EC revisits EPIC-Aadhaar link plan after 2015 halt

Chief Election Commissioner calls meeting with Home Secretary, Legislative Secretary and UIDAI official, days after Opposition alleged duplication in EPIC numbers and manipulation in voter lists

Sreeparna Chakrabarty
NEW DELHI

Amid Opposition allegations of manipulation of voters' lists, Chief Election Commissioner Gyanesh Kumar has called a meeting with the Union Home Secretary, the Legislative Secretary and the Chief Executive Officer (CEO) of the Unique Identification Authority of India (UIDAI) to explore linking of voter ID with Aadhaar.

Election Commission (EC) sources said on Saturday that Mr. Kumar will meet the officials on Tuesday.

Trinamool complaint
The move comes close on the heels of the ruling Trinamool Congress in West Bengal, where the Assembly election is due in 2026, flagging the issuance of same elector photo identity card (EPIC) numbers to voters in different States.

Opposition parties have raised the matter in Parliament and outside.

The Leader of the Opposition, Rahul Gandhi, took it up in the Lok Sabha.

Earlier, the Congress had alleged manipulation of voters' lists during the Maharashtra Assembly

The missing links

A brief timeline of the efforts to link Aadhaar with voter ID

FEB. 2015: EC launches NERPAP to link Aadhaar with Voter ID and eliminate duplicate entries. Over 300 million voters were linked within three months

AUG. 2015: Supreme Court issues an interim order restricting Aadhaar's mandatory use to welfare schemes and PAN linking

MARCH 11, 2025: Trinamool Congress delegation meets the Election Commission over allegations of duplicate EPIC numbers and cloned Aadhaar cards

election.

The Election Commission had clarified that the duplication had occurred due to manual errors before the ERONET digital platform for voter enrolment was introduced.

Assurance to parties
It had also assured parties that voters with same EPIC numbers registered in different States could still vote using their domicile documents.

The EC had promised to resolve the issue in three months.

The EC first tried the Aadhaar-voter ID linking in February 2015 when it launched the National Electoral Rolls Purification and Authentication Programme (NERPAP) to address duplicate entries in

electoral rolls.

It had linked over 300 million voters in a span of three months.

Apex court order
However, the Supreme Court, in an interim order in August 2015, held that the mandatory use of Aadhaar should be only for welfare schemes and PAN linking.

Following this order, the NERPAP exercise was discontinued.

The Centre has informed Parliament that the Aadhaar-voter ID seeding exercise was "process-driven" and no target or timelines have been set for the proposed linking.

It has also clarified that the names of those who do not link their Aadhaar details with their voter IDs

will not be struck off the electoral rolls.

According to Section 23 of the Representation of the People Act, 1950, as amended by the Election Laws (Amendment) Act in 2021, electoral registration officers are required to ask existing or prospective voters to provide their Aadhaar number for establishing their identity on a voluntary basis.

'Face-saving measure'
Meanwhile, the Trinamool Congress on Saturday said the meeting convened by the CEC was a "face-saving measure".

"First, three statements. Now this meeting. This is just a face-saving measure. We will keep a hawk-eye vigil till the elections," Sagarika Ghose, deputy leader of the Trinamool Congress in the Rajya Sabha, said.

A 10-member delegation of the party met the full Election Commission bench on March 11 over the issue of duplicate EPIC numbers.

In a memorandum to the EC, the party had also said that there had been "credible allegations of Aadhaar cards being cloned and the use of these cloned Aadhaar cards to facilitate fake voter registrations".

Indian scholar 'self-deports' from U.S. over fear of reprisal

Kallol Bhattacherjee
NEW DELHI

An Indian Ph.D. candidate at the prestigious Columbia University in the U.S., who was accused of being a "pro-Hamas sympathiser", said the U.S. immigration and customs enforcement agents raided her apartment on the campus and she had to seek help from immigration attorneys.

She has temporarily taken refuge in Canada. Speaking to *The Hindu* in an online interview, Ranjani Srinivasan, who is in her fifth year of Ph.D., said she is "super afraid of retaliation".

DETAILS ON

India plans to fence its entire border with Myanmar in 10 years

Vijaita Singh
NEW DELHI

The 1,643-km-long border with Myanmar will be entirely ringed with an "anti-cut, anti-climb" fence in 10 years, according to government officials and a parliamentary panel report.

The fencing project was announced by Union Home Minister Amit Shah in February 2024 and the work has gathered pace in the past three or four months, officials said.

From April 1-December 31, 2024, ₹114.09 crore has been spent on constructing the fence and the company operating bases (COBs) for the Assam Rifles, responsible for guarding the Myanmar border.

"The technology is de-

veloped by our own engineers. It has anti-cut and anti-climb features that will deter illegal infiltration," said a senior official of the Assam Rifles.

India and Myanmar share an unfenced border, which runs along four States. Both countries have a unique arrangement called the Free Movement Regime (FMR), which allows people to visit families residing within 10 km on both sides of the border without visas or a passport. Former Manipur Chief Minister N. Biren Singh had attributed the ongoing ethnic violence to the unregulated movement of people.

CONTINUED ON

U.S. planning visa curbs on 41 nations

Reuters
WASHINGTON

The Trump administration is considering issuing sweeping travel restrictions for the citizens of dozens of countries as part of a new ban, according to sources familiar with the matter and an internal memo seen by *Reuters*.

The memo lists a total of 41 countries divided into three separate groups.

The first group of 10 countries, including Afghanistan, Iran, Syria, Cuba and North Korea, would be set for a full visa suspension. In the second group, five nations – Eritrea, Haiti, Laos, Myanmar and South Sudan – would face partial suspensions that would impact tourist and student visas as well as other immigrant visas, with some exceptions.

In the third group, a total of 26 countries, including Belarus, Pakistan and Turkmenistan, would be considered for a partial suspension of U.S. visa is-

No entry

1 Citizens of 10 countries, including Afghanistan, Iran, Syria, Cuba and North Korea, will be totally barred from entering U.S.

2 Five countries, including Eritrea, Laos and Myanmar, will face partial visa suspension

3 Twenty-six nations, including Pakistan, whose citizens will have 60 days to address U.S. concerns

suance if their governments "do not make efforts to address deficiencies within 60 days", the memo said.

A U.S. official speaking on the condition of anonymity said that there could be changes on the list and that it was yet to be approved by the administration, including U.S. Secretary of State Marco Rubio. *The New York Times* first reported on the list of countries.

CONTINUED ON

Over 21% landless families in rural Odisha given land for homestead under PMAY-G scheme

Satyasundar Barik
BHUBANESWAR

A preliminary survey by the Odisha government has found that 44,743 rural households lack land, posing a major hurdle in providing houses under the Pradhan Mantri Aawas Yojana-Gramin (PMAY-G) scheme.

According to the State Revenue and Disaster Management Department, government processes and documentation were underway to provide homestead land to families having no land on which to construct houses.

This year, 9,777 households, or 21.85% of the landless families, have been granted *pattas* (records of land ownership rights). The remaining will receive homestead *pattas* in a phased manner.

The data came to light after the Comptroller and Auditor General of India raised the issue of landless families being deprived of benefits under the PMAY-G.

A CAG report said out of 57,932 landless beneficiaries as on March 2021, 40,608 (70%) beneficiaries could not be provided houses as no homestead lands had been made available to them.

Under the PMAY-G, *pucca* (concrete) houses with basic amenities were to be provided to all houseless households and to those living in *kuccha* or dilapidated houses by 2022. The PMAY-G scheme stipulates sanction of houses to landless beneficiaries with the provision of homestead land by the State government.

In August 2019, the State government had asked District Collectors to allot homestead land to all landless families. Stating that the allotment of homestead land was a continuous process, the Department even asked the DCs to purchase private land for distribution in case leasable government land was not available. The department also directed the settlement of encroached government land in favour of occupant landless families on priority basis.

A survey by the Odisha government has found that 44,743 rural households lack land on which to construct houses.

From Page One

India to fence entire border with Myanmar

Till last year, only 10 km of the border near Moreh in Manipur had been fenced.

A March 10 parliamentary panel report said that the Cabinet Committee on Security (CCS) had in March 2024 approved a proposal worth ₹31,000 crore to fence the Indo-Myanmar border and to construct roads to provide better connectivity to company operating bases (COBs) of the Assam Rifles.

