel laureates' work has redefined the immune system itself, opening new avenues for immunology research and treatment of diseases.

नोबेल पुरस्कार विजेताओं के कार्य ने प्रतिरक्षा प्रणाली (immune system) को पुनः परिभाषित किया है, जिससे इम्यूनोलॉजी अनुसंधान और रोगों के उपचार के लिए नए मार्ग खुले हैं।

2025 Nobel Prize in Physiology or Medicine 2025 नोबेल पुरस्कार – फिजियोलॉजी या मेडिसिन

The 2025 Nobel Prize in Physiology or Medicine has recognised discoveries that transformed the scientific understanding of autoimmune regulation.

2025 का नोबेल पुरस्कार फिजियोलॉजी या मेडिसिन में उन खोजों को मान्यता देता है जिन्होंने स्वप्रतिरक्षा नियंत्रण (autoimmune regulation) की वैज्ञानिक समझ को बदल दिया।

Today, researchers are exploring these conditions' genetic, molecular, and environmental determinants, paving the way for early diagnoses and targeted interventions.

आज, शोधकर्ता इन स्थितियों के जैविक, आणविक और पर्यावरणीय निर्धारकों का अध्ययन कर रहे हैं, जो प्रारंभिक निदान और लक्षित हस्तक्षेप की दिशा खोलते हैं।

An important chunk of this advance is owed to the work of Mary Brunkow, Fred Ramsdell, and Shimon Sakaguchi, who established the role of regulatory T-cells (Tregs) and the transcription factor FOXP3.

इस प्रगति का एक महत्वपूर्ण हिस्सा मैरी ब्रॉकॉ, फ्रेड राम्सडेल और शिमोन सकागुची के कार्यों का है, जिन्होंने रेगुलेटरी टी-सेल्स (Tregs) और ट्रांसक्रिप्शन फैक्टर FOXP3 की भूमिका स्थापित की।

In the 1990s, immunologists had already defined the deletion of self-reactive T-cells during maturation, yet this process could not account for the persistence of autoreactive T-cells in healthy individuals.

1990 के दशक में, इम्यूनोलॉजिस्ट ने पहले ही परिपक्वता के दौरान आत्म-प्रतिक्रियाशील T-सेल्स का निष्कासन निर्धारित किया था, फिर भी यह प्रक्रिया स्वस्थ व्यक्तियों में autoreactive T-सेल्स की उपस्थिति को नहीं समझा पाई।

Sakaguchi figured that an additional mechanism must operate in the periphery.

सकागुची ने अनुमान लगाया कि परिधीय तंत्र में एक अतिरिक्त तंत्र काम कर रहा होगा।

In 1995, his team identified a subset of CD4⁺ T-cells that, when removed from mice, led to multiple autoimmune disorders, while restoring the cells prevented disease.

1995 में, उनकी टीम ने CD4⁺ T-सेल्स का एक उपसमूह पहचाना, जिसे चूहों से हटाने पर कई स्वप्रतिरक्षी विकार हुए, जबकि इसे पुनर्स्थापित करने पर रोग रोका गया।

Next, Brunkow and Ramsdell, then at Celltech Chiroscience, found that male scurfy mice developed severe multi-organ autoimmunity and died within weeks of birth.

इसके बाद, ब्रॉकॉ और राम्सडेल, जो उस समय Celltech Chiroscience में थे,



- They were able to narrow the **mutation** to the **X chromosome**, identifying an insertion in the DNA that truncated a previously unknown gene.
वे **म्यूटेशन** को **X क्रोमोसोम** तक सीमित कर पाए, और DNA में एक इन्सर्शन की पहचान की जिसने पहले अज्ञात जीन को छोटा कर दिया।
- They named it **FOXP3**, and found that losing it led to **immune collapse**.
उन्होंने इसे **FOXP3** नाम दिया, और पाया कि इसका नुकसान **प्रतिरक्षा विफलता** की ओर ले जाता है।
- Soon, clinical collaborations reported **mutations in FOXP3** in boys with a **lethal autoimmune disorder**.
जल्द ही, क्लिनिकल सहयोग ने लड़कों में **FOXP3** में **म्यूटेशन** की रिपोर्ट की, जिन्हें **घातक ऑटोइम्यून विकार** था।
- These findings together established that **self-tolerance** rested on a **molecular switch** governing the **differentiation and maintenance of Tregs**.
इन निष्कर्षों ने मिलकर स्थापित किया कि **स्व-सहनशीलता (self-tolerance)** एक **आणविक स्विच** पर आधारित है जो **Tregs का विभेदन और रखरखाव** नियंत्रित करता है।
- Today, in **autoimmune diseases**, experimental treatments aim to **expand or stabilise Tregs**.
आज, **स्वप्रतिरक्षा रोगों** में, प्रायोगिक उपचार का उद्देश्य **Tregs का विस्तार या स्थिरीकरण** करना है।
- Early clinical trials have shown that reinforcing this cell population can mitigate **harmful immune activation** without **broad immunosuppression**.
प्रारंभिक क्लिनिकल ट्रायल्स से पता चला है कि इस कोशिका आबादी को मजबूत करना **हानिकारक प्रतिरक्षा सक्रियता** को कम कर सकता है बिना व्यापक **इम्यूनोसप्रेसन** के।
- In **transplantation**, engineered Tregs are being infused to improve **graft acceptance**.
प्रतिरोपण (transplantation) में, इंजीनियर्ड Tregs को **ग्राफ्ट की स्वीकृति** बढ़ाने के लिए दिया जा रहा है।
- In **cancer**, researchers are exploring **selective depletion or reprogramming of tumour-associated Tregs** to enhance **immunity** without triggering **autoimmunity**.
कैंसर में, शोधकर्ता **ट्यूमर-संबंधित Tregs का चयनात्मक कमी या पुनः प्रोग्रामिंग** करके **प्रतिरक्षा** बढ़ाने का प्रयास कर रहे हैं बिना **स्वप्रतिरक्षा** को बढ़ाए।
- Beyond therapy, the conceptual shift brought on by the laureates' work has redefined the **immune system**: from an **on/off apparatus** to a **dynamic ecosystem of activation and restraint**.
थेरेपी से परे, पुरस्कार विजेताओं के काम द्वारा लाया गया वैचारिक बदलाव ने **प्रतिरक्षा तंत्र** को फिर से परिभाषित किया: इसे एक **ऑन/ऑफ उपकरण** से **सक्रियता और नियंत्रण का गतिशील पारिस्थितिकी तंत्र** बनाया।
- That **Brunkow and Ramsdell conducted their work within industry** also underscores how **private sector research** can yield significant discoveries.
यह कि **ब्रंको और राम्सडेल ने अपना काम उद्योग में किया** यह भी दर्शाता है कि कैसे **निजी क्षेत्र का अनुसंधान** महत्वपूर्ण खोजें ला सकता है।
- But even now, some immunologists caution against underestimating the field's **incremental nature**.
लेकिन अब भी, कुछ इम्यूनोलॉजिस्ट इस क्षेत्र की **क्रमिक प्रकृति** को कम आंकने के खिलाफ चेतावनी देते हैं।
- In a testament to the broader landscape including overlapping layers of control rather than a single molecular pathway, researchers face several obstacles to translating what they know to **safe, scalable therapies**.
व्यापक परिदृश्य, जिसमें **एकल आणविक मार्ग** की बजाय **अतिक्रमित नियंत्रण स्तर** शामिल हैं, के साक्ष्य के रूप में, शोधकर्ताओं को यह जानने के बावजूद **सुरक्षित और स्केलेबल उपचार** बनाने में कई बाधाओं का सामना करना पड़ता है।
- **Cell-based therapies' high cost** has also accentuated **inequities in access**, creating **ethical and policy challenges**.
कोशिका-आधारित उपचार की उच्च लागत ने **पहुँच में असमानता** को बढ़ा दिया है, जिससे **नैतिक और नीति संबंधी चुनौतियाँ** उत्पन्न होती हैं।



We need an urban climate emergency fund

Disaster recovery cannot depend on ad hoc grants or delayed relief measures

GS III: DM

STATE OF PLAY

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Bouts of localised flooding across Hyderabad during the 2025 monsoon marooned residents, damaged roads, forced businesses to close, and disrupted electric supply for days. This year's deluge is yet another reminder of how rainfall patterns have shifted in Telangana. The average monsoon rainfall for Hyderabad through the 20th century was 76.88 cm, but over the last 25 years, the city has recorded an average of 91.84 cm. While scientists debate the extent to which this shift is attributable to climate change, for citizens, the cause is less pressing than the consequence.

In Hyderabad, the basements of high-rise apartments were flooded and cars were swept away. And as always, the poor, particularly those who live along the Musi River and lake beds, were impacted the most. They lost rations, home appliances, documents, and vehicles. For families in areas such as Moosa Nagar, Chaderghat, and Kishanbagh, which are on the edge of the river, flooding means a lost school year for children, rising cases of water-borne diseases, and the struggle to rebuild their lives with no insurance safety net.

