GS Paper II – Polity

518 of 697 lakes in J&K either vanished or shrunk: CAG

Peerzada Ashiq
SRINAGAR

A whopping 518 lakes, constituting about 74% of the 697 lakes in Jammu and Kashmir, have either disappeared or shrunk, according to the latest report of the Comptroller and Auditor General of India (CAG) on Conservation and Management of Lakes for the period up to March 2022.

The report highlighted that 315 lakes, 45% of the total lakes in the Union Territory that constitute a water area of 1,537.07 hectares, have disappeared. "These lakes included 80 lakes falling under the jurisdiction of the Forest Department and 235 lakes falling under the jurisdiction of Revenue Department and Agriculture Department," it said.

It added that the water area of 203 lakes (29% of 697 lakes) had decreased by 1,314.19 hectares.

The CAG report highlighted that 315 lakes, which constitute a water area of 1,537.07 hectares, have disappeared in J&K. FILE PHOTO

The CAG report suggested that water in 63 lakes has disappeared by "more than or equal to 50%". "Thus, there is a potential greater risk of extinction of these lakes," it added.

Meanwhile, the water area of 150 lakes (22%) has increased by 538.22 hectares. "The water area of 14,535.76 hectares in 29 lakes (4% of 697 lakes) had remained static," the report pointed out.

Cause of floods

The report suggested that the shrinkage of lake area was one of the causes for massive floods in Jammu and Kashmir in September 2014, "as lakes are natural flood balancing reservoirs and defence for the flood regulating system".

It highlighted that four administrative departments and the Forest Department did not have lake generic management programmes. As such they failed to check growing anthropogenic pressures around lakes, resulting in loss and decrease in open water area and increase in aquatic vegetation. "This adversely affected the ecosystem of the lakes," it said.

The report further pointed out that failure to formulate conservation and management programmes and undertake lake generic management activities by the district administrations concerned and the Forest Department in respect of 44 lakes resulted in anthropogenic pressures, generated by human activities such as construction work. "These anthropogenic pressures led to land use changes in these lakes," it added.

According to the report, the J&K Ecology, Environment and Remote Sensing Department had "failed to carry out a detailed survey of 697 lakes". "Hence physical, chemical and biological dynamics of lakes were not available for preparing development plans for these lakes," it said.

Besides, 255 lakes, under the jurisdiction of the Forest Department, "had no comprehensive conservation and management programme". "Although high altitude lakes in protected areas are free from anthropogenic pressures, they may be facing problems of siltation and issues relating to water sources. As such, they also require conservation and management efforts," the CAG report suggested.

The Jammu and Kashmir government has conservation and management programmes for only six lakes: Dal, Wular, Hokersar, Manasbal, Surinsar, and Mansar.

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GS Paper II – Polity

To mark World Health Day on April 7, a set of articles on the Editorial and Opinion pages that highlights key health issues

A disturbing step for rights, dignity and mental health

Dr. Kavita Arora

Senior psychiatrist with over 25 years of clinical practice and lived-experience expertise, Founding Cohort member of India Mental Health Alliance (IMHA), Co-Founder of Children First, and adviser and trainer in gender-affirming mental health practices across several Indian institutions

The Transgender Persons (Protection of Rights) Amendment Bill, 2026 has caused deep confusion, perplexity, and, over the past two weeks since its introduction, apprehension and fear. In trying to make sense of both the intent and the possible implications of the amendment, these days have raised more questions than they have provided satisfactory answers. At the core is the question, "Who owns my gender and therefore my gender identity?"

For the majority of men and women who happen to be cisgender, life hardly ever brings us to a point where we are faced with this as a question. There is no 'evaluation' that we need to undergo. Whether it is a form at a hospital, clinic, bank, or workplace, we claim our gender ourselves by ticking a box. We simply state our gender, not expecting anyone to question the obvious. However, for gender diverse and transgender individuals, this is what is proposed henceforth. This violates the foundational principles of dignity, autonomy and mental well-being.