"For creating infrastructure along the IMB (India-Myanmar Border), the CCS granted in-principle approval for construction of fence and 64 border roads. Construction of fence and road of 1,610.2 km along IMB in 10 years and its maintenance for five years, at cost of ₹20,264.4 crore; construction of 58 roads (1,467.5 km) to connect the COBs of Assam Rifles and six approach roads (78.7 km) to IMB in 10 years and its maintenance for five years, at a cost of ₹10,767.5 crore (total cost ₹31,031.9 crore)," the report said.

The model is likely to be replicated along the international border with Pakistan and Bangladesh, the official said.

Naga, Kuki-Zo bodies oppose move
The fencing proposal has met with stiff opposition from Naga and Kuki-Zo bodies, who say that it will disrupt ethnic and familial ties for people living on both sides of the border.

On March 1, Mr. Shah while reviewing the security situation in Manipur had asked the Assam Rifles to construct a 10-km fence on either side of each border gate or crossing points under the revised FMR. As many as 22 out of 43 crossing points along the Myanmar border under the revised FMR have started functioning. Eleven of such gates are in Manipur.

"Surveillance cameras will also be placed along the fence to monitor the area better. The border gates and the fencing will ensure that people who cross the border are accounted for. So far around 9,000 people have used the border gates to enter Manipur. There have been very few cases of overstaying," said another government official.

For entry into India from Myanmar, individuals report at the designated border crossing points and fill a form. The Assam Rifles personnel record the biometrics and issue a border pass with the photograph of the applicant and a QR code, which is valid for seven days. The pass will have to be deposited on return from the same crossing point. All details are uploaded on a centralised portal.

After announcing in February 2024 that the FMR had been entirely suspended, the Union Ministry of Home Affairs in December 2024 finalised fresh protocol to regulate the movement of people living within 10 km of the border.

The India-Myanmar border runs along Arunachal Pradesh (520 km), Nagaland (215 km), Manipur (398 km) and Mizoram (510 km).

U.S. planning visa curbs on 41 nations

The move harkens back to President Donald Trump's first-term ban on travellers from seven majority-Muslim countries, a policy that went through several iterations before it was upheld by the Supreme Court in 2018.

Mr. Trump issued an executive order on January 20 requiring intensified security vetting of any foreigners seeking admission to the U.S. to detect national security threats.

That order directed several cabinet members to submit by March 21 a list of countries from which travel should be partly or fully suspended because their "vetting and screening information is so deficient."

Trump's directive is part of an immigration crackdown that he launched at the start of his second term.

Two mega deals with France wait for Cabinet panel nod

The Navy is keen that the defence agreements for 26 Rafale-M fighter jets and three more Scorpene-class conventional submarines, worth a total of $11 billion, be inked this financial year

Dinakar Peri
NEW DELHI

Two mega defence deals with France – for 26 Rafale-M fighter jets and three more Scorpene-class conventional submarines – worth close to $11 billion are now awaiting final approval by the Cabinet Committee on Security (CCS) before their anticipated conclusion very soon.

The Indian Navy will get to see up close the performance of the Rafale-M jets on the French aircraft carrier *Charles de Gaulle* as the carrier strike group currently in the Indian Ocean is scheduled to visit Goa next week for the bilateral Varuna exercise.

"All formalities have been completed and the case has been put up to the CCS for a couple of weeks now," an official confirmed on the deal for 26 Rafale-M jets. "Negotiations were done weeks back," the official said.

The Navy has been very keen that both deals be inked in this financial year ending March 31 so they are included in this year's Budget.

The Rafale-M deal is expected to be concluded in April when the French Defence Minister is expected to visit India. As reported by *The Hindu* earlier, deliveries of the Rafale-M for the Indian Navy would begin in four years once the contract is signed.

Officials said that given that it is a government-to-government deal, funds earmarked in this fiscal budget can be rolled over to the next.

Follow-up agreement
Sources stated that the Scorpene deal is also complete in all respects. It is a follow-up to the earlier deal for six Scorpene submarines procured under Project-75 between Naval

In unison: Indian Air Force's six Rafale aircraft fly in 'Vajraang' formation during the 76th Republic Day parade at Kartavya Path in New Delhi on January 26. SHIV KUMAR PUSHPAKAR

Join FREE Whatsapp Channel https://whatsapp.com/channel/0029Van2VRb6RGJOKH6oBd0F

Group of France and Mazagon Dock Shipbuilders Ltd. (MDL).

If the deal is concluded next month, the Indian Navy would begin receiving from 2029 the Rafale-M jets and MQ-9B, an unmanned aerial vehicle with high altitude and long endurance features, contracted from the U.S.

On July 13, 2023 as Prime Minister Narendra Modi was *en route* to Paris, the Defence Acquisition Council chaired by Defence Minister Rajnath Singh accorded Acceptance of Necessity for the procurement of 26 Rafale-M fighters and three additional Scorpene-class diesel-electric submarines.

The 26 Rafale deal includes 22 single-seater Rafale-M and four twin-seater Rafale trainers (which are not carrier compatible). The 26 jets are meant to fill the gap in numbers till the indigenous Twin Engine Deck-Based Fighter, which is under development, is inducted into service. The Navy currently operates two aircraft carriers – *INS Vikramaditya* procured from Russia and the indigenously built *INS Vikrant* that was commissioned in September 2022.

Join FREE Telegram Channel https://t.me/+Bu7senHpQdhlODg1

'Super afraid of retaliation', says Indian Ph.D. candidate who 'self-deported' from the U.S.

Kallol Bhattacherjee
NEW DELHI

An Indian Ph.D. candidate at the prestigious Columbia University in the U.S., who was accused of being a "pro-Hamas sympathiser", narrated how the U.S. immigration and customs enforcement agents raided her apartment on the campus housing and she had to seek help from immigration attorneys. She has temporarily taken refuge in Canada.

Speaking to *The Hindu* in an online interview, Ranjani Srinivasan, who is in her fifth year of Ph.D., said she is "super afraid of retaliation" and that she is not yet aware of what specific charges were brought against her by the American authorities that led to

her being "disenrolled" from the university just six months before she was to complete her thesis.

"My flatmates and my friends started helping me and I felt that the Columbia housing was unsafe. So, I moved to another address to stay with some people who could support me. Then on Friday was the first disappearance from the Columbia campus – Mahmoud Khalil is detained and disappeared – when I became extremely scared," she said speaking from an undisclosed location in Canada saying that it took her several days to understand the extent that the U.S. authorities would go to deport her.

Ms. Srinivasan had "self-deported" or voluntarily left the United States after

Ranjani Srinivasan has temporarily taken refuge in Canada. PTI

her visa was revoked for allegedly "advocating for violence and terrorism" and involvement in activities supporting the Palestinian group Hamas.

She said that last Sunday

evening, her service as a Teaching Assistant and her I20 visa were terminated and she was "disenrolled" following which she had 15 days grace period to leave the country. "It's kind of inexplicable how it happened. There aren't any legal grounds to deport me," said Ms. Srinivasan elaborating how she witnessed a marked change in the behaviour of university authorities in those few tense days.

Expressing apprehensions that she could be "charged with something", she said that she is "super afraid of retaliation at this point". Ms. Srinivasan said that over the past week and a half, she had heard of several students facing similar charges of activism and being similarly deport-

ed. She said she wants to come back to India from Canada. "I have not slept in almost a week. I thought it would be easier to negotiate with Columbia from here. But it is obviously not the case," said Ms Srinivasan.

"I have done nothing wrong. I was a Fulbright scholar, I was at Harvard and now I am in Columbia. I have no criminal record. I have no criminal past. I do feel like that if it can happen to someone who does not have the markings of someone who is usually targeted, then it could really happen to anyone with an F1 visa," said Ms. Srinivasan seeking help from the Government of India to support her in getting the F1 visa so that she could complete her PhD thesis.

Anthropologists call for overhaul of criteria used for identifying STs

This is a paradigm shift in approach from Centre's five-point criteria for inclusion in the ST list; scholars, experts, officials are thinking about creating indicators, both tangible and intangible, that can be 'instinctively' agreed upon as 'tribal'

Abhinay Lakshman
NEW DELHI

Top anthropologists have called for a paradigm shift in the way India defines a "tribe", overwhelmingly supporting the idea that a community's classification should be assessed on a "spectrum of tribalness" rather than the binary question of whether or not it is a tribe.

This was the broad consensus reached at a recent Indian Anthropology Congress, where the leadership of the Anthropological Survey of India (AnSI) and senior officials of the National Commission for Scheduled Tribes (NCST) were among the participants of a round-table discussion on the topic of "Developing a scale to distinguish tribal populations from caste-based and 'mainstream' communities".

