TUESDAY
July 29, 2025

DELHI
CITY EDITION
16 Pages ₹12.00

www.thehindu.com

THE HINDU

INDIA'S NATIONAL NEWSPAPER SINCE 1878

Focus on mass inclusion, not exclusion, SC tells EC

EPIC, Aadhaar should be accepted as identity documents in the Bihar SIR exercise, court says; as the EC insists these documents can be easily forged, the court says any document can be falsified

Krishnadas Rajagopal
NEW DELHI

The Supreme Court on Monday pushed harder for the Election Commission (EC) to accept Aadhaar and the Electors Photo Identity Card (EPIC) as identity documents in the special intensive revision (SIR) of electoral list in Bihar, saying "mass inclusion" and not "en masse exclusion" should be the outcome of the exercise in the poll-bound State.

With three more days left for the publication of the draft electoral roll on August 1, the EC continued to resist the court's suggestion, saying Aadhaar, EPIC, and ration cards could be forged easily.

On July 10, the top court had asked the EC to consider these three documents to ward off the spectre of mass disenfranchisement even as petitioners, ranging from activists to political parties, called the SIR a "citizenship screening".

Authenticity concern

"Any document on earth can be forged. Maybe one EPIC in a thousand may not be genuine. That can be taken up on a case-to-case basis," Justice Surya Kant, accompanied by Justice Joymalya Bagchi, addressed the poll body.

Justice Kant said Aadhaar and EPIC have a "presumption of correctness". Aadhaar has a system of being authenticated when in use. EPIC was issued by the EC itself.

"So, proceed with Aad-

> According to you (EC), none of these 11 documents are conclusive. They are just documents to accompany the enumeration forms. So, if someone gives an Aadhaar card as proof of identity, why will you not evaluate the claim of the person to be in the electoral roll?

JUSTICE JOYMALYA BAGCHI
Supreme Court judge

haar and EPIC... Include these two documents in the list of 11," Justice Kant said.

Justice Bagchi reasoned that none of the 11 'indicative' documents acceptable as proof of identity were of a conclusive nature, be it residence or caste certificates.

"According to you, none of these 11 documents are conclusive. They are just documents to accompany the enumeration forms. So, if someone gives an Aadhaar card as proof of identity, why will you not evaluate the claim of the person to be in the electoral roll?" Justice Bagchi questioned the EC's logic.

Teenager Divya outlasts Humpy, emerges India's first women's World Cup winner

P.K. Ajith Kumar

Indian chess recorded yet another great moment on Monday, as Divya Deshmukh won the women's World Cup in the Georgian city of Batumi.

In the final, the 19-year-old defeated fellow-Indian Koneru Humpy in the tie-breakers. While Humpy contesting the final wasn't much of a surprise – she is the World No. 5 and has been one of the best female players for the last couple of decades – not many would have anticipated Divya's stunning show. But, given her obvious talent and the way she has been playing for the past two years, it didn't come as a big surprise.

By winning the World Cup, one of the biggest

Grand finish: Divya Deshmukh prevailed in the tiebreakers to win the women's chess World Cup in Batumi, Georgia, on Monday. FIDE

events organised by the world chess governing body FIDE, Divya also achieved another significant milestone.

India's 88th GM
She became India's 88th Grandmaster and is only the fourth Indian woman after Humpy, D. Harika and R. Vaishali to get that coveted title. Last year, Divya had won the World junior championship at Gandhinagar with a dominant display. She also played a key role in India's historic gold in the Chess Olympiad at Budapest. India was the top seed there, though.

At the World Cup, the

Indian women exceeded expectations, with four of them making it to the quarterfinals.

Emulating Anand
Only one Indian had won the World Cup before: Viswanathan Anand in Hyderabad, 2002. By reaching the final, Divya and Humpy also booked tickets for the Candidates tournament, the qualifying event for the World championship.

Last year, five Indians, – three men and two women – featured in the Candidates at Toronto.

D. Gukesh won the open event, and went on to become, at 18, the youngest World champion in history by dethroning Ding Liren.

The medical boundaries for AYUSH practitioners

The recent controversy on X between a hepatologist and an Indian chess Grand Master, on whether practitioners of traditional medicine can claim to be doctors, has sparked much commentary on the role and the status of practitioners of traditional Indian medicine systems such as Ayurveda and Unani, in India.

Committees, governments, perspectives

The burning issue here is not merely whether practitioners of Ayurveda can refer to themselves as doctors, but rather the scope of medical activities permitted under Indian law. This is an issue which has consequences for public health. A starting point for this discussion is to understand the framing of the debate over the last 80 years, beginning 1946, when the Health Survey and Development Committee, better known as Bhore Committee, batted in favour of modern scientific medicine based on evidence. The committee had pointed out that other countries were in the process of phasing out their traditional medicine systems and recommended that states take a call on the extent to which traditional medicine played a role in their public health systems.

The Bhore committee's lack of enthusiasm for the traditional medicinal system did not go unnoticed by practitioners of traditional Indian medicine who mounted a vocal protest. They managed to convince the Government of India to set up the Committee on Indigenous Systems of Medicine, which submitted its report in 1948. This committee unabashedly wrapped up its conclusions in communal language, framing the issue in terms of Hindu nationalism by linking Ayurveda to the Vedas and its decline to "foreign domination".

While the Nehru government took no action to formally recognise these practitioners of traditional medicine, the Indira Gandhi government in 1970 enacted a legislation called The Indian Medicine Central Act recognising and regulating the practitioners of Ayurveda, Siddha and Unani. This law was replaced in 2020 with a new law called The National Commission for Indian System of Medicine Act.

The syllabus for aspiring practitioners of Ayurveda is an absolute mish-mash of concepts that span everything from *doshas, prakriti, atmas* (which includes learning the difference between *paramatma* and *jivatma*) with a sprinkling of modern medical concepts such as cell physiology and anatomy. These are irreconcilable concepts – the theory of *tridosha* attributes all ills to an imbalance of doshas, while modern medicine locates the concepts of some diseases such as infections in "germ theory", among others. There is no middle ground between both systems of

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The core issue is whether they can refer to themselves as doctors and the scope of their medical activities, as this is a subject with consequences for public health in India

medicine which is why concepts such as integrative medicine make no sense.

Point of friction

Nevertheless, the legal recognition of this new class of practitioners led to questions on the exact boundaries between the practice of traditional and modern medicine. The major point of friction has been the prescription of modern medicines by the practitioners of traditional medicine. Ayurvedic practitioners, in particular, while claiming the superiority of their art over modern medicine, have consistently demanded the right to prescribe modern medicines developed by evidence-based modern science.

Pertinently, this dispute revolved around the interpretation of Rule 2(ee) of the Drugs and Cosmetics Rules, 1945 which defined the class of "registered medical practitioners" who can prescribe modern medicine. This definition is complicated since it is not limited to doctors with a MBBS degree. It delegates a certain amount of power to State governments to pass orders declaring medical practitioners on their State medical registers as persons "practising the modern scientific system of medicine for the purposes of ...." the Drugs & Cosmetics Act, 1940.

Many State governments have used this power under Rule 2(ee) to allow registered practitioners of Ayurveda and Unani to prescribe modern medicine such as antibiotics. The constitutionality of these orders was challenged before the courts and the first round of litigation concluded in 1998 with the judgment of the Supreme Court of India in *Dr. Mukhtiar Chand & Ors vs The State Of Punjab & Ors*. The Court concluded that "the right to prescribe drugs of a system of medicine would be synonymous with the right to practise that system of medicine. In that sense, the right to prescribe allopathic drug cannot be wholly divorced from the claim to practice allopathic medicine". Simply put, Ayurvedic practitioners had no right to prescribe modern medicine.

That judgment never stopped the lobbying by Ayurvedic and Unani practitioners with State governments for the promulgation of orders under Rule 2(ee) allowing them to prescribe modern medicine. Several State governments have continued passing these orders in defiance of the Court's judgment. This inevitably leads to litigation before the High Courts, usually by the Indian Medical Association, which often wins these cases.

Unsuspecting patients too have often sued practitioners of Ayurveda before consumer courts on the grounds that they were deceived into believing that they were being treated by a doctor with a MBBS degree who can prescribe modern medicine.

While much of the litigation has revolved

around the right to dispense modern medicine, there is also the issue regarding the medical procedures that can be conducted legally by practitioners of Ayurveda and Unani. For example, can a registered Ayurvedic practitioner "intubate" a patient? This is an important question to ask since it is an open secret that many hospitals purporting to practise modern medicine are hiring Ayurvedic practitioners with Bachelor of Ayurvedic Medicine and Surgery (BAMS) degree at lower pay in place of graduates with a MBBS degree.

Further, a notification by the Indian government in 2020 has allowed Ayurvedic practitioners (post graduates) to perform 58 minor surgeries, including the removal of the gall bladder, appendix and benign tumours. The constitutionality of this notification is pending before the courts.

