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DAILY CURRENT AFFAIRS

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☎ 9560300770  www.tathastuics.com ✉ enquiry@tathastuics.com

Plot No.B 22, Bada Bazar Road, Old Rajinder Nagar, New Delhi-110060

Topics Covered

- HC rejects X Corp.s plea against takedown orders
- Just a pinch can reduce Indian's salt overload
- Follow the rains not the calendar to fight floods
- How are courts protecting personality rights?
- Will AI fix India's energy demand?

GS-2 (Polity): Federalism, UT administration, Sixth Schedule.

GS-3 (Internal Security): Implications of unrest in strategically sensitive border regions.

GS-1 (Society): Tribal rights, cultural protection

Leh protest turns deadly; Ministry blames activist

BJP office torched and Ladakh Hill Council premises vandalised as protesters seeking Statehood, tribal status for region go on a rampage; Centre says mob attacked police, 30 personnel injured

Vijaita Singh
Peerzada Ashiq
NEW DELHI/SRINAGAR

Several people were feared dead and many injured in Leh city in the Union Territory of Ladakh on Wednesday after an ongoing protest demanding the constitutional safeguards of Statehood and tribal status for the region bordering China turned violent.

The Union Home Ministry, in a statement, said an unruly mob destroyed public property and attacked the police, injuring around 30 security personnel. The police had to resort to firing, in which "unfortunately some casualties are reported", it said.

The Ministry said a hunger strike was started by climate activist Sonam Wangchuk on September 10 to press for Statehood and inclusion of Ladakh under the Sixth Schedule (tribal status). It said the Government of India had been actively engaging with the Leh Apex Body (LAB) and the Kargil Democratic Alliance (KDA), and despite a planned meeting on September 26 with the leaders, "a mob guided by Sonam Wang-



Public outcry: A vehicle belonging to security forces being set on fire during the protest in Leh demanding Statehood for the Union Territory of Ladakh, on Wednesday. AP

chuk's provocative statements" caused violence.

"The government stands committed to the aspiration of people of Ladakh by providing adequate constitutional safeguards," the Ministry said.

It added that the demands on which Mr. Wangchuk was on hunger strike were an integral part of the discussion of a high-powered committee.

"In spite of many leaders urging to call off the hunger strike, he continued with the hunger strike and misleading the

people through provocative mention of Arab Spring-style protest and references to Gen Z protests in Nepal... Amidst these violent developments, he broke his fast and left for his village in an ambulance without making serious efforts to control the situation," it said. The protesters, mostly youth, torched the BJP office and vandalised the Ladakh Autonomous Hill Development Council premises.

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Congress behind the protests in Ladakh, says BJP

NEW DELHI
The Bharatiya Janata Party (BJP) on Wednesday alleged that the Congress was behind the protests in Ladakh's Leh, dismissing claims that the demonstrations were led by the "Gen Z" demographic. At a press conference here, BJP MP Sambit Patra alleged that Congress councillor Stanzin Tsepag was the "instigator" of the protests. » PAGE 15

HC rejects X Corp.'s plea against takedown orders

The Hindu Bureau
BENGALURU

Observing that "social media, as a modern amphitheatre of ideas, cannot be left in a state of anarchic freedom", the Karnataka High Court on Wednesday rejected a petition filed by X Corp. challenging orders issued by Central and State authorities to take down certain content on its micro-blogging platform, X, under Section 79 of the Information Technology Act.

Justice M. Nagaprasanna, while reading out the operative portions of the judgment, said: "Content on social media must be regulated, particularly in cases of offences against women, failing which the right to dignity of citizens is undermined."

"Order is the architecture of our democracy. Every platform that seeks to operate within the jurisdiction

No relief

The Karnataka High Court rejected X Corp.'s petition challenging blocking orders issued under the Information Technology Act

■ Regulation of information in this domain is neither novel nor unique. Every sovereign nation regulates it. India likewise cannot, by any stretch of constitutional imagination, be branded unlawful for doing so, says court

■ Content on social media must be regulated, particularly in cases of offences against women, failing which the right to dignity of citizens is undermined, it says



tion of our nation must accept that liberty is yoked with responsibility, and the privilege of access carries with it the solemn duty of accountability," the court said.