Hundreds of communities across the country are currently demanding inclusion in the list of Scheduled Tribes, in order to access the benefits of reservation in education and jobs, and governmental aid.

The immediate trigger for the current ethnic conflict in Manipur, for instance, lay in the Meitei community's demand to be designated a Scheduled Tribe (ST), which is opposed not just by the Kuki-

Hundreds of communities, including the Meiteis, across the country are currently demanding inclusion in the list of Scheduled Tribes. RITU RAJ KONWAR

Zo tribes in the State but also the Naga tribes, which are not a part of the conflict.

The Union government has maintained that the criteria it uses to classify communities as ST are the ones set by the Lokur Committee in 1965. These check for "primitive traits, distinctive culture, geographical isolation, shyness of contact with the community at large, backwardness". Over the past decade, academics and expert panels inside and outside the government have termed these criteria "condescending", "obsolete", "derogatory", and "meaningless".

"The existing criteria may have made sense when they were made but they are losing meaning now. And virtually no community meets 100% of these criteria. So, instead of finding criteria that can be met fully, the idea is to see if we can build a tool to assess the 'tribalness' of the community," AnSI Director B.V. Sharma told *The Hindu*.

Concept note
Noting the "persistent difficulty" in defining tribal populations and "the need for a systematic tool to ensure accurate classification", the round-table's concept note emphasised that "this initiative aligns with constitutional mandates and will assist tribal research institutions (TRIs) in preparing ethnographic reports for policymaking."

This shift in understanding how to define "tribes" will invariably require extensive deliberations on overhauling the existing criteria for classifying communities as Scheduled Tribe, the anthropologists and officials said, adding that the idea is to build a "matrix or spectrum" of as many detailed characteristics as possible, with a weight assigned to each, so that a "degree of tribalness" of the community can be determined.

Dr. Sharma explained that any new scale to define tribes in India will have to consider a host of characteristics. "It may not have to be restricted to just five. It could be as many as 150 indicators," he said

"When an ethnographic report (ER) is prepared to assess claims of inclusion, some guidelines must be there. Then, officials doing the ER can keep in mind what is required," he said.

India currently has more than 756 entries in the list of Scheduled Tribes. Since the previous Census was conducted in 2011, at least 27 communities have been added to the ST list - five as main entries and 22 as sub-entries - even as hundreds of other communities seek to be added to the list, these demands leading to inter-community conflicts in some cases.

Now, instead of looking at the traits as set out by the Lokur Committee, scholars, experts, and officials are thinking about creating indicators, both tangible and intangible, that can be "instinctively" agreed upon as "tribal". And this time, the focus is on social institutions such as marriage, kinship, classification of relatives, rituals in practice, language, and the "materiality of cultural indicators", including headgear or weaponry.

Civilisational approach
In building such a tool, Dr. Sharma said that India will be able to also account for how communities like to see themselves as opposed to how they have been studied for long - as the "other". S.M. Patnaik, who heads Delhi University's Anthropology Department and participated in the round-table, added that there was a need to move from the "evolutionary" approach used in places such as Australia and China to a more "historical or civilisational" approach.

Billion-dollar fund to support creators' economy: I&B Minister

The Hindu Bureau
NEW DELHI

The Union government has announced that it will invest $1 billion to support the "creators' economy" in the country. The funds will be used to enable creators to enhance their skills, upgrade their production, and expand into global markets, according to Information and Broadcasting Minister Ashwini Vaishnaw.

Earlier this week, the government hosted a high-level session to engage the international community ahead of the World Audio Visual and Entertainment Summit (WAVES) 2025, which is slated to take place in Mumbai from May 1-4.

External Affairs Minister S. Jaishankar, Mr. Vaish-

The funds will be used to enable creators to enhance their skills and upgrade their production, says Ashwini Vaishnaw. PTI

naw, Maharashtra Chief Minister Devendra Fadnavis, and Minister of State for Information and Broadcasting L. Murugan were present at the high-level session, as were about 100 Ambassadors and High Commissioners.

A key highlight of the event was a Memorandum of Understanding exchange between the I&B Ministry and the Maharashtra government for strengthening collaboration in media, entertainment, and digital outreach.

"The intersection of creativity, media and technology is transforming the media landscape of the world and reaching a new level of convergence...we are inviting some of the biggest names of technology, media and entertainment for WAVES 2025...," Mr. Vaishnaw said.

Fostering innovation
"WAVES will serve as a pivotal platform for fostering discussions, collaboration, and innovation for the Media and Entertainment industry," Mr. Jaishankar said in his address. He said that the economic and political rebalancing was moving towards cultural balancing. "We are not truly global if we are not truly local. WAVES 2025 captures the spirit of this endeavour," he said, urging the Ambassadors and High Commissioners to familiarise their governments regarding the opportunities of global collaborations under WAVES 2025.

The participants were required to make 60-second films on the theme of humanity and technology. SPECIAL ARRANGEMENT

Girls lead in entries for WAVES young filmmakers contest

The Hindu Bureau
NEW DELHI

Close to 60% of the finalists in the WAVES-2025 Young Filmmakers Challenge, organised by Whistling Woods International in partnership with the Ministry of Information and Broadcasting, are women candidates.

Speaking to *The Hindu*, Chaitanya Chinchlikar of Whistling Woods International said over 1,000 entries were received from close to 80 cities and towns across the country. The competition has heralded a new wave of female storytellers making their mark in the industry.

"The participants are students from two age groups, 12-15 and 16-19. They were required to make 60-second films on the theme of humanity and technology.

The top 10 entries were selected in each category, following which the finalists were brought to Mumbai to attend a two-day workshop and feedback session with filmmaker Amole Gupte. Based on the feedback, they can now reshoot their films for presentation before the final jury selection at the WAVES finale event in May," he said.

"In the comprehensive film-making/digital video production workshop students received both creative and technical guidance from Mr. Gupte and the Whistling Woods faculty as well," he said.

Mr. Chinchlikar said the challenge was an opportunity for all the young minds to express their creativity and originality of ideas through their films. "The participants submitted entries on all formats, including mobile phones. They displayed impressive skills...one entry involved using as high as 15 shots in just a 60-second video," he said.

"While most of the entries focussed on issues related to the adverse impact of technology on human life, there were a few highlighting its positives. There were three teams from municipal level schools in Delhi...a female student created a film on a mobile app and its importance for her 'rickshaw wala' father and the family. The entries are a reflection of the socio-economic background of creators and their relationship with technology," he said.

Govt. in final stages of FTAs with U.S., U.K., EU, says Goyal

The Hindu Bureau
COIMBATORE

The government is at the final stages of free trade agreements with a few countries, indicated the Union Minister for Commerce and Industry Piyush Goyal at a recent meeting with representatives of export promotion councils (EPCs) and industry associations in New Delhi.

On the ongoing efforts on bilateral agreements, Mr. Goyal said the Government is concurrently working on several tracks and each of them is aimed at ensuring the best interest of Indian exporters, an official release stated.

Piyush Goyal

"The Minister told us that there are teams working on trade agreements with the U.S., the U.K., and the EU and that there will be a positive announcement soon regarding at least one or two coun-

tries," an exporter who attended the meeting told *The Hindu*.

The Minister is positive that it will lead to better opportunities for Indian exporters and will also bring in higher investments, the release added.

On the impending reciprocal tariffs against India, by the U.S., the Minister cautioned EPCs to "come out of their protectionist mindset and encouraged them to be bold and ready to deal with the world from a position of strength and self-confidence."

Mr. Goyal sought EPCs to reflect on their strengths and share their demands.

'Flexible payment, digital tools can cut medical care costs'

Improving the medical infrastructure is also a key aspect in building a robust healthcare ecosystem that ensures accessibility and affordability, says the chief of Aster DM Healthcare

Azad Moopen

Lalatendu Mishra

With digital interventions such as telemedicine platforms, AI-driven diagnostics and mobile health initiatives ensuring access for patients to specialists and timely interventions, going forward, innovative financing solutions, including flexible payment plans, bundled care packages and digital tools that provide real-time cost estimates and insurance eligibility, would help patients make informed choices and access affordable healthcare, says Dr. Azad Moopen, founder & chairman, Aster DM Healthcare in an interview.

Healthcare costs can be a challenge for many in India. What are the key factors driving these high costs and how can they be addressed?

A significant portion of healthcare costs is linked to the rising adoption of cutting-edge medical technologies, which enhance diagnostic accuracy and treatment precision. Simultaneously, the growing burden of non-communicable diseases (NCDs) such as cardiovascular diseases, diabetes, and cancer requires sustained, long-term care, adding to overall expenditure.