If the notification is upheld, the question that arises is whether these Ayurvedic practitioners can now use anaesthetic agents and antibiotics required to conduct surgeries. The stakes are high for public health in India since the likely strategy of Ayurvedic practitioners will be to argue that these surgeries were known in traditional Indian medicine. In these times of heady Hindutva, it will be difficult to find a judge who will ignore these claims.

The political factor

The larger political backdrop to this entire debate regarding Ayurvedic practitioners is "Hindu pride", which has fuelled claims of fantastical achievements by ancient Indian civilisation, be it the *pushpaka vimana* or the claims of the Kauravas being test tube babies. When a policy issue such as Ayurveda is cynically draped in the language of "Hindu pride", it is not just the Bharatiya Janata Party but also the Indian National Congress which feels compelled to support an obviously dangerous approach to public health. The last election manifesto of the Indian National Congress, in 2024, promised that the party would "support" all systems of medicines instead of a promise to support only rational, evidence-based medicine.

This blind faith in traditional medicine is going to cost every citizen in the future since the government is actively considering the inclusion of AYUSH (Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homeopathy) treatments under the Ayushman Bharat insurance scheme funded by tax-payers. This is in addition to approximately ₹20,000 crore of tax-payer money spent on research councils functioning under the Ministry of AYUSH with a mandate to research AYUSH. They have very little to show for in terms of scientific breakthroughs. Twitter outrage notwithstanding, the joke at the end of the day is on the tax-payer.

Build on this joint statement to try and save Gaza

Lessons from past

The Chola legacy includes good governance, not just grand temples

The visit of Prime Minister Narendra Modi to Tamil Nadu had a subtle political message. In his address at the valediction of the annual Aadi Thiruvathirai festival at Gangaikonda Cholapuram to mark the birth anniversary of Rajendra Chola I, he focused on the legacy of the Chola emperor and his father Rajaraja Chola I to underline that contemporary India would be as enterprising as ancient India under the imperial Cholas, in expanding trade, and in guarding India's sovereignty. The festival was also organised to commemorate 1,000 years of the maritime expedition of Rajendra Chola to south-east Asia as well as the construction of the iconic temple, a World Heritage Site. The grandeur of the Chola dynasty is fascinating to recall, but there are other mundane facets of the Chola rule which are of modern relevance – its water management, tax and land revenue collection, and democratic processes.

In creating infrastructure, especially, the Cholas hold many lessons. In recent months, there have been fatal accidents involving civic structures. The resilience of the Brihadisvara temples, which have stood tall for over 1,000 years, could provide learnings. Studies show that the southern peninsula was the epicentre of several earthquakes in the last 200-odd years. Archaeologists are of the view that the superstructure of the temples holds the key to modern building techniques when it comes to seismic resilience. A close study of the temples for structural stability can be of immense value in the contemporary context. Apart from focusing on the heritage and culture of the Cholas, India could try and replicate their success in administration. Management of water resources, especially, could be an important learning. The Cauvery delta, where Gangaikonda Cholapuram is located, may experience floods, with a large volume of water draining into the sea without being harnessed for periods of scarcity. More than 30 years have passed since the adoption of the 73rd and 74th Amendments to the Constitution, but a large number of local bodies, even in the major cities, are functioning without elected representatives. The celebration is an opportunity for an analysis of the functioning of grassroots-level democratic bodies. Mr. Modi announced that the Centre would install the statues of Rajaraja Chola and Rajendra Chola to remind the country of its historical consciousness. But this exercise would have greater purpose if it reminds the country of the administrative acumen of the Cholas, and nudges those in governance to address many of the chronic flaws and problems.

A recent joint statement by about 30 western states, which includes the United Kingdom, France and Italy, has called for an end to the war in Gaza. It condemns Israel's 'drip feeding of aid and the inhumane killing of civilians, including children, seeking to meet their most basic needs of water and food.' It says that the Israeli government is denying 'essential humanitarian assistance to the civilian population', which it finds 'unacceptable'. And it calls Israeli plans to sequester and eventually force Palestinian citizens out of Gaza 'completely unacceptable'.

This is the strongest western criticism yet of Israeli conduct across Palestine, and it has coincided with Israel's offensive on Deir al-Balah, the city which has acted as a refuge for thousands of displaced people. It has the infrastructure, logistical bases and personnel to keep people alive, and its destruction will be catastrophic.

It appears unlikely that this western condemnation will deter Israel. With a few exceptions, western governments have been calling upon their ally, Israel, to stop or moderate its behaviour while also ensuring that Tel Aviv has not suffered serious diplomatic, economic and military costs for acting with impunity across Palestine. Further, neither Germany nor the United States, Israel's most steadfast backers and its largest arms suppliers, have signed that statement. This is a signal that there has been no change in their policies and may be another reason why Israel is unlikely to stop.

But there is still time for the world to act and prevent the Palestinians from being destroyed.

The facts

Is Israel committing genocide? The International Court of Justice (ICJ) may take years to determine this. Several jurists, legal and other scholars

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There is still time for the world to show that humanity is one and universal

argue that what is unfolding in Gaza is in fact a genocide. However, rather than guiding us to facts, this question has become politicised and an end in itself. And the facts are sickening.

Gaza had a population of about 2.3 million people when the war began in October 2023. About 60,000 people are confirmed dead, perhaps half of them women and children, and 90% the population has been displaced multiple times. The United Nations says that Gaza's remaining population has been squeezed into about 46 square kilometres of land where systems of food, health and hygiene have collapsed. That is about 43,478 people per square kilometre, living in conditions that one would not wish upon any form of life.

Tel Aviv's game plan

But these numbers do not capture what is widely suspected to be a systematic destruction of human life and habitat in Gaza through a micromanaged plan of starvation. Israel has curbed aid inflow when the war began. Earlier this year, it imposed a total blockade of 11 weeks and followed it up with a new aid delivery system that, according to the western nations' statement, 'deprives Gazans of human dignity'. Israeli forces have killed about a thousand desperate people seeking limited amounts of food under degrading conditions. And the UN says a third of the population has been living without eating. Exhaustion is endemic. Starvation is widespread. And famine looms. Is this not a genocide?

Israel does not allow foreign journalists to report freely from Gaza. And it discredits the non-Israeli accounts coming out of Gaza. This has allowed it to dispute any assessment of its likely endgame in the territory.

That Israel is carrying out ethnic cleansing is clear. Israeli leaders have publicly stated their

plan to control most of Gaza, force the Palestinians into a 'humanitarian city', and let them out only if they choose to leave for another country. Two former Israeli Prime Ministers, Ehud Olmert and Yair Lapid, have called this 'city' a 'concentration camp'. Conditions for a future generation of Palestinians in Gaza are being destroyed. And as Jean Drèze recently noted in this daily, once famine sets in, people will turn against each other, which will put an end to all solidarity and chances of reconstituting. It would then be used as evidence of Palestinian barbarism and sub-humanity – and thus further proof that the Palestinians are not a people.

Stop the hedging

The UN says that the 'last lifelines to keep people alive are collapsing', but the world can still step in. The world has a chance to halt the catastrophe. Governments can review the scale of their diplomatic, economic and military ties with Israel. International peacekeepers can be sent to Gaza. Russia, China and India could join their 'Global South' partners in exerting additional pressure on Israel to stop. The Gulf countries and Türkiye should stop hedging. The western nations' statement has '... urge[d] the international community to unite in a common effort' to end the war. Non-western governments can test western sincerity by offering to evolve a common approach.

There are some of us who know what is going on in Gaza is an act that will end the idea that 'humanity is one and universal'. Therefore, we must do what we can. Governments and corporations have more influence, but individuals can act on their conscience too. The time to act is now. Otherwise, we will be hanging our heads in shame and regret.

Why antitrust regulations are pertinent

While arguing for the Sherman Act, Senator John Sherman said in 1890, "If we will not endure a king as a political power, we should not endure a king over the production, transportation, and sale of any of the necessaries of life." The law would eventually mark the beginning of antitrust regulation in the United States, while also laying the groundwork for similar statutes preserving market competition worldwide, including in India.

Sherman's idea of what constitutes a "necessity of life" has evolved since then. Technology is reshaping societies and markets – it now shapes the production, transportation, and sale of most goods and services, leading to the rise of what we now term the global 'digital economy'. India is a significant player, with its domestic digital economy contributing 11.74% to its GDP (2022-23). This success has partially been driven by technology start-ups, which rose from just 2,000 in 2014 to over 31,000 in 2023. The government recognises their potential and leans on them to build a $35 trillion 'Viksit Bharat' by 2047.

Yet Sherman's concern about a few players dominating economies still applies. In Digital India, the kings are located in foreign waters, dictating selective terms to home-grown start-ups building the country's digital future. As a result, the ability of Indian start-ups to scale is often stunted. While these digital firms connect societies, they also wield immense monopolistic power. A recent case by a leading Indian online gaming company against Google, filed with the Competition Commission of India (CCI), highlights the risks posed by such dominance.

