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No. 5, AKS Nagar, Near Gandhi Park, Coimbatore - 641 001

GS Paper I – Geography

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A.P. and the next El Niño challenge

Heatwaves and rainfall deficits could put the State's preparedness to the test

STATE OF PLAY

Nellore Sravani

Much before El Niño formed over the Pacific Ocean, Andhra Pradesh got a bitter taste of what was to come. In May, the State experienced oppressive heat, unending warm nights, and intense heatwaves. Cities and towns wore a deserted look as daytime temperatures remained above 44 degrees Celsius for nine consecutive days, with the season's highest touching 48.3 degrees Celsius.

In addition to bringing back unpleasant memories of the previous El Niño events in the State, the record-breaking temperatures heralded a disturbing weather pattern, marked by scanty rainfall and more heatwaves. Even on July 12, the India Meteorological Department (IMD), Amaravati, issued heatwave alerts for the State.

This is the third time in 10 years that the State's preparedness is being put to the test, the first two being 2015 and 2023. In 2015, which witnessed a strong El Niño event, heatwaves killed at least 2,300 people in the country, with Andhra Pradesh alone accounting for 1,369 deaths, forcing the government to form the Andhra Pradesh State Disaster Management Authority (APSDMA).

Weather experts say that whenever sea surface temperatures in the Pacific Ocean rise beyond 2 degrees Celsius, meteorologists declare it a "very strong" El Niño event. Between 1951 and 2025, this threshold was crossed four times – 1972, 1982, 2015 and 2023 – according to IMD experts.

Meteorologists believe there is a high likelihood of



another strong El Niño event this year.

A testing monsoon

For Andhra Pradesh, an overall below-normal monsoon has been forecast, with isolated areas showing the probability of receiving normal or above-normal rainfall, which indicates the likelihood of the formation of low-pressure systems in the Bay of Bengal. But this is only a possibility.

The State receives most of its rainfall during the South-west monsoon, particularly in August and September, when El Niño is expected to gain strength. While the State received about normal rainfall in June, as predicted, July has begun on a slightly dry note.

According to the Directorate of Economics and Statistics, the State received 86.2 mm of rainfall against the normal 149.1 mm between June 1 and July 11, recording a deficit of 42.2%. Except for two districts that reported normal rainfall, 26 of the 28 districts have reported either deficient or largely deficient rainfall, presenting a bleak picture.

The State's long-period average annual rainfall is 858 mm, but this year's total is projected at 690 mm, which means a deviation of around 20%, which, again, is double the deviations recorded in the State in recent El Niño years. According to the APSDMA, negative deviations in recent El Niño years ranged between

4% and 11%.

The immediate impact of deficit rainfall is on the farming community and agricultural activities. In 2023, 54 mandals were declared drought-hit, while at least 6.96 lakh farmers suffered losses in 103 of the State's 688 mandals.

The government has begun preparations.

At a review meeting, Andhra Pradesh Home and Disaster Management Minister V. Anitha stressed the need to disseminate weather information down to the village level to minimise crop losses. But, there is a challenge: the agricultural department issues alerts and advisories to farmers based on the agroclimatic zones. Academicians have flagged the haphazard clubbing of areas with zones of different characteristics. This can lead to a mismatch in the advisory being given and the ground reality of farmers. The government's objective cannot be achieved unless the structural issues are addressed.

The agricultural department has begun alerting farmers about shifting to drought-hardy crops in rain-fed areas of Rayalaseema to tide over the crisis. But questions have also been raised about the willingness of farmers to shift to these crops.

The State appears to have learnt from the lessons of 2015 by significantly reducing heat-stroke deaths. In 2023, the number of deaths recorded had drastically come down to three. But ensuring that timely weather advisories reach farmers remains a weak link.

It is to be seen whether the government's preparedness remains only on paper or aids in mitigating the impact of the global event.

sravani.n@thehindu.co.in





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GS Paper II – Governance

CJI stresses need for women-centric infrastructure in judicial buildings

The Hindu Bureau

GURUGRAM

Chief Justice of India Surya Kant on Sunday said judicial infrastructure was no longer a luxury but a “very big necessity”, and called for mandatory facilities for women advocates, including separate Bar rooms and adjoining childcare facilities, in all new court complexes.

Speaking at the inauguration of the new Tower of Justice, a seven-acre judicial complex for the Gurugram District and Sessions Court near Rajiv Chowk, the Chief Justice said providing an atmosphere that instils confidence in socially and financially backward litigants was the duty of all three organs of the Constitution.

“Just as a patient reaching a hospital is given first-aid, a consumer of justice



Chief Justice of India Surya Kant speaking at the inauguration of a judicial complex in Gurugram on Sunday. SPECIAL ARRANGEMENT

coming to court must be given first-aid in the form of basic amenities – seating, drinking water, and washrooms,” Chief Justice Kant said. He noted that Gurugram’s transformation from an agricultural town to an industrial hub had led to a sharp rise in legal disputes of all kinds.

