

# Daily Current Affairs



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A person in a blue shirt and black shorts is running on a paved road that curves through a hilly landscape. The sun is low on the horizon, creating a golden glow over the scene. The sky is blue with wispy white clouds. In the distance, a town is visible on a hillside. A white guardrail runs along the right side of the road.

Motivation is what gets you started.  
Habit is what keeps you going.

Jim Rohn

**India-U.S. Relations**  
**Will resolve barriers, NSAs assure industry**  
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**North India goes heavy on power usage**  
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**Opposition must push for a deadline**  
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**PERFECT FINISH**  
**Nicholas Pooran helps WI crush Afghanistan**  
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**INSIDE**  
**No changes in Maharashtra BJP leadership: Goyal**  
MUMBAI Union Minister Piyush Goyal put an end to speculation about a leadership change in Maharashtra BJP following its recent disappointing performance in the Lok Sabha election, by confirming on Tuesday that there will be no change. » PAGE 7

**Thoothukudi firing: CBI files probe report**  
CHENNAI The Central Bureau of Investigation on Tuesday informed the Madras High Court that it had conducted further investigation into the 2018 Thoothukudi police firing in which 13 protesters were shot dead, and filed an additional report. » PAGE 4

**Jaishankar to visit Sri Lanka, 'review' projects**  
COLOMBO External Affairs Minister S. Jaishankar will arrive in Colombo on Thursday, in his first official visit to a neighbouring country since the BJP-led National Democratic Alliance's coalition government assumed charge in India earlier this month. » PAGE 14

**Putin makes rare visit to North Korea, an old ally**  
SEOUL Russian President Vladimir Putin arrived in North Korea early on Wednesday, Russian news agencies reported, after he said the two countries want to cooperate to overcome U.S.-led sanctions in the face of confrontations with Washington. » PAGE 14

# Railways backs out of human error claim; accident toll increases to 10

Railways acknowledges fault in automatic signalling system after initially blaming the loco pilot of goods train for accident; Kavach system absent on route: Commissioner of Railway Safety will begin an inquiry into the cause of the accident today

Shiv Sahay Singh  
KOLKATA

The death toll in the accident involving Kanchanjunga Express and a goods train in Darjeeling district of West Bengal rose to 10 on Tuesday, with a six-year-old child dying of injuries at the North Bengal Medical College and Hospital. The Commissioner of Railway Safety (CRS) will begin an inquiry into the cause of the accident on Wednesday, even as the Railways seemed to walk back its initial claim that the error was behind the accident by acknowledging that the automatic signalling system was not working on the route. The Kavach train protection system is yet to be installed for the region's short dead, and filed an additional report. » PAGE 4



Fatal crash: The wreckage of Kanchanjunga Express at Rangapani in West Bengal on Tuesday. ANI

verted and two were carried on Tuesday due to the accident. The survivors from the Kanchanjunga Express — which had left Agartala station at 8.25 a.m. on Sunday — reached Sealdah station in Kolkata on Tuesday morning, with many passengers in a state of trauma from the ordeal. Having visited the accident site on Tuesday, CRS Janak Kumar Garg said an inquiry will be made to as-

notification issued by Northeast Frontier Railways to the loco pilot, asking to bring any information related to the accident before the CRS or write to him. While the Railways initially said that *prima facie*, the accident was the result of a human error, it has since come to light that the automatic signalling system along the route where the accident occurred was not functional since Monday morning. Hence, manual memos were issued by the station master of Rangapani station on Tuesday. "The automatic signal was not working and so the drivers had to follow certain procedures. The first driver had to follow these procedures and similarly, the driver after that. Now we have to investigate what mistakes were made," he said. The CRS inquiry will be held at the office of the Additional Divisional Railway Manager from 10 a.m. on Wednesday, according to a

RELATED REPORTS » PAGE 4

## Misson clean-up



Action plan: Workers clearing the Adyar river mouth in Chennai on Tuesday. The Water Resources Department has engaged more machinery to clear silt and complete the project by June-end. S. VELAYUTHAN/RJ

## Court asks NIA to file reply on MP Rashid's bail petition

Ishita Mishra  
NEW DELHI

A Delhi court on Tuesday asked the National Investigation Agency (NIA) to file its reply on the date sheet of the National Engineer Rashid, who is accused of the 2013 attack on the Baramulla Lok Sabha seat.

FULL REPORT » PAGE 5

## Days after mob attack, third U.P. cattle transporter dies

Shubhomoy Sikdar  
RAIPUR

Saddam Qureshi, the sole survivor in the mob attack on three cattle transporters from Uttar Pradesh in Chhattisgarh's Arang earlier this month, died of injuries on Tuesday. On June 7, two cattle transporters, Guddu Khan, 35, and Chand Myra Khan, 23, were found dead under suspicious circumstances after being allegedly chased by a mob. Mr. Qureshi's testimony was crucial to the investigation in the case in which the police had neither made any arrests nor disclosed any details about the suspects so far. Kirtan Rathore, Addi-

### The three cattle transporters attacked by a mob in Chhattisgarh's Arang

tional Superintendent of Police, confirmed Mr. Qureshi's death. He said the victim had been on ventilator support since the incident. Based on a conversation with the doctors of the private hospital, Mr. Rathore said the police had earlier reported on Tuesday that the next 48 to 72 hours were critical to his recovery. Shoaib, a relative of the deceased, who has repeatedly said that the incident was a mob lynching and that he had heard

Mr. Qureshi's cries for help on a call made by the latter at the time of the incident, alleged that the Raipur police had so far not conducted the investigations in earnest. "It's been 11 days since the incident and I have repeatedly met police officers seeking an update. But there are no arrests so far. We demand justice in the matter," said Mr. Shoaib. The police have claimed that the three could have fell on a rocky patch 30 feet below the Mahanadi bridge connecting Raipur and Mahasamund. Mr. Rathore said the police had identified a few vehicles seen chasing the victims that night, but camera footage was not clear.

### Jagriti Chandra

NEW DELHI As many as 41 airports in the country received an email threat warning of bombs on their premises on Tuesday. All were later found to be hoaxes. Zulfikar Hasan, Director-General of the Bureau of Civil Aviation Security (BCAS), told *The Hindu* that such instances had been on the rise in the past two-and-a-half months. He said six men had been arrested across the country by local police teams. The BCAS had proposed to the Civil Aviation Ministry a five-year ban on flying across all airlines for hoax callers, the senior official said.

"Threats have been received through phone calls, notes inside aircraft lavatories as well as emails. Some callers have been traced, and there have been a few arrests as well. Police teams are also analysing handwriting on various notes. As far as emails are concerned, some have been traced, while others are being investigated," Mr. Hasan said. The email was received from the email id [ehumeydous@gmail.com](mailto:ehumeydous@gmail.com). "There are explosives hidden in the airport. The bombs will soon explode. You will all die," it said. All airports constituted bomb threat assessment committees and declared

## 41 airports across country go into a tizzy after receiving bomb threats; all prove to be hoaxes



Tight security: A bomb detection squad team searches premises of Coimbatore International Airport on Tuesday. SPECIAL ASSIGNMENT

the threat as "non-specific" or a hoax. The mail claimed that a group called "AKN" which had also issued threats to Delhi earlier in May, was responsible. Meanwhile, Chennai re-

ceived its sixth threat in recent days on Tuesday. The threat, sent by email, was for an Emirates flight from Dubai to Chennai, which arrived early in May, but was diverted to Bengaluru due to bad weather and

### Krishnadas Rajagopal

NEW DELHI

The Supreme Court on Tuesday made it clear to the Centre and the National Testing Agency (NTA) that it did not want "even 0.00% negligence" on the part of anyone in the conduct of the undergraduate medical entrance examination — NEET-UG 2024 — to be spared. "Even if there is 0.00% negligence on the part of anyone, it should be thoroughly dealt with," said Justice S. Bhatti, part of a Vacation Bench headed by justice Vikram Nath, addressing the lawyers appearing for the Centre and the NTA.

The court hearing was based on two petitions filed by over 30 candidates urging the court to take cognizance of the NEET controversy. The court said that the NTA, which conducts the exam for medical admissions, should be able to take a firm stand and own up to having made mistakes, if any. "You must stand firm, if there is a mistake, say, 'Yes, there is a mistake. This is the action we are going to take.' At least that will inspire confidence in your performance," Justice Bhatti told advocate Kanu Agrawal, appearing for the NTA and the Centre. Justice Nath issued notice and directed the Centre and the NTA to submit their responses in two

weeks. Agreeing with Justice Bhatti, Justice Nath remarked orally that the allegations of irregularities in this year's NEET were "very serious". Justice Bhatti told the Centre and NTA that they should not treat the petitions filed by NEET aspirants and academicians as adversarial.

### Students' efforts

"Imagine a person who has played fraud on the system becoming a doctor. That would be deleterious to society," he said. Highlighting the honest effort put by lakhs of students to prepare for the NEET exam and noting that cheating thwarted honest effort and ambition, Mr. Agrawal beseeched the judges not to come to an adverse conclusion against the NTA and the government before they had submitted their responses to the myriad petitions filed in the top court. The counsel said there was no doubt about the preparations that students put in for NEET. "We were discussing [outside the courtroom] the difficulties that children undergo," Mr. Agrawal said. "Your stand outside ought not change the moment you enter the court." Justice Bhatti reacted. "The Bench listed the case for hearing on July 8 along with the other petitions, challenging various aspects of the conduct of the exam.

**NFA must stand firm. If there is a mistake, say yes, there is a mistake. This is the action we are going to take — SC BENCH**



IN BRIEF

Under-construction bridge collapses in Bihar's Araria

A portion of an under-construction bridge collapsed along the Bakra River in Araria district of Bihar...

1,225 tourists evacuated from landslide-hit areas of Sikkim

In its second day of rescue operation, the Sikkim administration on Tuesday evacuated 1,225 tourists from Lachang and nearby areas of Mangang district...

U.S. Congressional delegation to meet Dalai Lama today

A U.S. Congressional delegation led by House Foreign Affairs Committee Chairman Michael McCaul arrived in Dharamshala, Himachal Pradesh, on Tuesday to meet Tibetan spiritual leader Dalai Lama...

Let CBI probe killing of IIT student, says Assam CM

Assam Chief Minister Himanta Biswa Sarma has requested his West Bengal counterpart Manna Banerjee to let the CBI handle the killing of an Indian Institute of Technology (IIT), Kharagpur student from eastern Assam two years ago...

China has 500 nuclear warheads, says SIPRI

The Hindu Bureau NEW DELHI

India's nuclear arsenal reached 172 warheads this year, slightly surpassing Pakistan which has 170...

Heatwave-hit North India goes heavy on power consumption

Demand surged to 89 GW on Monday, highest ever for a single day; the Ministry says necessary measures being taken to meet the requirement

Jacob Koshy NEW DELHI

Amid the longest spell of heatwaves in the past 15 years, the power demand in North India surged to 89 GW (89,000 MW) on Monday...



As of data available on March 31, the northern region accounts for about 25% of India's total installed power capacity of 442 GW.

Most of the northern States continue to reel under heatwaves, with Prayagraj in Uttar Pradesh reporting a maximum temperature of 47.6 degrees Celsius on Tuesday...

Several measures The Ministry said it was meeting increased demands by ensuring that power plants relying on natural gas were kept in operation...

Women's panel receives over 12,600 complaints in 2024

The Hindu Bureau NEW DELHI

The highest number of complaints received by the National Commission for Women (NCW) so far this year has been from Uttar Pradesh followed by Delhi and Bihar...

Among other States, Tamil Nadu recorded 304 complaints, Karnataka 305, Bihar 586, Madhya Pradesh 516, Haryana 509, Rajasthan 409 and West Bengal 307.

Category of crimes As far as the categories of crimes against women are concerned, the highest number of 5,300 complaints were received in the 'right to dignity' category...

Violence against women

State-wise number of complaints received by National Commission for Women so far

Table with 2 columns: State, Complaints. Rows include Uttar Pradesh (4,421), Delhi (1,119), Maharashtra (764), Bihar (586), M.P. (516), Haryana (509), Rajasthan (409), West Bengal (307), Karnataka (305), Tamil Nadu (304), Others (1,337).

Other crime details

There were 495 complaints of sexual harassment, 339 of cybercrime, 345 of stalking and 206 of honour crimes, it stated.

Scientists from India, China, U.K. develop catalyst to produce cheaper biodiesel

Nahul Karmakar GUWAHATI

A team of scientists from Assam and Odisha in India, China, and the U.K. has developed a water-repellent catalyst that can cut the cost of producing environmentally benign biodiesel substantially from the current levels.



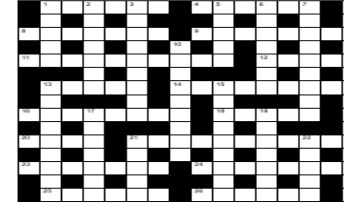
Dr. Samuel Lalithazuala Rokhum, centre, one of the authors of the study, with his researchers.

The process of arriving at the 'superhydrophobic drophobic activated carbon catalyst' to withstand water byproduct during the production of biodiesel from used cooking oil...