On start-ups and monopolies
Discriminatory practices by gatekeepers in the digital economy harm India's economy, business environment, and consumers.

Google, for example, dominates

Alwyn Didar Singh

Former Secretary to the Government of India and former Secretary General, FICCI

Discriminatory practices by gatekeepers in the digital economy harm India's economy, business environment, and consumers

distribution and discovery of digital services. With Android holding about 95% of the of the mobile operating system market share in India, it is nearly impossible for consumers to discover new online businesses without the latter hawking their services on Google's superior search engine, app store, or online advertising ecosystem. This dominance has led to discriminatory outcomes for Indian start-ups. For example, high commissions levied by Google on transactions taking place within its payments ecosystem have dampened the revenues of start-ups using these services. These issues have led domestic antitrust regulators to crack down on the tech giant, preventing Google from restricting app developers from using third-party payment systems or from communicating with their users to promote their apps.

The gaming start-up's CCI filing is an addition to this long list of concerns with Google's anticompetitive behaviour in India. In its complaint, the gaming industry leader alleged that Google abused its dominant position via a discriminatory Real Money Gaming (RMG) Pilot Program operated through the Play Store, and restrictive advertising policies. Google's Pilot Program, launched in September 2022, selectively permitted two specific formats of RMG on the Play Store – Daily Fantasy Sports (DFS) and rummy – limiting market access for other formats of RMG, such as the casual games offered by the gaming company. While Google discontinued similar pilots in Mexico and Brazil in June 2024, its Indian iteration continues to date, offering DFS and rummy operators relatively unfettered access. For example, the complaint notes that a DFS operator with 90% of the market share acquired 150 million users over 16 years, but upon joining the Pilot, it added another 55 million users in just one year. Google similarly amended its advertising

policies following the launch of the Pilot, limiting gaming advertisements to DFS and rummy operators, which earlier allowed advertisements by all games of skill. Before these amendments, the online gaming leader claimed that 68.21% of its app downloads were derived from Google's ad program. Now, they have stopped – a deep cut for an Indian start-up with proven global credibility and scale. CCI, the forward-looking and progressive digital regulator, has began an investigation into these concerns.

Costs to India
Such market distortions carry serious economic consequences, compromising India's ability to reach its digital economy ambitions. Most importantly, lack of competition leads to "reductions in quality and consumer choice[s]", and excessive reliance on few powerful players. Net-net, everyone loses, except the gatekeepers.

India cannot afford such a loss in innovation – and nor can its people, who will ultimately benefit from competitive growth, driven by ambitious start-ups. Sherman's homeland offers some insight into what the future holds for markets where the antitrust issue is not addressed head-on. Antitrust scholars suggest that rising monopolisation across American industries has increased the cost of doing business for growing businesses, leading to a dramatic decrease in Initial Public Offerings. The economic consequences of such lopsided markets are too severe for India to bear.

Ultimately, global tech giants play a critical role in powering these new-age businesses. What the future requires is recognition from Indian adjudicators that avenues for distribution and monetisation must be democratised, without gatekeeping, for domestic start-ups to thrive. The gaming industry leader's case carries on Sherman's legacy – it is one step towards a fairer field for everyone.

Justice on hold: India's courts are clogged

Civil cases in district courts face the longest delays, exposing a stark mismatch between caseload and capacity

DATA POINT

Kartikey Singh

Timely justice is a cornerstone of public trust in the legal system, as captured by the classic maxim 'justice delayed, is justice denied'. Prolonged delays often deter people from approaching courts. Last year, President Droupadi Murmu termed this hesitation the 'black coat syndrome'.

Although this has been a perpetual issue in India, the scale is now striking. Over 86,700 cases are pending in the Supreme Court (SC), over 63.3 lakh cases in High Courts (HCs), and 4.6 crore cases in district and subordinate courts. Added up, the total number of pending cases in India amounts to more than 5 crore **(Chart 1)**.

While the principal actors in the judicial process – judges, lawyers, litigants and witnesses – generally act in good faith and with rational intent, their functioning is often hindered by structural bottlenecks, procedural delays, and systemic constraints. These constraints in case resolution arise from several interlinked factors, including inadequate infrastructure and court staff, complex case facts, the nature of evidence, and degree of cooperation from key stakeholders. Delays are exacerbated by the lack of mandated timelines for different case types frequent adjournments, and weak mechanisms to monitor, track, and bunch cases for hearing. A major contributor is the absence of effective case management and scheduling, with no clear timelines for filings, witness examinations, or hearings.

An analysis of the justice delivery timeline in Indian courts reveals stark disparities across court levels and case types **(Chart 2)**. Criminal cases, generally considered as offences against the State, are resolved faster than civil ones, such as property, family or con-
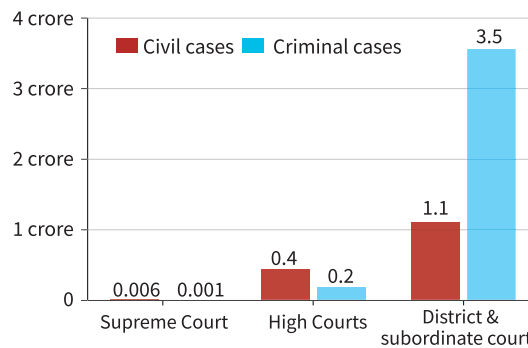
tractual disputes at every tier. HCs lead by disposing of 85.3% criminal cases within a year, followed by the SC at 79.5%, and district courts at 70.6%. The real concern lies in civil litigation at the district level, which handles the bulk of India's pending cases, where only 38.7% civil cases are resolved within a year, and nearly 20% stretch beyond five years. This means that courts serving the most litigants are the least equipped to ensure timely justice.

Although the judiciary and the government consistently introduce various reforms, a major systemic cause of judicial delay is the persistent gap between the sanctioned and actual strength of judges across courts **(Chart 3)**. India's judiciary functions at just 79% of its capacity. Out of 26,927 sanctioned posts, 5,665 are vacant, resulting in overwhelming workloads. District and subordinate courts, which handle the bulk of litigation, have a sanctioned strength of only 25,771 judges, averaging 18 judges per 10 lakh population. India operates with just 15 judges per 10 lakh population. Even at full sanctioned strength across all courts, it would reach only 19 judges per 10 lakh population – far below the 1987 Law Commission's recommendation of 50.
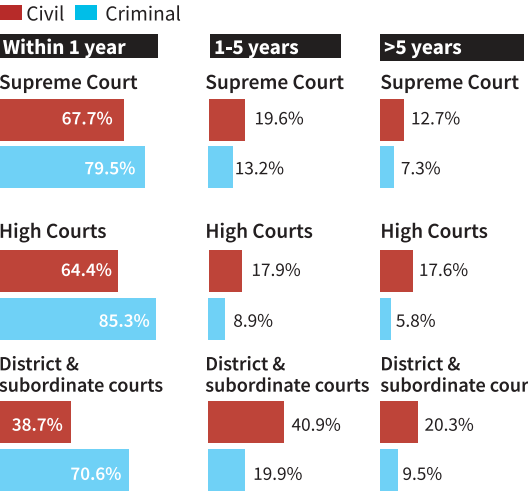
Alongside broader legal and procedural reforms, alternative dispute resolution offers a promising way forward to ease the burden on traditional courts and deliver quicker, more affordable, and citizen-friendly justice. Mechanisms such as mediation, arbitration, and Lok Adalats provide flexible alternatives for resolving disputes outside the traditional courtroom. The success of National Lok Adalats, which are organised simultaneously in all taluks, district courts, and HCs on a pre-fixed date **(Chart 4)**, demonstrates this potential: between 2021 and March 2025, they resolved over 27.5 crore cases, including 22.21 crore pre-litigation and 5.34 crore pending court cases.
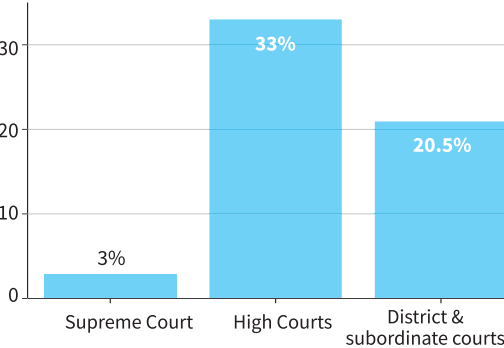
The long wait for justice

The data for the charts were sourced from the Lok Sabha, the India Justice Report, and the National Judicial Data Grid

Chart 1: Number of pending cases across courts in crore, as per latest data

	Civil cases	Criminal cases
Supreme Court	0.006	0.001
High Courts	0.4	0.2
District & subordinate courts	1.1	3.5

Chart 3: The % of vacant posts of judges across courts, as per latest data

| Supreme Court	High Courts	District & subordinate courts
3%	33%	20.5%

Chart 2: Time taken to resolve/dispose of cases across courts in civil and criminal cases, as per latest data