'Matter of regulation'

Pointing out that information and communication and its spread or its speed have never been left unchecked or unregulated but have always been the subject matter of regulation,

the court said, "As and when technology developed, from messengers to the postal age till the age of WhatsApp, Instagram and Snapchat, all have been regulated by regulatory regimes subsisting then and subsisting today, both globally and locally; and regulation of information in this domain is neither novel nor unique."

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GS-2 (Health Policy): Regulation of food environment, role of government in preventive health.

GS-3 (Science, Tech & Environment): Lifestyle diseases, public health challenges

Just a pinch can reduce an Indian's salt overload

There is renewed attention in India on the harmful effects of high sugar food items and the use of fats or oils in cooking. The context is the rising burden of non-communicable diseases (NCD), more so obesity, in all age groups including in children and adolescents. However, there is one component which is of equal if not bigger concern and an issue that is not receiving adequate attention. It is the subject of the high consumption of salt by India's population.

There is scientific data that Indian adults consume nearly eight to 11 grams of salt every day. This is double the World Health Organization (WHO) recommended daily salt intake of five to six grams per day. Salt is very much a part of the Indian diet. Much of the salt intake — nearly three-fourth — in India is from home-made food items. Pickles, papad/papadam and many other items that are rich in salt are part of home-made food.

Visible and invisible forms There is also the cultural practice of having a salt shaker on the dining table or the surfaces around it which also helps increase salt intake. Eating out is becoming common — nearly one-fifth of adults eat outside, three times a week on average. Essentially, restaurants are an extension of an individual's food habits. Therefore, in an attempt to make the food served tastier, these eating places add more oils and butter, which require more salt to be added to suit the taste buds. In addition to visible salt, there is also invisible salt present in many items — bread, cookies, ketchups and even sweet items such as cakes and pastries. All packaged food items have salt as a preservative or as a taste enhancer. What is available in the market is often a variety of high fat, salt and sugar (HFSS) and ultra processed food items.

It is not that excess salt consumption is harmless. The adverse health impacts of excess salt intake are well documented. The high intake of salt is a key factor in India's growing burden of hypertension, which affects 28.1% of adults and significantly increases the risk of cardiovascular diseases. Yet, salt does not get sufficient public health attention. The current discourse is about sugar boards or the need for attention on oil

boards (visual information panels in public places to highlight high sugar and fat content in foods) but there is limited advocacy for reducing one's salt intake.

Moving beyond awareness campaigns

Salt reduction is a public health imperative. The WHO calls salt reduction a "best buy" intervention, with research suggesting that for every dollar invested in scaling up salt reduction interventions, there will be a return of at least \$2. While current efforts promote awareness measures, these alone do not solve the problem.

Salt consumption is also linked to widely prevalent myths in India. For example, there are many who believe that salts such as rock salt, black salt and Himalayan pink salt, are better and have health benefits, which is not true. All types of salt contain sodium with minor range variations.

Excess sodium, regardless of the source, contributes to high blood pressure and linked harmful effects. Some of these salt formulations have a less than salty taste and thus are consumed more. Further, these types of salt are usually not iodised, and their use could lead to iodine deficiency.

In such a situation, it is time that we start paying attention to reduced salt intake in a multi-pronged approach. First, the isolated approaches of a focus on a 'sugar board' and 'oil board', need to be expanded into a more comprehensive strategy of HFSS boards, where equal attention is given to ensure salt reduction. We need to be mindful that ultra processed food or anything which requires packaging often has excess salt (and possibly sugar and fat as well).

Second, there is a need for public awareness campaigns to change behaviour which includes gradual salt reduction while cooking, flavouring with herbs and spices, and replacing regular salt with low-sodium salt substitutes. Here, a word of caution, replacing sodium based salt with high potassium salt should be done with medical advice as higher potassium salt could be risky for some people such as those with kidney diseases.