Hyderabad's vulnerability is the result of willful ignorance of the city's natural gradient and watersheds, decades of civic corruption, and the systematic dereliction of zoning regulations. By shrinking lakes and encroaching on storm water drains, the city has systematically dismantled its natural floodwater flow patterns. Shifting rainfall patterns



Telangana

are aggravating the problem.

The State government's creation of the Hyderabad Disaster Management and Asset Protection Agency in 2024 was a step forward in dealing with the crisis. The agency has been working to clear lake bed encroachments and rejuvenate water bodies. It restored the Bathukamma Kunta lake, which offers a glimmer of hope. Yet, these interventions cannot undo the damage caused over decades. For instance, the main office of the Hyderabad Metropolitan Development Authority was built in the 1970s on what used to be one of the four lakes in the Ameerpet area.

Climate change is making cities vulnerable. Is India trying to make cities resilient? On July 24, 2025, MP Rookumari Choudhary asked in the Lok Sabha, "Will the Minister of Housing and Urban Affairs (MoHUA) be pleased to state the manner in which the government is incorporating climate resilience into urban planning and infrastructure development to address recurring issues such as flooding, waterlogging and damage to critical systems...?"

In response, the Minister of State for MoHUA, Tokhan Sahu, said that urban affairs falls under the purview of the State governments and urban local bodies. The only financial commitment that the Centre made in this year's budget was the Urban Challenge Fund of

₹1 lakh crore, aimed at implementing proposals for 'Cities as Growth Hubs', 'Creative Re-development of Cities', and 'Water and Sanitation'. "This fund finances up to 25% of the cost of bankable projects with a stipulation that at least 50% of the cost is funded from bonds, bank loans, and Public Private Partnership," he said.

What Hyderabad and other urban areas need is a dedicated climate emergency fund. Cities should be able to draw from such a fund for both short-term reconstruction and long-term adaptation. Disaster recovery cannot depend on ad hoc grants or delayed relief measures. If extreme events are going to be the new normal, funding mechanisms need to reflect that reality.

Building resilience is a key challenge, and the Telangana government's Musi Riverfront Development Plan embodies this effort. The plan aligns with the MoHUA's document of 2021, 'River Centric Urban Planning Guidelines', which factored in climate change and suggested the creation of active and passive recreational areas and enforcement of eco-sensitive zoning regulations. The project costs an estimated ₹1 lakh crore-₹1.5 lakh crore. Yet, securing funding has proved to be difficult. Without substantial commitment from the Centre, projects such as this risk becoming cosmetic.

Indian cities are engines of economic growth: they are home to over a third of the country's population and provide most of the jobs in the informal sector. But without climate resilience, these engines will stall. The story of Hyderabad's flooded streets is not just about poor drainage – it is about a development model that requires urgent funds to tide over the climate emergency unfolding in front of us.



We need an urban climate emergency fund हमें शहरी क्लाइमेट इमरजेंसी फंड की आवश्यकता है

Hyderabad Floods 2025 हैदराबाद बाढ़ 2025

- Bouts of **localised flooding** across **Hyderabad** during the **2025 monsoon** marooned residents, damaged **roads**, forced **businesses** to close, and disrupted **electric supply** for days.
2025 मानसून के दौरान **हैदराबाद** में हुई **स्थानीय बाढ़** ने निवासियों को फंसा दिया, **सड़कों** को नुकसान पहुँचाया, **व्यवसायों** को बंद करने के लिए मजबूर किया, और **बिजली की आपूर्ति** कई दिनों तक बाधित रही।
- This year's deluge is yet another reminder of how **rainfall patterns** have shifted in **Telangana**.
इस साल की बाढ़ फिर से याद दिलाती है कि **तेलंगाना** में **वर्षा पैटर्न** कैसे बदल गए हैं।
- The average **monsoon rainfall** for **Hyderabad** through the 20th century was **76.88 cm**, but over the last 25 years, the city has recorded an average of **91.84 cm**.
20वीं सदी में **हैदराबाद** में औसत **मानसून वर्षा 76.88 सेमी** थी, लेकिन पिछले 25 वर्षों में शहर ने औसतन **91.84 सेमी** दर्ज किया है।
- While scientists debate the extent to which this shift is attributable to **climate change**, for citizens, the cause is less pressing than the **consequence**.
जबकि वैज्ञानिक इस बदलाव को **जलवायु परिवर्तन** से कितना जोड़ा जा सकता है, इस पर बहस करते हैं, नागरिकों के लिए कारण से ज्यादा महत्वपूर्ण **परिणाम** है।

Impact on Residents निवासियों पर प्रभाव

- In **Hyderabad**, the **basements** of **high-rise apartments** were flooded and **cars** were swept away.
हैदराबाद में **उच्च इमारतों के बेसमेंट** में पानी भर गया और **कारें** बह गईं।
- As always, the **poor**, particularly those who live along the **Musi River** and **lake beds**, were impacted the most.
हमेशा की तरह, **गरीब**, विशेषकर जो **मुसी नदी** और **झील के तल** के किनारे रहते हैं, सबसे अधिक प्रभावित हुए।
- They lost **rations, home appliances, documents, and vehicles**.
उन्होंने **राशन, घरेलू उपकरण, दस्तावेज, और वाहन** खो दिए।
- For families in areas such as **Moosa Nagar, Chaderghat, and Kishanbagh**, which are on the **edge of the river**, flooding means a lost **school year** for children, rising cases of **water-borne diseases**, and the struggle to rebuild their lives with no **insurance safety net**.
उन क्षेत्रों जैसे **मूसा नगर, चादरगेट, और किशनबाग**, जो **नदी के किनारे** हैं, में बाढ़ का मतलब बच्चों के लिए **स्कूल का वर्ष खोना**, बढ़ते **जलजनित रोगों** के मामले, और बिना **बीमा सुरक्षा जाल** के जीवन फिर से बनाने की चुनौती है।

Causes of Vulnerability संवेदनशीलता के कारण

- Hyderabad's vulnerability is the result of **willful ignorance** of the city's **natural gradient** and **watersheds**, decades of **civic corruption**, and the systematic dereliction of **zoning regulations**.
हैदराबाद की संवेदनशीलता शहर की **प्राकृतिक ढलान** और **जलग्रहण क्षेत्रों** की **जानबूझकर उपेक्षा**, दशकों की **नगरपालिका भ्रष्टाचार**, और **जोनिंग नियमों** की व्यवस्थित अनदेखी का परिणाम है।
- By shrinking **lakes** and encroaching on **storm water drains**, the city has systematically dismantled its natural **floodwater flow patterns**.
झीलों को छोटा करके और **तूफानी पानी की नालियों** पर अतिक्रमण करके, शहर ने अपने प्राकृतिक **बाढ़ जल प्रवाह पैटर्न** को व्यवस्थित रूप से नष्ट किया है।
- Shifting rainfall patterns** are aggravating the problem.
बदलते वर्षा पैटर्न इस समस्या को और बढ़ा रहे हैं।

Government Response सरकारी प्रतिक्रिया



- The **State government's creation of the Hyderabad Disaster Management and Asset Protection Agency in 2024** was a step forward in dealing with the crisis.
राज्य सरकार द्वारा 2024 में हैदराबाद डिजास्टर मैनेजमेंट एंड एसेट प्रोटेक्शन एजेंसी का निर्माण इस संकट से निपटने में एक कदम आगे था।
- The agency has been working to **clear lake bed encroachments and rejuvenate water bodies**.
एजेंसी झील के तल पर अतिक्रमण हटाने और जल निकायों को पुनर्जीवित करने के लिए काम कर रही है।
- It restored the **Bathukamma Kunta lake**, which offers a **glimmer of hope**.
इसने बाटुकम्मा कुंटा झील को पुनर्स्थापित किया, जो एक उम्मीद की किरण प्रदान करता है।
- Yet, these interventions cannot undo the **damage** caused over **decades**.
फिर भी, ये हस्तक्षेप दशकों से हुए **नुकसान** को नहीं मिटा सकते।
- For instance, the main office of the **Hyderabad Metropolitan Development Authority** was built in the **1970s** on what used to be one of the **four lakes** in the **Ameerpet area**.
उदाहरण के लिए, हैदराबाद मेट्रोपॉलिटन डेवलपमेंट अथॉरिटी का मुख्य कार्यालय 1970 के दशक में अमीरपेट क्षेत्र की उन **चार झीलों** में से एक पर बनाया गया था।

Urban Climate Resilience in India

भारत में शहरी जलवायु सहनशीलता

- **Climate change** is making **cities vulnerable**. Is **India** trying to make cities resilient?
जलवायु परिवर्तन शहरों को **संवेदनशील** बना रहा है। क्या **भारत** शहरों को **सहनशील** बनाने की कोशिश कर रहा है?
- On **July 24, 2025**, **MP Rookumari Choudhary** asked in the **Lok Sabha**, "Will the **Minister of Housing and Urban Affairs (MoHUA)** be pleased to state the manner in which the government is incorporating **climate resilience** into **urban planning** and **infrastructure development** to address recurring issues such as **flooding, waterlogging** and damage to **critical systems...**?"
24 जुलाई 2025 को सांसद रूपुमारी चौधरी ने लोकसभा में पूछा, "क्या आवास और शहरी मामलों के मंत्री (MoHUA) यह बताने में प्रसन्न होंगे कि सरकार शहरी योजना और बुनियादी ढांचा विकास में जलवायु सहनशीलता कैसे शामिल कर रही है ताकि बाढ़, जलभराव और महत्वपूर्ण प्रणालियों को होने वाले नुकसान जैसी दोहराई जाने वाली समस्याओं को सुलझाया जा सके...?"