How can we ensure that quality healthcare is accessible and affordable for a larger section of society?

India's strength lies in its ability to innovate and find scalable solutions that work for its vast and diverse population. Expanding access to quality healthcare calls for a strong focus on primary and preventive care, complemented by advancements in digital health solutions.

Telemedicine platforms, AI-driven diagnostics, and mobile health initiatives have already demonstrat-

ed tremendous potential in reaching remote communities, ensuring access to specialists and timely interventions.

Going forward, innovative financing solutions including flexible payment plans, bundled care packages, and digital tools that provide real-time cost estimates and insurance eligibility, will empower patients to make informed choices. Through technology-enabled efficiencies, operational excellence, and clinical innovation, healthcare providers can work together to make quality care financially accessible to a far larger section of society.

Government plans aid underprivileged, and wealthy can manage medical costs, but what about the 400 million middle-class Indians?

India's vibrant and aspirational middle class is one of the backbones of the nation's economic progress, and ensuring their health security is an equally important priority. The penetration of health insurance

Encouraging domestic innovation in medical devices and pharmaceuticals, investing in preventive health and strengthening early screening programmes will significantly lower the need for expensive interventions. Collaboration across sectors – involving healthcare providers, technology innovators, insurers, and policymakers – will be key to striking right balance between cost and quality.

is steadily increasing, particularly post-COVID, but it is a long way to go.

As per NITI Aayog, nearly 400 million Indians lack access to healthcare. While approximately 70% of the population is covered under public or voluntary health insurance, the remaining 30% – equivalent to around 40 crore people – remain uninsured.

The out of pocket expenditure, though as per the data by National Health Accounts Estimates 2020-21 and 2021-22 saw a decline from 64.2% in 2013-14 to 39.4% in 2021-22, it is till a long way to go.

In addition, hospitals and healthcare providers need to provide greater transparency around treatment costs, along with curated health packages and structured payment plans.

Digital platforms that enable real-time cost estimation, insurance eligibility checks, and seamless cashless transactions will further enhance affordability.

What steps can India take to provide high-quality and affordable care for all?

Improving the medical infrastructure is also a key aspect in building a robust healthcare ecosystem that ensures accessibility and affordability. The government's commitment to adding 75,000 MBBS seats over the next five years and the number of medical colleges growing from 387 to 702 in the last 10 years is a positive step forward in addressing the gap.

Increasing greenhouse gas emissions may threaten satellites

The Hindu Bureau

Increasing levels of human-caused greenhouse gas emissions in the atmosphere may reduce the total number of satellites that can safely orbit Earth by up to 66% of the current carrying capacity by the end of the century, under a high-emissions scenario. The findings from the modelling study are described in *Nature Sustainability*.

Previous research has established that an increasing amount of greenhouse gases in the atmosphere can shrink Earth's upper atmosphere – consisting of the mesosphere (50-85 km) and thermosphere (85-600 km) – as incoming infrared radiation is reflected into space, resulting in a cooling and contracting effect. This contraction reduces the density of Earth's orbital space, lengthening the amount of time space debris remains in orbit as drag with the atmosphere is reduced. As the number of satellites in Earth's orbit increases, persistent space debris poses a growing problem for the long-term use of Earth's orbital space.

Dr. William Parker from MIT Cambridge and colleagues used atmospheric modelling to estimate the number of satellites that can be sustainably maintained in Earth's orbit by 2100 under different emission scenarios. Using the greenhouse gas concentration in the year 2000 as a baseline, the authors found that the maximum number of satellites that can be sustainably managed in low Earth orbit will be 50-66% less by 2100, dependent on solar activity, under the highest-emission Shared Socio-economic Pathway (SSP5-8.5) scenario. This is equivalent to approximately 25-40 million satellites. They also estimated the ideal distribution of orbital objects and deviations from this ideal distribution observed under different emission scenarios. The authors show a large decrease in the rate of satellites deorbiting through friction with the atmosphere under the moderate to highest scenario carbon dioxide emission rates.

The authors suggest that mitigating greenhouse gas emissions is not only important for Earth's climate but also for preserving our access to and use of outer space.

B. Behera
T.S. Sarin
V. Vinoj

Environmental mapping reveals melioidosis peak during monsoon

A study has revealed that melioidosis disease in Odisha has clear seasonality, with infections peaking during and after the monsoon season. Disease occurrence is also linked to temperature, cloud cover and solar radiation

Globally, research on climate/environmentally driven infectious diseases has been largely biased towards vector-borne diseases like malaria, dengue, etc. Melioidosis is a bacterial infectious disease caused by *Burkholderia pseudomallei*, and is primarily acquired by inoculation, inhalation and/or ingestion of soil- and water-dwelling environmental saprophytes. The disease is strongly influenced by environmental factors such as rainfall, temperature, and humidity. In 2016, *The Lancet* , based on a prediction modelling study, reported that about 1,65,000 people contract melioidosis annually worldwide, of which South Asia, including India, contributes to 44% of the global burden of melioidosis. The report attracted enormous scrutiny and attention by the medical fraternity, and microbiologists and clinicians in a few selected centres across India took cognisance of the situation to further unravel the mysterious disease.

There are many reasons why the melioidosis-causing bacteria, described over a hundred years ago, has continued to baffle the medical fraternity. First, the bacteria have a unique ability to cause a plethora of clinical manifestations ranging from a trivial skin infection to unresolving pneumonia and fulminant sepsis. With fatality as high as 50% in septicaemic cases, melioidosis is a medical conundrum. Second, the *B. pseudomallei* bacteria requires prolonged incubation conditions, and can escape detection in inexperienced microbiology laboratories, as chances of misidentification with common bacteria like *Pseudomonas aeruginosa* are quite common. Third, the treatment of melioidosis is quite different from other infectious diseases as it requires an initial intravenous therapy followed by a prolonged eradication phase of 12-20 weeks. This puts a significant emphasis on correct diagnosis, as inadequate treatment runs a risk of recurrence.

In India, melioidosis research has mainly focused on understanding the disease from the host perspective, like presence of comorbidities like diabetes, chronic renal diseases, etc and occupational factors like farming and behavioural factors like alcoholism, which increases the likelihood of diseases. In Odisha, melioidosis cases are being reported at AIIMS Bhubaneswar, with cases increasing over the years.

Odisha with vast agricultural areas and extreme weather events present ample opportunities for human exposure to the bacteria. Environmental conditions are primarily responsible for the survival of the melioidosis-causing bacteria, thus making a strong case for investigation. With this in mind, microbiologists at AIIMS Bhubaneswar and climate scientists at IIT Bhubaneswar have collaborated to identify and track the conditions that may facilitate the occurrence of melioidosis in Odisha. To investigate this, the team tracked each reported disease case, correlating it with the patient's home location and possible incubation periods to identify the most common environmental conditions that may have facilitated disease transmission. The study focused on 144 disease cases over a nine-year period from 2015 to 2023. The team analysed meteorological parameters, including rainfall, temperature, humidity, and solar radiation, across more than 3,024 days during this period to identify the most favourable conditions for bacterial survival and, consequently, transmission. Using this information, the team created a map identifying potential regions for disease occurrence, using 10 km grid sizes to cover the entire State of Odisha.

'Clear seasonality'
The analysis, which was recently published in the journal *Current Research in Microbial Sciences*, revealed that the disease exhibited a clear seasonality, with infections peaking during and after the monsoon season. Disease occurrence also exhibited relationships with temperature, rainfall, cloud cover and solar radiation. The mapping indicated that districts such as Cuttack, Balasore, Khordha, and Jajpur have a high potential for disease occurrence. Interestingly, these areas also coincide with some of the most densely populated regions in the State. Other elements, such as land use changes, soil composition, are likely to influence disease dynamics. Due to data limitations, the team was unable to include these factors in the study. Rapid urbanisation, poor sanitation, may further heighten risk by increasing human exposure to contaminated environments. Additionally, as climate change alters rainfall patterns and intensifies extreme weather events, these diseases could become more widespread and/or shift to new regions. Therefore, public health systems must adapt by incorporating climate analytics into their disease surveillance and prediction efforts.

This study also highlights the potential of climate-driven disease modeling beyond melioidosis, especially for diseases influenced by environmental factors. Incorporating weather and climate data into public health planning could improve outbreak predictions, enhance preparedness, and reduce health risks.

Odisha's experience could provide a valuable model for other regions, highlighting the importance of combining climate science with medical research to address emerging health risks.