Flagging the lack of facilities for women lawyers,

the CJI cited a recent Supreme Court Bar Association survey, which found that many judicial complexes across States lacked basic amenities for women members of the Bar. “Women advocates are not being provided the facilities that should be given to them in many States. It is our all-out effort that wherever new judicial infras-

tructure is constructed, it should be mandatory to provide these facilities. It would not be right to call it a modern court complex without them,” he said.

He urged the Punjab and Haryana High Court to ensure a childcare room adjoining the women advocates’ room in the new Gurugram complex.

Chief Justice Kant recalled that he had performed the *bhoomi puja* for the complex in January 2017 in his capacity as the in-charge of the Punjab and Haryana High Court Building Committee, calling the day “historic” and “memorable”.

The new court complex has 55 modern courtrooms, compared with 45 in the old building. It houses a bank, a post office, a Bar library, a mediation centre and other citizen-centric amenities.



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GS Paper II – Governance

Judging graduates, not entrance scores

Few institutions in India carry the popularity of the IITs. Getting into them requires intense preparation and intellectual discipline. JEE ranks and GATE scores used for admissions to India's premier institutions are, therefore, important. Recruiters, too, have often treated them as an indication of a student's ability. Recently, however, the All IITs Placement Committee has decided to exclude JEE ranks, GATE scores, percentiles, and other such credentials from standard placement resumes. Even if some consider it unnecessary, this decision deserves wide support.

Beyond entrance ranks

An entrance examination captures a snapshot of a student's performance on a single day. A degree reflects years of learning. Between the two lie classrooms, laboratories, projects, internships, peer learning, teamwork, participation in various extended curricular activities, failures, recoveries and personal growth. If campus recruitment continues to privilege entrance rank, it quietly reduces the IIT experience as a whole to an interlude between JEE and employment. That is unfair to the student and to the institution.

To treat a student's entrance rank as permanent proof of ability is a constricted view. A more serious view examines whether a student has solved problems, completed meaningful projects, worked in teams, built prototypes, written code, contributed to research, communicated clearly and shown the maturity required in the workplace. Preparing oneself for work requires competence and a willingness to be a lifelong learner. It does not rely on the entrance test score alone.

The Committee's decision is also consistent with the National Education Policy (NEP 2020), which emphasises the need to move beyond an examination-dominated system. The policy asks us to focus on



Mamidala Jagadeesh Kumar

Chairman, Review Committee for NEP 2020, Ministry of Education, GoI and former Vice-Chancellor, JNU and former Chairman, UGC. Views are personal

Removing entrance ranks from standard resumes prevents a potentially prejudicial and often irrelevant data point from becoming a default filter

creating an ecosystem that enables students to develop critical thinking, creativity, ethical judgment, problem-solving, and holistic development. If our higher education institutions are expected to provide these capabilities to our students, why shouldn't placement systems recognise them?

There could be another, more sensitive reason for the decision. It could be possible to infer social category or admission route from entrance ranks by comparing programme-level opening and closing ranks. Such inference may not always be explicit, but it can influence perception. What recruiters should be looking for is not how the student entered IIT, but what the student can do now.

Both public institutions and recruiters play important roles in designing hiring processes that reduce avoidable bias. Removing entrance ranks from standard resumes prevents a potentially prejudicial and often irrelevant data point from becoming a default filter. Some may say that recruiters need filters. Nobody is contesting that need. But employers already have better instruments. They use CGPA or CPI thresholds, technical interviews, coding tests, case discussions, design tasks, project reviews, research work, communication abilities and behavioural assessments. It has long been recognised that JEE or GATE scores do not reliably capture these.

A student's entrance rank may say something about past preparation. It cannot say enough about future contributions. With enhanced access, our higher education institutions attract many first-generation learners, rural students, non-English-medium students, and those from economically disadvantaged backgrounds. Some may take time to adjust to the new environment. Many grow substantially during their IIT years. A fair placement process should, therefore, allow them to

present what they have achieved years after obtaining their entrance scores.

Student well-being should be our top priority. If recruiting methods make ranks part of students' identities, they become a burden for many students. When the recruitment process turns ranks into hierarchies, students can experience anxiety and comparison. IITs are places where students grow beyond the circumstances of entry. Then why can't our placement system let students know that the work they do after admission matters, not their ranks?

This does not mean that entrance examinations are unimportant. But the selection process for admission and the selection process for recruitment are different altogether. The first decides entry into an academic programme. The second should judge current professional readiness. Confusing the two weakens both.

The decision to move away from publicising only the highest salary packages also deserves attention. Highest packages create headlines. They may lead students and parents to believe that high packages are normal, when in reality they are often outliers. Median salary is a better representative measure to get an overall sense of how the larger graduating cohort has fared. It is important to encourage a more mature public conversation on employment by emphasising median salaries.