Superhydrophobic catalysts, imitating the anti-wetting or water-repelling properties of natural surfaces such as lotus leaves, are deemed crucial for their ability to prevent the valuable energy of water, produced in situ or as a byproduct.

potential to significantly reduce the cost of biodiesel production, making sustainable energy more accessible," he added. At present, the cost of biodiesel in India is about ₹100 or \$1.2 per litre. Using the superhydrophobic activated carbon catalyst can bring down the cost to about 37 cents per litre.

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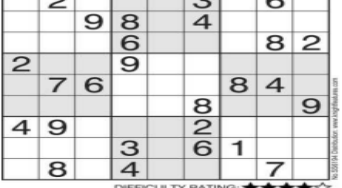


- Across 1 Go through parchment (6) 4 When starting late, children should gain resistance against disease (6) 9 Laboured night shift to arrest criminal (7) 9 Perhaps, factory can get new equipment at the start with the help of railway (7)

To solve this puzzle online, get access to our crossword site at: https://www.thehindu.com/crossword/

- 11 Copied an article one published in issue (10) 12 Fervidly engaged to wrap a shawl (6) 13 Indiscriminate weeds in a plant (5) 14 Sings funny getting a new garment (8) 15 Measure, say cat's return track (6) 16 Southern galls in a funny way create jargon (5) 17 Leaders from South encourage agitators rabidly to burn (4) 21 Broadcast his rant about jerk who could be a disbeliever (10) 22 Rewrite article on show (7) 23 Finance is from New Delhi perhaps (7) 25 Letters from advisor relates to a plant (6) 26 Order to pay (6) Down 1 Cut is small to suffer (5) 2 Rope used in ship seen on sailor's counter with another cord (7) 3 Male getting treated outside home by specialist of facial features, say (9) 5 Worried after a bishop becomes slow (5) 6 Broadcast of genius around middle of October pertains to fire (7) 7 Son's publishing without source and examining (9) 10 Knocking off tips aside, it's lavish (9) 13 In a way, seems OK to describe large space in the front as one without puffers (9) 15 Partner is a fool of course, initially kept setter worried (9) 17 Bone for a month makes happier dog (7) 19 Looks to sleep transport (7) 21 Ask me anything unknown on electric shock (5) 22 Having meat in small eatery at the corner leads to stigma (5)

SUDOKU



Solution to previous puzzle Solution to yesterday's Sudoku 8 7 5 6 2 4 3 1 9 2 4 6 3 9 1 5 7 8 1 3 5 7 8 9 2 4 6 3 1 7 2 9 1 3 6 8 5 4 4 5 8 9 7 2 1 6 3 3 8 6 4 5 2 7 1 9 6 2 7 8 5 4 3 1 5 8 7 4 1 3 6 9 2 3 1 4 2 6 9 7 8 5

FAITH Nathamuni, the saviour

Nathamuni is credited with saving the Vaishnavite sampradaya from extinction and bringing to the Tamil-speaking world the works of Acharya, who distilled the essence of the Vedas (in Sanskrit) and offered them in Tamil through their verses. Just as Bhagavathu undertook penance to bring the Ganga to earth, so too did Nathamuni take it upon himself to search and codify the songs of the Acharya. If devotees across the world are able to stand in the sannidhi of Ranganatha in Srirangam and hear the famous verse, Puchai nu malai pol mendi, it is solely due to the efforts of Nathamuni, said Tirukkudanthai Dr. Venkatesh.

Curfew in Balasore over communal violence

The Hindu Bureau BHUBANESWAR

Curfew remained in force in Balasore town, Odisha, following the clash between two communities over the rumours of mass slaughtering of cows on the occasion of Id-ul-Azha celebration on Monday. The State Home Department has enforced an internet shutdown in the town, while the usage of WhatsApp and Facebook has been prohibited till 10 a.m. on Thursday. To prevent the circulation of inflammatory messages on social media and disturb the public order in Balasore municipality, the prohibition on social media usage has been enforced, said I.C. Singh, State Home Secretary.

# Scientists from India, China, U.K. develop catalyst to produce cheaper biodiesel

**Rahul Karmakar**

GUWAHATI

A team of scientists from Assam and Odisha in India, China, and the U.K. has developed a water-repellent catalyst that can cut the cost of producing “environmentally benign” biodiesel substantially from the current levels.

The process of arriving at the “spherical superhydrophobic activated carbon catalyst” to withstand water byproduct during the production of biodiesel – pursued as a substitute for diesel, an exhaustible fossil fuel – has been published in the latest issue of the peer-reviewed *Advanced Functional Materials*, a high-impact journal of the international materials science community.

The authors of the study



Dr. Samuel Lalthazuala Rokhum, centre, one of the authors of the study, with his researchers. SPECIAL ARRANGEMENT

are Arpita Das, Kangkana Saikia, and Samuel Lalthazuala Rokhum of the Department of Chemistry, National Institute of Technology (NIT), Silchar; Chandrakanta Guchhait and Bimalendu Adhikari of NIT, Rourkela, Odisha; Da

Shi of the University of Cambridge in the United Kingdom; and Hu Li of the Guizhou University in China.

Superhydrophobic catalysts, imitating the anti-wetting or water-repulsing properties of natural sur-

faces such as lotus leaves, are deemed crucial for their ability to prevent the poisoning of active sites by water, produced *in situ* or as a by-product.

“Our novel superhydrophobic catalyst can be a game-changer in the field of biodiesel production. It stands out because of unmatched robustness; it can withstand the water byproduct during biodiesel production,” Dr. Rokhum told *The Hindu*.

“This means the catalyst remains highly effective and can be reused multiple times, making the catalytic process more efficient and cost-effective,” he said.

He further said the catalyst, derived from biomass (cellulose), is ecologically benign, abundant, and highly affordable. “This breakthrough has the po-

tential to significantly reduce the cost of biodiesel production, making sustainable energy more accessible,” he added.


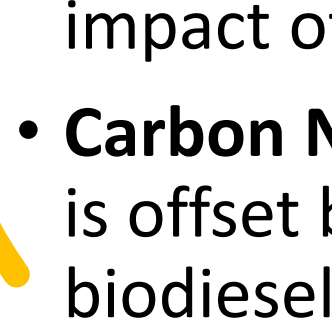
At present, the cost of biodiesel in India is about ₹100 or \$1.2 per litre. Using the superhydrophobic activated carbon catalyst can bring down the cost to about 37 cents per litre. A litre of less fuel-efficient diesel costs at least ₹87 in India. “Biodiesel is a key player in the quest for sustainable energy. Our innovative catalyst could pave the way for broader adoption and a greener future because it makes the production process more efficient, cost-effective, and environment friendly,” Dr. Rokhum, among the world’s top five scientists in the field of biodiesel, said.

- **Definition and Composition:**
- Biodiesel is a renewable, biodegradable fuel manufactured from vegetable oils, animal fats, or recycled restaurant grease.
- It is composed of long-chain fatty acid methyl esters (FAME) and can be used as a pure fuel or blended with petroleum diesel at any concentration in most modern diesel engines.



- **Production Process:**
- Biodiesel is produced through a chemical process called transesterification. In this process, the oils or fats are reacted with an alcohol (usually methanol) in the presence of a catalyst (such as sodium or potassium hydroxide) to produce glycerin and biodiesel (fatty acid methyl ester).



- 
- **Environmental Benefits:**
  - **Reduced Emissions:** Biodiesel produces fewer pollutants compared to conventional diesel, including lower levels of carbon monoxide, particulate matter, unburned hydrocarbons, and sulfates.
  - **Biodegradability:** It is non-toxic and biodegradable, reducing the impact of potential spills.
  - **Carbon Neutral:** Since the carbon dioxide released during combustion is offset by the CO<sub>2</sub> absorbed by the plants used to produce the oil, biodiesel is considered carbon neutral.
- 

## 1. Energy Security:

1. **Renewable:** As a renewable source of energy, biodiesel can help reduce dependence on fossil fuels.
2. **Domestic Production:** It can be produced locally from agricultural products, supporting local economies and providing farmers with additional markets for their crops.



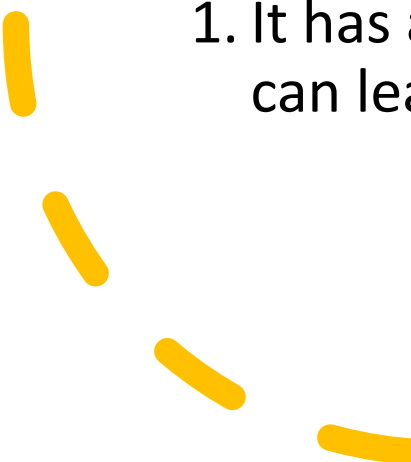


- **Disadvantages:**

- 1. Cold Weather Performance:**

- 1. Biodiesel can gel at low temperatures, which can be problematic for engines in cold climates.

- 2. Energy Content:**

- 1. It has a slightly lower energy content compared to petroleum diesel, which can lead to a small reduction in fuel efficiency.
- 

- **Usage:**
- Biodiesel can be used in its pure form (B100) or blended with petroleum diesel in various proportions (e.g., B20, which is 20% biodiesel and 80% petroleum diesel).
- It is compatible with most diesel engines, particularly newer models designed to handle higher blends.







## Regulations and Standards:

Biodiesel must meet certain standards, such as the ASTM D6751 in the United States or the EN 14214 in Europe, to ensure it is suitable for use in engines



- **Development:**

- A team of scientists from Assam and Odisha in India, China, and the UK developed a water-repellent catalyst.

- The catalyst significantly reduces the cost of producing biodiesel.

- **Process:**

- The catalyst is a "spherical superhydrophobic activated carbon catalyst".

- It can withstand water byproducts during biodiesel production.



- **Publication:**

- The findings are published in the journal *Advanced Functional Materials*.

- **Authors:**

- Indian scientists: Arpita Das, Kangkana Saikia, Samuel Lalthazuala Rokhum, Chandrakanta Guchhait, and Bimalendu Adhikari.
- International collaborators: Da Shi (Cambridge, UK), Hu Li (Guizhou University, China).



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- **Properties:**


- The catalyst mimics the anti-wetting properties of natural surfaces like lotus leaves.
- It is derived from biomass (cellulose), making it ecologically benign and affordable.

- **Cost Reduction:**

- Current biodiesel cost in India: ₹100 or \$1.2 per litre.
- New catalyst can reduce it to about 37 cents per litre.
- A litre of less fuel-efficient diesel costs at least ₹87 in India.



## **1. Impact:**

1. The catalyst can be reused multiple times, enhancing efficiency and cost-effectiveness.
  2. It can pave the way for broader adoption of biodiesel and greener fuel alternatives.
- 

**Question:** Which of the following statements about the newly developed catalyst for biodiesel production is correct?

The catalyst is derived from petroleum products.

It significantly increases the cost of biodiesel production.

The catalyst mimics the anti-wetting properties of natural surfaces like lotus leaves.

It cannot withstand water byproducts during biodiesel production.

# Women's panel receives over 12,600 complaints in 2024

**The Hindu Bureau**  
NEW DELHI

The highest number of complaints received by the National Commission for Women (NCW) so far this year has been from Uttar Pradesh followed by Delhi and then Maharashtra. Strife-torn Manipur has recorded only three complaints of "crime against women" with the commission.

Of the total 12,648 complaints received by the NCW till now in 2024, 6,492 were from Uttar Pradesh. Delhi was a distant second with 1,119 complaints, while the number for Maharashtra was 764, according to the official data from the panel.

Among other States, Tamil Nadu recorded 304 complaints, Karnataka 305, Bihar 586, Madhya Pradesh 516, Haryana 509, Rajasthan 409 and West Bengal 307.

## Violence against women

State-wise number of complaints received by National Commission for Women so far

State	Complaints
Uttar Pradesh	6,492
Delhi	1,119
Maharashtra	764
Bihar	586
M.P.	516
Haryana	509
Rajasthan	409
West Bengal	307
Karnataka	305
Tamil Nadu	304
Others	1,337

ry harassment stood at 1,963, molestation at 821, police apathy against women complaints at 524, and rape and attempt to rape complaints at 658, the data showed.

## Other crime details

for Maharashtra was 764, according to the official data from the panel.

Among other States, Tamil Nadu recorded 304 complaints, Karnataka 305, Bihar 586, Madhya Pradesh 516, Haryana 509, Rajasthan 409 and West Bengal 307.

## Category of crimes

As far as the categories of crimes against women are concerned, the highest number of 3,567 complaints were received in the "right to dignity" category that involves harassment other than domestic violence.

This was followed by 3,213 complaints of domestic violence.

The complaints of dow-

ry harassment stood at 1,963, molestation at 821, police apathy against women complaints at 524, and rape and attempt to rape complaints at 658, the data showed.

## Other crime details

There were 495 complaints of sexual harassment, 339 of cybercrime, 345 of stalking and 206 of honour crimes, it stated.

Interestingly, Manipur, which has seen large-scale ethnic violence as well as crimes against women, recorded only six complaints with the NCW in 2023.