(B. Behera is Professor, Department of Microbiology, AIIMS Bhubaneswar; T.S. Sarin is PhD scholar at the School of Earth Ocean and Climate Sciences, IIT Bhubaneswar; and V. Vinoj is Associate Professor, School of Earth Ocean and Climate Sciences, IIT Bhubaneswar)

Survival of melioidosis-causing bacteria

Environmental conditions are primarily responsible for the survival of the bacteria

- As per a 2016 study, 1,65,000 people contract melioidosis annually worldwide; Southasian countries contribute 44% of the global burden
- The bacteria can cause a range of clinical manifestations — trivial skin infection to unresolving pneumonia and fulminant sepsis
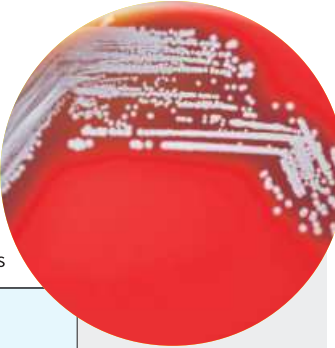- The bacteria that causes melioidosis requires prolonged incubation conditions, and hence may escape detection
- The study focused on 144 disease cases over a nine-year period from 2015 to 2023
- The disease peaked during and after the monsoon season
- Environmental mapping indicated that Cuttack, Balasore, Khordha, and Jajpur districts have a high potential for disease occurrence
- As climate change alters rainfall patterns, the diseases can become more widespread and/or shift to new regions

Join FREE Whatsapp Channel https://whatsapp.com/channel/0029Van2VRb6RGJOKH6oBd0F

Treating chikungunya using HIV/AIDS drug efavirenz

R. Prasad

A preliminary study has found that efavirenz – a non-nucleoside inhibitor of HIV virus that is used for treating HIV/AIDS – can be repurposed for the treatment of chikungunya. Currently, no antiviral compound has been approved for treating chikungunya and only a limited number of novel compounds have been tested against the virus in animal models.

Chikungunya reappeared in India in 2006 after a long gap of 20-30 years. In 2006, chikungunya virus was clinically suspected in nearly 14 million people and was laboratory-confirmed in 2,001 cases. Since 2006, chikungunya cases have been reported from various parts of India but gradually declined until 2014. Chikungunya cases have been reported in a large number of people since 2018.

Researchers from the Department of Biosciences and Bioengineering at IIT Roorkee tested the efavirenz drug both in cell lines and in mouse models and found the drug to significantly reduce the viral load by inhibiting the replication of the chikungunya virus. In cell lines, the HIV/AIDS drug efavirenz inhibited the replication by almost 99% even at low micromolar concentrations. In the case of mice, the efavirenz treatment "significantly" reduced chikungunya viral load, which in turn decreased the propagation of the virus in the mice footpad. The results were published in the journal *ACS Infectious Diseases*.

Laboratory studies were first carried out using Vero cells. To validate the finding observed, the team led by Dr. Shailly Tomar from IIT Roorkee, examined the inhibitory activity of efavirenz in human hepatic cell lines. Hepatic cell lines were chosen as chikungunya virus targets the hepatocytes – the functional cells of the liver, in the natural course of infection.

Vero cells were treated with efavirenz at different time periods of infection – from two hours before infection to zero, two, four, six, eight, 10 and 12 hours post-infection. And the drug was found to prominently and significantly inhibit virus replication up to six-eight hours post-infection. "The experiment demonstrated that the drug acts during the early phase of chikungunya replication after virus entry," says Sanketkumar Nehul from IIT Roorkee and the first author of the paper.

"In different lab-grown cells, it was observed that efavirenz can inhibit the replication of almost 99% of the virus at low micromolar concentrations. Viral replication was also inhibited when Chikungunya-infected mice were treated with the efavirenz," says Dr. Tomar. "It was also observed that the efavirenz is also able to inhibit the replication of Sindbis virus, which is evolutionarily closely related to the chikungunya virus."

In mice, swelling of the limb inoculated with chikungunya virus was observed post-infection, which peaked on the second and sixth day post-infection. While earlier studies in mice have reported a decrease in swelling post-treatment with other anti-chikungunya virus compounds, treatment with efavirenz led to a significant increase in the swelling. According to the authors, the increased swelling of the limbs can be explained by pro-inflammatory action of efavirenz. Though treatment with efavirenz led to increased swelling, there was significant reduction in the viral load.

The paper cites a 43-year-old HIV positive person infected with chikungunya virus and who was being treated with antiretroviral drugs, including efavirenz, displaying improved condition. Though the improvement with respect to chikungunya infection cannot be completely attributed to efavirenz as he was treated with other drugs, the findings nevertheless are in line with the anti-chikungunya virus activity observed in the current study.

"Based on good pharmacokinetics properties, previous successful applications of efavirenz to treat HIV infection, and the demonstrated anti-chikungunya activity in this study, efavirenz shows high potential for repurposing against human chikungunya infections and further clinical human trials can be conducted in this direction," Dr. Tomar says.

Main carrier: Aedes aegypti mosquitoes transmit chikungunya virus to people. REUTERS

Join FREE Telegram Channel https://t.me/+Bu7senHpQdhlODg1

Symptoms of Long COVID can last up to two years

A study has revealed that 23% of people infected with SARS-CoV-2 between 2021 and 2023 developed Long COVID, and in more than 50% the symptoms persisted for two years. The risk of developing Long COVID was lower in people who were infected after the Omicron variant became dominant. Based on the symptoms reported, the researchers identified three clinical subtypes of long-COVID – whether the symptoms were neurological and musculoskeletal, respiratory, or severe and involved multiple organs.

Older adults might be more resistant to bird flu infections

Prior exposures to specific types of seasonal influenza viruses promote cross-reactive immunity against the H5N1 avian influenza virus, according to a new study. Older adults who were exposed to seasonal flu viruses that circulated prior to 1968 were found to be more likely to have antibodies that bind to the H5N1 avian flu virus. The findings suggest that younger adults and children would benefit more from H5N1 vaccines, even those not tailored specifically to the current strain circulating in birds and cattle.

Mother's high-fat diet can cause liver stress in foetus

When mothers eat a diet high in fat and sugars, their unborn babies can develop liver stress. The study sheds light on changes to the fetus's bile acid, which affects how liver disease develops and progresses. Excessive bile acid levels can damage the liver. While the mother can detoxify the acids, the foetus lacks that ability. Bile acids may re-circulate to the mother for detoxification, but if they do not, they build up in the foetal liver, setting the stage for future problems.

Q Question Corner

Ancient grasslands

How long does it take for bees to return to restored grasslands?

Recovered grasslands need more than 75 years of continuous management to regain their biodiversity because specialised pollinators are slow to return. It takes 75 years of continuous management for the plant diversity in recovered grasslands to finally reach levels comparable to ancient grasslands. However, that's still not enough for the pollinator community. Even after 75 years, pollinators are still less specialised and less successful at pollinating the plants, although the community continuously shifts towards higher specialisation and successful pollination as grasslands get older. What drives this lag is not a lower diversity of pollinators in itself, it is the identity of the pollinators. The study therefore shows the importance of considering pollinator communities for efforts targeting the conservation of threatened grassland plants. First of all, this means that maintaining ancient grasslands as reserves for specialised pollinators should be a top priority for conservationists.

Readers may send their questions / answers to questioncorner@thehindu.co.in

FAQ

What is the reach of an ICC warrant?

What are the implications of former Philippines President Rodrigo Duterte's arrest on the direction of the ICC?

Aaratrika Bhaumik

The story so far:

Former Philippines President Rodrigo Duterte was flown to the Netherlands on March 12 to face charges of crimes against humanity before the International Criminal Court (ICC) for his role in the deadly "war on drugs" during his tenure.

What was Duterte's 'war on drugs'?
In a statement, the court said its Pre-Trial chamber had reviewed evidence from the Office of the Prosecutor and found reasonable grounds to believe he is "individually responsible as an indirect co-perpetrator for the crime against humanity of murder, allegedly committed in the Philippines between November 1, 2011, and March 16, 2019." The ICC's investigation into extrajudicial drug-related killings under Mr. Duterte covers his tenure as Davao City mayor, starting in 2011, through his presidency, which ended in 2022. By the end of his term, human rights groups and the ICC prosecutor estimated that police and unidentified assailants had killed approximately 30,000 people.

Where do domestic politics stand?
Despite its expansive mandate, the court lacks enforcement authority and relies on national governments to execute its warrants, rendering it vulnerable to domestic political considerations.