Third, a salty taste is an acquired taste. If a person is exposed to high salt food, the person is likely to consume more salt to get a similar taste. Therefore, salt reduction should start with

children. In fact, babies (up to one year) should not be given any added salt. Even toddlers and pre-school children should not be given added salt. Of course, they can have the same food items which adults eat, made from the common kitchen.

Fourth, every day, millions of vulnerable Indians including children in schools, pregnant women in Anganwadi centres, and patients in hospitals rely on government-provided meals. These programmes are critical touchpoints for public health. Yet, mechanisms to regulate or monitor salt in these meals are still evolving. Reforming public food procurement norms to mandate salt limits, train cooks, and set standards can improve health outcomes in the most at-risk populations.

Fifth, there is a need for more proactive front-of-pack nutritional labels which inform readers about warnings regarding high salt content of specific items, as it has been done in Latin American countries. In this, Chile is a front leader. India must adopt mandatory warning labels, salt ceilings in processed foods, and restrict marketing of unhealthy foods to children.

Sixth, community and family-level initiatives such as restaurants removing salt shakers from tables (providing them only on demand) and families doing weekly reviews of high salt and fat and sugar items in the kitchen (and dispose of and not purchase more) will help in reducing salt intake. More such innovations would be needed.

An integration with health programmes Seventh, India's own National Multisectoral Action Plan (NMAP) for prevention and control of NCDs (2017-22) includes salt reduction as a priority. While several steps have been taken, a more integrated, cross-ministerial approach could further strengthen the impact. As the Union Ministry of Health and Family Welfare is working on a new multi-sectoral plan for NCDs, it is time for additional bold steps. To effectively reduce salt intake at the population level, it is essential to have and implement a combination of regulatory measures and community-based interventions.

Integrating salt reduction strategies into existing national health programmes can facilitate this process.



Dr. Chandrakant Lahariya
is a practicing physician and Founder-Director, Foundation for People-Centric Health Systems, New Delhi. He has worked for nearly 18 years with the World Health Organization and UNICEF.



C.K. Mishra
is a former Union Health Secretary, Government of India.

India's population is consuming too much salt — double the World Health Organization's recommended daily intake

GS-1 (Geography): Changing monsoon patterns, climate extremes.

GS-2 (Governance): Institutional coordination in disaster management.

GS-3 (Disaster Management, Environment): Climate-resilient infrastructure. Urban flooding challenges.

Follow the rains, not the calendar, to fight floods

Each year, urban India braces for the monsoon – contractors are deployed, drains desilted, and emergency protocols rehearsed. Yet, when the rain finally arrives – often untimely and more intense than expected – headlines are dominated by flooded roads, waterlogged homes, and stranded commuters. The deeper issue is that our cities are often still designed for a climate that no longer exists.

Northern States are seeing heavy flooding even in September, with all of Punjab's 23 districts being hit by floods. Delhi and Gurugram have been inundated by intense rains, and Uttarakhand and Himachal Pradesh are experiencing frequent cloudbursts. In the east, Kolkata is facing torrential rains.

Timing, amount, and intensity

But the rains came early too. In May, Mumbai recorded 135.4 mm of rainfall in just 24 hours, followed by 161.9 mm the next day. Delhi recorded 81 mm fall within a few hours on the same day, overwhelming the drainage systems. This shift in rainfall timings is not new; yet our preparedness remains tethered to outdated schedules. Drain cleaning, for instance, still follows the June monsoon calendar.

Cities must follow the rain to be able to bridge the gap between schedules, and readiness and reality. An analysis by the Council on Energy, Environment and Water shows that about 64% of Indian tehsils have seen a rise in the frequency of heavy rainfall days by 1-15 days, especially in Maharashtra, Tamil Nadu, Gujarat, and Karnataka. The consequences for urban systems are significant, from localised flooding to disruptions in essential services. In the last two decades, floods have caused most of the loss to life and property from natural disasters in India. Today, a single flood can cause damages of some ₹8,700 crore, with such events becoming increasingly frequent.