In 2023, a total of 28,811 complaints related to women were registered by the NCW.

In 2024, the National Commission for Women (NCW) received over 12,600 complaints, with Uttar Pradesh leading with 6,492 complaints, followed by Delhi (1,119) and Maharashtra (764).

Manipur recorded only three complaints. Other states like Tamil Nadu, Karnataka, Bihar, Madhya Pradesh, Haryana, Rajasthan, and West Bengal had varying numbers of complaints.



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The most complaints fell under the category of "right to dignity" (3,567), followed by domestic violence (3,213)

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. Other significant categories included dowry harassment (1,963), molestation (821), police apathy (524), and rape (658). There were also complaints of sexual harassment (495), cybercrime (339), stalking (345), and honor crimes (206). In 2023, the total number of complaints was 28,811.

• Which state received the highest number of complaints regarding crimes against women according to the National Commission for Women (NCW) in 2024?

1. Delhi
2. Maharashtra
3. Uttar Pradesh
4. Bihar



# Genomes reveal legacies of human sacrifice and medieval epidemics

In the last decade, scientists have used the tools of archaeogenetics and evolutionary medicine to study ancient human burial sites, thus understanding the origins of a bubonic plague pandemic, the evolution of malarial parasites, the spread of the mpox virus, and the historical occurrence of Down's syndrome

Sridhar Sivasubbu  
Vinod Scaria

People's practice of burying human remains throughout modern history echoes diverse cultural, spiritual, and social beliefs, and is often considered to be a line in the sands of time between modern and ancient humans. Studying burial practices is a complex endeavour, however, it's hard to say if some prehistoric cave burials are intentional commemorations or remains covered by sediment over time, for example.

Nevertheless, researchers have recorded the practice of burying since the time of our now-extinct Neanderthal ancestors. The oldest intentional modern human burial dates to more than 100,000 years ago, in a cave in Israel. This timeline overlaps with the discovery of the skeletal remains of a roughly three-year-old child buried in Kenya some 80,000 years ago.

Burial practices evolved with advancing human civilisations, with the construction of elaborate mausoleums (that continue to date). The pyramids of Egypt were monumental tombs for the pharaohs; Mughal emperor Shah Jahan commissioned the Taj Mahal in Agra as a mausoleum for his wife. These structures reflect an enduring human desire to honour the dead and remember them.

The handful of well-preserved skeletal remains at ancient burial sites also open a window into the dietary habits, environmental adaptations, microevolutionary characteristics, biological kinship, sex, and genetic history of the population. These sites, spread worldwide, have thus been sites of intense scientific investigation as well. Some famous examples include the Tollund Man bog bodies in Denmark and the Thebes Tombs in Egypt.

Studies of these sites have accelerated in the last decade thanks to rapid technological advances in genome sequencing and medical genetics, which have expanded to seed the new fields of archaeogenetics and evolutionary medicine.

Of late, researchers have used the tools and concepts therein to understand the origins of the bubonic plague pandemic, the evolution of malarial parasites, the spread of the mpox virus, and even the occurrence of Down's syndrome in ancient genomes.

Ancient Mayan genomes Chichén Itzá is an ancient Mayan city located in modern-day Mexico. It is known for its grand architecture and iconic ceremonial temples, built around



The Temple of Kukulkan is the most famous structure at the Chichén Itzá archaeological site. DANIEL SCHWEN (CC BY-SA 4.0)

800-1000 AD. The temples are also infamous for having been the site of human sacrifices made as ritual offerings, and have been under constant archaeological investigation for more than a century.

The offerings were deposited in an enormous sinkhole or a subterranean cistern called the 'Sacred Cenote'. In Mayan culture, these subterranean features were often associated with water and rain. The Sacred Cenote in Chichén Itzá holds the skeletal remains of more than 200 ritually sacrificed individuals, many of them children or adolescents. But we don't know much about the lives of these individuals or their biological relationship (if any) with contemporary inhabitants of the region. European colonists used to believe these children and adolescents were "obtained" by kidnapping, purchase, or exchange of gifts with other nations.

In a recent scientific report published in *Nature*, a team of archaeologists and scientists from Germany, Mexico, Spain, the U.K., and the U.S. sequenced genetic material obtained from the human remains. They read the results along with bio-archaeological evidence collected at the site to launch an extensive investigation of the remains of 64 sub-adults from the Sacred Cenote and compared them to modern-day individuals of Mayan origin.

Their studies revealed that all sub-adults in the cenote were genetically male and closely related to each other. The findings go against 20th-century colonial accounts that claimed young women had been sacrificed here.



Studying burial practices is a complex endeavour. It's hard to say if some prehistoric cave burials are intentional commemorations or remains that have been covered by sediment over time

The study also identified two pairs of monozygotic twins among the remains. Twins held significance in Mayan spiritual life and were linked to the underworld, so their presence in the cenote wasn't surprising. The researchers also used isotopic studies to establish that all the related individuals in the cenote had similar diets, suggesting they all belonged to the same household.

The similarities also suggested they were selected for a specific purpose. It is widely believed that the Mayans organised ritual sacrifices to ensure the bountiful growth of maize and to appease the rain gods.

Genetic studies comparing the skeletal remains with those of present-day Maya people showed the latter are direct genetic descendants of the populations involved in the ritual sacrifices. This long-term continuity within the Mayan population opens doors for additional investigations on microevolutionary studies and genomic adaptations over the years, with implications for the study of population health.

## THE GIST

The oldest modern human burial dates to more than 100,000 years ago, in Israel. This overlaps with the discovery of the buried remains of a three-year-old in Kenya some 80,000 years ago

Skeletal remains at ancient burial sites open a window into the dietary habits, environmental adaptations, microevolutionary characteristics, biological kinship, sex, and genetic history of the population

By comparing ancient and modern genomes from Mexico, researchers found evidence of positive selection in genes related to immunity. The study of genomes helps resolve mysteries, and gain new insights into the past

## Legacy of colonial epidemics

The ceaseless wars, famines, and epidemics wrought by colonial invaders decimated the Mexican population. Their numbers fell from 10-20 million to 2 million by the end of the 16th century. In this period, diseases such as smallpox, measles, influenza, typhus, typhoid, and enteric fever spread among the people, resulting in a genetic bottleneck. (The rapid decline of a population also shrinks the genetic variations therein. Future populations will be based on this smaller pool, and will thus be at greater risk of disease.) Such events can leave long-lasting genetic footprints in the population. By studying them, researchers may be able to identify genes that have been subjected to genetic selection.

By comparing the ancient and modern genomes from Mexico, the researchers found evidence of positive selection in genes related to immunity, especially those associated with resistance to enteric fever caused by *Salmonella enterica Paratyphi C*, a pathogen serotype previously identified with the 16th century cholera epidemic in Mexico. The study of ancient genomes and their modern counterparts allows us to resolve mysteries, dispel old hypotheses, and gain new insights from the past to light the way for the future.

(The authors are senior consultants at the Vishwanath Cancer Care Foundation, Adjunct Professors at Indian Institute of Technology, Kanpur and Dr. DY Patil Medical College, Hospital and Research Center, Pune.)

## QUESTION CORNER

### Why clouds go grey before they rain

**Q: Why do clouds usually appear white but look grey when they're going to rain?**

**A:** Scattered water droplets in the clouds are the reason. When the Sun shines over clouds, water droplets in the latter act like prisms, splitting white sunlight into its component colours. They send these rays of light of different colours (frequencies) flying in different directions at haphazard angles. These rays often manage to recombine because there are several droplets in clouds, all scattering sunlight and creating white light. This is why clouds are white.

But just before clouds are going to rain, the water droplets are swollen. They coalesce to form larger droplets, of a few millimetres or more each. These droplets absorb more light and transmit less to the base of the clouds. As a result, these clouds have a greyish appearance; only their base scatters white light (image) to observers on the ground. However, because enough sunlight illuminates the clouds' upper decks, they continue scattering white light to anyone viewing them from space



Dust scatters white light the same way clouds do for the same reason, in a process called Mie scattering. RADHAPRIYATHA/UNSPLASH

or from aboard an aeroplane. Such scattering phenomena manifest in other ways too. Dust scatters white light the same way clouds do for the same reason, in a process called Mie scattering. It takes place only when the size of the scattering particle is comparable to the wavelength of the light.

*Karthik Vinod, intern with The Hindu*

For feedback and suggestions for 'Science', please write to [science@thehindu.co.in](mailto:science@thehindu.co.in) with the subject 'Daily page'

## BIG SHOT



Professor Hong Jin-kee with a bowl containing pink 'meaty rice' at the Yonsei University in Seoul on May 23. In a small laboratory in the South Korean capital, a team of scientists is injecting cultured beef cells into individual grains of rice, in a process they hope will revolutionise how the world eats. AFP

## BIG SHOT



Professor Hong Jin-kee with a bowl containing pink “meaty rice” at the Yonsei University in Seoul on May 21. In a small laboratory in the South Korean capital, a team of scientists is injecting cultured beef cells into individual grains of rice, in a process they hope will revolutionise how the world eats. AFP



- **Variety:**

- Pink meaty rice is a unique variety of rice known for its distinct pink color and meaty texture.

- **Nutritional Value:**

- This rice variety is rich in antioxidants, vitamins, and minerals, making it a healthier option compared to regular white rice.
- 

- No animals were harmed in the creation of the dish, which looks like a regular bowl of rice -- albeit pink -- but it gives off a faint buttery aroma, the result of being packed with beef muscle and fat cell culture.



## Culinary Uses:

It is versatile and can be used in various dishes, including salads, pilafs, and as a side dish, adding both color and texture to meals.

## Cultivation:

Pink meaty rice is often grown in specific regions with unique soil and climate conditions that contribute to its characteristic color and taste.

## 1. Health Benefits:

1. Consuming pink meaty rice may offer several health benefits, including improved digestion, better heart health, and enhanced immune function due to its nutrient-rich profile.











• Consider the following statements regarding the new "meaty rice" developed by South Korean scientists:

1. The "meaty rice" is created by injecting cultured beef cells into individual grains of rice.
2. This innovation aims to provide an eco-friendly and ethical source of protein without harming animals.
3. The "meaty rice" has been developed to address ethical issues related to industrial livestock rearing and environmental concerns due to greenhouse gas emissions from animal farming.
4. Professor Hong Jin-kee chose rice for this research because it is the top source of protein globally.

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

- 
1. 1 and 2 only
  2. 1, 2, and 3 only
  3. 1, 3, and 4 only
  4. 2, 3, and 4 only
- 
- 
- 

## BANGKOK

## Thailand approves same-sex marriage in a historic move



Thailand on Tuesday became the first country in Southeast Asia to legalise same-sex marriage, in a historic parliamentary vote hailed as a "victory" by campaigners. The upper house Senate gave final approval — by 130 votes to four, with 18 abstentions — to changes to the marriage law allowing same-sex couples to tie the knot. AP

## 'Israeli intel had warned of Hamas's plans before attack'

Agence France-Press  
JERUSALEM

An Israeli intelligence brief prepared weeks before Hamas's October 7 attack had warned military officials of the Palestinian group's preparations for an assault, according to Israeli public broadcaster Kan. The Israeli military's signals intelligence unit drafted the brief in September. It said the Unit 8200 intelligence document included details of elite Hamas fighters training for hostage-taking and plans for raids on military positions and Israeli communities.

The brief said the Palestinian militants were attempting to take hundreds of hostages, a key issue for many Americans ahead of November's presidential election.

The Democrat is seeking to be tougher on illegal immigrants, while the Republican rival Donald Trump...

## Biden planning to ease immigration pathway for spouses of U.S. citizens

While the new rules do not expand the eligibility for permanent residency, they seek to streamline the process for those who already qualify, and will do away with the requirement that they leave the country as part of the application process

Agence France-Press  
WASHINGTON

U.S. President Joe Biden on Tuesday unveiled new rules easing the process for undocumented spouses of U.S. citizens to obtain permanent residency status, the White House said.

The Biden administration has been trying to walk a thin line on immigration, a key issue for many Americans ahead of November's presidential election.

The Democrat is seeking to be tougher on illegal immigrants, while the Republican rival Donald Trump...

## JERUSALEM

## Thousands of Israelis turn out for anti-government demonstrations



Thousands of Israelis protested against Prime Minister Benjamin Netanyahu's government on Monday over the Gaza war and failure to negotiate the release of hostages held in the Palestinian territory. Protesters travelled to Jerusalem to rally outside the Israeli parliament and Mr. Netanyahu's residence on Monday. AP

## KYIV

## Kyiv claims its drones hit a Russian oil facility, sparking a huge blaze



Ukraine claimed responsibility on Tuesday for an overnight drone attack on a Russian oil facility that started a massive blaze in the latest long-range strike by Kyiv's forces on a border region. The attack set fire to an oil reservoir in Russia's Rostov region and more than 200 firefighters were at the scene. AP

## LAHORE

## 36 Ahmadi community members held in Pak. for animal sacrifice



At least 36 members of the minority Ahmadi community were held in Pakistan for sacrificing animals on Id as they have been declared non-Muslims in the country, a community leader said on Tuesday. Jamaat-e-Ahmadiya Pakistan's Amir Mahnoos blamed the radical Islamist party TLP for fanning hatred against Ahmadis. PTI

## Chinese forces seize two Philippines boats in disputed shoal

Associated Press  
MANILA

Chinese forces seized two Philippine rubber boats that were delivering food and other supplies to a military outpost on a disputed South China Sea shoal in a tense confrontation in which some Philippine navy personnel were injured, Philippine security officials said on Tuesday.