From progression to regression

In 2014, the Supreme Court of India delivered a historic judgment in *NALSA vs Union of India*, recognising transgender persons as a legitimate gender identity. It was a watershed moment for jurisprudence, public policy and governance because it rested on a simple and powerful principle: gender identity is self-identified. Just as any individual declares themselves a man or a woman without external verification, transgender persons, too, were reaffirmed as the final and only authority on their gender identity. This principle is rooted not only in human dignity and autonomy but also in constitutional morality under Articles 14 (Equality before Law), 15 (non-discrimination), 19 (Freedom of Expression) and 21 (Right to Life and Personal Liberty).

In 2019, Parliament passed the Transgender Persons (Protection of Rights) Act. While parts of it were criticised by the community, it remained aligned with *NALSA* on the cornerstone issue of self-identification. Indeed, it acknowledged the community's long history of discrimination and exclusion, and sought to prohibit discrimination, ensure access to education and health care, extend welfare measures such as housing, skill development and employment support. These welfare schemes, in our minds, as allies and health-care practitioners, represented an attempt to build an enabling framework rather than a restrictive one.

Much of the work being done at both the health-care training and education levels, as a result of the 2019 Act, requires sensitisation drives to ensure that curricula and training for health care and allied professions are sensitive to gender-affirming practices, and to make welfare schemes more widely known and implementable. In these six years, all stakeholders had just about started to align themselves with the global standards that the 2014 judgement and the 2019 Act both validated.

The amendment to the 2019 Act – which was notified in the Gazette on March 30, 2026 – fundamentally reverses the NALSA judgment. It replaces self-identification with medical and bureaucratic gatekeeping, redefining who is 'allowed' to call themselves transgender. Under this amendment, a transgender person must appear before a medical board; undergo an assessment to 'prove' their gender identity; wait while the board forwards its recommendation to the District Magistrate, and obtain a certificate declaring them transgender.

There is no medical or evaluative biomarker for gender identity. No external knowledge or proof of any sort can determine the deeply held and personally felt experience of one's gender identity. There would have been no need for trans individuals to "come out "at all if that had been the case.

This is the accepted truth in medicine and health care across the globe. Therefore, it is perplexing that the Amendment talks about determining and validating someone's gender through a process in which the answer to the question "what is my gender?" has to be given by complete strangers.

This raises many issues that seem to present challenges at many levels.

Medical boards – many of which do not exist at the district level – are already overburdened even for urgent health-care needs. In the absence of criteria, as well as time and process, it is likely that boards may fall back on arbitrary, invasive or abusive examinations, including the possibility of genital inspection. This stems arguably from the traditional way of "assigning "gender at birth by looking at the genitals of a newborn child by a doctor or another adult. This is far from what we know to be the understanding of gender identity for gender diverse and trans individuals. Extrapolating this method to an adult and making it mandatory is in direct and complete violation of dignity, privacy and bodily autonomy. I cannot imagine any circumstance that would make me wish to approach this premise for myself as an adult cisgender woman. The very thought of such a scrutiny by a board of strangers, would probably create anticipatory mental distress and make me actively avoid approaching such a premise.

Instead of improving welfare access, the amendment will likely shrink it, deter individuals from approaching the state, and reintroduce fear and humiliation into an already vulnerable population.

The Transgender Amendment Bill threatens welfare access and instils fear and humiliation for an already vulnerable population

Mental health fallout, crisis in the making

The transgender community already faces extreme vulnerability. Data show that 99% of transgender persons have faced social rejection; 52% have faced harassment or violence in educational spaces; 57% of trans women report experiencing physical or sexual violence at least once, and transgender adolescents have suicide attempt rates estimated between 13% and 50%, far above the national average.

Against this backdrop, introducing additional layers of suspicion, verification and scrutiny is not just insensitive. It is unsafe. As a mental-health practitioner and an ally for the trans community, I am deeply concerned.