Pratha Mishra

Research Analyst,
Council on Energy,
Environment and
Water. Views are
personal



Nitin Bassi

Fellow,
Council on Energy,
Environment and
Water. Views are
personal

Indian cities are often designed for a climate that no longer exists

The challenge is not just the amount of rainfall, but also the intensity. Intensity, Duration, Frequency (IDF) curves, which track rainfall patterns over time, offer an interesting picture. For instance, CEEW's analysis of daily rainfall from 1970 to 2021 in the coastal city of Thane shows that one-hour rainfall now reaches 50 mm once every two years, and about 80 mm per hour once every 50 years. This means such heavy rainfall can be expected to occur within hours, leaving little room for cities to respond. There is also a sharp difference between how much rain falls in one hour versus three hours, revealing that rainfall that once spread across a day may now have a higher chance of falling within an hour. We propose three interlinked actions to prepare Indian cities better for the monsoons and flood-proof them.

Preparing for the monsoon

First, city authorities should incorporate sub-daily rainfall analysis into city monsoon planning. Municipalities must move beyond long-term averages and integrate recent patterns and short-duration, high-intensity rainfall events that unfold within a few hours, into infrastructure design. Real-time data on sub-daily rainfall, which occurs over intervals shorter than 24 hours, must inform citizens about drainage operations and upgrades. For instance, the Brihanmumbai Municipal Corporation (BMC) has announced this year that it will widen its drains to handle up to 120 mm of rainfall in an hour.

While India's monsoon officially spans 100-120 days, just a few hours of intense rain across select days account for most of the seasonal rainfall. Yet, maintenance and planning assume a uniform spread. This illusion of consistency leads to systems that fail not due to excessive seasonal totals, but hourly extremes. Recognising this compression is the first step towards resilience.

Second, align cleaning of storm water drains and municipal solid

waste management calendars. An overlooked cause of urban flooding is unmanaged waste – plastic, debris, and litter frequently block drains. Yet storm water and waste are handled by separate departments on different schedules. While the Ministry of Housing and Urban Affairs recommends drain cleaning before, during, and after the monsoon, its effectiveness hinges on coordination with waste collection. Even a freshly cleaned drain can clog again if garbage is left uncollected nearby. Ideally, storm water and sanitation departments must coordinate, especially during high-risk periods. Rainfall alerts from the India Meteorological Department should automatically trigger joint sanitation drives and drain inspections in vulnerable areas. In Vijayawada, such coordination – through monsoon response teams composed of officials from the sanitation, engineering, and planning departments – has reduced waterlogging and eased conditions for residents.

Third, city authorities must update IDF curves every 5-10 years to ensure that infrastructure keeps pace with evolving rainfall patterns. Without this, new drainage systems will continue to rely on outdated data, leaving them ill-equipped to handle present day storm water run-off volumes. In response to recent intensifying rains, the BMC has also proposed expanding storm water capacity and preparing a new drainage master plan based on updated trends. Drainage design should also be based on micro-catchment-level hydrological analysis that accounts for topography, which affects peak discharge during storms. New systems must be separated from the sewerage networks to avoid overload and ensure efficiency. We are not losing to the rain, but to the idea that the rain fits into seasonal boxes. Instead of asking when the monsoon will begin, we need to ask, are we prepared for the rain already falling?

GS-2 (Polity & Rights): Personality rights vs freedom of speech → constitutional balancing.
GS-3 (Sci-Tech, Cybersecurity): AI deepfakes, misuse of digital identity, regulatory framework.

How are courts protecting personality rights?

How are Bollywood actors like Aishwarya Rai Bachchan and Abhishek Bachchan flagging the misuse of their voices and likeness through AI-generated content? What are personality rights? Will such injunctions by the judiciary restrict free speech?