The U.S. renewed a warning on Tuesday that it is obligated to defend the Philippines, a treaty ally, a day after the hours-long hostilities in Second Thomas Shoal. The shoal has been occupied by a small Philippine navy contingent aboard a long-grounded warship that has been closely monitored by China's coast guard and navy in a years-long stand-off.

There is fear that territorial disputes in the South China Sea could escalate and pit the United States and China in a larger conflict. China and the Philippines blamed each other for Monday's hostilities, the most serious in recent months, but provided few details.

A Philippine government task force overseeing the territorial disputes con-

## Bending the will



Yanbu's government on Tuesday walked back plans to impose multiple tax hikes, the presidency said, amending a controversial Bill that sparked protests where more than a dozen demonstrators were arrested. AFP

## Russia's Putin makes rare visit to North Korea, an old ally

Associated Press  
SEOUL

President Vladimir Putin arrived in North Korea early on Wednesday, Russian news agencies reported, after he said the two countries try to cooperate closely to overcome U.S.-led sanctions in the face of intensifying confrontations with Washington. Mr. Putin was met at Pyongyang's airport by North Korean leader Kim Jong-un.

Welcoming Putin, Mr. Putin's comments appeared in an op-ed piece in North Korean state media hours before his expected arrival for a two-day visit as the countries deepen their alignment in the face of separate, intensifying confrontations with Washington.

respect for sovereignty, considering each other's interests," Mr. Putin also said Russia and North Korea will develop trade and payment systems "that are not controlled by the West" and jointly oppose sanctions against the countries, which he described as "illegal, unilateral restrictions."

Future cooperation North Korea is under heavy UN Security Council economic sanctions over its nuclear weapons and missile programs, while Russia is also grappling with sanctions by the United States and its Western partners over its aggression in Ukraine.

Mr. Putin said the countries will also expand cooperation in tourism, culture and education.

## Jaishankar to 'review' progress of projects during Sri Lanka visit



Friendly talks: S. Jaishankar with Sri Lankan President Ranil Wickremesinghe in New Delhi on June 10. SPECIAL ARRANGEMENT

Meera Srinivasan  
COLOMBO

External Affairs Minister S. Jaishankar will arrive in Colombo on Thursday in his first official visit to a neighbouring country since the BJP-led National Democratic Alliance (NDA)'s coalition government assumed charge in India earlier this month.

Confirming his Indian counterpart's visit, Sri Lanka's Foreign Minister Ali Sabry told *The Hindu* on Tuesday that projects that India and Sri Lanka have agreed to jointly implement will be reviewed. "We will review progress in projects in various sectors such as renewable energy and connectivity, and look at ways to expedite them," Mr. Sabry said. Prime Minister Narendra Modi's first visit to Sri Lanka this year will also be discussed, he added.

In addition to holding talks with the Sri Lankan government, Mr. Jaishankar will meet politicians across Sri Lanka's political party. After his visit to Sri Lanka, Mr. Jaishankar is scheduled to travel to Mauritius.

On June 10, Mr. Jaishankar met President Ranil Wickremesinghe, who was in New Delhi for the swearing in ceremony of

Mr. Modi. Following the meeting, Mr. Wickremesinghe's office said Mr. Jaishankar spoke on the swift resumption of development projects initiated in Sri Lanka with Indian investments, which had been halted midway.

Further, Mr. Jaishankar highlighted plans for an industrial zone in the eastern district of Trincomalee to be established by the Indian government, which "will attract numerous Indian investors and potentially investors from other countries," the statement said.

In a joint vision statement released during Mr. Wickremesinghe's visit to New Delhi in July 2023, the two countries noted that the ongoing cooperation in developing the Trincomalee oil tank farms was "a reflection of our endeavour to develop mutually beneficial cooperation projects."

India is partnering Sri Lanka in its push for renewable energy, including solar, LNG and wind power projects in the island nation's north and east.

However, the \$42-million wind energy project of Adani Green has run into trouble, with at least two cases filed in Sri Lanka's Supreme Court recently, challenging it on grounds of environmental impact.

increased since Kim met Putin in September in the Russian Far East, his first since 2019.

U.S. and South Korean officials accused Moscow of providing Russia with artillery, missile technology and military equipment for use in Ukraine, possibly in return for key military technologies and aid. Both Pyongyang and Moscow deny accusations about North Korean weapons transfers, which would violate multiple UN Security Council sanctions that Russia has previously endorsed.

Along with China, Russia has provided political cover for Mr. Kim's continuing efforts to advance his nuclear arsenal, reportedly blocking U.S.-led efforts to impose fresh UN sanctions on the North over its weapons tests.

The U.S. renewed a warning that it is obligated to defend the Philippines, a day after the hostilities in Second Thomas Shoal. AP

**BANGKOK**

## Thailand approves same-sex marriage in a historic move



AFP

Thailand on Tuesday became the first country in Southeast Asia to legalise same-sex marriage, in a historic parliamentary vote hailed as a “victory” by campaigners. The upper house Senate gave final approval — by 130 votes to four, with 18 abstentions — to changes to the marriage law allowing same-sex couples to tie the knot. AFP

# Thailand's Senate passes landmark Bill to legalise same-sex marriages

**REUTERS**

BANGKOK, JUNE 18

THAILAND'S SENATE passed the final reading of a marriage equality law on Tuesday, paving the way for it to become the first country in Southeast Asia to recognise same-sex couples.

The bill, the culmination of more than two decades of effort by activists, was supported by an overwhelming majority of lawmakers in the upper house.

The law, which needs royal approval, will come into force 120 days after it is published in the royal gazette, meaning the first same sex weddings could take place later this year.

"Today we celebrate another significant milestone in the journey of our Equal Marriage Bill," Thai Prime Minister Srettha Thavisin said in a post on X.

"We will continue our fight



**Members of the LGBTQ+ community celebrate after passage of marriage equality Bill in Bangkok on Tuesday.** *Reuters*



for social rights for all people regardless of their status."

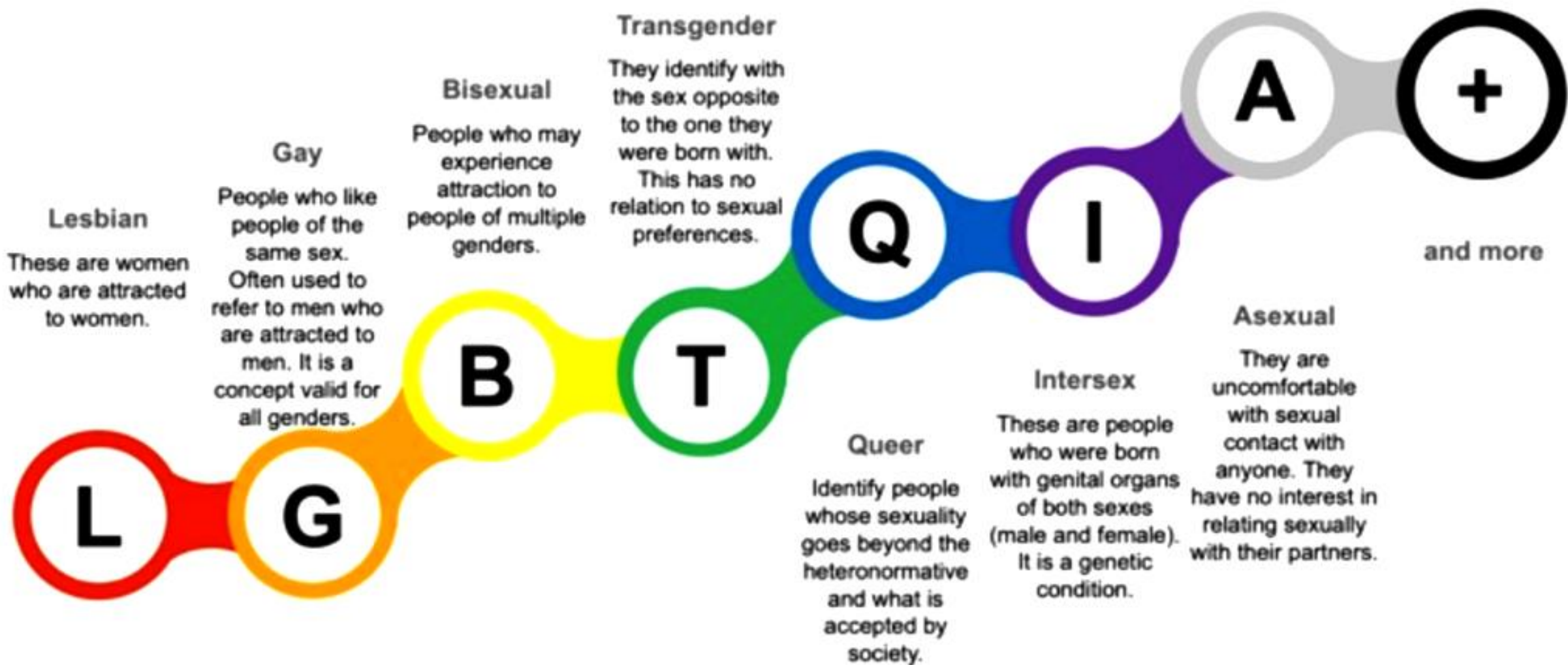
LGBT advocates called the move a "monumental step forward," as Thailand would be the first nation in Southeast Asia to enact marriage equality legislation and the third in Asia, after Nepal and Taiwan.

"We are very proud to make history," said Plaifah Kyoka

Shodladd, member of a parliamentary committee on same-sex marriage. "Today love triumphed prejudice ... after fighting for more than 20 years, today we can say that this country has marriage equality."

Lawmakers and activists were seen celebrating in Thailand's parliament, waving rainbow flags and smiling.

- 
- Thailand's Senate has passed a landmark marriage equality law, paving the way for it to become the first country in Southeast Asia to recognize same-sex couples.
  - The bill, which needs royal approval, will come into force 120 days after being published in the royal gazette, allowing same-sex weddings to begin later this year.
  - This legislation is the result of over two decades of activism and was supported by an overwhelming majority of lawmakers.
  - Thailand will become the third country in Asia to enact marriage equality legislation, following Nepal and Taiwan. Celebrations among the LGBTQ+ community and advocates marked the historic moment.
- 



# GLOBAL LAWS REGARDING HOMOSEXUALITY

## PUNISHMENT FOR HOMOSEXUAL ACTS

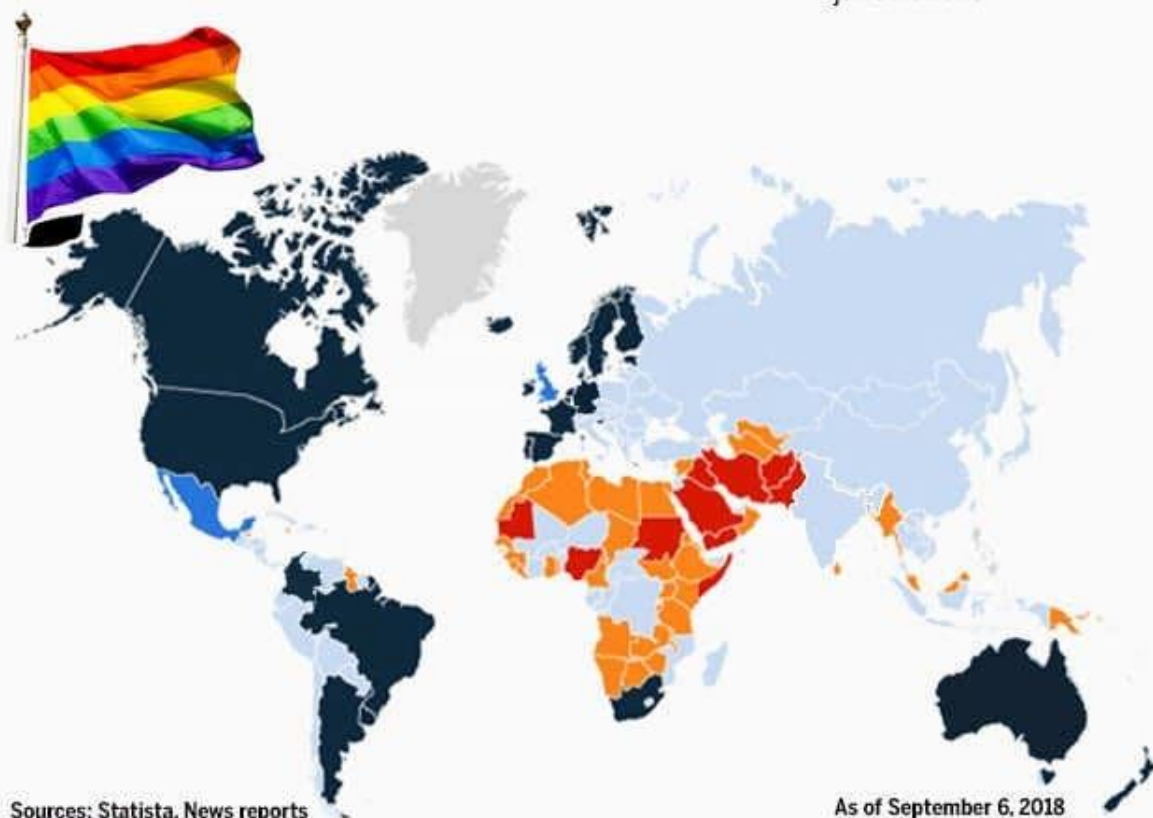
- Homosexuality acts can be punished by death
- Homosexuality acts are illegal