Response by MoHUA

MoHUA द्वारा प्रतिक्रिया

- In response, the **Minister of State for MoHUA, Tokhan Sahu**, said that **urban affairs** falls under the purview of the **State governments** and **urban local bodies**.
जवाब में, MoHUA के राज्य मंत्री, टोकहन साहू ने कहा कि शहरी मामले राज्य सरकारों और शहरी स्थानीय निकायों के अधिकार क्षेत्र में आते हैं।
- The only financial commitment that the **Centre** made in this year's budget was the **Urban Challenge Fund** of **₹1 lakh crore**, aimed at implementing proposals for '**Cities as Growth Hubs**', '**Creative Redevelopment of Cities**', and '**Water and Sanitation**'.
इस वर्ष के बजट में केंद्र द्वारा की गई एकमात्र वित्तीय प्रतिबद्धता **₹1 लाख करोड़** का **अर्बन चैलेंज फंड** था, जिसका उद्देश्य '**विकास केंद्र के रूप में शहर**', '**शहरों का रचनात्मक पुनर्विकास**' और '**जल और स्वच्छता**' के प्रस्तावों को लागू करना है।
- "This fund finances up to **25%** of the cost of **bankable projects** with a stipulation that at least **50%** of the cost is funded from **bonds, bank loans, and Public Private Partnership**," he said.
उन्होंने कहा, "यह फंड बैंक योग्य परियोजनाओं की लागत का अधिकतम **25%** वित्तपोषित करता है, इस शर्त के साथ कि कम से कम **50%** लागत **बॉन्ड, बैंक ऋण और सार्वजनिक-निजी साझेदारी** से वित्त पोषित हो।"

Need for Dedicated Climate Emergency Fund

समर्पित जलवायु आपातकालीन कोष की आवश्यकता

- What **Hyderabad** and other urban areas need is a dedicated **climate emergency fund**.
हैदराबाद और अन्य शहरी क्षेत्रों को एक समर्पित **जलवायु आपातकालीन कोष** की आवश्यकता है।



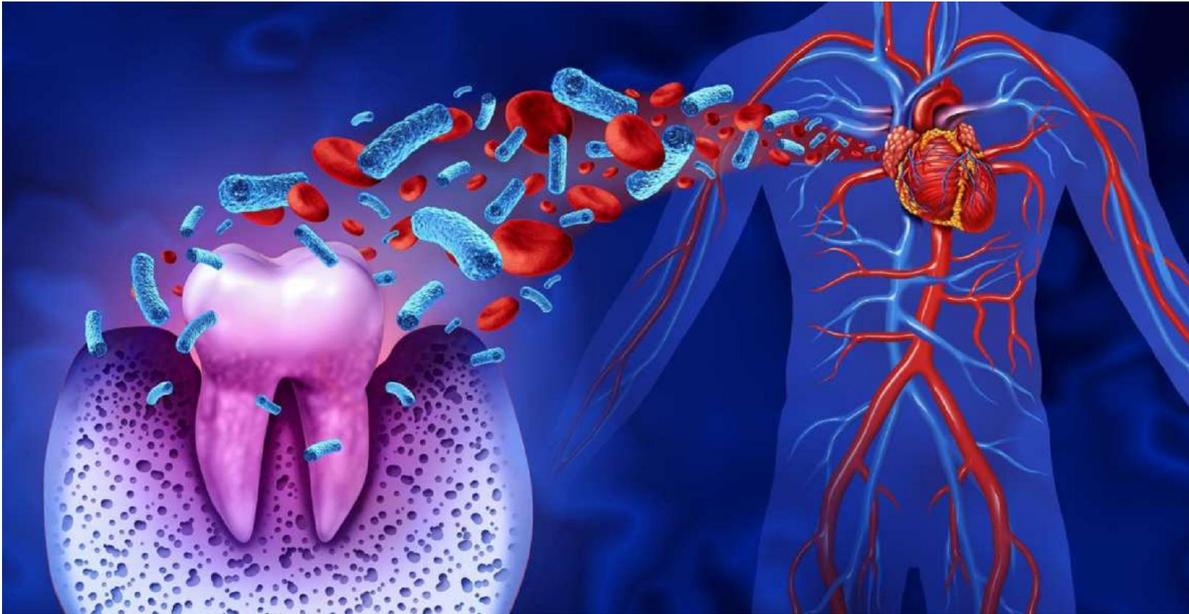
- Cities should be able to draw from such a fund for both **short-term reconstruction** and **long-term adaptation**.
शहर इस कोष से दोनों के लिए धन निकाल सके: **अल्पकालिक पुनर्निर्माण** और **दीर्घकालिक अनुकूलन**।
- Disaster recovery cannot depend on **ad hoc grants** or delayed **relief measures**.
आपदा पुनर्प्राप्ति **अल्पकालिक अनुदान** या विलंबित **राहत उपायों** पर निर्भर नहीं हो सकती।
- If **extreme events** are going to be the **new normal**, funding mechanisms need to reflect that reality.
यदि **अत्यधिक घटनाएँ** अब **नया सामान्य** बनने जा रही हैं, तो वित्त पोषण तंत्र को उस **वास्तविकता** को प्रतिबिंबित करना होगा।

Building Resilience सहनशीलता का निर्माण

- Building resilience is a key challenge, and the **Telangana government's Musi Riverfront Development Plan** embodies this effort.
सहनशीलता का निर्माण एक मुख्य चुनौती है, और **तेलंगाना सरकार का मुसी रिवरफ्रंट डेवलपमेंट प्लान** इस प्रयास का प्रतीक है।
- The plan aligns with the **MoHUA's document of 2021, 'River Centric Urban Planning Guidelines'**, which factored in **climate change** and suggested the creation of **active and passive recreational areas** and enforcement of **eco-sensitive zoning regulations**.
यह योजना **MoHUA की 2021 की दस्तावेज़, 'रिवर सेंट्रिक शहरी योजना दिशानिर्देश'** के अनुरूप है, जिसने **जलवायु परिवर्तन** को ध्यान में रखा और **सक्रिय और निष्क्रिय मनोरंजन क्षेत्रों** के निर्माण और **पर्यावरण-संवेदनशील जोनिंग नियमों** के कार्यान्वयन का सुझाव दिया।
- The project costs an estimated **₹1 lakh crore–₹1.5 lakh crore**.
इस परियोजना की अनुमानित लागत **₹1 लाख करोड़–₹1.5 लाख करोड़** है।
- Yet, securing funding has proved to be difficult.
फिर भी, **फंडिंग सुरक्षित करना** कठिन साबित हुआ है।
- Without substantial commitment from the **Centre**, projects such as this risk becoming **cosmetic**.
यदि **केंद्र** से पर्याप्त प्रतिबद्धता नहीं है, तो इस जैसी परियोजनाएँ **सजावटी** बन जाने का जोखिम उठाती हैं।

Importance of Climate Resilience for Indian Cities भारतीय शहरों के लिए जलवायु सहनशीलता का महत्व

- **Indian cities** are engines of **economic growth**: they are home to over a **third** of the country's population and provide most of the **jobs in the informal sector**.
भारतीय शहर आर्थिक विकास के इंजन हैं: ये देश की आबादी के एक **तिहाई** से अधिक का घर हैं और **अनौपचारिक क्षेत्र में अधिकांश रोजगार** प्रदान करते हैं।
- But without **climate resilience**, these engines will stall.
लेकिन **जलवायु सहनशीलता** के बिना, ये इंजन रुक जाएंगे।
- The story of **Hyderabad's flooded streets** is not just about **poor drainage** — it is about a **development model** that requires urgent **funds** to tide over the **climate emergency** unfolding in front of us.
हैदराबाद की बाढ़ग्रस्त सड़कों की कहानी केवल **खराब जल निकासी** के बारे में नहीं है — यह एक **विकास मॉडल** के बारे में है जिसे सामने आए **जलवायु आपातकाल** से निपटने के लिए तत्काल **फंड** की आवश्यकता है।



GETTY IMAGES

Could hidden dental bacteria help explain sudden and deadly heart attacks?

A new study, by a research team in Finland, examined coronary arteries from 121 sudden-death autopsies and 96 patients undergoing vascular surgery. Using DNA detection tests and microscopic staining, the researchers found bacterial DNA in a significant proportion of samples

CS III, S&T
Anirban Mukhopadhyay

A new study published in the *Journal of the American Heart Association* has found that *viridans streptococci*, a group of common oral bacteria, can form sticky bacterial layers called biofilms deep inside atherosclerotic plaques, remaining hidden from the immune system until the moment of rupture. The findings suggest that oral bacteria could persist in coronary arteries and contribute directly to fatal heart attacks.