EXPLAINER

Aaratrika Bhaumik

The story so far:

The Delhi High Court has recently issued a series of orders protecting the personality rights of Bollywood celebrities from unauthorised commercial use. On September 9 and 10, Justice Tejas Karia granted relief to actors Aishwarya Rai Bachchan and Abhishek Bachchan, after they flagged the misuse of their images and voices through AI-generated content and merchandise. A week later, Justice Manmeet P.S. Arora extended similar protections to filmmaker Karan Johar, by barring the unauthorised use of his persona through deepfakes, and other digital manipulation. Actors Amitabh Bachchan, Anil Kapoor, and Jackie Shroff have already secured such protections. These petitions signal a wider push for judicial recognition of personality rights in the digital era.

Are personality rights protected?

Personality rights safeguard an individual's name, likeness, image, voice, signature, and other distinctive traits from unauthorised commercial exploitation. Though not codified in a single statute, personality rights in India are grounded in common law doctrines of privacy, defamation, and publicity rights, and reinforced through judicial precedents. Courts may grant injunctions, award damages, or issue takedown orders to curb misuse in advertisements, merchandise, AI-generated content, or digital platforms.

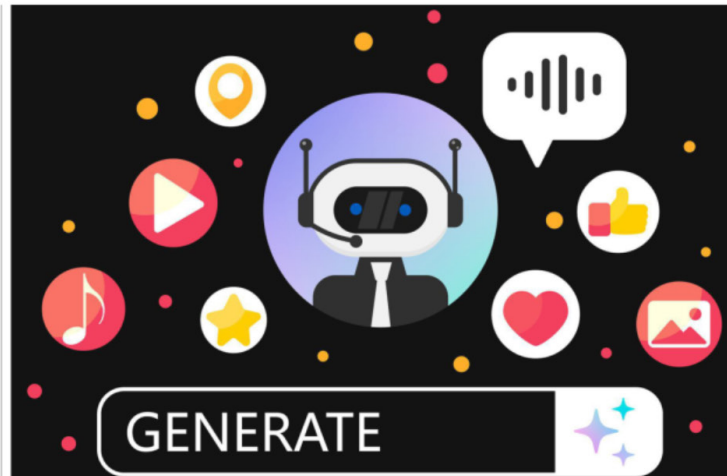
Statutory protection is dispersed across intellectual property laws. The Copyright Act, 1957, grants performers both exclusive rights under Section 38A and moral rights under Section 38B, allowing them to control how their performances are reproduced and to object to any distortion or misuse. The Trade Marks Act, 1999, permits individuals, particularly celebrities, to register distinctive attributes of their persona, such as names, signatures, or even catchphrases, as trademarks.

For instance, actors such as Shah Rukh Khan, Priyanka Chopra, Ajay Devgn, and Amitabh Bachchan have registered their names as trademarks. However, the most robust safeguard lies in the common law tort of "passing off" under Section 27 of the Act, which protects the goodwill of an unregistered mark and prevents misrepresentation that could deceive the public or imply false endorsement. This protection is neither automatic nor absolute, as courts generally require clear evidence of reputation and goodwill before granting relief.

At the heart of personality rights lies the right to autonomy and privacy rooted in Article 21 of the Constitution. When a celebrity consents to appear in a film, advertisement, or public campaign, they exercise control over their public identity. But when third parties print their image on merchandise or use AI tools to generate deepfakes or chatbots without authorisation, that autonomy is stripped away and the individual's dignity and agency are compromised.

What have courts ruled so far?

The jurisprudence on personality rights in India traces its origins to the seminal 1994 judgment in *R. Rajagopal versus State of Tamil Nadu*, where a magazine sought to publish the autobiography of Auto Shankar, a death-row convict, recounting details of his private life and alleged links



GETTY IMAGES

with State officials. The government moved to restrain the publication on grounds of privacy and defamation. The Supreme Court recognised that individuals possess a legitimate interest in controlling the use of their identity, grounding this protection in the constitutional right to privacy. However, it clarified that remedies for privacy violations must follow publication, through actions such as defamation suits, rather than through prior restraint by the state. The court held that personal details may be published without consent if they are already part of the public record.