## RELATIVELY NEUTRAL

- No specific laws on gay rights
- Homosexual acts are legal

## RECOGNITION OF SAME-SEX UNIONS

- Same-sex marriage is allowed
- Same-sex marriage is allowed in some jurisdictions



Sources: Statista, News reports

As of September 6, 2018

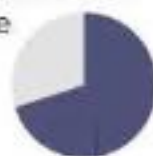
## It's a 21st century feeling

**33 countries** recognise same-sex marriage and civil unions

The **Netherlands** was the first, in **2001**

Momentum is growing — **2022** has seen **Chile, Slovenia, Switzerland** and **Mexico** join the club

In November, the US Senate passed a same-sex marriage protection bill with bipartisan support — **70% of Americans** now support same-sex marriage



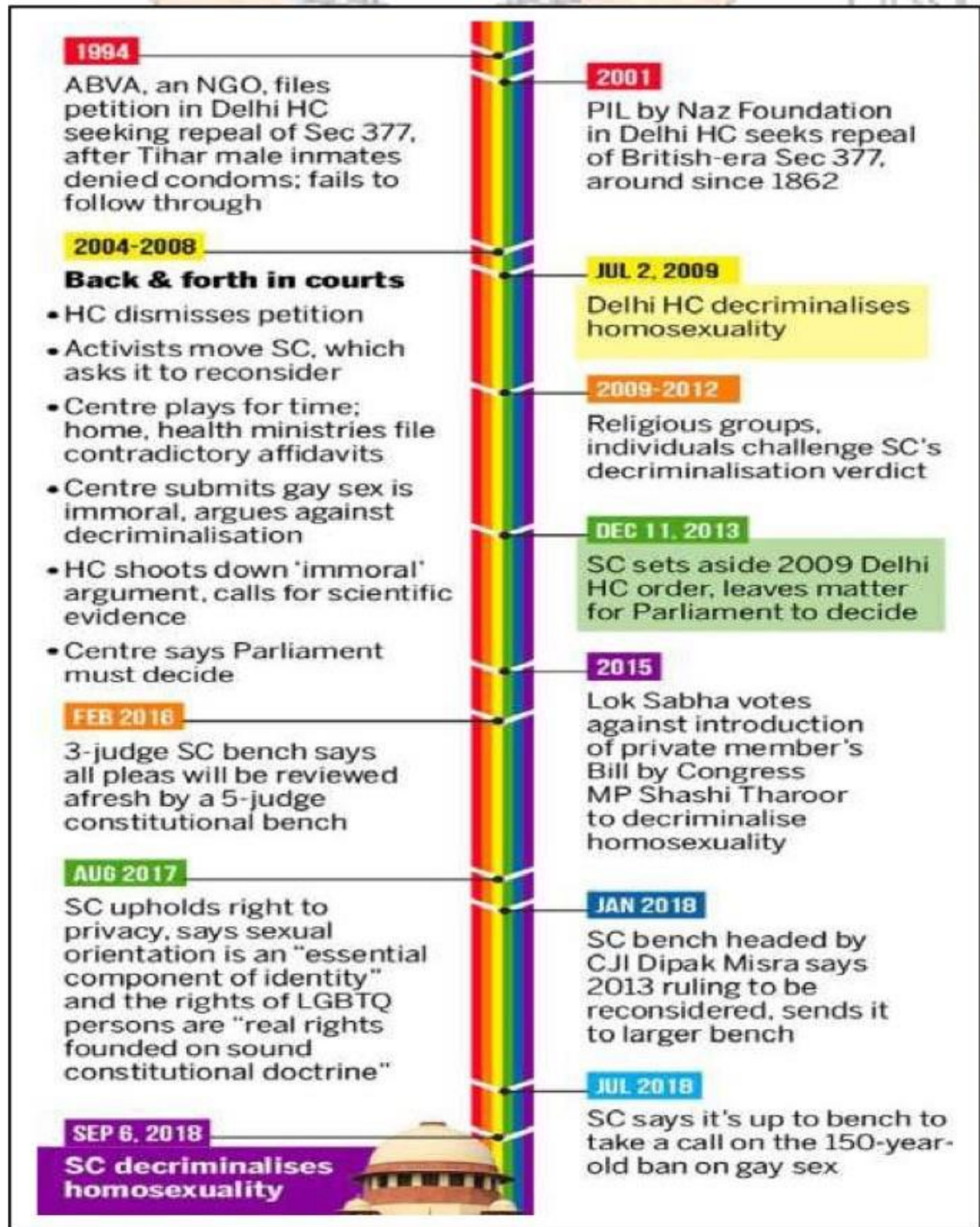
Also in November, **Singapore's parliament** decriminalised sex between men. Its **Section 377A** grew especially untenable after Indian SC read down Section 377



**Japan** is the only G7 country that does not allow same-sex marriage. But recently a Tokyo district court underlined the infringement of the human rights of same-sex families

**Taiwan** is the only Asian country to have legalised same-sex marriage. Its parliament approved the landmark decision in 2019. Its constitutional court struck down the Civil Code's definition of marriage as being only between a man and a woman in 2017





# Arguments from both sides

## WHAT CENTRE SAID

- Family issues are far beyond mere recognition and registration of marriage between persons belonging to the same gender
- Living together as partners and having sexual relationship by same-sex individuals is not comparable with the Indian family unit concept of a husband, a wife and children which necessarily presuppose a biological man as a 'husband', a biological woman as a 'wife' and the children born out of the union between the two


## PETITIONERS' RESPONSE

- The government's position is curious given the (Hindu Marriage) Act itself wiped out several recorded Hindu traditions that existed prior to codification. Whoever drafted the response also seems clueless about the 60-odd genders recognised in Hindu historical texts not to mention it has failed to provide any textual basis prohibiting the marriage of these 60-odd genders.
- The progeny argument is particularly ridiculous because it implies any marriage shorn of biological offspring is not a marriage

# Marital rights same-sex couples do not enjoy in India







- Government pensions and medical benefits
- Claiming leave travel allowance for partner
- Right to property or inheritance
- Joint adoption
- In case of separation, there is no provision to seek maintenance by the economically weaker partner
- Right to take emergency medical decisions



• **Question:** Consider the following statements about Thailand's recent legislative move on same-sex marriages:

1. Thailand's Senate has passed a marriage equality law, making it the first country in Southeast Asia to recognize same-sex couples.
2. The law will come into force immediately after the Senate's approval.
3. Thailand will be the second country in Asia to enact marriage equality legislation, after Taiwan.
4. The bill is the result of more than two decades of effort by activists.

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

1. 1 and 4 only
  2. 1, 2, and 3 only
  3. 1, 3, and 4 only
  4. 2, 3, and 4 only
- 
- 
- 
- 



## PRICELESS GIFT

# Hall gives a copy of his biography *Answering The Call* to Kohli



ASHWIN ACHAL

West Indies fast bowling legend Wesley Hall was greeted by Indian batter Virat Kohli at the Kensington Oval at Barbados on Tuesday. Hall gave a copy of his biography *Answering The Call* to Kohli, and wished the Indian team success at the ongoing T20 World Cup. Hall also praised Kohli for his expert batsmanship.



**"The Mamba  
Mentality: How I Play"  
by Kobe Bryant:**



**My Life: Queen of the  
Court" by Serena  
Williams:**



**The Running Book" by  
John Connell:**

## Met office downgrades June rainfall forecast to 'below normal'

**ANJALI MARAR**  
BENGALURU, JUNE 18

THE INDIA Meteorological Department (IMD) Tuesday downgraded its June rainfall prediction for the country to "below normal".

The average June rainfall for the country as a whole is most likely to be below normal, that is less than 92 per cent of the Long Period Average (LPA) which is 106.9 mm," the IMD said in its monthly rainfall update.

Normally, the Met department issues the monthly rainfall prediction at the start of every month. Seen as a departure from normal, the IMD Tuesday retracted its original rainfall forecast within 20 days of the release of the second stage Long Range Forecast on May 27.

Last month, the IMD had said the country would receive normal rainfall in June, which would be 92-108 per cent of the LPA.

"Below normal rainfall is likely over Central, Northwest and some areas of Northeast India in June," the updated forecast stated.

Being the monsoon onset month, June contributes to about 15 per cent of the country's seasonal rainfall. Normally, the southwest monsoon covers the entire country around July 15. However, it is the rainfall from July and August, each contributing

CONTINUED ON PAGE 2

**EXPLAINED**  
**CLIMATE**  
**GOOD START, THEN ADRY SPELL** PAGE 14

## GROUND REPORTS SOUGHT BY JUNE 25

# Constitution, quota impact, Govt's role: Questions in BJP's UP poll post mortem

Review to cover all Lok Sabha seats in state barring Varanasi and Lucknow

**LALMANI VERMA**  
NEW DELHI, JUNE 18

HOW WELL-CONNECTED were candidates with the public? What was the impact of the Constitution and reservation issues on the campaign? Did de-



Agriculture Minister Shivraj Singh Chouhan felicitates Prime Minister Narendra Modi in Varanasi, Tuesday. UP Governor Anandiben Patel, CM Yogi Adityanath were also present. (PTI)

of the government, the Centre and/or the state, play a role in a loss?

These questions form part of a checklist prepared by the BJP to try and ascertain reasons for its debacle in Uttar Pradesh in the Lok Sabha polls.

The party's below-par performance in the state saw its tally of seats fall from 62 in 2019 to 33 this time while its vote share declined from 49.98% to 41.37%.

The party will explore reasons why it lost so many constituencies and, except for Varanasi and Lucknow, also look

CONTINUED ON PAGE 2

## Why the state matters

**E** UNDER ITS rule since 2017, UP with 80 seats in the Lok Sabha was the BJP's most important state. The poor showing there contributed to the party losing majority in the House. Defeats in Agra, Kanpur, Allahabad and Amethi have added to the BJP's upset in the state.

## 10,000 cops transferred as Mann cracks down on Punjab drug mafia

**EXPRESS NEWS SERVICE**  
CHANDIGARH, JUNE 18

IN AN unprecedented move to crack down on the drug menace in Punjab, Chief Minister Bhagwant Mann announced Tuesday that at least 10,000 police personnel, from the rank of constable onward, have been transferred. He said more transfers are on the cards.

Speaking to reporters after chairing a meeting attended among others by DGP Gaurav Yadav, Commissioners and SSPs, Mann said the transfers were made after he realised that drug peddlers had a nexus with police. He said several complaints had gone unheeded and, in some cases, the accused had been let off even before the complainants could return to their villages.

"There is a nexus at the manshi level. The SHO's are accused of sitting in the same police station for 10-20 years. That is why I ordered en masse transfers. If a police officer is found to have some nexus, he will be immediately dismissed from service. In the next seven days, his property will be confiscated and he will

CONTINUED ON PAGE 2

## ROW OVER CONDUCT OF EXAMINATIONS

# Under fire on NEET, NTA to Govt: Patna, Godhra results show no unusual spike

In Bihar & Gujarat, most under scanner got below 50 — not good for govt seat

**DEEKSHA TATERI**  
NEW DELHI, JUNE 18

UNDER FIRE over its conduct of the NEET examinations, the National Testing Agency (NTA) is learnt to have conveyed to the Education Ministry that examinations from Patna and Godhra, under scrutiny for benefiting from alleged irregularities, do not appear to have had any unusual advantage as per an analysis of their marks.

Of the 13 candidates from Patna, who are under the Bihar Police scanner in their investigation into allegations of a paper leak, eight have scored less than 500 marks out of 720. The Indian Express has learnt, almost 80% of the students who appeared from two exam centres in Godhra, which are being probed for manipulation of OMR sheets, have also scored less than 500 marks.

To get a seat in a government

medical college under the all-India quota, a score of 650-plus of 720 is considered the norm.

This analysis is part of the NTA's note on the allegations regarding the conduct of NEET-UG this year, which the agency submitted to the Ministry this week. The Union government, it is learnt, will factor this in while preparing its response before the Supreme Court which will hear a batch of petitions on the conduct of the medical entrance test on July 8.