Not just prospective; what is concerning is the uncertainty for thousands of transgender individuals currently enrolled in health-care services, whose access may now be questioned or invalidated in the face of the ambiguity about supporting the gender exploration and gender journey of an individual. This is not merely a procedural shift; it has the potential of developing rapidly into a public mental-health emergency.

The amendment introduces a clause that criminalises 'undue influence' in helping someone identify as transgender, with penalties up to 15 years of imprisonment. For mental-health practitioners, psychologists, lawyers and educators, this creates an unprecedented ethical and legal risk. In many families, gender-identity journeys create tension or disagreement. Community-based organisations, trans-affirmative mental health practitioners and services are frequently accused of 'encouraging' adolescents simply for acknowledging their lived reality. Under this amendment, such allegations could become criminal charges.

This will discourage health-care practitioners from providing essential, evidence-based care; challenge community-based organisations to remain as allies, and push transgender persons away from formal health care and heighten mental distress that will likely remain unsupported.

Additionally, the amendment collapses distinctions between transgender, intersex and hijra identities, erasing cultural, social and biological differences. Trans men remain nearly invisible in the framework, further marginalising them.

An appeal for reflection and action

The current amendment risks undoing a decade of progress across law, governance, health systems and institutional practice. If misuse has occurred – even if limited to the 0.01% that the government suggests – the solution lies in audits, verification protocols and administrative strengthening – not in policing gender identity or forcing medicalisation.

To uphold constitutional values, protect mental health, and ensure administrative feasibility, this amendment must be reconsidered. We owe each individual in India the assurance that governance frameworks do not deepen fear, stigma, or exclusion for any community.

GS Paper II – Polity

Arrest the grief

Livelihood issues are at the heart of illegal sand mining in central India

The National Chambal Gharial Sanctuary in central India protects a lotic ecosystem across an area straddling three States. Its existence is crucial for the critically endangered gharial, the red-crowned roofed turtle and the endangered Ganges river dolphin. All three species depend on sand to survive, especially the river's sandbars and sandbanks. Yet, organised crime and state paralysis have been stealing away just that sand, prompting the Supreme Court of India to call the local sand-mining mafia "modern dacoits". The mafia erupted to meet the demand for sand during North India's construction boom, and has been able to exploit gaps in jurisdiction among the three States – Rajasthan, Madhya Pradesh, and Uttar Pradesh – despite the Court and the National Green Tribunal (NGT) banning the activity. State governments have also abetted this ploy by passing the buck on acting against the mafia. Between 2017 and 2024, tractor trolleys laden with illegally mined sand mowed down forest guards and police officers while miners also shot at police during raids. The police reported that miners had also begun using local villagers to track the movement of patrol vehicles using mobile apps and GPS. By 2023, reports indicated that mining syndicates in the Gwalior-Chambal region were using semi-automatic weapons, often outgunning the local forest departments.

Frustrated with having failed to staunch the bleeding, Madhya Pradesh and Rajasthan attempted to legalise sand mining in certain districts inside the sanctuary. Madhya Pradesh submitted proposals for limited mining in two districts but resistance from the NGT stalled its plans, and the State subsequently withdrew them. Rajasthan followed with a similar proposal in March this year only for the Court to block it. Traditional agriculture is difficult in the Chambal ravines, leaving many young men to turn to mining sand for a living. The mafia recruits them as foot soldiers, leaving forest officials to face 'public anger' when they militate against the mafia. The Court took *suo motu* cognisance of Rajasthan's measure, with Justice Sandeep Mehta, last week, 'reminding' the State of the National Security Act and the State-specific Goonda Act. The Court's frustration is understandable. But given the recent troubled history of green governance, where it has played regulator, there is merit in the Court disciplining the regulator rather than replacing it. The lesson from Chambal's violent history is that force alone cannot quiet an economy feeding on grievance. Sweeping crackdowns will deepen local resentment and entrench the same social cover that sustains the syndicates. Lasting change will come only from restoring lawful livelihoods and credible, even-handed enforcement.