	Within 1 year		1-5 years		>5 years	
	Civil	Criminal	Civil	Criminal	Civil	Criminal
Supreme Court	67.7%	79.5%	19.6%	13.2%	12.7%	7.3%
High Courts	64.4%	85.3%	17.9%	8.9%	17.6%	5.8%
District & subordinate courts	38.7%	70.6%	40.9%	19.9%	20.3%	9.5%

Chart 4: Cumulative number of cases disposed of in National Lok Adalats during the last four years

Pre-litigation cases (cumulative): 22.2 crore

Pending cases (cumulative): 5.3 crore

* data till March

2021 2022 2023 2024 2025*
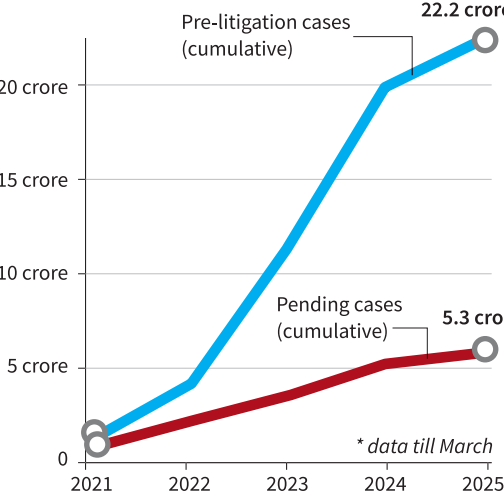
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Text&Context

What is Maharashtra's new security Bill?

What does the Maharashtra Special Public Security Bill entail? How does it propose to counter 'urban Naxals'? Which other States have similar laws? Which party opposed the Bill in the State's Legislative Assembly? What are the main objections being raised against the Bill by civil rights activists?

Vinaya Deshpande Pandit

The story so far:

The Maharashtra Legislature passed the Maharashtra Special Public Security Bill or a 'Bill to provide for effective prevention of certain unlawful activities of Left Wing Extremist organisations or similar organisations', during the recent monsoon session of the Maharashtra Assembly. The Bill has been termed as 'oppressive, ambiguous and open to misuse' by opposition leaders.

What is the Bill?

The Maharashtra Special Public Security Bill was brought in to counter 'urban Naxalism', as per the government of Maharashtra. The Bill states that, "the menace of Naxalism is not only limited to remote areas of the Naxal affected States but its presence is increasing in the urban areas also through the Naxal frontal organisations. The spread of active frontal organisations of the Naxal groups gives constant and effective support in terms of logistics and safe refuge to their armed cadres. The seized literature of Naxals shows 'safe houses' and 'urban dens' of the Maoist network in the cities of the State of Maharashtra." The Maharashtra government claims that the State has become a safe haven for 'urban Naxal' organisations. It has said that over 60 such organisations exist in Maharashtra, and that current laws are ineffective against them. However, civil rights activists say that the State government has not yet made public the list of these organisations, despite repeated requests. They have alleged that the Bill has been brought about to control left-wing organisations and civil rights activists who had rallied against the BJP in the 2024 Parliamentary elections.

What about other States?

Maharashtra is the fifth State after

New law: MLAs of the Maha Vikas Aghadi submit a memorandum to Maharashtra Governor C. P. Radhakrishnan to review the Maharashtra Special Public Security Bill on July 18. ANI

Chhattisgarh, Telangana, Andhra Pradesh and Odisha to enact a Public Security Act "for more effective prevention of unlawful activities of such organisations." The government has claimed that the other States have banned 48 frontal organisations under similar laws. But civil rights activists contend that the Public Security Acts in other States were brought in before the promulgation of more stringent pieces of legislation like the Unlawful Activities (Prevention) Act. They said that the Maharashtra government itself has claimed to have curbed left-wing armed extremists to only two districts of the State, with the help of currently existing laws, thus questioning the need for such a stringent Act at this time.

When was the Bill introduced?

The Bill was first introduced by the earlier Mahayuti government at the fag end of the monsoon session of Maharashtra Assembly in 2024. The State elections were held thereafter, and the BJP came back to power along with its allies with a thumping majority. The new government revived the Bill and introduced it during the winter session of the Maharashtra Assembly on December 20, 2024. A day later, a joint committee of members from both the Houses was formed to scrutinise the Bill. The committee received over 12,500 suggestions and objections but made only three amendments to the draft Bill. The activists have called the three changes 'minor'. After being cleared by the joint committee, the Bill was tabled in the Legislative Assembly on July 10. Only the Communist Party of India (Marxist) opposed the Bill. Other opposition parties raised objections, but did not oppose the

Bill, which was passed by a majority by a voice vote. Two delegations have since met the Governor requesting him to not sign the Bill and send it back to the Legislature instead.

What are the objections to the Bill?

The opposition has said that the Bill empowers the government to declare organisations 'illegal' without due process; allows suppression of facts in 'public interest'; allows the government to extend ban on an organisation without any limit on the duration; has the potential to criminalise regular opposition under an ambiguous definition of 'illegal activity'; excludes lower courts from jurisdiction, effectively closing off easy judicial remedies; provides full protection to State officials acting in 'good faith'; and creates grounds for ideologically motivated action against opposition groups, activists and movements. The government has said that democratic and peaceful protests as well as journalists will not come under the Bill's ambit, but the ambiguity in the Bill has given rise to fear that it might be used against farmers' organisations, students' groups, and civil rights groups under the label of 'threat to public order'.

For example, Section 2(f) of the Bill criminalises speech (spoken or written), signs, gestures or visual representations which 'tend to interfere' with public order or 'cause concern'. The opposition has said that such a provision allows authorities to criminalise expression, assembly, criticism, ridicule and association merely by indicating that they pose a potential threat. There is no requirement of actual violence, immediate harm or intent.

What next?

The Bill will become a law once the Governor gives his assent to it. It has been passed by both the Houses and has been sent to him. Meanwhile, civil rights activists and political parties have said they will continue to protest against the Bill and will approach the court against it.

THE GIST

▼

The Bill was first introduced by the earlier Mahayuti government at the fag end of the monsoon session of the Maharashtra Assembly in 2024.

▼

The Bill states that, "the menace of Naxalism is not only limited to remote areas of the Naxal affected States but its presence is increasing in the urban areas also through the Naxal frontal organisations".

▼

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How the fair use clause is being applied to generative AI

The summary judgments in the Anthropic and Meta cases recognise the highly transformative character of GenAI, thereby favouring a finding of fair use with respect to using copyrighted materials for training purposes

Arul George Scaria

Access to diverse kinds of materials is vital for building and fine-tuning Large Language Models (LLMs). These materials could include those that are available in the public domain (for example, works where the copyright has expired or works wherein copyright was relinquished by the authors) as well as those under copyright protection. Apart from gathering data through sources such as Common Crawl, AI firms often scan copies of books and other materials, and convert them into machine readable text from which data can be extracted for training purposes.

Whether the use of copyrighted materials for training purposes, without permission from the copyright holders, constitutes copyright infringement is a challenging legal question. Many litigations are happening across the globe around this issue.

One of the key factors that could determine the outcome in these litigations is how the courts view whether the concerned activities fall within the scope of any of the exceptions to infringement under the relevant copyright laws. For litigations in the U.S., this means one of the primary determinants in the outcomes would be the application of the 'fair use' doctrine under U.S. copyright law. Two trial courts in the U.S. have recently delivered summary judgments on fair use, and they may be considered as the beginning of the adjudications on this complex issue.

Factors considered

The U.S. courts generally take into consideration four factors while assessing whether a use constitutes as 'fair use'. They are – (i) purpose and character of the use, and the enquiry in this regard includes the extent to which the use can be considered 'transformative'; (ii) nature of concerned copyrighted materials (there is a higher likelihood of the fair use clause being applicable when it is used for works that are factual in character as compared to works of fiction or fantasy); (iii) amount of the portion taken, and this includes both qualitative and quantitative analyses; and (iv) the effect of the use on the potential market of the plaintiff's works or value of the plaintiff's works. The questions of transformative use and the impact on the potential market/value of the plaintiffs works have historically played critical roles in determining the final outcomes in a fair use litigation.

The Anthropic case

Anthropic trained the LLMs underlying Claude, one of their popular GenAI agents, using books and other texts from a library compiled by them. The library consisted of works obtained from different sources, including books purchased and converted to digital form as well as books acquired from potentially illegal sources. The copyright infringement action was initiated by the plaintiffs as their works were used for training without any authorisation from them.

Based on the application of the four above factors to the specific facts of the case, specifically the highly

GETTY IMAGES

transformative nature of the use of copyrighted materials, the court, in *Andrea Bartz et al. versus Anthropic PBC*, granted summary judgment in favour of Anthropic on the question of whether the training of the AI was fair use. The court was of the view that the print-to-digital format conversion of the books purchased by them constituted fair use. However, it denied the request of Anthropic that downloading and storing of the copies sourced from illegal sources must be treated as fair use. It remains to be seen how the infringement analysis and remedies would be handed down by the court with regard to those activities.