Mr. Duterte withdrew the Philippines from the ICC's jurisdiction in 2019, yet prosecutors argued they retained authority to investigate alleged crimes against humanity committed before the withdrawal. A formal investigation was launched in 2021. Initially, President Ferdinand Marcos Jr. refused to cooperate, but his position shifted following the collapse of the Duterte-Marcos alliance.

Mr. Marcos has maintained that the Philippine government was merely upholding its obligations to Interpol by facilitating the execution of the ICC warrant. Since taking office, he has made no effort to rejoin the court.

> Rodrigo Duterte's indictment is a rare triumph for the ICC, unlike its largely symbolic arrest warrants for Vladimir Putin and Benjamin Netanyahu, which remain unenforced

Does the ICC have jurisdiction?
Mr. Duterte and his allies have long contested the ICC's jurisdiction, citing the Philippines' 2019 withdrawal from the Rome Statute. In January 2023, the ICC authorised its prosecutor to resume an investigation into the killings, reversing a 2021 suspension granted at the Philippines' request. The Philippines government had argued that its institutions were capable of prosecuting the alleged crimes, invoking the principle of complementarity, which limits ICC intervention to cases where national courts are "unable or unwilling" to act. The Pre-Trial Chamber rejected this claim, ruling that the Philippines had not demonstrated sufficient efforts to warrant a deferral.

Under the Rome Statute, all 125 signatory states are required to arrest and surrender individuals facing ICC warrants if they enter their territory. However, compliance remains inconsistent. Non-compliance leads to a referral to the Assembly of States Parties, the court's governing body, and ultimately to the United Nations Security Council (UNSC). When the UNSC invokes the court's jurisdiction, all relevant UN member-states are obligated to cooperate, regardless of their status under the Rome Statute.

What are the implications for the court?
Mr. Duterte's indictment is a rare triumph for the ICC, unlike its largely symbolic arrest warrants for Russia's Vladimir Putin and Israel's Benjamin Netanyahu, which remain unenforced.

However, the arrest is not without risks for the court. The ICC is an embattled institution these days, with the Trump administration threatening to arrest its top officials over investigations of Israel, a close U.S. ally.

China has also warned against politicising ICC cases. Though not a signatory to the Rome Statute, it is embroiled in a territorial dispute with the Philippines over the South China Sea. Beijing's statement was a thinly veiled critique of how a case meant to ensure accountability for grave international crimes has instead become a battleground for domestic political rivalry.

What lies ahead for Duterte?
During the proceedings before the Pre-Trial Chamber, Mr. Duterte's lawyer argued that his arrest and extradition from Manila to the Netherlands constituted "pure and simple kidnapping." The next step is a hearing to confirm the charges the prosecutor intends to pursue, during which Mr. Duterte may also apply for interim release. Only after this hearing will the court decide whether to proceed with a trial. A trial, if approved, is unlikely to begin anytime soon.

Why has India got another tiger reserve?

Where is Madhav National Park located? What is its tiger population? What are the factors under consideration before a national park can become a designated tiger reserve? What is the tiger population in the country according to the 2023 tiger census?
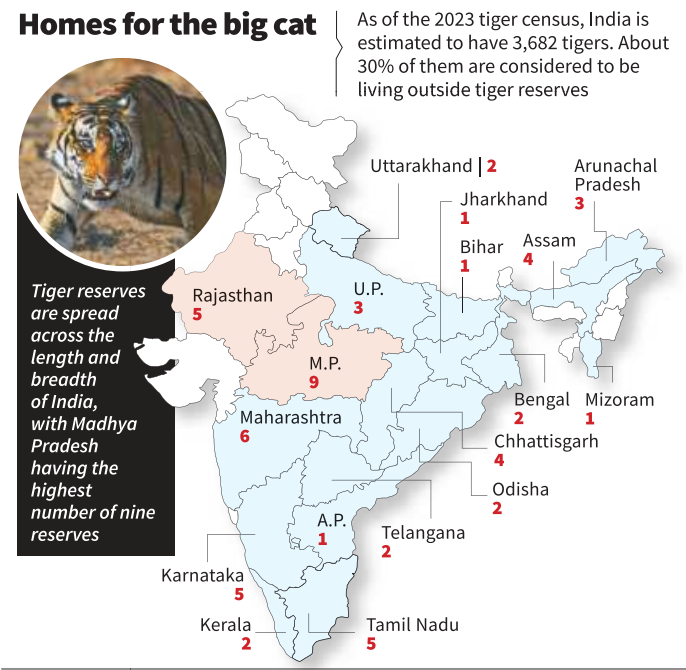
Jacob Koshy

The story so far:

On March 9, Environment Minister Bhupender Yadav announced that the Centre had declared the Madhav National Park in Madhya Pradesh as the country's 58th tiger reserve. This is the ninth tiger reserve in the State, the highest among the States. Maharashtra has six; Rajasthan, Tamil Nadu, and Karnataka have five each.

What is the rationale behind setting up tiger reserves?
While tigers were historically abundant in India, hunting, poaching and the colonial exploitation of forests for timber started a precipitous decline in their numbers in the early 20th century. It was estimated in 1964 that there would have been around 40,000 tigers in the country at the turn of the 20th century. By the 1960s, these numbers were down to between 2,000 and 4,000, attributed to wanton hunting aided by a proliferation of gun licences issued in the years following 1947, improved access to the forest, clearing of large tracts of forests for various purposes, mushrooming of the new businesses of "Shikar Companies" and fur trade.

Following an alarm raised by naturalists, the Indian Board for Wild Life (IBWL) – the earlier avatar of the National Board for Wild Life – in a meeting in New Delhi in July, 1969 recommended a total ban on the export of all wild cat skins, including tigers. The same year, the 10th Assembly of International Union for Conservation of Nature met in Delhi and included the tiger in its "Red Data Book" as an endangered species and adopted a resolution calling for a ban on the killing of tigers. When numbers further dwindled to nearly 1,863, then Prime Minister Indira Gandhi commissioned an 11-member Task Force to investigate the problem and prepare a project to preserve the tiger in the wild in India. In August 1972, the Task Force recommended eight tiger forests spread across India to be brought under the purview of 'Project Tiger,' as this mission came to be called. On April 1, 1973, Project Tiger was inaugurated at Corbett tiger reserve with nine tiger reserves announced across India – Corbett (then in Uttar Pradesh, now in Uttarakhand), Palamau (then in Bihar, now in Jharkhand), Simlipal (Odisha), Sundarbans (West Bengal), Manas (Assam), Ranthambore (Rajasthan), Kanha (Madhya Pradesh), Melghat (Maharashtra) and Bandipur (Karnataka) - which were representative of the various tiger habitats in the country.

What does establishing a tiger reserve entail?
The Project Tiger (replaced by the National Tiger Conservation Authority (NTCA) since 2006) guidelines made it mandatory for every tiger reserve to be managed in accordance with a site-specific management plan. Project Tiger established a template for scientific management of protected areas in India. It laid down the concept of establishing a 'core zone' and a 'buffer zone', prescribed interventions for protection, habitat improvement, field data collection relating to change in the composition of flora and fauna on account of protection, animal estimation and other aspects. The guidelines also established Tiger Conservation Plans to ensure: i) Protection and site specific habitat managements for viable population of tigers, prey and co-predators, ii) ecologically compatible land uses in the tiger reserves and areas linking one protected area or tiger reserve to another for addressing the livelihood concerns of local people. The NTCA guidelines for preparing Tiger Conservation Plans, cognizant of constraints imposed by small reserves embedded in human land uses, aimed to create source populations within tiger reserves with corridor links between sources and to sink habitats. Sources are places where animal numbers are growing, and sinks are where they are dwindling, and must be supplemented by bringing in animals to boost numbers to sustainable numbers. To establish a reserve, the Centre gets a proposal from the State, the NTCA recommends the proposal to the State after due diligence, the State government notifies the area as a Tiger Reserve.

How are tiger reserves funded?
Under Project Tiger guidelines, 60% of the funds for conservation are provided by the Centre, while the rest is borne by the concerned State. In the case of Northeastern and Himalayan States, the Centre covers 90% of the funds. These activities include anti-poaching initiatives, habitat improvement and water development, addressing human-animal conflicts, designating inviolate spaces, and relocating villages from critical tiger habitats within a timeframe by offering a better relocation package. It also supports States in settling the rights of displaced people, rehabilitating traditional hunting tribes living in and around tiger reserves, conducting independent monitoring, and evaluating tiger reserves.