Coronary artery disease has long been understood as a condition driven by cholesterol deposition, high blood pressure, diabetes, and smoking, all of which promote chronic inflammation in the arteries. Alongside these established factors, researchers have also proposed infection-related inflammation as a trigger for plaque rupture, leading to heart attacks. Previous studies had linked microbes related to pneumonia, herpes viruses, and ulcers inside atherosclerotic plaques, although none had been linked directly to rupture events.

"This study is a step forward in our understanding of the reasons for increased incidence of heart attacks in individuals with gum disease and the increased prevalence of gum disease in patients with heart attacks," C.C. Kartha, ex-professor of eminence at the Rajiv Gandhi Centre for Biotechnology, Thiruvananthapuram, said.

Plaques and heart attacks

The new study, by a research team at Tampere University in Finland, examined coronary arteries from 121 sudden-death autopsies and 96 patients undergoing vascular surgery. Using DNA detection tests and microscopic staining, the researchers found bacterial DNA in a

significant proportion of samples. *Viridans streptococci* were the most frequent species, present in about 42% of both autopsy and surgical cases.

The bacteria were seen forming biofilms within the lipid-rich cores of plaques, where immune cells called macrophages largely failed to notice them, suggesting they could persist silently for years. In ruptured plaques, however, the bacteria had shifted location into the outer layer that covers the plaque and prevents it from spilling into the bloodstream. Here, they were associated with the activation of toll-like receptor 2 (TLR2), an immune sensor that helps the body detect microbes. This pattern was consistent with inflammation leading up to rupture.

The team also took steps to rule laboratory contamination out. Lead author Pekka J. Karhunen explained that their controls showed no signal when unrelated bacteria were tested and that the same bacterial signatures were found in both autopsy and surgical cases.

The question now is whether these hidden bacteria can be treated. Attempts to treat coronary disease with antibiotics have repeatedly failed in large clinical trials, and the Finnish group suggested that biofilms may explain why. The bacteria embedded in these structures strongly resist both antibiotics and immune clearance.

Prof. Soma Guhathakurta, cardio-vascular and thoracic surgeon, and Honorary Advisor at Namar Heart Hospital, Chennai, said the oral bioburden could one day be measured in suspected high-risk individuals, who could be offered preventive penicillin treatment in a strategy modelled on the way doctors manage rheumatic fever. While this is speculative, such proposals show how the findings are already

opening new lines of inquiry.

Oral health and heart risk

Dentists have long observed how bacteria in dental plaque can alternate between stable biofilms and free-floating, invasive forms. "Bacteria in dental biofilms can form robust communities that, under certain conditions, can disperse and release more virulent cells," Delhi-based orthodontists Hiten and Priyanka Kaushal Kalra explained.

They said that such shifts are plausible in arteries as well as through microtears in the blood vessel lining, on prosthetic surfaces such as valves or stents, and the lipid-rich environment of plaques. When conditions change, dispersed free-floating cells can re-emerge and penetrate deeper tissues, like those seen in infective endocarditis, a serious infection of heart valves.

The Kalras pointed to population-level evidence linking oral care with cardiovascular health. "The ARIC study showed regular dental care was associated with a 23% lower stroke risk, while a large Korean cohort found more frequent tooth brushing linked to reduced cardiovascular events." Untreated periodontal disease, apical periodontitis and chronic dental infections, by contrast, correlate with higher risks of stroke and coronary disease.

They emphasised early management of gum disease, prompt treatment of abscesses or necrotic teeth, and regular cleaning, alongside collaboration between dentists and cardiologists in high-risk patients.

Public health resonance

The insights from dentistry highlight the everyday routes by which bacteria could reach the arteries – a concern made sharper in India's context. Cardiovascular

disease affects people in India of younger ages even while untreated oral disease remains widespread.

"The oral-cardiac link is well known, though the causal link has not been established," said Dr. Kartha. "It is important to educate the public regarding the mouth-heart connection and the importance of oral hygiene as well as detecting and treating gum disease early, especially in patients with risk factors such as high LDL and diabetes."

Prof. Guhathakurta added that oral swab surveillance after the age of 40 could be one way to test the biofilm-heart link in community settings, if validated by further research.

The Finnish group is also extending its investigations. "We aim to publish our bacterial genetic sequencing findings on the whole microbiome of coronary atheromas in the near future," said Dr. Karhunen. Looking further ahead, he added, "We also aim to study the possibility of developing a vaccine against bacterial biofilm formation and bacterial-induced clotting."

These ideas reflect a broader effort to move beyond association and determine whether targeting hidden biofilms can alter the course of coronary disease.

For now, cardiology practice remains centred on cholesterol control, blood pressure management, and diabetes care. Yet the new findings and the voices of clinicians and dentists alike underline that oral health may be more closely tied to heart health than is recognised. Whether through everyday gum care or future biofilm-targeting therapies, the bacteria in our mouths could prove to be an overlooked player in the story of India's most common killer.

Anirban Mukhopadhyay is a geneticist by training and science communicator from New Delhi.



Could hidden dental bacteria help explain sudden and deadly heart attacks? क्या छिपे हुए दंत बैक्टीरिया अचानक और घातक दिल के दौरों की व्याख्या करने में मदद कर सकते हैं?

Oral Bacteria and Heart Attack Link मुख की बैक्टीरिया और हार्ट अटैक के बीच संबंध

- A new study published in the **Journal of the American Heart Association** has found that **viridans streptococci**, a group of common oral bacteria, can form sticky bacterial layers called **biofilms** deep inside atherosclerotic plaques, remaining hidden from the immune system until the moment of rupture.
Journal of the American Heart Association में प्रकाशित एक नए अध्ययन में पाया गया है कि **viridans streptococci**, जो आमतौर पर मुख में पाए जाने वाले बैक्टीरिया हैं, वे **biofilms (चिपचिपी परतें)** बना सकते हैं जो **atherosclerotic plaques** के भीतर गहराई में छिपे रहते हैं और तब तक **प्रतिरक्षा प्रणाली से छिपे रहते हैं** जब तक कि वे फट न जाएं।
- The findings suggest that **oral bacteria** could persist in **coronary arteries** and contribute directly to **fatal heart attacks**.
निष्कर्ष बताते हैं कि **मुख के बैक्टीरिया कोरोनरी धमनियों** में लंबे समय तक बने रह सकते हैं और सीधे **घातक हृदयाघात (fatal heart attacks)** का कारण बन सकते हैं।
- **Coronary artery disease** has long been understood as a condition driven by **cholesterol deposition, high blood pressure, diabetes, and smoking**, all of which promote **chronic inflammation** in the arteries.
कोरोनरी धमनी रोग (Coronary artery disease) को लंबे समय से **कोलेस्ट्रॉल जमाव, उच्च रक्तचाप, मधुमेह और धूम्रपान** जैसी स्थितियों से प्रेरित माना गया है, जो धमनियों में **दीर्घकालिक सूजन (chronic inflammation)** को बढ़ावा देती हैं।
- Alongside these factors, researchers have also proposed **infection-related inflammation** as a trigger for **plaque rupture**, leading to heart attacks.
इन कारणों के साथ-साथ, शोधकर्ताओं ने **संक्रमण-जनित सूजन (infection-related inflammation)** को **प्लाक के फटने (plaque rupture)** और हार्ट अटैक का एक कारण बताया है।
- Previous studies had linked microbes related to **pneumonia, herpes viruses, and ulcers** inside atherosclerotic plaques, although none had been linked directly to **rupture events**.
पिछले अध्ययनों ने **निमोनिया, हर्पीज वायरस और अल्सर** से संबंधित सूक्ष्मजीवों को **एथेरोस्क्लेरोटिक प्लाक्स** के अंदर पाया था, लेकिन किसी का भी सीधा संबंध **प्लाक के फटने (rupture events)** से नहीं था।
- "This study is a step forward in our understanding of the reasons for increased incidence of **heart attacks in individuals with gum disease**," said **C.C. Kartha**, ex-professor of eminence at the **Rajiv Gandhi Centre for Biotechnology**, Thiruvananthapuram.
"यह अध्ययन **मसूड़ों की बीमारी वाले लोगों में हृदयाघात की बढ़ती घटनाओं** के कारणों की हमारी समझ में एक कदम आगे है," ऐसा कहा **सी.सी. कार्था**, पूर्व प्रोफेसर, **राजीव गांधी जैव प्रौद्योगिकी केंद्र**, तिरुवनंतपुरम ने।