GS Paper II – Social Issue

What TB reveals about India's urban health system

Tuberculosis shows how gaps in India's urban health systems, combined with socio-economic disenfranchisement and migration, continue to exclude the vulnerable from timely care

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Tuberculosis rarely appears overnight. It develops slowly at the intersection of impoverishment, precarious livelihoods, and fragile health systems. Each case tells a larger story – not just about infection, but about the conditions in which people live and the systems meant to protect them. On World Health Day, TB serves as a stark reminder that if "Health for All" is to mean anything, it must include those whose health risks are produced by the way our cities' systems are built and governed.

Nearly 35% of the population now lives in urban areas, and cities continue to expand as people arrive in search of work, education, and opportunity.

Urban risks

Urban India is often assumed to have better healthcare infrastructure than rural areas. Yet cities also concentrate risk. Overcrowded housing, poorly ventilated workplaces, long working hours, pollution, informal employment and weak social support systems create conditions that drive poor health outcomes. For infectious diseases such as tuberculosis, these are not peripheral concerns – they are central.

India continues to bear the largest burden of tuberculosis globally, accounting for nearly one-fourth of the world's TB cases. In India, where exposure is common, infection alone does not necessarily lead to disease. For most people, the immune system contains it. Disease develops when vulnerabilities converge: malnutrition, overcrowding, physically demanding work, untreated co-morbidities and delayed access to care.

TB can therefore be read as a proxy indicator of how well health and social systems function.

Missed opportunities

TB unfolds through a series of missed opportunities. Early symptoms often go unrecognised or untreated. Delays in diagnosis and interruptions in treatment increase the risk of transmission, severe illness, and drug resistance. Each stage represents a point where effective public health systems could intervene. Where nutrition support, social protection, adequate housing, and accessible primary healthcare are in place, TB is more likely to be detected early and treated successfully. Conversely, rising TB incidence, treatment interruptions and multi-drug-resistant TB often point to deeper failures in surveillance, follow-up, pharmaceutical regulation, and the broader systems that sustain health.

Health crisis: India continues to bear the largest burden of tuberculosis globally, accounting for nearly one-fourth of the world's TB cases. FILE PHOTO

TB can no longer be framed only as a disease of the poor; it is increasingly an urban public health challenge. In a pathways study of multi-drug-resistant TB patients in Mumbai (Bhattacharya et al., 2019), people often navigated complex and prolonged care-seeking journeys, moving between multiple providers before receiving the correct diagnosis and treatment. Delays, fragmented care and financial burdens not only worsened outcomes but also prolonged transmission within households and communities.

These are not isolated stories.

Urban primary healthcare remains fragmented and unevenly distributed. While the National TB Elimination Programme provides diagnosis and treatment through designated centres, a large proportion of urban residents seek care from private providers. Data integration between public and private sectors remains incomplete, making continuity of care difficult.

Migration adds another layer of exclusion. Migrants frequently change residences, move between worksites, or travel back to their home. Many lack documentation linked to their current residence or stable access to social protection. This can disrupt treatment, delay care, and make follow-up difficult.

The geography of services also matters. Informal settlements, peri-urban industrial zones, and construction clusters often remain underserved by accessible primary healthcare, reliable transport, and essential public services.

This is where the language of health as a right becomes critical. If health is indeed a right, access to care cannot depend on whether a person has address proof, speaks the dominant language, or is settled enough to fit neatly into administrative categories. The promise of "Health for All" cannot be realised through systems designed primarily for stable, documented, and visible populations.

TB, then, is more than a disease to be controlled. It is a diagnostic tool for the health of our systems. If India is serious about building healthier cities, healthcare must be portable, primary care strengthened, and disease control programmes integrated with neighbourhood-level services.

Ending TB will require building urban systems that make health possible – when 'health for all' starts not only when people fall sick, but for those not visible to policy and for those whose labour sustains the city while their health remains marginal to its planning.