The Meta judgment

In *Richard Kadrey et al. versus Meta Platforms, Inc.*, 13 authors had sued Meta for downloading books from illegal sources and using them for training Llama, the LLM of Meta. Based on the specific facts and the specific averments made by the parties with regard to the four fair use factors, the court granted a summary judgment in favour of Meta.

The court was of the view that use of the works for training purposes was highly transformative in character and in such instances the plaintiffs will have to bring in substantial evidence with regard to the fourth factor (whether such use has affected the plaintiff's works market value) to avoid a summary judgment against them. But as the plaintiffs in the instant case couldn't produce any meaningful evidence, the summary judgment was in favour of Meta with regard to the copying and use of the plaintiffs' books as training data. However, the court will be continuing the proceedings against Meta with respect to the argument of the plaintiffs that Meta also unlawfully distributed their works during the torrenting process.

Comparative analysis

One of the common dimensions of both the summary judgments is the recognition of the highly transformative character of the use of copyrighted works in training LLMs. This substantially influenced fair use analysis in both cases. There is an alignment on the third factor also, as both courts considered the extent of materials used reasonable in the broader context of training.

But on the fourth factor, one can see substantial differences. Judge Chahabria, who authored the Meta summary judgment, rejected the argument of the plaintiffs that Meta harmed the potential licensing market of the plaintiffs, primarily on the ground that it is not a market that the plaintiff is legally entitled to monopolise. However, he also observed that in many cases, AI training on copyrighted materials may become illegal due to "market dilution". According to him, the rapid generation of countless works that compete with the originals, even if those works aren't themselves infringing, can result in market dilution through indirect substitution. But the inability of the plaintiffs in the case to produce sufficient empirical evidence in this regard illustrates the difficulty in proving this kind of harm.

On the other hand, Judge Alsup, who authored the judgment in the Anthropic case, categorically rejected the market dilution argument and observed that the "[a]uthors' complaint is no different than it would be if they complained that training schoolchildren to write well would result in an explosion of competing works. This is not the kind of competitive or creative displacement that concerns the Copyright Act. The Act seeks to advance original works of authorship, not to protect authors against competition."

It is also worth highlighting here that the Judge in the Anthropic case considered downloading or building a permanent library of infringing works as a different use that warrants separate analysis and a different outcome. But the Meta summary judgement didn't take that approach and focused just on the ultimate purpose, that is, the training of models.

Other AI cases

Earlier this year, in *Thomson Reuters versus Ross Intelligence,* the court had reached the conclusion that the fair use exception was not applicable. However, this was not a GenAI case. The AI in question merely retrieved and shared judicial opinions based on queries from users. As this was not considered a transformative use by the court, and as the AI in question competed directly with the works of the plaintiff, the court concluded that the use of those materials without permission was not fair use.

Broader implications

Both the summary judgments in the Anthropic and Meta cases recognise the highly transformative character of use of materials in the GenAI training context, thereby favouring a finding of fair use with respect to the use of copyrighted materials for training purposes. But both judgments also reflect many of the anxieties of copyright holders. Whether the sourcing of materials from potentially illegal sources can negate the claims of fair use is an issue where scholarly opinion is divided and more discussions are warranted.

It is also evident that the kind of evidence copyright holders will bring in to illustrate the negative impact on their market will play a prominent role in determining the final outcome in many cases. This also implies that copyright infringement related issues are far from settled in the AI training area, and depending on the specific facts and evidences in each of these cases, the outcomes can be very different.

Arul George Scaria is a professor at the National Law School of India University (NLSIU)

Focus on inclusion, not exclusion, SC tells EC

Senior advocates K.K. Venugopal and Rakesh Dwivedi appeared for the EC. The petitioners were represented by senior advocates, including Kapil Sibal and Gopal Sankaranarayanan. The court, which rose early, said it would announce on Tuesday an early date and a proper schedule for hearing the final arguments in the case.

Mr. Sankaranaraynan alerted the Bench about the proximity of the date of publication of the draft roll, August 1.

But Justice Kant was unperturbed, saying, "It was only a draft." Noting that the petitioners had not insisted on any interim relief of the stay of the publication or a freeze on the SIR exercise, the judge assured the petitioners that publication of the draft roll would not shrink the powers of the court to overturn any decision of the EC, provided the petitioners prove their case.

The senior lawyer said the publication of the draft roll would leave the 4.5 crore people excluded from it rudderless. The burden would be transferred onto them to prove their identity and citizenship, file objections, and even seek a review.

Justice Bagchi drew the counsel's attention to the EC's affidavit, which stated that voters who were in the existing 2025 electoral roll of Bihar would feature in the draft roll to be published on August 1, provided they submitted their enumeration forms, with or without documents.

"In substance, each elector included in the 2025 electoral roll shall form part of the draft roll merely on submission of the enumeration form," the EC affidavit stated. The existing electoral roll was published in Bihar on January 7, 2015.

Presidential Reference 'misleading', can't be used to alter prior ruling, T.N., Kerala tell SC

Krishnadas Rajagopal
NEW DELHI

The States of Tamil Nadu and Kerala urged the Supreme Court on Monday to dismiss the Presidential Reference seeking clarity on whether judiciary can fix timelines for the President and the Governors to clear State Bills, saying it is a ruse to make the top court sit in appeal of its own authoritative pronouncement in the Tamil Nadu Governor case.

The Constitution, the both States said, did not allow the top court to sit in appeal of its own judgments nor can the President vest appellate jurisdiction to the court

> The decision of this court on a question of law is binding on all courts and authorities. Hence, the President can refer a question of law only when this court has not decided it

STATE OF KERALA ARGUES IN SUPREME COURT

through a Presidential Reference. Tamil Nadu and Kerala termed the Reference as "misleading" replete with "suppressed facts".

Tamil Nadu, represented by senior advocate P. Wilson, said the Reference was an "appeal in disguise"

and should be "returned as unanswered in whole".

Kerala, represented by senior advocate K.K. Venugopal and C.K. Sasi, said the President could only refer questions to the Supreme Court under its advisory jurisdiction of Article 143 of the Constitution

if they had not been decided by the apex court.

Judicial precedents

Quoting judicial precedents, including the 1993 Reference in the Cauvery Water Disputes Tribunal, the State said powers of the Governors and the President under Article 200 and 201 of the Constitution have been the subject of three separate authoritative judgments in the cases filed by the States of Telangana, Punjab and, finally, Tamil Nadu on April 8.

"The decision of this court on a question of law is binding on all courts and authorities. Hence, the President can refer a question of law only when this

court has not decided it," Kerala submitted in the Supreme Court.

The State pointed out that the Tamil Nadu Governor case judgment authored by Justice J.B. Pardiwala has already addressed in detail the questions raised in the Presidential Reference in May.

"The Union of India has not filed any review or curative petition against the judgment delivered by the court in the Tamil Nadu case, and has thus accepted the judgment...The judgment, having not been assailed or set aside in any validly constituted proceedings, has attained finality," the State of Kerala reasoned.

NISAR satellite mounted on GSLV for launch tomorrow

All systems of the launch vehicle checked, says ISRO; the rocket will inject the 2,392-kg earth observation satellite into a 743-km sun-synchronous orbit to enable a wide range of applications

The Hindu Bureau
BENGALURU

Ahead of the launch of the NASA-ISRO Synthetic Aperture Radar (NISAR) satellite on Wednesday, the Indian Space Research Organisation on Monday announced that the satellite had been mounted on a geosynchronous satellite launch vehicle (GSLV).

All systems of the rocket had been checked, it said.

After lifting off from the second launch pad of the Satish Dhawan Space Centre in Sriharikota at 5.40 p.m. on Wednesday, the GSLV-F16 rocket will inject the satellite into a 743-km sun-synchronous orbit.

Watching earth

The 2,392-kg satellite is will be the first satellite to observe earth with a dual-frequency synthetic aperture radar (SAR) – NASA's L-band and the ISRO's S-band – both using NASA's 12-metre unfurlable mesh reflector antenna, integrated with the ISRO's modified I3K satellite bus.

With a mission life of five years, the satellite will observe earth with a swathe of 242 km and high spatial resolution, using

Priming for lift-off: The NASA-ISRO joint satellite NISAR being readied for launch in Sriharikota on Monday. ANI
Join FREE Telegram Channelchat.whatsapp.com/HDvqPnxvwWb3Agy98nVaIQ

the SweepSAR technology for the first time.

"The satellite will scan the entire globe and provide all-weather, day-and-night data at 12-day intervals, and enable a wide range of applications. NISAR can detect even small changes on earth's surface, such as ground deformation, ice sheet movement,

and vegetation dynamics. Further applications include sea ice classification, ship detection, shoreline monitoring, storm characterisation, changes in soil moisture, mapping and monitoring of surface water resources, and disaster response," the ISRO said.