Sources said of the 13 Patna candidates, four are from general category, eight from OBC category and one candidate's details provided by the Bihar Police does not match with NTA's record.

Of the 12 (five women and seven men), only four have got more than 500 marks and obtained more than 90 percentile in their results. Further, the best-performing student of this lot

CONTINUED ON PAGE 2



## EXTRADITION FROM PRAGUE

Footage released by Czech police shows Pannun plot accused Nikhil Gupta being extradited from Prague to the US Monday. He has pleaded not guilty to charges in a New York court. (PTI)

## 11 HOUSES DEMOLISHED IN MANDLA DISTRICT VILLAGE IN MADHYA PRADESH

# Bulldozers came the day after police: 'We demolished homes where beef was found'

**ANAND MOHAN J**  
MANDLA (MP), JUNE 18

ELEVEN DEMOLISHED homes, and 16 that are yet untouched paint a picture of contrast at a neighbourhood in Bhatneshahi village, in Madhya Pradesh's Mandla district.

The homes were razed by authorities on June 15 after police, in an operation targeting cattle smuggling, said they had found beef inside fridges, animal hides in sacks, and bones in pickup trucks there. While authorities maintain the 11 structures were built on government land, 16 homes in the same neighbour-



'No one wants to help because they fear their homes may be next', Sultana Qureshi (above) with her family. Anand Mohan J

hood — which authorities acknowledge are also illegal but where beef was not recovered — are still standing.

"We demolished the homes where beef was found and left the others alone for now. Which houses to demolish is not part of our protocol. It is decided by the revenue department. We were taking action against the smugglers. Leather companies in Jabalpur which bought animal hides and local tribal people who bought cow meat from this gang will be investigated. The NSA will be invoked against five accused who are repeat offenders," said Inder Baldev, SHO of Nainpur

CONTINUED ON PAGE 2

## BUSINESS AS USUAL

By UNNY  
Beef's sale is unaffected. Spinal case in parliament.

## Wary after LS defeat, BJP-Sena govt stalls Nagpur-Goa highway project

**ALOK DESHPANDE**  
MUMBAI, JUNE 18

DAYS AFTER the Lok Sabha defeat in seats along the proposed route and amid protests from farmers, the Maharashtra government is said to have put on hold work on the 802-km greenfield highway project connecting Nagpur to

Goa until the Assembly elections later this year. The project is estimated to cost the state exchequer ₹ 8,000 crore.

"We have received reports that farmers and individuals affected by the project are protesting in every district. It has been conveyed to the administration to not acquire land for at least the next 3-4 months. After the Assembly elections (in October), the new government will decide on the fate of this project," a senior government ministry official related to the project told The Indian Express.

The project was first announced in September 2022. The bids for appointing a consultant for the feasibility study

CONTINUED ON PAGE 2

**Nalanda UNIVERSITY**  
Inauguration of  
**NALANDA UNIVERSITY CAMPUS**  
by  
**Shri Narendra Modi**  
Hon'ble Prime Minister of India

**Shri Nitish Kumar**  
Hon'ble Chief Minister, Bihar

**Shri Narendra Modi**  
Hon'ble Prime Minister of India

In the August Presence of  
**Shri Rajendra Arisekar**  
Hon'ble Governor, Bihar  
**Shri Nitish Kumar**  
Hon'ble Chief Minister, Bihar  
**Dr. S. Jaishankar**  
Hon'ble Minister of External Affairs,  
Ministry of External Affairs, Govt.  
**Shri Pabitra Margherita**  
Union MoS of External Affairs;  
Textiles  
**Prof. Arvind Panagariya**  
Hon'ble Chancellor, Nalanda University

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## Fringes to Olympics via French Open door: How journeyman Balaji got his lucky break

**PAGE 1**  
**ANCHOR**

**NAMIT KUMAR**  
NEW DELHI, JUNE 18

EARLIER THIS month, Sriram Balaji, the World No. 62 and the third-highest-ranked Indian doubles tennis player, arrived in Paris uncertain if he was playing the French Open at all. Typically fickle Parisian weather meant there were enough withdrawals by singles players in the doubles cate-



Sriram Balaji will partner Rohan Bopanna in Paris. Express

gory for Balaji, alongside Mexican partner Miguel Reyes-Varela, to make it into the main draw.

He would leave the French capital with three solid Grand Slam matches under his belt — his best-ever finish at a Major — and more importantly, ensuring his return ticket to Paris next month.

Balaji has been picked by partner him in the men's doubles category for the upcoming Paris Olympics, ousting the higher-ranked Yuki Bhambhani to make it to his first Games.

CONTINUED ON PAGE 2





# From India to the World!

## Smritivan Earthquake Museum, Bhuj is now among World's Most Beautiful Museums 2024!

Bhuj's Smritivan Earthquake Museum has been listed as one of the world's seven most beautiful museums by the renowned Prix Versailles Award for Architecture and Design, presented annually at UNESCO. This historic nomination marks the first time an Indian museum has been recognized by the prestigious Prix Versailles World Selection for Museums 2024, boosting Gujarat's global recognition and prestige.

Here's a look at other national and international accolades that celebrate Smritivan's innovative design and cultural heritage, bringing immense pride to India.

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The Smritivan Earthquake Memorial and Museum is located on Bhujiyo Hill in Bhuj, Kutch district, Gujarat, India.

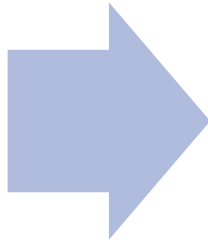
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It was inaugurated on August 28, 2022, by Prime Minister Narendra Modi.

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The museum is dedicated to the victims of the 2001 Gujarat earthquake, which resulted in significant loss of life and property.

**Seven Themed Blocks:** The museum is divided into seven thematic blocks: Rebirth, Rediscover, Restore, Rebuild, Rethink, Relive, and Renew. Each block presents different aspects related to the earthquake, its aftermath, and recovery efforts.



**5D Earthquake Simulator:** The Relive block features a 5D simulator that provides an immersive experience of what an earthquake feels like.

**Educational Displays:** The museum includes interactive displays that explain the geological causes of earthquakes, the impact of the 2001 event, and the subsequent rebuilding efforts.



**Memorial Park:** The memorial park spans 470 acres and includes over 13,000 trees planted in memory of the victims. It also features 50 check dams, a sunset point, and extensive pathways and internal roads.

- **Sustainability Features:** The site includes a 1 MW solar power plant and parking facilities for 3,000 vehicles.



**SMRITI VAN**  
EARTHQUAKE MUSEUM






















• **Question:** Consider the following statements about the Smritivan Earthquake Memorial and Museum in Bhuj:

1. The Smritivan Earthquake Memorial and Museum is dedicated to the victims of the 2001 Gujarat earthquake.
2. The museum has seven themed blocks, including a 5D earthquake simulator.
3. The memorial park includes over 13,000 trees, each dedicated to a victim of the earthquake.
4. The museum is located on Mount Abu in Rajasthan.

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

1. 1, 2, and 3 only
  2. 1 and 3 only
  3. 1, 2, and 4 only
  4. 2 and 4 only
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# PRO TEM SPEAKER

A senior Lok Sabha MP who is temporarily appointed Speaker and administers oath to new Members

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## EXPRESS NEWS SERVICE

NEW DELHI, JUNE 18

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THE 18TH LOK SABHA will hold its first session between June 24 and July 3, during which the new Speaker will be elected. Prime Minister Narendra Modi will move the motion for the election of the Speaker in the Lok Sabha on June 26. Congress leader K Suresh, an eight-term MP, is expected to be appointed *pro tem* Speaker.

### Who is a *pro tem* Speaker?

As the Presiding Officer of Lok Sabha, the Speaker has to fulfil certain duties and is elected by a simple majority vote in the Lower House. Until the Speaker is elected, the *pro tem* Speaker is appointed to administer some important duties. '*Pro tem*' means 'for the time being' or 'temporarily'.

The Constitution does not mention the post, but the official 'Handbook on the Working of Ministry of Parliamentary Affairs' mentions the appointment and swearing in of Speaker *pro tem*.

### How is the *pro tem* Speaker chosen?

The handbook states that when the Speaker's post is vacant before a new Lok Sabha meets, "the duties of the Speaker are to be performed by a Member of the House appointed for this purpose by the President as Speaker *pro tem*".

Normally, the seniormost MP is ap-

pointed as the Speaker *pro tem*. Three other MPs, the next in terms of seniority, are appointed to assist the Speaker *pro tem*.

As soon as the new government is formed, the Legislative I Section of the Legislative Department of the government prepares a list of the seniormost Lok Sabha members. It is then submitted to the Minister for Parliamentary Affairs or the Prime Minister for identifying an MP as Speaker *pro tem* and another three members for oath-taking.


### How are oaths administered?

After the Prime Minister's approval, the Ministry gets the consent of these MPs. The Minister then submits a note to the President, seeking approval for their appointments. The date and time for the ceremony are also decided.


Once the President approves, the Ministry informs the appointed members. Finally, the President administers the oath to the Speaker *pro tem* at Rashtrapati Bhavan. The other three members appointed by the President are administered the oath by the Speaker *pro tem* in the Lok Sabha.

The Speaker *pro tem* then administers the oath or affirmation to the newly elected MPs with the help of the other three members. Since the session of the Lok Sabha starts at 11 am, the time generally fixed for swearing in of the Speaker *pro tem* is on the morning of the same day at 9.30 am, subject to the convenience of the President.

The 18th Lok Sabha will have its first session from June 24 to July 3, during which the new Speaker will be elected.



Prime Minister Narendra Modi will initiate the motion for the election of the Speaker on June 26.



Congress leader K Suresh, an eight-term MP, is expected to be appointed as the pro tem Speaker.

## Role and Appointment of Pro Tem Speaker:

The pro tem Speaker is a senior Lok Sabha MP temporarily appointed to administer the oath to new members and preside over the House until a permanent Speaker is elected. The term 'pro tem' means 'for the time being'.

The appointment is mentioned in the 'Handbook on the Working of Ministry of Parliamentary Affairs'.



Typically, the seniormost MP is chosen as the pro tem Speaker.



The Legislative Department prepares a list of senior MPs, which is submitted to the Minister for Parliamentary Affairs or the Prime Minister. The President approves the final appointments.



The pro tem Speaker administers the oath to new MPs with the help of three other MPs appointed for this task.



- **Question:** Which of the following statements is correct about the pro tem Speaker in the Lok Sabha?
  1. The pro tem Speaker is elected by a simple majority vote in the Lok Sabha.
  2. The pro tem Speaker administers the oath to newly elected MPs and presides over the House until a new Speaker is elected.
  3. The pro tem Speaker's role is mentioned explicitly in the Indian Constitution.
  4. The pro tem Speaker is usually appointed by the Prime Minister.

# Disease that has struck singer Alka Yagnik

## EXPERT EXPLAINS



KALPANA NAGPAL

*IN A post on Instagram, Bollywood singer Alka Yagnik on Monday revealed that she has been diagnosed with a “rare sensory neural nerve hearing loss”, known as sensorineural deafness, after suffering from a viral infection. A leading ear, neck, and throat (ENT) specialist explains what sensorineural deafness is, what causes it, and how it can be prevented.*

### What is sensorineural deafness?

The human ear consists of external, middle, and inner structures. When you listen to a sound, your eardrum or tympanic membrane (which divides the external ear from the

middle ear) vibrates. The vibration passes on to three tiny bones — malleus, incus, and stapes — in your middle ear. These bones transmit the sound waves to the cochlea — a fluid-filled chamber in your inner ear — which is lined with tiny hair cells, called stereocilia, that vibrate when the sound waves hit them. These hair cells convert the sound waves into an electrical signal, which is then sent to the brain, through the auditory nerve — a nerve that runs from the inner ear to the brain.

Sensorineural hearing loss occurs when the inner ear is damaged. In this case, stereocilia or the auditory nerve is not able to function properly, leading to deafness.

Unlike in the case of damage to the external or middle ear, deafness due to damage to the inner ear may not always be cured if not addressed promptly within 48 hours. Ideally, you should consult a specialist within a week.

### How can the inner ear be damaged?

Like in the case of Yagnik, the inner ear

can be damaged by a viral infection, leading to sensorineural deafness. The infection typically triggers inflammatory responses and swelling, which puts pressure on the inner chamber. The situation can worsen as stem cells in the ear are not able to quickly repair the damaged tiny hair cells.

This season, many people with viral flu have been diagnosed with sensorineural deafness. Every year, the flu season has certain dominant characteristics — this time, it is hearing loss.

The inner ear can also be damaged due to a head injury, exposure to very loud sounds, or loud sounds that last for a long time.

### What are the symptoms?

The sense of hearing drastically goes down or you cannot hear at all. You are not able to catch words coherently when others are talking and they may seem like mumbling. There can also be a ringing or buzzing sound in the ear. Numbness can also occur.

### What is the treatment?

If a patient goes to the doctor within a week of the symptoms surfacing, doctors can administer steroid injections in the eardrum. It will improve the hearing and relieve the swelling. If the damage is more serious, then there are solutions such as hearing aids, which can amplify sounds near the patient. You can also opt for cochlear implants.