GS Paper II – Polity

Understanding India's internet censorship regime

An internet user's experience in India depends on the ISP, which determines their access to content

Karan Saini

The experience an Internet user has in India is closely tied to the Internet Service Provider (ISP) they choose. Perceived differences are not limited only to pricing and quality of service, but also to how much of the Internet a user can access, which changes from one ISP to another. This is because ISPs in India – much like everywhere else – block websites in response to government and court orders. However, implementation is not uniform across ISPs, and blocklists vary widely.

Sections 69A and 79 of the Information Technology Act, 2000, empower the government to issue blocking orders to ISPs and intermediaries. The licensing agreement for ISPs explicitly requires that they "block Internet sites [...] as identified and directed by the Licensor." ISPs are confidentially bound to the blocking orders they receive and implement.

Protocols and implementation

The Internet is made up of protocols like the Hypertext Transfer Protocol (HTTP), Transport Layer Security (TLS), and Domain Name System (DNS) among others. When an ISP receives a blocking order, it is free to implement it through any or all of these protocols. DNS is the first layer a user interacts with when trying to access a website and is responsible for translating names like example.com to addresses that browsers can understand. When an ISP wants to block a domain at the DNS layer, it configures its servers to return a false answer. This technique is called DNS poisoning. A user's request for example.com doesn't end up at the actual address for the website, but to whatever address the ISP has pointed it to instead.

Most Indian ISPs rely primarily on DNS blocking as it is cheap to implement and requires no deep packet inspection.

What the data shows

To understand the scale of website blocking in India, I queried the DNS servers of six major and regional ISPs to test the censorship of 294 million domains. These tests were carried out over many months in 2025. The study quantifies what previous qualitative research on Internet censorship in India has shown. Despite receiving the same blocking orders, not all ISPs block the same websites.

Out of the total 43,083 blocked domain names found by the study, only 1,414 were blocked by all six ISPs. This is caveated by the fact that some of the ISPs surveyed may be using other protocols to block these domains, which the study does not cover. What is clear however is that at least on the DNS layer, domains are treated inconsistently based on the category of content they host. Piracy, peer-to-peer file sharing, pornography and gambling websites make up the majority of what is blocked, yet blocks are not consistently enforced across ISPs. For domains hosting terrorism and militancy content, blocking consistency across ISPs goes up dramatically. Perfect consensus can be seen in certain sensitive cases, such as the blocking of China's Weibo.com or the website of Srinagar-based publication The Kashmir Walla, showing that some orders are treated more seriously than others. Along with this, almost all ISPs appear to engage in arbitrary blocking in some form.

While highlighting only some notable blocks, the study shows the haphazard way in which both regional and national ISPs are currently implementing blocking orders. In the absence of a standardised framework or guidelines, ISPs are left to their own devices, resulting in an inconsistent blocking landscape.

Inconsistency is not the only problem however. The regime is needlessly opaque. An ideal system would see disclosure of blocked domains from the source, with exceptions only for sensitive matters such as those concerning national security and websites hosting child sexual abuse material.

(Karan Saini is an independent security researcher from New Delhi.)

THE GIST

- ISPs in India block websites in response to government and court orders. However, implementation is not uniform across ISPs, and blocklists vary widely.
- For domains hosting terrorism and militancy content, blocking is more consistent across ISPs, with near consensus in certain sensitive cases. At the same time, almost all ISPs appear to engage in some form of arbitrary blocking.

GS Paper III – Environment

Climate change as a public health emergency

Dr. Naresh Trehan
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India faces growing health crises from climate change impacts

When we talk about climate change, the conversation almost always veers toward rising sea levels or extreme weather events. Some may even talk about the economic disruption that these natural disasters can and do cause. However, few, if any, touch upon another dimension of climate change: the broad-spectrum medical crisis that changing planetary patterns can trigger, as climate change intensifies every disease we already know and opens the door to those we have yet to face.