The NISAR mission is broadly classified into

launch, deployment, commissioning, and science phases.

In the first phase, the satellite will be launched by the GSLV-F16 launch vehicle, while in the next, a 12-metre reflector antenna will be deployed in orbit nine metres from the satellite by a complex multi-stage deployable boom.

This will be followed by the commissioning phase.

In-orbit checkout

"The first 90 days after launch will be dedicated to commissioning, or in-orbit checkout, the objective of which is to prepare the observatory for science operations. Commissioning is divided into sub-phases of initial checks and calibrations of mainframe elements followed by JPL engineering payload and instrument checkout," the ISRO said.

The final science operations phase begins at the end of commissioning, and extends till the end of NISAR's five-year mission life.

"During this phase, the science orbit will be maintained via regular manoeuvres, scheduled to avoid or minimise conflicts with science observations," the ISRO said.

India, Japan officials discuss PM's visit, bullet train project

Suhasini Haidar
NEW DELHI

Takehiro Funakoshi

Ahead of Prime Minister Narendra Modi's visit to Japan next month, Foreign Secretary Vikram Misri met with visiting Japanese Vice-Minister Takehiro Funakoshi in Delhi on Monday to discuss strengthening ties, upcoming projects and smoothing out supply chain issues.

Both sides are understood to have discussed the latest developments in the Shinkansen Bullet train project to connect Ahmedabad (Sabarmati) and Mumbai, including Japan's decision, reported by the *Japan Times* earlier this year, to gift India two of its latest E-10 Shinkansen trains, which will be simultaneously introduced in Japan and India.

According to the latest schedule revealed by Railway Minister Ashwini Vaishnav last week, the Gujarat portion of the Mumbai-Ahmedabad High Speed Railway will be completed by December 2027, and the entire project is now expected to be completed by December 2029.

Mr. Funakoshi also met with P.K. Mishra, Principal Secretary to the Prime Minister, to discuss Mr. Modi's travel plans.

"The dialogue was in-

strumental in reviewing progress in various dimensions of our ties, exploring new areas of collaboration and contributing to further deepening the bonds of friendship and cooperation between India and Japan," said the Ministry of External Affairs in a statement, adding that Mr. Misri and Mr. Funakoshi discussed "political ties, defence and security, economic security, trade and investment, infrastructure cooperation, technology and people-to-people exchanges" during talks at Hyderabad House.

In addition, officials on both sides have been discussing problems with the shortage of critical minerals required for batteries and rare earth magnets for Battery Electric Vehicles produced by Japanese manufacturers due to export restrictions from China.

(With inputs from Maitri Porecha)

Procedure to redress chemically contaminated sites gets legal teeth

Jacob Koshy
NEW DELHI

The Union Environment Ministry has notified new rules under the Environment Protection Act that lays out a process to address sites that are chemically contaminated.

The Environment Protection (Management of Contaminated Sites) Rules, 2025, give a legal structure to the process of contamination, which was missing until now. Contaminated sites, according to the Central Pollution Control Board, are those where hazardous and other waste had been dumped historically. Some of the sites were contaminated when there was no regulation on management of hazardous waste.

In some instances, polluters have either shut their operations or the cost

Contaminated sites are those where hazardous waste had been dumped historically. FILE PHOTO

of remediation is beyond their capacity. Thus the sites remain a threat to the environment. These sites may include landfills, dumps, waste storage and treatment sites, spill sites, and chemical waste handling and storage sites. Remedial operation has commenced only in seven of the 103 such sites in the country.

A senior official in the Ministry told *The Hindu*

that the latest rules – made public on Friday – were part of a process of "legally codifying" the process in place once contaminated sites were identified. Under these rules, the district administration would prepare half-yearly reports on "suspected contaminated sites".

A State Board, or a reference organisation, would examine these sites and provide a "preliminary as-

sessment" within 90 days of being informed. Following these, it would have another three months to make a detailed survey and finalise if these sites were indeed "contaminated".

A "reference organisation" – basically a body of experts – would be tasked with specifying a remediation plan. The State Board would also have 90 days to identify the person(s) responsible for the contamination. Those deemed responsible would have to pay for the cost of remediation of the site, else the Centre and the State – under a prescribed arrangement – would arrange for the costs of clean-up. "Any criminal liability, if it is proved that such contamination caused loss of life or damage would be under the provisions of the Bharatiya Nyaya Sanhita (2023)," the official told *The Hindu*.

FAITH

Relevance of Naga Panchami

Snakes are revered, feared, fed and worshipped. Naga Panchami falls on the Suklapaksha Panchami of the Ashada month, and is observed across India. *The Mahabharata* narrates the curse that fell on King Parikshit due to a snake and the subsequent events, said Dr. Sudha Seshayyan.

Parikshit, Arjuna's grandson, was a just ruler. However, his one indiscretion sealed his fate. Tired from hunting, Parikshit entered the ashram of sage Sameeka and asked for water. The sage was in meditation and did not respond. Angered at this, Parikshit picked up a dead snake, put it around Sameeka's neck and left. This infuriated Shringi, Sameeka's son, who cursed Parikshit saying he would die within seven days, after being bitten by the snake Takshaka. Takshaka had his own reasons for killing Parikshit. When the Pandavas built Indraprasatha, they destroyed the Khandava vana, causing the death of countless snakes; Takshaka escaped but his family did not; therefore, he was looking forward to avenging their deaths.

Janamejaya, the son of Parikshit, was furious over the death of his father and decided to conduct a sarpa yagna. The mantras forced the snakes to the yagna (fire) and all perished. Takshaka sought refuge in the cot of Indra, assuming the mantras would not reach there. However, they resonated everywhere. Fearing the power of the mantras, the devas met Manasa, the queen of the serpents, and sought help. She sent her son Astika to the yagna, who, posing as a refugee, sought protection for him and his family. Janamejaya had to accede. Astika then discoursed on the need for a balance and for stopping endless feuds, and that day is celebrated as Nadivardhini Panchami.

India, Pakistan would still be at war if not for my intervention, says Trump

The U.S. President repeated his claim that he used trade as leverage to get New Delhi and Islamabad to stop fighting in May this year, after terrorists opened fire and killed 26 civilians in Pahalgam; Trump also said he was 'disappointed' with Russian President Putin over the ongoing war in Ukraine

Sriram Lakshman
LONDON

India and Pakistan would still be warring with each other, if not for his intervention, U.S. President Donald Trump said on Monday. He made the remarks before beginning talks with U.K. Prime Minister Keir Starmer at Trump Turnberry golf course in Scotland. The President repeated his claim that he used trade as leverage to get New Delhi and Islamabad to stop fighting in May this year, after terrorists opened fire and killed 26 civilians in Pahalgam. New Delhi has consistently denied Mr. Trump's claims that he was instrumental in bringing about the May 10 ceasefire between the two countries.

"If I weren't around, you'd have, right now, six major wars going on. India would be fighting with Pakistan," Mr. Trump said, standing between Mr. Starmer and his wife, Victoria Starmer, whom the President was hosting at Turnberry, where he is on a private visit.

"You see what we just did yesterday with two nations that we're trading with," said Mr. Trump, referring to Cambodia and Thailand, with whom he said there would be no

trade talks unless they agreed to a ceasefire.

During his remarks, Mr. Trump also referred to the wars between Serbia and Kosovo, Rwanda and the Democratic Republic of Congo. "I think a very big one was India and Pakistan, because that's you're talking about two nuclear nations. That was a very

U.S. President Donald Trump with U.K. Prime Minister Keir Starmer at the Trump Turnberry golf course in Scotland on Monday. AP

big one," he said.

"And I use... not in all cases....but I use a combination of knowing them a little bit, or in some cases, knowing them a lot," Mr. Trump said, specifically pointing out that he knew the leaders of India and Pakistan very well. "I know them very well, and you know they're in the midst of a trade deal [i.e., trade discussions with Washington], and yet they're talking about nuclear weapons," he said.

"So I said, I'm not doing a trade deal with you guys. And they want the trade deal. They need it. I'm not doing a trade deal with you. If you're going to have

war, and that's a war that spreads to other countries, you'll get nuclear dust," Mr. Trump said.

On the possibility of a ceasefire to the Russia-Ukraine war, Mr. Trump said he thought it had been "settled numerous times".

"And then President Putin goes out and starts launching rockets into some city, like Kyiv, and kills a lot of people in a nursing home or whatever. You have bodies lying all over the street," he said.

"I'm disappointed in President Putin. So we're going to have to look and I'm going to reduce that 50 days that I gave him to a lesser number," he said.