Plaques and Heart Attacks प्लाक और हार्ट अटैक

- The new study by **Tampere University (Finland)** examined **coronary arteries** from **121 sudden-death autopsies** and **96 vascular surgery patients**.
फिनलैंड के टैम्परे विश्वविद्यालय (Tampere University) द्वारा किए गए इस नए अध्ययन में **121 अचानक मृत्यु वाले शवों** और **96 रक्तवाहिनी शल्य चिकित्सा रोगियों** की **कोरोनरी धमनियों** की जांच की गई।
- Using **DNA detection tests** and **microscopic staining**, researchers found **bacterial DNA** in a significant proportion of samples.
डीएनए परीक्षण और **सूक्ष्मदर्शी धब्बांकन (microscopic staining)** का उपयोग करते हुए, शोधकर्ताओं ने नमूनों के एक बड़े हिस्से में **बैक्टीरियल डीएनए** पाया।
- **Viridans streptococci** were the most frequent species, present in about **42%** of both autopsy and surgical cases.
Viridans streptococci सबसे सामान्य प्रजाति पाई गई, जो लगभग **42% मामलों** (चाहे शव परीक्षण हों या शल्य चिकित्सा) में मौजूद थीं।



- The bacteria were seen forming **biofilms** within the **lipid-rich cores** of plaques, where immune cells like **macrophages** largely failed to notice them.
बैक्टीरिया प्लाक के वसा-समृद्ध केंद्रों (lipid-rich cores) में बायोफिल्म्स (biofilms) बनाते देखे गए, जहां मैक्रोफेज (macrophages) जैसे प्रतिरक्षा कोशिकाएं उन्हें पहचानने में असफल रहीं।
- In ruptured plaques, bacteria had shifted to the **outer layer**, associated with **activation of toll-like receptor 2 (TLR2)** — an immune sensor that detects microbes.
फटे हुए प्लाक (ruptured plaques) में बैक्टीरिया बाहरी परत (outer layer) में चले गए थे, जहां वे टोल-लाइक रिसेप्टर 2 (TLR2) के सक्रियण से जुड़े थे — जो एक प्रतिरक्षा सेंसर है जो सूक्ष्मजीवों का पता लगाता है।
- This pattern was consistent with **inflammation leading up to rupture**.
यह पैटर्न प्लाक फटने से पहले होने वाली सूजन के अनुरूप था।
- The team ruled out **laboratory contamination**, confirming that **bacterial signatures** were found in both **autopsy and surgical cases**.
टीम ने प्रयोगशाला संदूषण (laboratory contamination) की संभावना को नकार दिया और पुष्टि की कि बैक्टीरियल संकेत (bacterial signatures) दोनों प्रकार के मामलों में पाए गए।
- The question now is whether these **hidden bacteria** can be treated.
अब प्रश्न यह है कि क्या इन छिपे हुए बैक्टीरिया (hidden bacteria) का उपचार संभव है।
- Attempts to treat **coronary disease with antibiotics** have repeatedly failed in large clinical trials, possibly because **biofilms resist antibiotics and immune clearance**.
एंटीबायोटिक्स से कोरोनरी रोग (coronary disease) के उपचार के प्रयास बड़े नैदानिक परीक्षणों (clinical trials) में बार-बार विफल रहे हैं, संभवतः क्योंकि बायोफिल्म्स एंटीबायोटिक्स और प्रतिरक्षा सफाई के प्रति प्रतिरोधी होती हैं।
- Prof. Soma Guhathakurta**, cardio-vascular and thoracic surgeon and Honorary Advisor at **Namar Heart Hospital, Chennai**, suggested that **oral bioburden** could one day be measured in **high-risk individuals** for preventive treatment.
प्रो. सोमा गुहठाकुरता, कार्डियो-वस्कुलर और थोरासिक सर्जन तथा नमर हार्ट हॉस्पिटल, चेन्नई की मानद सलाहकार, ने सुझाव दिया कि एक दिन उच्च जोखिम वाले व्यक्तियों (high-risk individuals) में मुख बैक्टीरिया की मात्रा (oral bioburden) को मापा जा सकता है ताकि रोकथाम संबंधी उपचार (preventive treatment) दिया जा सके।
- Preventive **penicillin treatment** could be modelled on the way **doctors manage rheumatic fever**, though this is still **speculative**.
रोकथाम के लिए पेनिसिलिन उपचार (penicillin treatment) को उसी तरह लागू किया जा सकता है जैसे डॉक्टर रुमेतिक फीवर (rheumatic fever) का प्रबंधन करते हैं, हालांकि यह अभी अनुमानात्मक (speculative) है।
- These findings open **new lines of inquiry** into the link between **oral health and cardiovascular disease**.
ये निष्कर्ष मुख स्वास्थ्य (oral health) और हृदय रोग (cardiovascular disease) के बीच संबंधों पर नए अनुसंधान के रास्ते (new lines of inquiry) खोलते हैं।

Oral Health and Heart Risk मुख स्वास्थ्य और हृदय जोखिम

- Dentists have long observed how bacteria in **dental plaque** can alternate between stable **biofilms** and free-floating, invasive forms.
दंत चिकित्सकों ने लंबे समय से देखा है कि दंत पट्टिका (dental plaque) में पाए जाने वाले बैक्टीरिया स्थिर बायोफिल्म (biofilm) और स्वतंत्र रूप से तैरने वाले आक्रामक रूपों के बीच परिवर्तित हो सकते हैं।
- "Bacteria in dental biofilms can form robust communities that, under certain conditions, can disperse and release more **virulent cells**," Delhi-based orthodontists **Hiten and Priyanka Kaushal Kalra** explained.
दिल्ली स्थित ऑर्थोडॉन्टिस्ट हितेन और प्रियांका कौशल कालरा ने बताया, "दंत बायोफिल्म (dental biofilm) में बैक्टीरिया मजबूत समुदाय बना सकते हैं, जो कुछ परिस्थितियों में फैलकर अधिक संक्रामक कोशिकाएं (virulent cells) छोड़ सकते हैं।"
- They said that such shifts are plausible in **arteries**, as well as through **microtears** in the blood vessel lining, on **prosthetic surfaces** such as valves or stents, and the **lipid-rich environment** of plaques.
उन्होंने कहा कि ऐसे परिवर्तन धमनियों (arteries) में, रक्त वाहिका की परतों में सूक्ष्म फटनों (microtears),



कृत्रिम सतहों (prosthetic surfaces) जैसे वाल्व या स्टेंट्स, और प्लाक के वसा-समृद्ध वातावरण (lipid-rich environment) में संभव हैं।

- When conditions change, dispersed **free-floating cells** can re-emerge and penetrate deeper tissues, like those seen in **infective endocarditis**, a serious infection of heart valves.
जब परिस्थितियाँ बदलती हैं, तो फैली हुई **स्वतंत्र कोशिकाएँ (free-floating cells)** फिर से उभर सकती हैं और गहरे ऊतकों में प्रवेश कर सकती हैं, जैसा कि **संक्रामक एंडोकार्डिटिस (infective endocarditis)** — हृदय वाल्व का एक गंभीर संक्रमण — में देखा गया है।
- The Kalras pointed to **population-level evidence** linking **oral care** with **cardiovascular health**. कालरा दंपति ने **जनसंख्या स्तर (population-level)** के साक्ष्य की ओर संकेत किया, जो **मुख देखभाल (oral care)** को **हृदय स्वास्थ्य (cardiovascular health)** से जोड़ता है।
- “The **ARIC study** showed regular dental care was associated with a **23% lower stroke risk**, while a large **Korean cohort** found more frequent **tooth brushing** linked to reduced **cardiovascular events**.”
“**ARIC अध्ययन** में दिखाया गया कि नियमित **दंत देखभाल** से **स्ट्रोक का जोखिम 23% कम** होता है, जबकि एक बड़े **कोरियाई अध्ययन (Korean cohort)** ने पाया कि बार-बार **दांतों की सफाई (tooth brushing)** से **हृदय संबंधी घटनाओं (cardiovascular events)** में कमी आती है।”
- Untreated **periodontal disease**, **apical periodontitis**, and **chronic dental infections**, by contrast, correlate with **higher risks of stroke and coronary disease**.
इसके विपरीत, **अउपचारित मसूड़े की बीमारी (periodontal disease)**, **एपिकल पेरियोडोंटाइटिस (apical periodontitis)** और **दीर्घकालिक दंत संक्रमण (chronic dental infections)** **स्ट्रोक और कोरोनरी रोग के उच्च जोखिम से संबंधित हैं।**
- They emphasised **early management of gum disease**, prompt treatment of **abscesses or necrotic teeth**, and **regular cleaning**, alongside **collaboration between dentists and cardiologists** in high-risk patients.
उन्होंने **मसूड़ों की बीमारियों का शीघ्र उपचार**, **फोड़े या सड़े हुए दांतों का तुरंत इलाज**, और **नियमित सफाई** पर जोर दिया, साथ ही **उच्च जोखिम वाले रोगियों (high-risk patients)** में **दंत चिकित्सकों और हृदय रोग विशेषज्ञों के सहयोग** की आवश्यकता बताई।