Two decades later, the Madras High Court crystallised the emerging doctrine in a case involving actor Rajinikanth. The lawsuit, filed against the producers of the film *Main Hoon Rajinikanth*, alleged misuse of the actor's name, image, and distinctive style of delivering dialogues. The court stressed that infringement does not require proof of falsity, confusion, or deception if the celebrity is readily identifiable, and accordingly upheld the actor's right to restrain the unauthorised commercial exploitation of his persona.

With the advent of AI, courts have had to grapple with novel threats to identity. In 2023, the Delhi High Court granted actor Anil Kapoor wide-ranging protection over his personality rights, restraining 16 online entities from exploiting his name, image, voice, likeness, or his catchphrase "Jhakaas," which he popularised in films. Justice Prathiba Singh clarified that free speech extends to "genuine write-ups, parody, satires and criticism" but cannot be stretched to justify commercial exploitation. She cautioned that when such use "crosses the line and results in tarnishing, blackening or jeopardising the individual's personality and elements associated with them, it would be illegal." Referring to morphed images of the actor with other actresses, she said this was "not merely offensive" to him but also to third parties, adding that the court "can't turn a blind eye to such misuse," particularly where dilution and tarnishment are actionable torts. Similarly, in May 2024, the Delhi High Court protected the personality and publicity rights of actor Jackie Shroff,

restraining e-commerce platforms and AI chatbots from misusing his name, image, voice, and likeness without consent. The court observed that the "unauthorised use of these characteristics for commercial purposes not only infringes upon these rights but also dilutes the brand equity painstakingly built by the plaintiff over the years."

A few months later, the Bombay High Court delivered a significant ruling in favour of singer Arijit Singh, who alleged that Codible Ventures LLP had used AI tools to create artificial recordings of his voice, a practice known as voice cloning. The court reiterated that the singer's "name, voice, image, likeness, persona and other traits" are protected under his personality rights. Expressing concern over the risks of generative AI, Justice R.L. Chagla observed, "What shocks the conscience of this court is the manner in which celebrities, particularly performers such as the present Plaintiff, are vulnerable to being targeted by unauthorised generative AI content."

To what extent can such rights curtail free expression?

Critics argue that the expansive protection of personality rights could stifle free expression.

Article 19(1)(a) of the Constitution guarantees every citizen the right to freedom of speech, which includes the creative freedom to criticise, parody, or satirise public figures. However, Indian courts have repeatedly affirmed that this right is not absolute and must be balanced against an individual's dignity and autonomy.

In *DM Entertainment Pvt. Ltd. versus Baby Gift House* (2010), the Delhi High Court dealt with a petition filed by a company to which singer Daler Mehndi had assigned his personality rights. The company had alleged that gift shops were selling dolls that were "cheap imitations of, and identical to the likeness" of Mr. Mehndi, amounting to the unauthorised commercial exploitation of his persona. While granting an injunction, Justice S. Ravindra Bhat cautioned that caricatures, lampooning, and parodies would not ordinarily infringe publicity rights. He warned that an "overemphasis on a

famous person's publicity rights" could chill free speech and deprive the public of an entire genre of expression.

This principle was reaffirmed more than a decade later in *Digital Collectibles PTE Ltd. versus Galactus Fumware Technology Pvt. Ltd.* (2023), which involved the unauthorised use of sports stars' likenesses despite exclusive licences held by the plaintiff.

The Delhi High Court refused to broaden publicity rights at the expense of free expression, noting that material already in the public domain could not reasonably mislead the public into believing there was an endorsement. Justice Amit Bansal clarified that the use of celebrity names or images for "lampooning, satire, parodies, art, scholarship, music, academics, news and other similar uses" is a legitimate exercise of Article 19(1)(a) and does not amount to infringement of publicity rights.

What are the concerns?

Jwalia Balaji, research fellow at the Vidhi Centre for Legal Policy, told *The Hindu* that a comprehensive legislative framework is the need of the hour to ensure that the enforcement of such rights is not reliant on piecemeal judicial precedents. "In the absence of a regulatory regime, responses remain fragmented and ad hoc. More importantly, there is a fine line between artistic creation and a breach of personality rights. Exceptions must be clearly identified and firmly respected, especially in times when concerns over censorship loom large," she said.