Thailand, Cambodia agree to ceasefire

Associated Press
PUTRAJAYA

Thailand and Cambodia have agreed to an "unconditional" ceasefire starting at midnight, Malaysian Prime Minister Anwar Ibrahim said on Monday, a significant breakthrough to resolve five days of deadly border clashes that have killed dozens and displaced tens of thousands of people.

Cambodian Prime Minister Hun Manet and Thai Acting Prime Minister Phumtham Wechayachai hailed the outcome of the meeting.

The fighting began on Thursday after a land mine explosion along the border wounded five Thai sol-

diers. Both sides blamed each other for starting the clashes, that have killed at least 35 people.

Mr. Hun Manet and Mr. Phumtham have agreed to an "immediate and unconditional ceasefire" with effect from midnight local time, Mr. Anwar said as he read out a joint statement.

Mr. Anwar, who hosted the talks as annual chair of the Association of Southeast Asian Nations regional bloc, said both sides have reached a common understanding to take steps to return to normalcy following what he called frank discussions. "This is a vital first step towards deescalation and the restoration of peace and security," Mr. Anwar said.

China offers subsidies to boost birth rate

Agence France-Presse
BEIJING

China's government will offer subsidies to parents to the tune of $500 per child under the age of three per year, Beijing's state media said on Monday, as the world's second most populous nation faces a looming demographic crisis.

The country's population has declined for three consecutive years, with United Nations demography models predicting it could fall from 1.4 billion today to 800 million by 2100.

The nationwide subsidies apply retroactively from January 1, Beijing's state broadcaster CCTV said, citing a decision by

There were just 9.54 mn births in China last year, half the number than in 2016

the ruling Communist Party and the State Council, China's cabinet. "This is a major nationwide policy aimed at improving public wellbeing," CCTV said.

"It provides direct cash subsidies to families across the country, helping to reduce the burden of raising children," it added.

There were just 9.54 million births in China last year, half the number than in 2016, the year it ended its one-child policy, which was in place for more than three decades. The population declined by 1.39 million last year.

Divya – the girl who could become the queen

The 19-year-old pips her experienced opponent Humpy via the tiebreaker in an exciting final; earns Grandmaster title; heartbreak for the World No. 5 after an impressive campaign

CHESS WORLD CUP

P.K. Ajith Kumar

The little girl was dressed in a pink frock and a pinker overcoat. "Divya Deshmukh," she said when one asked her what her name was, on that November afternoon at the Nehru Stadium in Chennai.

The year was 2013. She had just won the National under-9 girls' chess championship, which was held as one of the side-events of the World championship match between Viswanathan Anand and Magnus Carlsen at Hyatt Regency.

How time flies!

Divya is now one of the most exciting young talents in international women's chess. The latest proof came on Monday, at Batumi in Georgia, where she became the first Indian woman to win the chess World Cup.

In an all-Indian final, she defeated the much more experienced, higher-rated Koneru Humpy. After both the classical games had been drawn, the title had to be decided in tie-breaker games, played with shorter time controls.

The first game was drawn in 81 moves. Divya had white pieces, and she ensured half-a-point through perpetual checks with her queen.

The second game, in which Divya had black pieces, was wilder, with both players making significant mistakes. On the 42nd move, an unwise pawn-push down the centre by Humpy had given the younger woman a clear advantage.

But Divya returned the compliment just a move later, going for a pawn exchange, instead of which she should have played her rook on the back rank. And now it looked the point in the second game too would be shared, in an equal rook-and-pawn ending.

On the 54th move, however, Humpy went for a pawn capture with her rook, and black got the advantage back But, Divya failed to capitalise yet again.

Fatal move

Humpy's 69th move, with her pawn on the king-side, proved fatal, though. This time, Divya, made no mistake.

When black's extra pawn reached the penultimate rank, threatening to turn into a queen, Humpy extended her hand, and conceded defeat.

It was a significant moment for Indian chess. Here was the undisputed queen congratulating the princess who could one day become the queen.

Divya's right hand went towards her face, and there would be tears of joy. She, however, forced a smile as FIDE president Arkady Dvorkovich came up to her and congratulated her.

A little later, all her pent-up tears came out, as did her mother's. Namrata had sacrificed her career as a gynaecologist for the sake of her daughter's career.

It hasn't been easy for the family, with Divya not having a sponsor, and chess, contrary to popular notion, is an expensive sport, as you need to travel around the world and quality coaches do not come cheap. The prize money from the World Cup should come in handy: She has become richer by $50,000.

That isn't the only thing that should make her smile.

By winning the World Cup, she became India's 88th Grandmaster, and only the fourth woman from the country to do so after Humpy, D. Harika and R. Vaishali.

She, along with Humpy, also qualified for the Candidates tournament. This was very much a World Cup to remember for India's women.

Contrasting moods: Divya is overcome with emotion after her incredible win while Humpy ponders at what could have been. FIDE

The Divya dossier

1 Becomes the first Indian woman to win the chess World Cup

2 Double gold medallist (team and individual) at the Budapest Olympiad in 2024

Second teenaged Indian girl, after Koneru Humpy (aged 15, 2002), to earn a GM title

3 Third winner of the World Cup after Alexandra Kosteniuk (2021) and Aleksandra Goryachkina (2023)

4 Fourth Indian woman to become a GM after Humpy, D. Harika and R. Vaishali

44 The 44th woman to get the GM title

88 The 19-year-old is now India's 88th GM

COMPILED BY C. SHYAM SUNDAR

A star is born

✗ Heartiest congratulations to Divya Deshmukh who has become the first Indian woman to win the FIDE World Cup and, that too, at the very young age of 19

DROUPADI MURMU, President of India

✗ A historic final featuring two outstanding Indian chess players! Proud of the young Divya Deshmukh on becoming the World Cup champion. Congratulations to her for this remarkable feat, which will inspire several youngsters

NARENDRA MODI, Prime Minister

✗ Ecstasy for India! Congratulations to Divya Deshmukh on winning the World Cup and achieving the marvellous feat of becoming a Grandmaster. Your tenacity and mindfulness have truly earned you this crown

AMIT SHAH, Home Minister

✗ Huge congrats to Divya Deshmukh for winning the World Cup and also going from no norms to the GM title in one big jump!! Indian chess is knocking it out of the park these days

HIKARU NAKAMURA, American GM

✗ A star is born and a newly crowned Grandmaster! IM Divya Deshmukh defeated GM Koneru Humpy in the tiebreaks to win the World Cup! What a magnificent feat for this talented and mentally tough young lady!

SUSAN POLGAR, former women's World champion

A prodigy's progress: Divya with the Budapest Olympiad medal (2024), World junior trophy in Gandhinagar (2024) and National under-9 prize (2013) in Chennai. FILE PHOTOS: FIDE & K.V. SRINIVASAN

India has the highest number of slum clusters in flood-prone areas

According to a new study, around 445 million people in the Global South live in areas that have already been exposed to floods; countries like India and Brazil also have a disproportionately high number of floodplain settlements, because the people who choose to live there lack viable options

Sandhya Ramesh

Flooding events are a major hazard worldwide. According to a 2024 Moody's report, more than 2.3 billion people are exposed to flooding every year. In India, more than 600 million people are at risk of coastal or inland flooding. However, there is a lack of comprehensive data on vulnerable communities' flood exposure risk, especially in the Global South.

A new study has attempted to bridge exactly this gap by analysing satellite images of informal settlements or slum dwellings in 129 low- and middle-income countries and comparing them with maps of 343 well-documented large-scale floods.

The study found that India has the world's largest number of slum dwellers living in vulnerable settlements in floodplains – over 158 million, more than the population of Russia – with most of them concentrated in the naturally flood-prone delta of the Ganga river.

The largest concentrations and largest numbers of such people are in South Asian countries; northern India leads in absolute numbers, followed by Indonesia, Bangladesh, and Pakistan. Other notable 'hotspots' include Rwanda and its neighborhood, northern Morocco, and the coastal regions of Rio de Janeiro.

Overall, in the Global South, 33% of informal settlements, making up around 445 million people living in 908,077 households within 67,568 clusters, lie in areas that have already been exposed to floods. Countries like India and Brazil also have a disproportionately high number of floodplain settlements despite also having suffered many large floods.

The study, published in *Nature Cities* in July, highlights the lack of risk management strategies that prioritise vulnerable communities, including those that have already experienced floods, beyond population-level approaches.

Risk and settlement

The researchers classified human settlements as rural, suburban, and urban, and found that Latin America and the Caribbean had high rates of urbanisation (80%), and thus more than 60% of settlements were in urban areas. In contrast, Sub-Saharan Africa had the lowest rates of urbanisation and nearly 63% of informal settlements were rural. In Sierra Leone and Liberia, informal settlements hosted most of the population.

In India, at the time of the study, 40% of slum dwellers resided in urban and suburban areas.

People settle in, or are forced to settle in, floodplains due to a combination of factors including access to jobs, social vulnerability, and financial constraints. In India and Bangladesh, the low lying Gangetic delta and the large national population contribute to the numbers.