Nowhere is this more visible than in India. Increasingly frequent and severe waterlogging due to excess rain in cities such as Mumbai is creating ideal conditions for waterborne infections including cholera, typhoid, hepatitis A and leptospirosis. Recurrent waterlogging overwhelms sanitation infrastructure, contaminates clean water supplies, and leaves urban populations exposed to serious illnesses.

Conversely, drought-prone regions are facing worsening water scarcity, forcing communities to rely on unsafe water sources, thereby increasing the burden of diarrhoeal diseases as well as chronic dehydration.

Expanding disease risk

Meanwhile, shifting seasonal patterns are driving a rise in infections, allergies and vector-borne diseases, as changing temperatures and rainfall cycles disrupt established trends and prolong pollen seasons. Disease windows are expanding, and their geographic reach is steadily widening, quietly accelerating climate-driven spread. Communities with no prior exposure lack immunity, while health-care systems in these regions remain underprepared to respond at scale. One major example of this is the exponential growth of mosquito-borne diseases, as rising temperatures have made previously inhospitable regions suitable for this insect. The impact on dengue patterns is already measurable in Delhi-NCR. The number of cases traditionally peaked in September but now peaks in November, as warmer and rainier conditions sustain mosquito populations for longer periods.

Malaria, once largely confined to endemic pockets of the Gangetic Plains and the warm, humid regions of central India, is now being reported in cooler areas such as Himachal Pradesh, where it historically had minimal presence.

Climate change threats

Climate change also triggers rising air pollution. As summers become increasingly hotter, greater reliance on air conditioning drives higher energy use and greenhouse gas emissions. These emissions contain elevated levels of $PM_{2.5}$ – microscopic pollutants that penetrate deep into the lungs and bloodstream – exerting widespread effects across multiple organs in the body, particularly the lungs, heart and kidneys.

Fine particulate matter penetrates deep into the lungs, causing inflammation, reduced lung function, and exacerbating respiratory conditions such as asthma and chronic obstructive pulmonary disease.

These particulates can also damage blood vessels, accelerate atherosclerosis, and increase the risk of hypertension, heart attack and stroke. The kidneys are equally vulnerable, and chronic exposure can impair kidney function, reduce filtration efficiency, and contribute to the progression of chronic kidney disease.

Greenhouse gases also trap more heat in the atmosphere, creating a feedback loop that amplifies the very crisis we are trying to manage through air conditioners and other cooling appliances. This heat stress forces the heart to work harder to regulate the body's temperature, increasing strain on the cardiovascular system. This can trigger complications such as hypertension, heart attack, and stroke. These conditions disproportionately affect people without adequate shelter, such as manual labourers who spend long hours working outdoors in extreme conditions.

Parts of the country, such as Odisha, Telangana, and Vidarbha, are reporting a rising number of heat-stroke-related deaths. In addition, rising night-time temperatures in urban pockets such as Delhi-NCR and Mumbai are eliminating the critical recovery window that the human body relies on to cool down after prolonged daytime heat exposure.

Infant health outcomes are also increasingly at risk – exposure to extreme heat and air pollution has been linked to preterm births and low birth weight among newborns.

Impact on food security

The health consequences of climate change also extend into food systems and nutrition. Extreme weather events and unseasonal rain disrupt crop cycles and reduce agricultural productivity, contributing to food shortages. The declining nutritional quality of food crops, combined with rising prices, further compounds the crisis, creating a hidden burden of micronutrient deficiencies and chronic malnutrition, especially among children.

Rising temperatures can also cause a decline in milk production, as cattle affected by heat stress compromise infant and child nutrition. These cascading effects on food security translate directly into weakened immunity and greater vulnerability to disease particularly among children and the elderly.

The warnings have existed for decades, but were largely overlooked. Climate change is no longer a distant threat – for public health in India, it is already a present reality. It is a multifaceted challenge. Treating it as purely environmental overlooks its profound human cost. Recognising it as a medical emergency is the first step toward responding with urgency.