Why is the Madhav National Park important?
With an estimated area of 165.32 sq km, it was first notified as a National Park in Madhya Pradesh in 1956 under the MP National Parks Act, 1955. Now, the Madhav National Park and tiger reserve has a core area of 355 sq km, with a buffer zone of 4-6 sq km. It did not have a tiger population till 2023, when a male tiger and two females were relocated there. Today, the population has grown to seven. However, the Madhav reserve is an important connecting corridor to the Ranthambore Tiger Reserve in Rajasthan. It is also connected to Kuno National Park, which now has a captive cheetah population. Experts speculate that there could be competition among these predators for the prey base of deer, leading to its complex dynamics.

Madhya Pradesh boasts several prominent tiger reserves, such as Kanha, Panna, and Bandhavgarh. Due to successful conservation strategies, the State has the highest number of tigers (785). However, the Kuno-Madhav forest division, in the northern part of the State, has historically been relatively neglected. With Kuno gaining prominence as an emerging cheetah reserve, a more centralised management strategy is expected to oversee both cheetah and tiger populations, contributing to the region's long-term development as a wildlife spot.

There are plans to introduce lions from Gir in Gujarat into Kuno National Park, after the Supreme Court green-lit the project. In March 2023, the government told the Supreme Court that relocating lions to Kuno may create tensions between the pride and the cheetahs imported from Namibia and South Africa, and sought time to re-examine the issue. But if lions were to be relocated to Kuno, it would also mean more funds –central and international – for conservation.

As of the 2023 tiger census, India is estimated to have 3,682 tigers. About 30% of them are considered to be living outside tiger reserves.

> The Madhav National Park is an important connecting corridor to Ranthambore tiger reserve in Rajasthan

Homes for the big cat

As of the 2023 tiger census, India is estimated to have 3,682 tigers. About 30% of them are considered to be living outside tiger reserves

Tiger reserves are spread across the length and breadth of India, with Madhya Pradesh having the highest number of nine reserves

State	Reserves
Uttarakhand	2
Arunachal Pradesh	3
Jharkhand	1
Bihar	1
Assam	4
Rajasthan	5
U.P.	3
M.P.	9
Bengal	2
Mizoram	1
Maharashtra	6
Chhattisgarh	3
Odisha	2
A.P.	1
Telangana	2
Karnataka	5
Kerala	2
Tamil Nadu	5

What's on the agenda of the Raisina Dialogue?

Who are the newsmakers attending the 10th edition this year? Will Ukraine war, tariffs threatened by U.S. President Donald Trump, relations with China dominate proceedings? Why are leaders from West Asia and South East Asia not well represented? What about Pakistan?

Suhasini Haidar

The story so far:

A month after this year's explosive Munich Security Conference, where U.S. Vice President J.D. Vance put Europe on notice, Delhi is set to host the annual Raisina Dialogue from March 17-19, where U.S. President Donald Trump's seismic foreign policy shifts are expected to be the big conversation points again.

What are the issues expected to make the headlines?
The 10th edition of the annual Raisina Dialogue will be inaugurated on Monday by Prime Minister Narendra Modi, where the chief guest, New Zealand Prime Minister Christopher Luxon will deliver the keynote address, with the theme "*Kalachakra*" (wheel of time). However, a big contingent from the U.S. is expected to take the centre stage, given the twists and turns in American policy under Mr. Trump – from the Ukraine war, the talks with Russia, the new tariff regime that threatens ties between the U.S. and countries around the world, including India, the U.S.' fraying relations with its NATO and European allies, uncertainty around the U.S.'s Indo-Pacific policy, and new statements on China and Taiwan.

Amidst the turmoil, U.S. Director of National Intelligence Tulsi Gabbard is leading a team to Delhi for an intelligence chiefs' conference at the weekend hosted by National Security Adviser Ajit Doval, and will speak at the Raisina Dialogue. Apart from Ms. Gabbard, the Special Assistant to U.S. President Trump and National Security Council official, Ricky Gill, and Senior Counsellor to Mr. Trump, James Carafano, who was a key figure behind the Republican campaign document "Project 2025", are also listed as speakers and are expected to defend the U.S.' moves.

A Quad panel with senior Navy leadership from the four countries, India, Australia, Japan and the U.S., is expected as India gears up to host the Quad leader summit this year, which is expected to see some announcements on expanding maritime cooperation.

What can be expected in Ukraine?
The Raisina Dialogue follows weeks of dramatic developments in the Russia-Ukraine war, including the showdown between Mr. Trump and Ukrainian President Volodymyr Zelenskyy in Washington, followed by rounds of U.S.-Russia talks and then U.S.-Ukraine talks about a ceasefire, which will no doubt be a major point of discussion at the dialogue, and on its sidelines. Eleven of the 20 Foreign and other Ministers arriving for the dialogue are from Europe, including Ukraine Foreign Minister Andrii Sybiha.

In 2024, the numbers were even more skewed, with chief guest Greek Prime Minister Kyriakos Mitsotakis and 15 of 21 Foreign Ministers present from Europe, making a concerted pitch for India to shift its position on Ukraine. This year, all eyes will be on discussions and debate that pit European leaders against those from the U.S., particularly Ms. Gabbard, who has in the past batted for better U.S.-Russia ties. However, Russian Foreign Minister Sergey Lavrov, who used to be a regular speaker, will not attend. At the Raisina Dialogue in 2023, Mr. Lavrov faced a barrage of questions over the war in Ukraine during a session, that got extremely heated over the question of Russia joining talks for a ceasefire.

Also on the list is International Atomic Energy Agency chief Rafael Grossi, who will be an important speaker on the war in Ukraine, and the possibility of reviving nuclear talks with Iran.

Who else is coming?
The speakers' list at the Raisina Dialogue serves as a good barometer of India's relations with various countries, and which countries participate are often as important as those who miss the event. According to the list released by the Ministry of External Affairs, the Foreign Ministers of Bhutan, D. N. Dhungyel; Nepal, Arzu Rana Deuba; and the Maldives, Abdulla Khaleel, will attend the meet. Mauritius' Foreign Minister, Dhananjay Ramful, will also be present.

Given tense ties with India's western neighbour, Raisina Dialogue does not invite Pakistani delegates. However, it is notable that no speakers from Bangladesh or representatives of the Yunus government are listed this year. The programme lists a speaker from China's Fudan University, which reflects the thaw in bilateral ties after the meeting between Mr. Modi and Chinese President Xi Jinping last October.

Another country with which India may see a thaw this year is Canada, given the change in leadership. The Director of the Canadian Security Intelligence Service, Daniel Rogers, who is in Delhi, could also attend the Dialogue. In addition, former Canadian Prime Minister Stephen Harper and former Australian Prime Minister Tony Abbott, both regular attendees, will be present.

Despite the Indian government's attempts at improving ties with West Asia (GCC) and South East Asia (ASEAN), both regions aren't well represented again, a trend visible for the last few years. The only exceptions are the Philippines' Secretary of Foreign Affairs, Enrique Manalo, and Thailand's Foreign Minister, Maris Sangiampongsa. Foreign Ministers from Ghana, Cuba, Peru, Antigua and Barbuda are the others attending from the Global South.

How did the Raisina Dialogue start?
Launched in 2016 by the Ministry of External Affairs as a "flagship Indian international dialogue", the Raisina Dialogue aims to bring together leaders and thinkers from around the world. Envisioned by the government as a potential rival to the Munich Security Conference and Singapore's Shangri-La Dialogue, the Indian version is named after the Raisina Hills, where Rashtrapati Bhavan, key Ministries and Parliament are located in the capital.

> Europe is well represented; no speakers listed from Bangladesh

Absent voice: Russian Foreign Minister Sergey Lavrov, who used to be a regular speaker, will not attend this year's Raisina Dialogue. ANI

Enter India

Starlink

Elon Musk's satellite Internet service Starlink is entering India again, this time flanked by Airtel
and Jio; however, official authorisations are still pending and the roadmap remains unclear

PHOTO: AFP

Sahana Venugopal

On March 6, an account on the social media platform X claimed that Reliance Jio, Airtel, and VI wanted "fair competition" as the Indian government mulled over the possibility of granting Starlink a license. In response to the post, the U.S. President's advisor and SpaceX CEO Elon Musk commented, "Fair competition would be much appreciated." Netizens enjoyed the interaction, with many joking about Reliance Industries potentially finding its 'fair market' match in Tesla CEO Musk.

Days later, however, Airtel announced that it had inked a deal to bring Starlink to India. Hot on its heels was Jio Platforms with the same announcement.