Public Health Resonance

जनस्वास्थ्य पर प्रभाव

- The insights from dentistry highlight the **everyday routes by which bacteria could reach the arteries** — a concern made sharper in **India’s context**.
दंत चिकित्सा से मिली अंतर्दृष्टियाँ बताती हैं कि **बैक्टीरिया धमनियों तक कैसे पहुँच सकते हैं**, जो **भारत के संदर्भ में विशेष रूप से चिंता का विषय है।**
- **Cardiovascular disease** affects people in India at **younger ages**, even while **untreated oral disease** remains widespread.
हृदय संबंधी रोग (cardiovascular disease) भारत में **कम उम्र के लोगों** को प्रभावित करता है, जबकि **अउपचारित मुख रोग (oral disease)** अभी भी व्यापक है।
- “The **oral-cardiac link** is well known, though the **causal link** has not been established,” said **Dr. Kartha**.
“**मुख-हृदय संबंध (oral-cardiac link)** प्रसिद्ध है, हालांकि इसका **कारणात्मक संबंध (causal link)** स्थापित नहीं हुआ है,” **डॉ. कार्था** ने कहा।
- “It is important to **educate the public** regarding the **mouth–heart connection** and the **importance of oral hygiene**, as well as **detecting and treating gum disease early**, especially in patients with **high LDL and diabetes**.”
“**जनता को शिक्षित करना** आवश्यक है ताकि वे **मुख-हृदय संबंध (mouth–heart connection)** और **मुख स्वच्छता (oral hygiene)** के महत्व को समझें, साथ ही **मसूड़ों की बीमारी का प्रारंभिक निदान और उपचार** करें, विशेषकर उन रोगियों में जिनमें **एलडीएल (LDL)** या **मधुमेह (diabetes)** अधिक हो।”
- **Prof. Guhathakurta** added that **oral swab surveillance** after the age of **40** could be one way to test the **biofilm–heart link** in community settings, if validated by further research.
प्रो. गुहाठाकुरता ने कहा कि **40 वर्ष की आयु के बाद मुख स्वैब निगरानी (oral swab surveillance)** सामुदायिक स्तर पर **बायोफिल्म-हृदय संबंध (biofilm–heart link)** की जांच का एक तरीका हो सकता है, यदि इसे आगे के शोध में प्रमाणित किया जाए।



- The **Finnish group** is also extending its investigations.
फिनलैंड की शोध टीम (Finnish group) भी अपने अध्ययन का विस्तार कर रही है।
- “We aim to publish our **bacterial genetic sequencing findings** on the **whole microbiome of coronary atheromas** in the near future,” said **Dr. Karhunen**.
“हम जल्द ही **कोरोनरी एथेरोमा (coronary atheromas)** के पूरे **माइक्रोबायोम पर बैक्टीरियल जीन अनुक्रमण निष्कर्ष (bacterial genetic sequencing findings)** प्रकाशित करने का लक्ष्य रखते हैं,” डॉ. कार्हुनेन ने कहा।
- “We also aim to study the possibility of developing a **vaccine against bacterial biofilm formation and bacterial-induced clotting**.”
“हम **बैक्टीरियल बायोफिल्म निर्माण (bacterial biofilm formation)** और **बैक्टीरिया द्वारा प्रेरित रक्त थक्के (bacterial-induced clotting)** के विरुद्ध टीका विकसित करने की संभावना का भी अध्ययन करने का लक्ष्य रखते हैं।”
- These ideas reflect a broader effort to move beyond association and determine whether **targeting hidden biofilms** can alter the course of **coronary disease**.
ये विचार इस दिशा में व्यापक प्रयास को दर्शाते हैं कि क्या **छिपे हुए बायोफिल्म्स (hidden biofilms)** को लक्ष्य बनाकर **कोरोनरी रोग (coronary disease)** की दिशा बदली जा सकती है।
- For now, **cardiology practice** remains centred on **cholesterol control, blood pressure management, and diabetes care**.
फिलहाल, **हृदय रोग चिकित्सा (cardiology practice)** का ध्यान **कोलेस्ट्रॉल नियंत्रण, रक्तचाप प्रबंधन और मधुमेह देखभाल** पर केंद्रित है।
- Yet the new findings and expert voices underline that **oral health may be more closely tied to heart health** than is recognised.
फिर भी, नए निष्कर्ष और विशेषज्ञों की राय यह इंगित करते हैं कि **मुख स्वास्थ्य (oral health)** **हृदय स्वास्थ्य (heart health)** से अधिक गहराई से जुड़ा हो सकता है, जितना पहले माना गया था।
- Whether through **everyday gum care** or future **biofilm-targeting therapies**, the **bacteria in our mouths** could prove to be an **overlooked player** in India’s most common killer — **heart disease**.
चाहे वह **दैनिक मसूड़ों की देखभाल (gum care)** हो या भविष्य की **बायोफिल्म-लक्षित चिकित्सा (biofilm-targeting therapies)**, हमारे **मुख के बैक्टीरिया** भारत के सबसे आम घातक रोग — **हृदय रोग (heart disease)** — में एक **अनदेखे कारक (overlooked player)** साबित हो सकते हैं।

QUIZ

International Day of Non-Violence: UN Declaration in 2007

Introduction

The **International Day of Non-Violence** is observed annually on **October 2**, coinciding with the birthday of **Mahatma Gandhi**, a global symbol of peace and non-violence. In **2007**, the **United Nations General Assembly** officially declared this day to promote the principles of non-violence worldwide.

Historical Background

- **Proposal and Advocacy:** The idea of establishing an International Day of Non-Violence was first proposed by **Shirin Ebadi**, an Iranian Nobel Peace Prize laureate, in **January 2004**. She presented this proposal at the **World Social Forum** in Mumbai, India.
- **Global Support:** The proposal gained significant support from various global leaders and organizations, culminating in a resolution at the **Satyagraha Conference** held in New Delhi in **January 2007**. This conference was attended by notable figures, including **Sonia Gandhi** and **Archbishop Desmond Tutu**, and called upon the United Nations to adopt the idea.

UN General Assembly Resolution A/RES/61/271

- **Adoption Date:** On **June 15, 2007**, the **United Nations General Assembly** adopted **Resolution A/RES/61/271**, officially designating **October 2** as the **International Day of Non-Violence**.



- **Resolution Details:** The resolution emphasizes the importance of spreading the message of non-violence through education and public awareness. It reaffirms the universal relevance of the principle of non-violence and the desire to secure a culture of peace, tolerance, understanding, and non-violence.

Commemoration and Observance

- **Global Participation:** The day is observed worldwide, with various activities such as educational programs, peace marches, and discussions aimed at promoting non-violence.
- **Symbolic Representation:** The "**Non-Violence**" (or "**Knotted Gun**") sculpture by Swedish artist **Carl Fredrik Reuterswärd** is displayed at the UN Visitors' Plaza, symbolizing the commitment to non-violence.

Significance

- **Promoting Peace:** The observance serves as a reminder of the power of non-violence in resolving conflicts and promoting peace.
- **Educational Awareness:** Schools, universities, and civil society organizations use this day to educate students and the public about Mahatma Gandhi's philosophy and the relevance of non-violence in today's world.
- **Global Message:** It reinforces the idea that non-violent methods can be effective tools in addressing social, political, and economic challenges worldwide.

Key Dates

- **October 2:** Birth anniversary of Mahatma Gandhi and International Day of Non-Violence.
- **June 15, 2007:** UN General Assembly adopted the resolution A/RES/61/271.

Mahatma Gandhi: TIME Magazine's Person of the Year 1930

Introduction

In 1930, Mahatma Gandhi became the **first and only Indian** to be named **TIME Magazine's Person of the Year**, an honor that recognized his profound influence on global movements for justice and non-violence.

Historical Context

- **Civil Disobedience Movement:** In **March 1930**, Gandhi led the **Salt March**, a pivotal act of non-violent resistance against British colonial laws that taxed salt. This act galvanized millions across India and drew international attention to the Indian independence movement.
- **Global Recognition:** TIME Magazine acknowledged Gandhi's impact by featuring him on its cover in **March 1930** and later naming him **Person of the Year** in **January 1931**.

TIME Magazine Cover

- **Cover Date:** **January 5, 1931**
- **Illustration:** The cover depicted Gandhi in a contemplative pose, reflecting his role as a moral and spiritual leader.
- **Caption:** The magazine referred to him as "**Saint Gandhi**", highlighting his commitment to non-violence and his moral authority.

Significance

- **Global Impact:** Gandhi's philosophy of non-violence and civil disobedience inspired numerous global movements for civil rights and freedom.



- **Legacy:** His recognition by TIME underscored the universal appeal of his principles and their relevance in the fight against oppression worldwide.

Conclusion

Mahatma Gandhi's selection as TIME Magazine's Person of the Year in 1930 marked a significant moment in history, acknowledging his transformative role in advocating for justice through non-violent means. His legacy continues to inspire movements for peace and equality around the globe.

The Moral Basis of Vegetarianism by Mahatma Gandhi

Introduction

Mahatma Gandhi's book, "**The Moral Basis of Vegetarianism**", delves into the ethical and spiritual reasons for adopting a vegetarian lifestyle. First published in **1959** by **Navajivan Publishing House**, this work reflects Gandhi's commitment to non-violence (**ahimsa**) and compassion towards all living beings.