She further pointed out that personality rights are not the exclusive privilege of celebrities, since all individuals enjoy the right to privacy. "Ordinary citizens, especially women, are increasingly targeted through deepfakes and revenge pornography. Laws must be tailor-made to address this disproportionate impact on women," she said. She noted that in such cases, courts often direct the government to block URLs impersonating an individual or misusing their images without consent. However, she cautioned that tracking every such breach and acting on it remains a herculean task.

THE GIST

Personality rights safeguard an individual's name, likeness, image, voice, signature, and other distinctive traits from unauthorised commercial exploitation.

The Copyright Act, 1957, grants performers both exclusive rights under Section 38A and moral rights under Section 38B, allowing them to control how their performances are reproduced and to object to any distortion or misuse.

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Science Section

GS-2 (Governance & Policy): Role of government nudges in sustainable AI & energy transition.
GS-3 (Energy, Science & Tech, Environment):

Will AI fix India's energy demand or will its own needs snowball?

A report estimates that annual global demand for data centre capacity may increase by 19 to 22% from 2023 to 2030, reaching 171 to 219 GW compared to the current demand of 60 GW; this would require building twice the capacity built since 2000 within a quarter of that time frame

T.V. Padma

As artificial intelligence (AI) and its attendant data demand continue to expand in India and worldwide, a curious dilemma has arisen: will AI help transform energy delivery for the better or will the data centres crucial to its operations impose a new burden on the world's power grid?

In a 2024 report, the International Energy Agency (IEA) highlighted the growing interconnections between energy and AI worldwide. It projected that demand from data centres would more than double by 2030 to around 945 TWh and that AI would be the principal driver. The demand from AI-optimised data centres was projected to more than quadruple by 2030.

A McKinsey report has also estimated that the annual global demand for data centre capacity could rise at 19-22% from 2023 to 2030, reaching 171-219 GW, against the total current demand of 60 GW. To avoid a deficit, at least twice as much data centre capacity built since 2000 will have to be in place in less than a quarter of the time.

Given AI's significant hunger for computing power, energy demand is naturally increasing. Anwesha Sen, an assistant programme manager at Takshashila University studying the impact of technology policy and AI on society, said, "It's not as drastic when compared to other energy-intensive industries".

Worldwide, data centres consume 1-2% of total power and that's expected to increase to 3-4% by 2030. To compare, the steel industry consumes around 7% of total power, Ms. Sen said.

Pressure, and potential
According to McKinsey, India's data centre demand is projected to increase from 1.2 GW in 2024 to 4.5 GW by 2030, driven largely by AI and digital adoption across sectors.

Mumbai accounts for 41% of the data centre capacity, followed by Chennai (23%) and the National Capital Region (14%).

AI-driven data centres in India are projected to consume an additional 40-50 TWh of electricity annually by 2030, according to Raghu Raman, Professor and Dean at the School of Business at Amrita Vishwa Vidyapeetham.

The increasing adoption of AI and digital technologies in India is contributing to a significant rise in energy demand, especially in already energy-intensive sectors like real estate, Vinay Nadar, national director of research at the Mumbai-based India office of Colliers, a global investment company, said. India is the third-largest energy consumer worldwide, after China and the U.S., with coal, crude oil, and natural gas comprising the bulk of its energy mix.

The energy consumption of data centres is imposing huge pressure on energy systems worldwide, Anish De, global head for Energy, Natural Resources, and Chemicals at KPMG, said, adding, "India will not be any different."

According to Ms. Sen, an equal concern is the correspondingly increasing demand for freshwater required to cool the servers in these data centres.

That said, there is scope to press AI to



AI has been deployed in India to forecast and optimise hybrid solar-wind-battery plants and ensure 24/7 access to renewable energy while minimising grid stress. ALESSANDRO VENTURINI/UNISPLASH

the service of smarter energy management as well.

"AI is playing a pivotal role in transforming how energy is delivered, utilised, and managed, both globally and within India," Mr. Nadar said.