India's two major telecom companies announced their Starlink partnerships after a White House meeting last month between U.S. President Donald Trump and Prime Minister Narendra Modi. The Prime Minister shared that he had met Mr. Musk and discussed a range of subjects with him, including space, mobility, technology, and innovation.

Weeks later, Airtel and Jio hailed their partnerships with Starlink and its potential for India's consumers.

"This is the first agreement to be signed in India, which is subject to SpaceX receiving its own authorizations to sell Starlink in India," noted Airtel in a statement on March 11. The two would also explore offering Starlink products in Airtel's retail stores and Starlink service via Airtel to business customers.

A day later, Jio Platforms released its own statement, with similar language. It hailed the partnership between the "world's largest mobile operator in terms of data traffic" and Starlink, but noted that the agreement was subject to Starlink obtaining authorisation.

Airtel further acknowledged its existing alliance with Eutelsat OneWeb, which also provides satellite connectivity. Eutelsat OneWeb noted on its website that it had "more than 630 satellites along 12 carefully synchronised orbital planes 1,200 km above, in low Earth orbit (LEO)."

Jio, during the India Mo-

bile Congress in 2023, introduced its own JioSpace-Fiber satellite Internet service. In a press release, Jio shared that it was "partnering with SES to access the world's latest in medium earth orbit satellite technology." SES has 70 satellites operating in two different orbits and broadcasts to over 1 billion TV viewers worldwide.

Meanwhile, Starlink noted on its website that it is a constellation of "thousands of satellites" that orbit Earth at about 550 km.

Keep in mind, however, that the winner is not necessarily the company with the largest number of satellites. The satellite's assigned location – in low, medium, or high Earth orbit – greatly affects its build, its orbital speed, the area it can cover by itself, and the kind of service it provides to users. For example, a Starlink satellite system in low Earth orbit that enables users to watch movies while camping will drastically differ from a sa-

tellite or a satellite system that enables one country's military to monitor an enemy region.

As of March 15, the Starlink availability map still marked service in India as "pending regulatory approval". India's only neighbour that currently enjoys official access to Starlink is Bhutan. Meanwhile, some Bangladeshi companies have entered into agreements with Starlink, and service-related discussions are taking place, reported local news outlets.

Past controversies
Starlink has been trying for years to enter the Indian market, but faced hurdles. In early 2022, Starlink emailed customers to promise refunds for pre-orders after the government said it was not licensed to operate in the country, reported TechCrunch.

In December 2024, satellite Internet equipment with Starlink branding was seized from Manipur's Imphal East and linked to militant activity. Mr. Musk said this was false and that satellite beams were turned off over India.

While the Indian government needs to formally bless Starlink's latest attempt to land in the country, the high-profile agreements signed with Airtel and Jio after Mr. Modi's U.S. visit signal a softening stance in Delhi.

U.S. expels South African envoy, saying he 'hates' President Trump

AP

The U.S. is expelling South Africa's ambassador to Washington, Ebrahim Rasool, Secretary of State Marco Rubio said on Friday, accusing the envoy of hating the country and President Donald Trump. "We have nothing to discuss with him and so he is considered PERSONA NON GRATA," Mr. Rubio said. AFP

SpaceX launches new crew to replace NASA's stranded astronauts at the ISS

Associated Press

The replacements for NASA's two stuck astronauts launched to the International Space Station on Friday night, paving the way for the pair's return after nine long months.

Butch Wilmore and Sunita Williams need SpaceX to get this relief team to the space station before they can check out. Arrival is set for late Saturday night.

NASA wants overlap between the two crews so Mr. Wilmore and Ms. Williams can fill in the newcomers on happenings aboard the orbiting lab. That would put them on course for an undocking next week and a splashdown off the Flori-

NASA wants overlap between the two crews so that the newcomers can be filled on happenings aboard the orbiting lab. REUTERS

da coast, weather permitting.

The duo will be escorted back by astronauts who flew up on a rescue mission on SpaceX last September alongside two

empty seats reserved for Mr. Wilmore and Ms. Williams on the return leg.

Reaching orbit from NASA's Kennedy Space Center, the newest crew includes NASA's Anne

McClain and Nichole Ayers, both military pilots; and Japan's Takuya Onishi and Russia's Kirill Peskov, both former airline pilots. They will spend the next six months at the space station, considered the normal stint, after springing Wilmore and Williams free.

As test pilots for Boeing's new Starliner capsule, Mr. Wilmore and Ms. Williams expected to be gone just a week or so when they launched from Cape Canaveral on June 5. A series of helium leaks and thruster failures marred their trip, setting off months of investigation by NASA and Boeing on how best to proceed.

Festive sales: A vendor arranging earthen pots for sale ahead of the Attukal Pongala festival in Thiruvananthapuram.

Sacred flame: Devotees lighting ceremonial lemon lamps (*naranga vilakku*) at the Attukal Bhagavathy Temple.

Holy ritual: Boys taking part in 'Kuthiyottam' ritual wait in line before taking the holy bath at the Attukal Bhagavathy temple ahead of Pongala in Thiruvananthapuram. Join FREE Telegram Channel https://t.me/+Bu7senHpQdhlODg1

City of a goddess

Waves of women fill the streets of Thiruvananthapuram on the day of Pongala, a ritual to propitiate the mother goddess with offerings cooked in lines and lines of streetside basic hearths

Nirmal Harindran
nirmal.harindran@thehindu.co.in

They come from all around the globe, braving the heat and humongous crowds, to cook offerings for their dear goddess in bare, basic hearths got up with a few red bricks on the roadside and using just dry palm fronds as fuel. The Pongala ritual at the Attukal Bhagavathy temple in Thiruvananthapuram is held every year, redolent of a mythical story of vengeance by a woman, her fight against injustice and her transformation to a goddess. It's the day when only women are allowed on many streets in the heart of Thiruvananthapuram.

The ritual remains a celebration of the legendary journey made by Kannagi after destroying Madurai. She is believed to have stopped at Attukal and her divine transformation began as Attukalamma before she left for Kodungallur in central Kerala. The Pongala ritual has turned into one of the largest gatherings of women anywhere in the world, and in 2009, the Guinness World Records recognised it as the largest religious gathering of women on a single day when over 25 lakh women took part. This year, the ritual was held on March 13.

Over the years, the ritual has branched out from the Attukal Bhagavathy temple to the periphery of the city through the narrow lanes as well as the arteries of the Kerala capital. Devotees start rushing to the temple to catch a glimpse of

Attukalamma before they secure a spot within a wide radius of the temple for the ceremonial Pongala – the main ritual, which means "to boil over", involves the cooking of a delectable mix of rice, jaggery, ghee, and coconut to be offered to the deity. When devotees start preparing the Pongala timed by an official announcement from the temple, the entire city is engulfed by smoke and its streets are filled with fervour and enthusiasm.

The Kerala Police and Fire and Rescue Services make a coordinated effort to make sure the festival is conducted without incident. "This year, a total of 3,815 police personnel were deployed only for Attukal duty and 847 cameras in and around the city helped us monitor movement of crowd from our control centre apart from the police drones that are also operational during the festival time," said Nakul Deshmukh, Deputy Commissioner of Police-2, Thiruvananthapuram city. With the searing summer making an early beginning, devotees and staff on duty grappled with dehydration and heat exhaustion. Coming to the rescue of devotees this year were women fire fighters, who were inducted into the service for the first time in Kerala with firefighting traditionally remaining a male fiefdom. The ritual concluded without any major incident despite the heat warnings with 65 reported cases of heat exhaustion.

Join FREE Whatsapp Channel https://whatsapp.com/channel/0029Van2VRb6RGJOKH6oBd0F
A sense of togetherness: Devotees waiting in queue to enter the temple.

Taking charge: The fire officer on Attukal Pongala duty briefing his team.

In full swing: Devotees waiting in queue to enter the temple.

Auspicious moment: Devotees lighting lemon lamps (*naranga vilakku*) at the temple .

Pongala prayers: Women devotees pray while offering Pongala outside the Attukal Bhagavathy temple in Thiruvananthapuram. Join FREE Whatsapp Channel https://whatsapp.com/channel/0029Van2VRb6RGJOKH6oBd0F

Offering to the goddess: Women prepare 'Pongala' as an offering to the goddess at the Pournamikavu Temple in Venganoor.

Join FREE Telegram Channel https://t.me/+Bu7senHpQdhlODg1
In awe: A group of foreigners visiting the Attukal temple on the day of Pongala in Thiruvananthapuram on Thursday.