The study also highlighted inequities in access to resources and thus local responses to flooding. These vulnerable residents also suffer the loss of jobs and access to services among the indirect consequences of floods.

Exposed populations' vulnerability was found to depend on socioeconomic factors like education level and institutional factors like flood insurance.

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Aerial shot of a large slum in Bandra, a suburb in Mumbai. Both slum-dwellers and non-slum residents live in floodplains around the world, but for different reasons. GETTY IMAGES

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The authors of the study wrote that both slum-dwellers and non-slum residents live in floodplains around the world, but for different reasons. In wealthier regions like Europe, subsidised flood insurance premiums in high risk areas promotes the desirability of floodplain areas like beachfronts and water views.

Infrastructure like levies also exist to protect people and houses. However, in the Global South, flood zones offer cheaper land and housing, pushing low income households into more vulnerable areas.

Data reveal that patterns of informal settlements also have a distinct bias towards settling in floodplains, with slum dwellers being 32% more likely to settle in a floodplain than outside due to lower costs, as evidenced in cities like Mumbai and Jakarta. In fact, the higher the risk of flood, the higher the chance of people settling there.

"In cities like Bengaluru, there definitely is a very strong correlation between informal settlements and their vulnerability to flood," Aysha Jennath, climate mobility researcher and post-doctoral fellow at the Indian Institute for Human Settlements, Bengaluru, said.

"Flood-prone localities are not preferred by large builders for gated communities or IT parks, so those areas are available for migrant workers and informal settlements as they are cheaper."

Informal settlements in such urban

> In cities like Bengaluru, there definitely is a very strong correlation between informal settlements and their vulnerability to floods
>
> **AYSHA JENNATH**
> CLIMATE MOBILITY RESEARCHER AND POST-DOCTORAL FELLOW AT THE INDIAN INSTITUTE FOR HUMAN SETTLEMENTS

areas are typically tin-sheet, tent or tarp housing, with rent paid to owners through land contractors.

SDG deadline looms

The researchers specified the need to act on flood vulnerability risk for poorer populations as the 2030 deadline for the United Nations' Agenda for Sustainable Development Goals (SDGs) nears. The goals number 17, including eliminating poverty and hunger, availing clean water and sanitation, and taking climate action. They apply to all the UN's member countries and focus on vulnerable communities.

The study also articulated the importance of taking a human-centric approach (instead of location-focused) to improve inadequate infrastructure.

Data show large concentrations of settlements in smaller areas, indicating gaps in housing, infrastructure, and basic services. Often, even gated communities

gentrify flood-prone areas, pushing vulnerable communities to areas of higher risk exacerbated by failing infrastructure and lack of drainage, Jennath said.

"Real estate plays a huge role in how these informal settlements come up."

Finally, the researchers also discussed the need for the government to collaborate with communities instead of banking only on traditional disaster preparedness. Skill improvement in areas like sanitation, waste management, and installing drainage systems could enhance the resilience to not just floods but also other risks like infectious disease, while providing jobs.

"These data-driven insights highlight the disproportionate flood exposure faced by slum dwellers in the Global South and underscore the need for just and equitable flood adaptation management," they wrote.

The findings are also a proof-of-concept for using machine learning, which can process large quantities of data, to analyse satellite imagery and extract nuanced insights, like socioeconomic data embedded in population densities. As a follow-up, the authors have said they plan to study timewise processes such as slum expansion, climate change, and human migration to effectively predict future flood risk.

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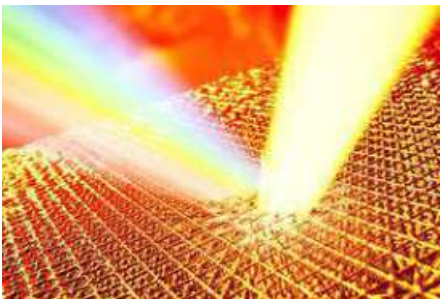
If a material is heated rapidly enough, it may not experience an entropy catastrophe. GREG STEWART/SLAC NATIONAL ACCELERATOR LABORATORY

Gold superheated far beyond its melting point can stay solid

Vasudevan Mukunth

When gold is heated really quickly, it remains solid at temperatures far above its melting point, a new study in *Nature* has found.

When an object is solid at or beyond its melting point, it's said to be superheated. Most materials can be superheated only in a short range after that point before melting. Scientists used to think this range was fixed because of the entropy catastrophe.

Previously, scientists thought that if you heated a crystal to about three-times its melting temperature, it wouldn't be able to stay a solid any more: it'd have to melt because its atoms would have become too disordered. In 1988, Hans-Jörg Fecht from Germany and William Johnson from the US reported that when a solid was superheated to around three-times its melting point, it would eventually possess more entropy than its liquid form beyond a particular temperature, which is impossible. This temperature was called T_{EC}, where EC stood for "entropy catastrophe."

This outcome is "catastrophic" because of the second law of thermodynamics. For two phases at the same temperature and pressure, the phase with higher entropy is (loosely speaking) the more disordered one. According to the law, the entropy of an isolated system can't spontaneously decrease – yet that is what the entropy of a solid being higher than that of a liquid implies.

The "catastrophe" is a warning that extrapolating to those problematic temperatures in the Fecht-Johnson experiment didn't enjoy thermodynamic legitimacy.

The new study with gold explores what happens when the metal is heated very quickly.

Understanding the limit of how much heat a solid can imbibe without changing its phase is important for engineers to design materials that work in extreme

Gold superheated to 14-times its melting point remained solid for a few trillionths of a second. X-ray patterns revealed the atoms were still in the ordered pattern typical of solid crystals

environments, such as on planets with brutal atmospheres.

The researchers, from Germany, Italy, the UK, and the US, used powerful laser pulses to heat gold films about 50 nm thick. The pulses heated the gold rapidly, without giving it time to expand, disintegrate, or liquefy.

Then, a device produced and emitted streaks of X-ray radiation that struck the gold atoms and scattered off only a few picoseconds after they'd been heated. By measuring the changes in energies of those X-rays and the directions in which they emerged from the nanofilms, the team could deduce the films' temperature.

The team found that gold superheated to 14-times its melting point remained solid for a few trillionths of a second, a significantly long time in the microscopic realm. The X-ray patterns revealed the atoms were still arranged in the ordered pattern typical of solid crystals.

According to the researchers, the rapid heating could overtake the effects that came with heating more slowly. This isn't a gimmick but a signal that if a material is heated rapidly enough, there may not actually be an "entropy catastrophe." The ultrashort laser pulses made sure the gold atoms didn't have time to "relax" before the X-ray instrument came on, revealing the nanofilm to have been solid even at a temperature where melting was expected to be unavoidable.

THE SCIENCE QUIZ

Lands kept apart, or together, by a sliver

Vasudevan Mukunth

QUESTION 1
Name the narrow waterway that separates Europe from Asia and which has been central to trade and warfare for centuries. Once called the Hellespont, it connects the Sea of Marmara with the Aegean. Xerxes's army famously crossed it on a pontoon bridge in 480 BC, followed by Alexander the Great in 334 BC.

QUESTION 2
This 77-kilometre-long structure connects the Atlantic and Pacific Oceans via a narrow Central American land bridge, saving ships nearly 13,000 km of travel. Its construction reshaped global shipping routes and required a

major effort to conquer both tropical disease and terrain. Name it.

QUESTION 3
This strait is only 3.8 km wide at its narrowest point. It separates a British overseas territory from the Spanish mainland, connects the Atlantic Ocean to the Mediterranean Sea, and is home to a famous rock with mythic associations. Name the strait.

QUESTION 4
This narrow strait links the Crimean Peninsula to the Russian mainland and has been of strategic military interest since ancient times. It is also the site of a modern bridge that's often been in the news vis-à-vis Russia's war against Ukraine. Name the straight.

QUESTION 5
Often mistaken for a human-made

structure, this natural feature is a slender land connection between two large landmasses, separating the Pacific Ocean from the Arctic ocean. During the Ice Age, it helped humans cross from the upper edges of Asia into North America. Name it.

Answers to July 22 quiz:
1. Mammals related to primates that glide between trees – **Ans: Flying lemurs**
2. South American rodents that spend a lot of time eating – **Ans: Guinea pigs**
3. Marsupial that often went by "Tasmanian tiger" – **Ans: Thylacine**
4. Common name for *Phrynosoma* lizards – **Ans: Horny toads**
5. Sea urchin named for its skeletons washed ashore – **Ans: Sand dollar**
Visual: **Whale shark**
First contact: K.N. Viswanathan | Tamal Biswas | Saifuddin Midda | Anmol Agrawal | Faisal Khan

Please send in your answers to science@thehindu.co.in

Visual: Clockwise from top left, these are the cities of Auckland, Manila, Seattle, and Madison. What do they have in common in line with this quiz's theme? ELPINTO007, RALFF NESTOR NACOR, COLLEGE.LIBRARY