On the one hand, AI could help develop energy transition technologies and as well as new materials that mitigate India's dependence on critical minerals it currently has to import from abroad, Dr. De said by way of example.

"It will also aid faster project development. This is already playing out in the main geographies and will propagate to others quickly," he added. "We will see energy efficiency and resource efficiency gains that will also be substantial, though not enough to offset the demand. AI itself will support the gains in expansion of clean energy."

On the flip side, carbon emissions will also increase. "Despite best efforts it is practically impossible to meet this demand from renewables, both from quality and quantity standpoints," according to Dr. De.

The IEA also noted in its report that AI "could intensify some energy security strains" as "cyberattacks on energy utilities have tripled in the past four years and become more sophisticated because of AI," even as AI tools are becoming critical for energy companies to defend against such attacks.

Renewables rescue

As energy demand intensifies, real estate stakeholders are increasingly prioritising energy efficiency, sustainability, and emission reduction in both new developments and retrofitting of existing assets, Mr. Nadar said.

"Concurrently, there is a growing emphasis on renewable energy adoption. Real estate developers are increasingly incorporating rooftop solar solutions and



It is practically impossible to meet this demand from renewables, both from quality and quantity standpoints

ANISH DE
GLOBAL HEAD FOR ENERGY, NATURAL RESOURCES, AND CHEMICALS AT KPMG

solar-integrated building systems, further reducing the sector's reliance on conventional energy sources."

The IEA has also said a range of energy sources will be tapped to meet data centres' rising electricity needs although, according to its report, "renewables and natural gas are set to take the lead due to their cost-competitiveness and availability in key markets."

India and many other countries are taking advantage of AI to enhance energy efficiency and promote sustainable real estate practices, per Mr. Nadar. In India, the Energy Conservation Building Code and the Roadmap of Sustainable and Holistic Approach to National Energy Efficiency scheme aim to integrate AI and data analytics into smart metering, renewable energy management, and sustainable building design.

Also within the real-estate sector, AI-driven solutions like smart lighting systems, predictive HVAC optimisation, and automated building controls promise to reduce energy consumption by up to 25%. Green certifications such as GRIHA and LEED further encourage AI-based monitoring of energy and resource usage.

Data centres are also adopting AI to optimise cooling systems and server utilisation. As of April 2025, nearly one-fourth of the country's total data centre capacity in major cities had been green-certified, reflecting an explicit focus on creating sustainable infrastructure.

Almost 67% of the Grade A office stock across India's top seven cities is also green-certified.

'Need some nudging'

Under the National Smart Grid Mission, AI-enabled systems manage demand and integrate renewables, enhancing grid reliability while reducing wastage, according to Raman. The Nxta (Airtel) Data Centres use AI-powered cooling and predictive analytics to cut energy use, paired with renewable power purchase agreements to run green data centres.

BrightNight's PowerAlpha AI deployed in India to forecast and optimise hybrid solar-wind-battery plants and ensure 24/7 access to renewable energy while minimising grid stress.

Tata Power ReNew Power and Hindustan Zinc both use AI for real-time load forecasting, reducing outages and optimising power supply in Mumbai, Dr. Raman added. BESCOM in Karnataka has also started using AI to detect faults and 'heal' grid sections and thus mitigate downtime. Similarly, smart meters in Uttar Pradesh have been using AI to detect power theft as well as manage demand-side issues.

"A digital energy grid approach aims to build a unified and interoperable power infrastructure, and its potential can be amplified using AI," Ms. Sen said.

She added that companies are also working to develop "sustainable AI" that uses recycled water and has higher power use efficiency.

"As the race to build the most capable AI systems has got companies investing in massive data centres, a transition of the energy grid itself to use more sustainable power sources is required and might need some nudging by governments," Ms. Sen said.

(T.V. Padma is a science journalist in New Delhi. tvpadma10@yahoo.co.in)

Practice Question

Q. Artificial Intelligence is both a boon and a challenge for India's energy security. Discuss with examples. (150 words)