### How can it be prevented?

The forms of flu are becoming more aggressive with each passing year. As a result, one should try their best to avoid catching it — wear a mask in public places, and take an annual shot of flu vaccine. To protect yourself from any kind of hearing loss from external sources, wear good earplugs.

*Dr Nagpal is a senior consultant at the ENT in Indraprastha Apollo Hospital, New Delhi. She spoke to Rinku Ghosh.*

Singer Alka Yagnik has been diagnosed with sensorineural deafness, a rare sensory neural nerve hearing loss caused by a viral infection.

Sensorineural deafness occurs when the inner ear is damaged, particularly affecting the stereocilia or the auditory nerve, leading to hearing loss.

Common causes include viral infections, head injuries, and exposure to loud sounds.

## Symptoms:

Drastic reduction in hearing ability or complete hearing loss

Inability to understand words clearly, as they may sound like mumbling

Ringling or buzzing in the ears

Numbness

## Treatment:

Steroid injections in the eardrum if treated within a week of symptom onset

Hearing aids for amplifying sounds

Cochlear implants for severe cases

## Prevention:

Wearing masks in public places and taking flu vaccines to prevent viral infections

Using earplugs to protect against loud noises

- **Question:** Which of the following statements regarding sensorineural deafness is correct?
  - 1.It is caused by damage to the external ear.
  - 2.It can be treated effectively if addressed within a week of symptoms surfacing.
  - 3.It is primarily caused by bacterial infections.
  - 4.Symptoms include improved hearing and clear speech understanding.

# 'Delhi best city for students in India'

**MANU KAUSHIK**  
New Delhi, June 18

**THE TOP FOUR** metros in India — Delhi, Mumbai, Bangalore, and Chennai — have featured among the top 150 cities in the QS best student cities 2025. The rankings show that all these cities have improved their rankings as compared to the previous year. For instance, Delhi, which has topped in the Indian cohort, has jumped to 111th spot this year as against 132nd spot last year.

The rankings are derived from a bunch of factors including student-mix, desirability, employer activity,

affordability, student view and university rankings with each of these metrics having a similar weightage.

In terms of affordability, for instance, eight of the top 10 cities for affordability are Asian. Izmir (Turkey) is the most affordable city for students followed by Delhi (2nd), Yogyakarta (Indonesia), Surabaya (Indonesia), and Tainan (Taiwan).

In fact, the current edition of the QS rankings feature 36 Asian cities, with 27 rising, four remaining stable, and only five dropping. China (Mainland) has the highest number of ranked cities followed by Tai-

wan with five, and India and Indonesia with four each.

“We are thrilled to celebrate Asia’s outstanding performance in this year’s best student cities ranking with the majority of its cities climbing the table. Fostering international student mobility is central to our mission, and it is encouraging to see 36 Asian cities shine for their increasingly diverse student populations, supported by expanding employment networks and enriched by a wealth of history and culture,” said Ben

Sowter, senior vice president, QS. Meanwhile, London has topped the world’s best student city for the sixth straight. It is followed by Tokyo in the second spot and Seoul in third. Munich has climbed to the fourth rank (it was 5th in the last rankings) while Melbourne has dropped to the fifth place.

In the 12th edition of the rankings, QS has ranked cities with a population of over 250,000 and at least two universities in the QS’ World University Rankings.




The Punjab State Cooperative Supply & Marketing Federation Ltd  
Markfed House, Plot Number-4\*, Sector 35-B, Chandigarh-160  
EPABX Numbers: (0172-2609470, 2603502, 2600095-07, 26601



The QS Best Student Cities 2025 rankings feature Delhi, Mumbai, Bangalore, and Chennai among the top 150 cities.

Delhi has improved its ranking from 132nd last year to 111th this year, making it the best city for students in India.

The rankings consider factors such as student mix, desirability, employer activity, affordability, student view, and university rankings.

- 
- Izmir (Turkey) is the most affordable city for students, followed by Delhi, Yogyakarta (Indonesia), Surabaya (Indonesia), and Tainan (Taiwan).
  - In total, 36 Asian cities are in the rankings, with China having the highest number of ranked cities, followed by Taiwan and India.
  - London is the top student city globally for the sixth consecutive year, followed by Tokyo, Seoul, Munich, and Melbourne.

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• **Question:** Which of the following statements about the QS Best Student Cities 2025 rankings is correct?

1. Delhi is the most affordable city for students globally.
2. Delhi has improved its ranking from 132nd to 111th in the QS Best Student Cities 2025 rankings.
3. The rankings do not consider affordability as a factor.
4. London has been ranked the best student city globally for the first time.

# Environmental Performance Index 2024



The background of the slide is a photograph of an industrial facility, likely a refinery or chemical plant. It features several tall, cylindrical chimneys or distillation columns, a complex network of pipes and walkways, and large, white, cylindrical storage tanks in the foreground. The sky is a clear, deep blue.

- The Yale Center for Environmental Law and Policy and the Columbia Center for International Earth Science Information Network released the Environmental Performance Index (EPI) for 2024.

- येल सेंटर फॉर एनवायर्नमेंटल लॉ एंड पॉलिसी और कोलंबिया सेंटर फॉर इंटरनेशनल अर्थ साइंस इंफॉर्मेशन नेटवर्क ने 2024 के लिए पर्यावरण प्रदर्शन सूचकांक (ईपीआई) जारी किया।

- Global Scenario:
- Estonia leads the index by reducing its greenhouse gas emissions by 59% from 1990 levels.
- The report shows that only five countries — Estonia, Finland, Greece, Timor-Leste, and the United Kingdom — cut their GHG emissions at the rate needed to reach net zero by 2050.
- In contrast, Sub-Saharan Africa and Southern Asia rank lowest among the eight regions assessed.
  
- वैश्विक परिदृश्य:
- एस्टोनिया अपने ग्रीनहाउस गैस उत्सर्जन को 1990 के स्तर से 59% कम करके सूचकांक में सबसे आगे है।
- रिपोर्ट से पता चलता है कि केवल पांच देशों - एस्टोनिया, फिनलैंड, ग्रीस, तिमोर-लेस्ते और यूनाइटेड किंगडम ने 2050 तक शुद्ध शून्य तक पहुंचने के लिए आवश्यक दर पर अपने जीएचजी उत्सर्जन में कटौती की है।
- इसके विपरीत, उप-सहारा अफ्रीका और दक्षिणी एशिया मूल्यांकन किए गए आठ क्षेत्रों में सबसे निचले स्थान पर हैं।

- 
- **Apart from the United Kingdom, all countries identified in the 2022 Environmental Performance Index (EPI) report as being on track to achieve net zero emissions by 2050, and have either seen slow progress, as in the United States, or their emissions are still increasing, as seen in China, India, and Russia.**
  - **India's Performance: India ranks 176th out of 180 countries with 27.6 points, placing above only Pakistan, Vietnam, Laos, and Myanmar.**
  -

- 
- यनाइटेड किंगडम के अलावा, 2022 पर्यावरण प्रदर्शन सूचकांक (ईपीआई) रिपोर्ट में सभी देशों की पहचान 2050 तक शुद्ध शून्य उत्सर्जन प्राप्त करने के लिए ट्रैक पर होने के रूप में की गई है, और संयुक्त राज्य अमेरिका की तरह या तो धीमी प्रगति देखी गई है, या उनका उत्सर्जन अभी भी बढ़ रहा है। , जैसा कि चीन, भारत और रूस में देखा गया है।
  - भारत का प्रदर्शन: भारत 27.6 अंकों के साथ 180 देशों में से 176वें स्थान पर है और केवल पाकिस्तान, वियतनाम, लाओस और म्यांमार से ऊपर है।



- 
- Global Scenario: Estonia leads the index by reducing its greenhouse gas emissions by 59% from 1990 levels.
  - The report shows that only five countries — Estonia, Finland, Greece, Timor-Leste, and the United Kingdom — cut their GHG emissions at the rate needed to reach net zero by 2050.
  - In contrast, Slt performs poorly in Air quality, Emissions, and Biodiversity Conservation, largely due to its heavy reliance on coal, which contributes significantly to greenhouse gas emissions and air pollution levels.
  - Specifically, India ranks 177th in air quality and 172nd in projected emissions by 2025.

- वैश्विक परिदृश्य: एस्टोनिया अपने ग्रीनहाउस गैस उत्सर्जन को 1990 के स्तर से 59% कम करके सूचकांक में सबसे आगे है।
- रिपोर्ट से पता चलता है कि केवल पांच देशों - एस्टोनिया, फिनलैंड, ग्रीस, तिमोर-लेस्ते और यूनाइटेड किंगडम ने 2050 तक शून्य तक पहुंचने के लिए आवश्यक दर पर अपने जीएचजी उत्सर्जन में कटौती की है।
- इसके विपरीत, एसआईटी वायु गुणवत्ता, उत्सर्जन और जैव विविधता संरक्षण में खराब प्रदर्शन करती है, इसका मुख्य कारण कोयले पर इसकी भारी निर्भरता है, जो ग्रीनहाउस गैस उत्सर्जन और वायु प्रदूषण के स्तर में महत्वपूर्ण योगदान देता है।
- विशेष रूप से, भारत वायु गुणवत्ता में 177वें और 2025 तक अनुमानित उत्सर्जन में 172वें स्थान पर है।

- 
- The Largest Emitter Of Transboundary Pollution:
  - In South Asia, India is identified as the largest emitter of transboundary pollution, impacting neighbouring Bangladesh and affecting residents' well-being.
  - Despite its low overall ranking, India fares relatively better (133rd) in the climate change category, due to investments in renewable energy and a commitment to achieving net-zero emissions by 2070.
  - सीमा पार प्रदूषण का सबसे बड़ा उत्सर्जक:
  - दक्षिण एशिया में, भारत को सीमा पार प्रदूषण के सबसे बड़े उत्सर्जक के रूप में पहचाना जाता है, जो पड़ोसी बांग्लादेश को प्रभावित करता है और निवासियों की भलाई को प्रभावित करता है।
  - अपनी कम समग्र रैंकिंग के बावजूद, नवीकरणीय ऊर्जा में निवेश और 2070 तक शुद्ध-शून्य उत्सर्जन प्राप्त करने की प्रतिबद्धता के कारण, भारत जलवायु परिवर्तन श्रेणी में अपेक्षाकृत बेहतर (133वें) स्थान पर है।

- However, achieving these goals will require an additional **USD 160 billion** annually in climate change mitigation investments.
- **New Metrics Introduced: The 2024 EPI introduces pilot indicators to measure the effectiveness and stringency of protected areas.**

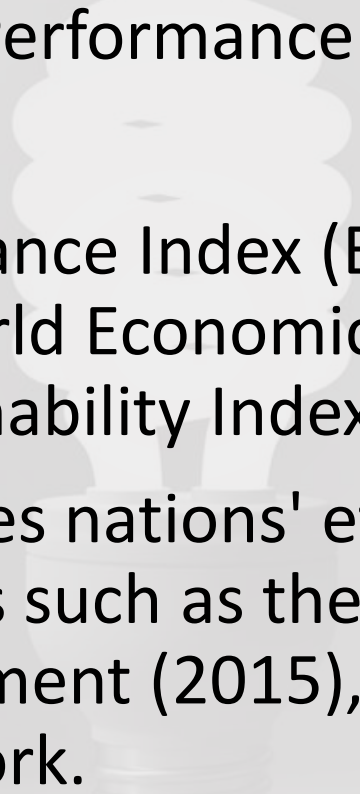
हालाँकि, इन लक्ष्यों को प्राप्त करने के लिए जलवायु परिवर्तन शमन निवेश में प्रति वर्ष अतिरिक्त 160 बिलियन अमैरिकी डॉलर की आवश्यकता होगी।

- नए मेट्रिक्स पेश किए गए: 2024 ईपीआई संरक्षित क्षेत्रों की प्रभावशीलता और कठोरता को मापने के लिए पायलट संकेतक पेश करता है।

<b>RANK</b>	<b>COUNTRY</b>	<b>SCORE</b>
1	Estonia	75.3
2	Luxembourg	75.0
3	Germany	74.6
4	Finland	73.7
5	United Kingdom	72.7
6	Sweden	70.5
7	Norway	70.0
8	Austria	69.0
9	Switzerland	68.0
10	Denmark	67.9

176	India	27.6
177	Myanmar	26.9
178	Laos	26.1
179	Pakistan	25.5
180	Viet Nam	24.5

- **What is the India's Response to EPI?**
  - **Projected GHG Emissions Calculation**
  - **Carbon Sinks Exclusion**
  - **Ecosystem Condition Overlooked**
  - **Lack of Relevant Indicators**
- 
- ईपीआई पर भारत की प्रतिक्रिया क्या है?
  - अनुमानित जीएचजी उत्सर्जन गणना
  - कार्बन सिंक बहिष्करण
  - पारिस्थितिकी तंत्र की स्थिति की अनदेखी
  - प्रासंगिक संकेतकों का अभाव

- 
- What is the Environmental Performance Index?
  - About:
  - The Environmental Performance Index (EPI) is a biennial index, initially launched by the World Economic Forum in 2002 under the name Environmental Sustainability Index (ESI).
  - Evaluation Target: It evaluates nations' efforts to meet international environmental policy targets such as the U.N. sustainability goals, the Paris Climate Change Agreement (2015), and the Kunming-Montreal Global Biodiversity Framework.