Key Concepts and Themes

- **Ethical Foundation:** Gandhi argues that vegetarianism is not merely a dietary choice but a moral imperative. He emphasizes that humans are not naturally carnivorous and should abstain from consuming animal products to live in harmony with nature.
- **Influence of Henry S. Salt:** Gandhi was significantly influenced by Henry S. Salt's book, *A Plea for Vegetarianism and Other Essays*. Salt's rational approach to vegetarianism inspired Gandhi to view it as a moral obligation rather than a cultural or religious practice.
- **Spiritual Discipline:** The book discusses how adopting a vegetarian diet aligns with spiritual growth and self-discipline, contributing to a purer mind and body.
- **Health Considerations:** Gandhi also touches upon the health benefits of vegetarianism, advocating for a diet that promotes physical well-being and longevity.

Significance

This work is a testament to Gandhi's holistic approach to life, where ethical living, spiritual development, and physical health are interconnected. It serves as a guide for those seeking to understand the deeper reasons behind vegetarianism beyond its health aspects.

Mahatma Gandhi and Leo Tolstoy: A Friendship Rooted in Nonviolence

Introduction

Mahatma Gandhi, the leader of India's nonviolent independence movement, shared a profound and influential friendship with the Russian novelist and philosopher **Leo Tolstoy**. This relationship, though never meeting in person, significantly shaped Gandhi's philosophy of nonviolence and his approach to social and political activism.

The Beginning of Their Correspondence

In 1909, Gandhi read Tolstoy's essay "A Letter to a Hindu," which advocated for nonviolent resistance against colonial oppression. Moved by its message, Gandhi wrote to Tolstoy seeking permission to republish the essay in his own journal, *Indian Opinion*, and to engage in a dialogue on the subject. Tolstoy responded positively, and their correspondence commenced, continuing until Tolstoy's death in 1910.

Shared Ideals and Philosophical Exchange

Throughout their letters, Gandhi and Tolstoy discussed various topics, including:



- **Nonviolence (Ahimsa):** Both emphasized the importance of nonviolent resistance as a means to achieve social and political change.
- **Simplicity and Self-Sufficiency:** They advocated for simple living and self-reliance as essential components of a moral life.
- **Spirituality and Truth:** Their discussions often centered around the pursuit of truth and spiritual growth.

Gandhi regarded Tolstoy as a spiritual mentor, and their exchange deepened his commitment to nonviolence and influenced his subsequent actions in South Africa and India.

Tolstoy Farm: A Manifestation of Their Philosophy

Inspired by Tolstoy's teachings, Gandhi established the **Tolstoy Farm** near Johannesburg, South Africa, in 1910. This community served as a training ground for his followers in the principles of nonviolence and self-sufficiency. The farm was named in honor of Tolstoy, reflecting the deep respect Gandhi had for his philosophical mentor.

Legacy of Their Friendship

The correspondence between Gandhi and Tolstoy remains a testament to the power of dialogue and shared ideals in fostering understanding and change. Their friendship exemplifies how mutual respect and philosophical exchange can transcend geographical and cultural boundaries, leaving a lasting impact on the world.

Mahatma Gandhi and Rabindranath Tagore: The Bestowal of the Title 'Mahatma'

Introduction

Mahatma Gandhi, the leader of India's freedom struggle, was honored with the title '**Mahatma**', meaning '**Great Soul**', by **Rabindranath Tagore** in **1915**. This title symbolized Gandhi's **spiritual leadership, moral integrity, and commitment to nonviolence**.

Historical Background

- **Significance of the Title:**
The word '**Mahatma**' signifies a person of **great moral and spiritual stature**, someone who is dedicated to truth, nonviolence, and ethical principles.
- **Year of Conferment – 1915:**
Gandhi returned to India from South Africa in **January 1915**, after successfully leading civil rights campaigns there. Upon his return, **Rabindranath Tagore**, the Nobel laureate poet and thinker, recognized Gandhi's extraordinary qualities and addressed him as '**Mahatma**', bringing the title into public usage.
- **Mutual Respect:**
Gandhi called Tagore '**Gurudev**', meaning '**Great Teacher**', reflecting his deep respect for the poet's wisdom. In turn, Tagore's use of '**Mahatma**' for Gandhi reflected admiration for Gandhi's dedication to truth and nonviolence.

Importance of the Title

- **Moral Authority:**
The title reinforced Gandhi's **moral authority** in India and abroad, establishing him as a **spiritual and political leader**.
- **Inspiration for the Masses:**
It helped people **connect with Gandhi's philosophy** of nonviolence, truth, and selfless service, inspiring the Indian population to participate in the **freedom struggle**.
- **Symbol of Unity:**
The title highlighted Gandhi's role as a unifying figure in India, transcending religion, region, and social divisions.



Gandhi and the Natal Indian Ambulance Corps (1900)

Introduction

In 1900, during the **Second Boer War** in South Africa, **Mahatma Gandhi** organized a volunteer group of Indians to serve as **stretcher bearers** for the British army. This group was named the **Natal Indian Ambulance Corps**.

Historical Background

- **The Second Boer War (1899–1902):**
This was a conflict between the **British Empire** and the **Boer states** (the South African Republic and the Orange Free State) over control of South Africa.
- **Gandhi's Role:**
Gandhi, then a young lawyer in South Africa, saw an opportunity for Indians to **demonstrate loyalty and service** while **fighting racial discrimination** faced by the Indian community in South Africa.
- **Formation of the Corps:**
Gandhi recruited **volunteers from the Indian community in Natal**. The **Natal Indian Ambulance Corps** provided **medical aid, transported the wounded**, and worked in hospitals near the battlefields.
- **Significance of the Corps:**
 - Showed Gandhi's early organizational skills and leadership.
 - Gave Indians a chance to **gain recognition and respect** from the British authorities.
 - Reflected Gandhi's philosophy of **nonviolence in action**, as the corps served humanitarian purposes rather than combat.

Mahatma Gandhi and the Kaiser-i-Hind Medal

Introduction

The **Kaiser-i-Hind Medal** was a **civilian award instituted by the British Government in India** to recognize **public service in India**. **Mahatma Gandhi** was awarded this medal in recognition of his **service in South Africa and India**. However, after the **Jallianwala Bagh massacre in 1919**, Gandhi **returned the medal in protest** against the **British colonial policies and violence**.

Historical Background

- **Kaiser-i-Hind Medal:**
 - Instituted in **1900 by the British Government**.
 - Awarded for **distinguished public service in India**, often for social, educational, or charitable work.
 - The name '**Kaiser-i-Hind**' means '**Emperor of India**' in Persian.
- **Gandhi's Award:**
 - Gandhi received the medal for his **dedicated work in promoting public welfare**, especially in healthcare and education in India.
- **Return of the Medal:**
 - The **Jallianwala Bagh massacre in Amritsar on 13 April 1919**, where British troops killed hundreds of unarmed civilians, shocked Gandhi and the nation.
 - As a **form of protest against British brutality**, Gandhi returned the **Kaiser-i-Hind Medal**, symbolizing **moral dissent and nonviolent resistance**.



Significance

- **Political Statement:** Returning the medal became a **powerful symbolic act** of defiance against colonial oppression.
- **Moral Leadership:** It reinforced Gandhi's **principled stance on justice and nonviolence**.
- **Inspiration for Mass Movements:** This act inspired **Indians to join the freedom struggle**, emphasizing **ethical protest** over violence.

Mahatma Gandhi and the Journal “Indian Opinion”

Introduction

During his stay in **South Africa (1893–1914)**, **Mahatma Gandhi** recognized the need for a platform to voice the concerns and news of the **Indian community living there**. To address this, he **started the journal “Indian Opinion”**, which became a **vital medium for communication, awareness, and activism** among Indians in South Africa.

Historical Background

- **Foundation:**
 - The **Indian Opinion** was launched in **1903** in **Dundee, South Africa**.
 - The journal was written in **English, Gujarati, Hindi, and Tamil** to reach a wider Indian audience.
- **Purpose and Goals:**
 - To **inform Indians in South Africa** about local and international news affecting them.
 - To **highlight racial discrimination** and injustices faced by Indians under colonial and Boer rule.
 - To **promote unity, self-reliance, and nonviolent resistance** among Indians.
- **Role in Gandhi’s Philosophy:**
 - Served as a platform to **introduce and spread his ideas on Satyagraha and nonviolence**.



Medicine Nobel for scientists who demystified the immune system

GS III: S&T

Jacob Koshy
NEW DELHI

The annual Nobel Week – when the world’s most prestigious prizes for scientific achievement are announced – kicked off on Monday with three scientists, two Americans and one Japanese, sharing the Nobel Prize in Physiology or Medicine for unravelling tantalising aspects of the human immune system. Their discovery has helped blaze new paths into treating cancer as well as autoimmune disease – a condition by which the immune system ends up harming healthy cells they are meant to protect.

Human immune system is a complex of several cells – B cells, T cells, neutrophils and macrophages – that have a role in identifying and eliminating foreign bodies that may bring with it disease. This year’s prize to Mary Brunkow, Fred Ramsdell and Shimon Sakaguchi was for discover-



Key find: The trio were awarded for their fundamental discoveries relating to peripheral immune tolerance. REUTERS

ing the mechanism and key constituents of the so-called ‘peripheral immune tolerance’. The laureates identified the immune system’s security guards, *regulatory T cells*, which prevent immune cells from attacking our own body.

“Their discoveries have been decisive for our understanding of how the immune system functions and why we do not all develop serious autoimmune diseases,” Olle Kämpe, chair of the Nobel Committee, said in a statement.

Shimon Sakaguchi made the first key discovery in 1995. At the time,

many researchers were convinced that immune tolerance only developed due to potentially harmful immune cells being eliminated through a process called *central tolerance*. Mr. Sakaguchi showed that the immune system is more complex and discovered a previously unknown class of immune cells, which protects the body from autoimmune diseases.

Mary Brunkow and Fred Ramsdell made the other key discovery in 2001, when they presented the explanation for why a specific mouse strain was

particularly vulnerable to autoimmune diseases. They had discovered that mice have a mutation in a gene that they named *Foxp3*. They also showed that mutations in the human equivalent of this gene triggered a serious autoimmune disease, IPEX.

Two years after this, Mr. Sakaguchi was able to link these discoveries. He proved that the *Foxp3* gene governs the development of the cells he identified in 1995. These cells, now known as ‘regulatory T cells’, monitor other immune cells and ensure that our immune system tolerates our own tissues.

The laureates’ discoveries launched the field of peripheral tolerance, spurring the development of medical treatments for cancer and autoimmune diseases. This may also lead to more successful transplantations. Several of these treatments are now undergoing clinical trials.

Medicine Nobel for scientists who demystified the immune system

वैज्ञानिकों को चिकित्सा नोबेल जिन्होंने इम्यून सिस्टम का रहस्य सुलझाया

- The annual **Nobel Week** — when the world’s most prestigious prizes for scientific achievement are announced — kicked off on **Monday** with three scientists, two Americans and one Japanese, sharing the **Nobel Prize in Physiology or Medicine** for unravelling tantalising aspects of the human **immune system**.

सालाना **नोबेल सप्ताह** — जब दुनिया के सबसे प्रतिष्ठित **वैज्ञानिक पुरस्कार** की घोषणा की जाती है — **सोमवार** को शुरू हुआ जिसमें तीन वैज्ञानिकों, दो अमेरिकी और एक जापानी, ने मानव **इम्यून सिस्टम** के रोमांचक पहलुओं को उजागर करने के लिए **फिजियोलॉजी या चिकित्सा नोबेल पुरस्कार** साझा किया।

- Their discovery has helped blaze new paths into treating **cancer** as well as **autoimmune disease** — a condition by which the **immune system** ends up harming healthy cells they are meant to protect.

उनकी खोज ने **कैंसर** और **ऑटोइम्यून रोग** के उपचार में नए रास्ते खोले हैं — एक ऐसी स्थिति जिसमें **इम्यून सिस्टम** उन स्वस्थ कोशिकाओं को नुकसान पहुँचाता है जिन्हें इसे संरक्षित करना चाहिए।



- The human **immune system** is a complex of several cells — **B cells, T cells, neutrophils and macrophages** — that have a role in identifying and eliminating foreign bodies that may bring disease.
मानव **इम्यून सिस्टम** कई कोशिकाओं का एक जटिल नेटवर्क है — **बी कोशिकाएँ, टी कोशिकाएँ, न्यूट्रोफिल्स और मैक्रोफेज़** — जो रोग लाने वाले विदेशी तत्वों की पहचान और उन्हें समाप्त करने में भूमिका निभाती हैं।
- This year's prize to **Mary Brunkow, Fred Ramsdell and Shimon Sakaguchi** was for discovering the mechanism and key constituents of the so-called '**peripheral immune tolerance**'.
इस वर्ष का पुरस्कार **मेरी ब्रंको, फ्रेड राम्सडेल और शिमोन सकागुची** को उनके द्वारा तथाकथित '**पेरिफेरल इम्यून टॉलरेंस**' के तंत्र और मुख्य घटकों की खोज के लिए दिया गया।
- The laureates identified the **immune system's security guards, regulatory T cells**, which prevent immune cells from attacking our own body.
विजेताओं ने **इम्यून सिस्टम के सुरक्षा प्रहरी, रेगुलेटरी टी सेल्स** की पहचान की, जो हमारी अपनी कोशिकाओं पर हमला करने से इम्यून कोशिकाओं को रोकते हैं।
- "Their discoveries have been decisive for our understanding of how the **immune system** functions and why we do not all develop serious **autoimmune diseases**," **Olle Kämpe**, chair of the Nobel Committee, said in a statement.
"उनकी खोजें यह समझने में निर्णायक रही हैं कि **इम्यून सिस्टम** कैसे काम करता है और हम सभी को गंभीर **ऑटोइम्यून रोग** क्यों नहीं होते," **ओले कैमपे**, नोबेल कमिटी के अध्यक्ष ने एक बयान में कहा।
- **Shimon Sakaguchi** made the first key discovery in **1995**. At the time, many researchers were convinced that **immune tolerance** only developed due to potentially harmful immune cells being eliminated through a process called **central tolerance**.
शिमोन सकागुची ने **1995** में पहली महत्वपूर्ण खोज की। उस समय, कई शोधकर्ता इस बात से आश्चर्य थे कि **इम्यून टॉलरेंस** केवल इसलिए विकसित होती है क्योंकि संभावित हानिकारक इम्यून कोशिकाओं को **सेंट्रल टॉलरेंस** नामक प्रक्रिया के माध्यम से समाप्त किया जाता है।
- Mr. Sakaguchi showed that the **immune system** is more complex and discovered a previously unknown class of **immune cells**, which protects the body from **autoimmune diseases**.
श्री सकागुची ने दिखाया कि **इम्यून सिस्टम** अधिक जटिल है और उन्होंने एक पहले अज्ञात वर्ग की **इम्यून कोशिकाओं** की खोज की, जो शरीर को **ऑटोइम्यून रोगों** से बचाती हैं।
- **Mary Brunkow and Fred Ramsdell** made the other key discovery in **2001**, when they presented the explanation for why a specific **mouse strain** was particularly vulnerable to **autoimmune diseases**.
मेरी ब्रंको और फ्रेड राम्सडेल ने **2001** में दूसरी महत्वपूर्ण खोज की, जब उन्होंने यह समझाया कि एक विशेष **माउस स्ट्रेन ऑटोइम्यून रोगों** के प्रति विशेष रूप से संवेदनशील क्यों था।
- They had discovered that mice have a mutation in a gene that they named **Foxp3**. They also showed that mutations in the human equivalent of this gene triggered a serious **autoimmune disease, IPEX**.
उन्होंने खोजा कि माउस में एक जीन में **Foxp3** नामक **म्यूटेशन** है। उन्होंने यह भी दिखाया कि इस जीन के मानव समकक्ष में म्यूटेशन एक गंभीर **ऑटोइम्यून रोग, IPEX** को जन्म देता है।
- Two years after this, Mr. Sakaguchi was able to link these discoveries. He proved that the **Foxp3 gene** governs the development of the cells he identified in **1995**.
इसके दो साल बाद, श्री सकागुची इन खोजों को जोड़ने में सक्षम हुए। उन्होंने साबित किया कि **Foxp3 जीन** उन कोशिकाओं के विकास को नियंत्रित करता है जिन्हें उन्होंने **1995** में पहचाना था।
- These cells, now known as '**regulatory T cells**', monitor other **immune cells** and ensure that our **immune system** tolerates our own tissues.
ये कोशिकाएँ, जिन्हें अब '**रेगुलेटरी टी सेल्स**' के नाम से जाना जाता है, अन्य **इम्यून कोशिकाओं** की निगरानी करती हैं और सुनिश्चित करती हैं कि हमारा **इम्यून सिस्टम** हमारी अपनी ऊतक को स्वीकार करे।
- The laureates' discoveries launched the field of **peripheral tolerance**, spurring the development of medical treatments for **cancer and autoimmune diseases**.
विजेताओं की खोजों ने **पेरिफेरल टॉलरेंस** के क्षेत्र की शुरुआत की, जिससे **कैंसर और ऑटोइम्यून रोगों** के लिए चिकित्सा उपचार के विकास को बढ़ावा मिला।
- This may also lead to more successful **transplantations**. Several of these treatments are now undergoing **clinical trials**.



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यह अधिक सफल **प्रतिरोपण (transplantations)** की दिशा में भी मदद कर सकता है। इन उपचारों में से कई अब **क्लिनिकल ट्रायल** के दौर से गुजर रहे हैं।

- Helped in **mobilizing Indians for social reform, education, and political activism.**

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