- 
- पर्यावरण प्रदर्शन सूचकांक क्या है?
  - के बारे में:
  - पर्यावरण प्रदर्शन सूचकांक (ईपीआई) एक द्विवार्षिक सूचकांक है, जिसे शुरुआत में विश्व आर्थिक मंच द्वारा 2002 में पर्यावरण स्थिरता सूचकांक (ईएसआई) के नाम से लॉन्च किया गया था।
  - मूल्यांकन लक्ष्य: यह संयुक्त राष्ट्र स्थिरता लक्ष्य, पेरिस जलवायु परिवर्तन समझौता (2015), और कनमिंग-मॉन्ट्रियल वैश्विक जैव विविधता फ्रेमवर्क जैसे अंतरराष्ट्रीय पर्यावरण नीति लक्ष्यों को पूरा करने के लिए राष्ट्रों के प्रयासों का मूल्यांकन करता है।

- 
- **Framework: The 2024 EPI leverages 58 performance indicators grouped into 11 issue categories with 3 policy objectives:**

- **Environmental Health**
- **Ecosystem Vitality**
- **Climate Change**

- रूपरेखा: 2024 ईपीआई 3 नीतिगत उद्देश्यों के साथ 11 मुद्दा श्रेणियों में समूहीकृत 58 प्रदर्शन संकेतकों का लाभ उठाता है:
- पर्यावरण संबंधी स्वास्थ्य
- पारिस्थितिकी तंत्र जीवन शक्ति
- जलवायु परिवर्तन

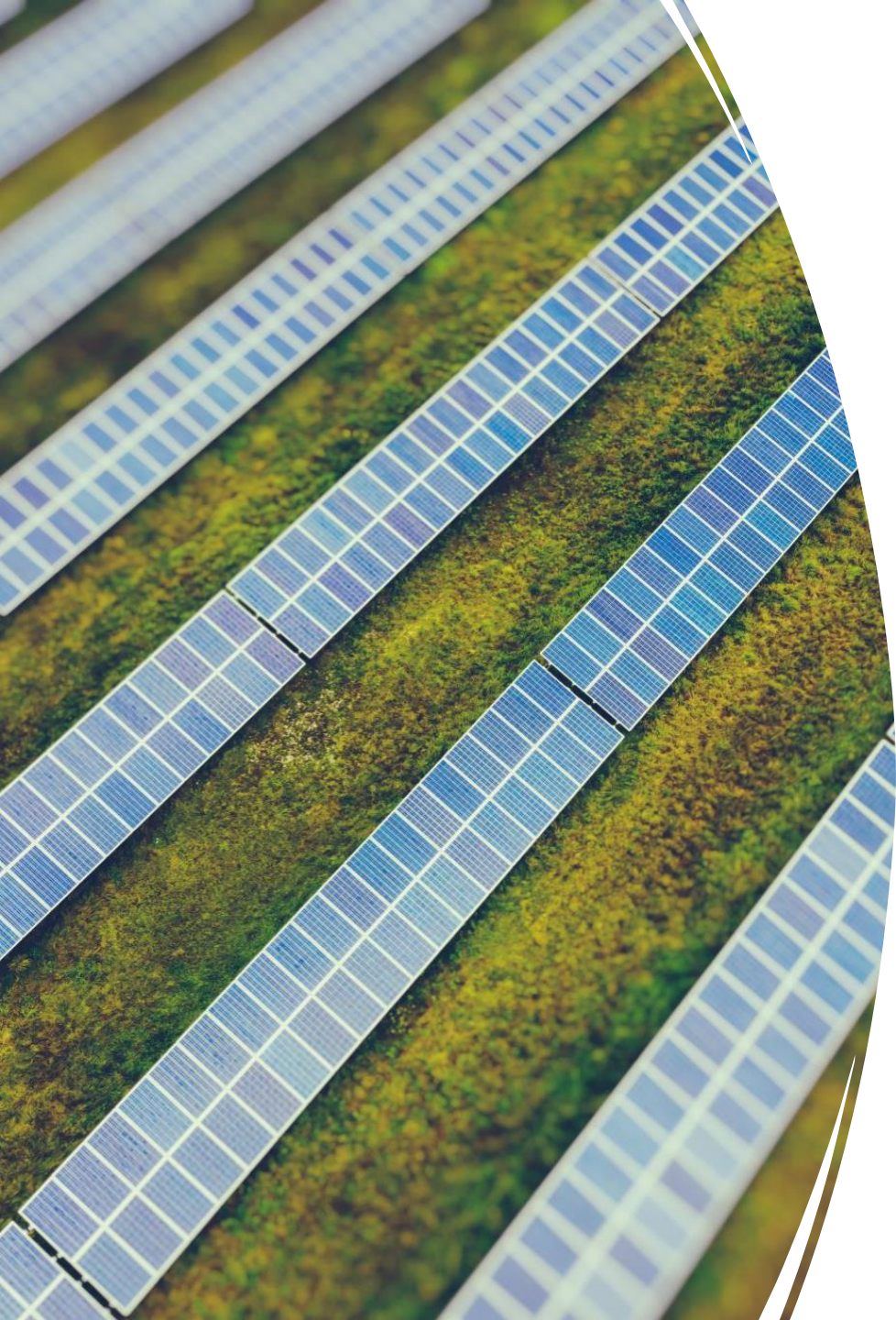
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The EPI team transforms the raw environmental data into indicators that place countries on a **0–100 scale** from worst to best performance.

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ईपीआई टीम कच्चे पर्यावरण डेटा को संकेतकों में बदल देती है जो देशों को 0-100 पैमाने पर सबसे खराब से सर्वश्रेष्ठ प्रदर्शन की ओर रखती है।

- Which of the following statements are correct regarding the Environmental Performance Index (EPI) 2024?
  1. Finland leads the EPI 2024 by reducing its greenhouse gas emissions by 59% from 1990 levels.
  2. Only five countries — Estonia, Finland, Greece, Timor-Leste, and the United Kingdom — have cut their GHG emissions at the rate needed to reach net zero by 2050.
  3. India ranks 176th out of 180 countries, performing poorly in Air quality, Emissions, and Biodiversity Conservation.
  4. India is the largest emitter of transboundary pollution in South Asia, impacting neighbouring Bangladesh.
- Select the correct answer using the code given below:
  - A) 1 and 2 only
  - B) 1, 2, and 3 only
  - C) 2, 3, and 4 only
  - D) All of the above



# IFC's Investment in Solar Project

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- Recently, the International Finance Corporation (IFC), the **private sector lending arm of the World Bank**, has pledged USD 105 million to part-finance a 550 Megawatt peak (MWp) solar **power project in Rajasthan**.
  - **MWp refers to the maximum power output capacity of a solar or wind power project that varies depending on wind speed and the strength of sunlight.**
  - हाल ही में, विश्व बैंक की निजी क्षेत्र की ऋण देने वाली शाखा, अंतर्राष्ट्रीय वित्त निगम (आईएफसी) ने राजस्थान में 550 मेगावाट पीक (एमडब्ल्यूपी) सौर ऊर्जा परियोजना को आंशिक रूप से वित्तपोषित करने के लिए 105 मिलियन अमेरिकी डॉलर देने का वादा किया है।
  - MWp एक सौर या पवन ऊर्जा परियोजना की अधिकतम बिजली उत्पादन क्षमता को संदर्भित करता है जो हवा की गति और सूर्य के प्रकाश की ताकत के आधार पर भिन्न होती है।

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- The investment aims to provide affordable prices for solar electricity to businesses and industries across India through long-term energy contracts.
  - This will help support India's efforts to reduce greenhouse gas emissions. The Indian government has set an ambitious plan to achieve 500 GW of Renewable Energy (RE) capacity by 2030, leading to increased investments in the energy transition space.
  - निवेश का लक्ष्य दीर्घकालिक ऊर्जा अनुबंधों के माध्यम से पूरे भारत में व्यवसायों और उद्योगों को सौर ऊर्जा के लिए किफायती मूल्य प्रदान करना है।
  - इससे ग्रीनहाउस गैस उत्सर्जन को कम करने के भारत के प्रयासों को समर्थन मिलेगा। भारत सरकार ने 2030 तक 500 गीगावाट नवीकरणीय ऊर्जा (आरई) क्षमता हासिल करने की महत्वाकांक्षी योजना बनाई है, जिससे ऊर्जा संक्रमण क्षेत्र में निवेश में वृद्धि होगी।

- World Bank was created in 1944, as the International Bank for Reconstruction and Development (IBRD) along with the IMF. The IBRD later became the World Bank.
- IFC claims to be the largest global development institution focused on the private sector in developing countries. It also seeks to ensure that private enterprises in developing nations have access to markets and financing.
- विश्व बैंक की स्थापना 1944 में आईएमएफ के साथ इंटरनेशनल बैंक फॉर रिकंस्ट्रक्शन एंड डेवलपमेंट (आईबीआरडी) के रूप में की गई थी। आईबीआरडी बाद में विश्व बैंक बन गया।
- IFC विकासशील देशों में निजी क्षेत्र पर केंद्रित सबसे बड़ा वैश्विक विकास संस्थान होने का दावा करता है। इसका उद्देश्य यह भी सुनिश्चित करना है कि विकासशील देशों में निजी उद्यमों की बाज़ार और वित्तपोषण तक पहुंच हों।



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- Consider the following statements regarding the recent investment by the International Finance Corporation (IFC) in India:


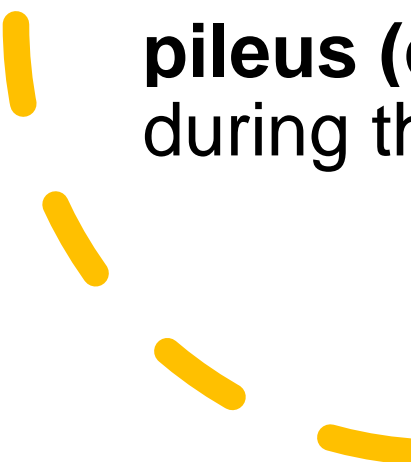
1. The International Finance Corporation (IFC) is the private sector lending arm of the World Bank.
2. IFC has pledged USD 105 million to part-finance a 550 Megawatt peak (MWp) solar power project in Rajasthan.
3. MWp refers to the maximum power output capacity of a solar or wind power project that varies depending on wind speed and the strength of sunlight.
4. The Indian government aims to achieve 500 GW of Renewable Energy (RE) capacity by 2025.

- Which of the statements given above is/are correct?
- A) 1 and 2 only
- B) 1, 2, and 3 only
- C) 1, 3, and 4 only
- D) All of the above

# Bioluminescent Mushrooms



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- Recently, scientists discovered the **Filoboletus Manipularis**, a rare bioluminescent mushroom emitting a bright green glow at night in **Western Ghats region in Kerala.**

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- **About the Filoboletus Manipularis**
  - It is part of the **Mycenaceae Family Fungi** and stands out for its **unique ability to produce light**.
  - It exhibits this trait most prominently in its **stipe (stem) and pileus (cap)**, which emit a **greenish light** that can be observed during the night.







- 
- The **high humidity and low light conditions** in the forests of Western Ghat create an **ideal environment for many bioluminescent species**.
  - In general, **mushrooms** constitute **secondary saprophytic fungi** of the forest ecosystem that play a very important role in the **decomposition of plant litter**.

- पश्चिमी घाट के जंगलों में उच्च आर्द्रता और कम रोशनी की स्थिति कई बायोल्यूमिनसेंट प्रजातियों के लिए एक आदर्श वातावरण बनाती है।
- सामान्य तौर पर, मशरूम वन पारिस्थितिकी तंत्र के द्वितीयक सैप्रोफाइटिक कवक का निर्माण करते हैं जो पौधों के कूड़े के अपघटन में बहुत महत्वपूर्ण भूमिका निभाते हैं।

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- Consider the following statements regarding *Filoboletus Manipularis* and its environment:

1. *Filoboletus Manipularis* is part of the Mycenaceae family fungi and has a unique ability to produce light.
2. The stipe (stem) and pileus (cap) of *Filoboletus Manipularis* emit a greenish light that can be observed during the night.
3. The forests of Western Ghat, with high humidity and low light conditions, create an ideal environment for many bioluminescent species.
4. Mushrooms, in general, are primary saprophytic fungi that play a significant role in the decomposition of plant litter.

- Which of the statements given above is/are correct?

- A) 1 and 2 only
  - B) 1, 2, and 3 only
  - C) 1, 3, and 4 only
  - D) All of the above
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A group of people are clapping in a dimly lit room. The focus is on the hands and forearms of several individuals, with some wearing watches. The background is blurred, showing more people and a window. An orange horizontal bar is located in the top left corner.

Thank you  
guys.

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