A better signal

Together, these decisions show welcome institutional seriousness. They recognise that campus recruitment must assess students for what they have learnt and become during their time at the institution. A fair placement system should not allow an old rank to overshadow evidence of a student's present competence and readiness for work. Other higher education institutions would do well to draw from this example.



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GS Paper II – Governance

Five crore Indians wait when the courts take a break

The Supreme Court of India and the major High Courts are on a summer holiday break, i.e., shut down with some vacation Benches functioning to hear urgent matters. However, shops, markets, eating places, government and private offices, hospitals and police stations do not cease to work even though their staff enjoy personal leave. On the other hand, somewhere in an Indian jail tonight, a man who has been convicted of nothing is finishing another year behind bars, his trial still ongoing and perhaps years away from ending. He is one of the roughly three in four prisoners in this country who are undertrials: unconvicted, presumed innocent, yet serving time anyway – often longer than the sentence they would have received had they pleaded guilty. And as you read this, the courts, the public institutions that hold the fate of the poor in their hands, are functioning at only a fraction of their strength.

A three-century backlog

From June 1 to July 12, the Supreme Court is on its summer break, sitting with three or four Benches a week instead of a full court and resuming in earnest on July 13. The doors are not bolted; urgent pleas are still heard. But for six weeks, the most powerful court in the world's most populous democracy idles.

Now hold that against the number it is meant to be fighting. As of the last day of 2025, more than 5.39 crore cases were pending in Indian courts: over 4.76 crore in the district courts, 63.6 lakh in the High Courts, and more than 92,000 in the Supreme Court itself, its heaviest load in over 30 years. A government study once calculated that, at the present pace, clearing the pile could take three centuries.

Three centuries. And the Court takes the summer and winter vacations off.

To be fair, the judges deserve it. The recess is when reserved judgments finally get written, when the brutal daily cause-list eases enough to think.



Vijay L. Kelkar

Vice-Chairman of the Pune International Centre



Pradeep S. Mehta

Secretary-General of CUTS International (Consumer Unity and Trust Society)

When courts rest together for vacations, crores of litigants across the country wait longer for justice

Last year the Chief Justice of India and his four senior-most colleagues worked clean through the first week of the break. Indian judges are among the most overworked in the world. This is not an accusation of laziness; no one who has seen a judge's docket could make one.

Because that is precisely the point. When the people doing the work are exhausted and the backlog is biblical, what conceivable logic shuts the whole shop at once? Not that judges rest – which they should – but that almost all of them rest together, so the institution goes quiet for six-plus weeks every year. And the habit is a colonial hand-me-down: the calendar was built for English judges who could not stand the Indian heat and retreated to cooler climes each summer, then enjoyed long Christmas holidays in the winter.

In 2024, the Court announced a fix: it renamed the "summer vacation" as "partial court working days". That was it. The number of days it actually sits – about 190 days in a year – did not change. You cannot rebrand your way out of a backlog; a litigant whose case is stuck does not care what the recess is called, only whether his matter is heard and disposed of.

Justice needs court continuity

So what would actually help? The first answer is one the judiciary's own watchdogs have urged for years: do not abolish judicial rest; stagger it. A parliamentary standing committee in 2023 objected to "the entire court going on vacation en masse", and proposed the obvious: rotate the leave, keep the Benches full, and never let the court run thin. A hospital does not empty its wards because its doctors are owed time off; it builds a roster. The Law Commission and the Justice Malimath Committee said the same, long ago. They were not enemies of the courts; they were trying to save them from themselves.

The standard objection is that all this is a sideshow: the real disease is vacancies, not vacations. It is true that courts are starved of judges, with up to a third of High Court seats

lying empty. But the objection boomerangs. If the Bench is already running at half strength, thinning it further for six weeks every summer is not a defence of the recess; it is the strongest case against it. And while filling those seats depends on the government and the collegium and will drag on for years, the calendar is the judiciary's to fix. One reform needs permission; the other needs only will.

Beyond courts, towards solutions

Staggering the leave, though, only treats the symptom. The deeper fix is to keep disputes out of the courtroom in the first place; it was never meant to be the first stop for every quarrel, but the last. India already has the tools. Lok Adalats settled more than 2.59 crore cases in a single national sitting last December, and over 23.5 crore in three years. The Mediation Act of 2023 now nudges parties to attempt settlement before going to court, and arbitration can take commercial disputes entirely out of judges' hands; yet these routes remain badly underused. But none of this happens on its own.

The country has a reservoir of experience it scarcely draws on: its retired judges, who spent their careers mastering this very machinery and step down, still in full command of it, at 62 or 65. Their expertise need not retire with them. Albeit many of them do function as heads of quasi-judicial bodies and tribunals. Freed from any daily docket, a dedicated corps of former judges could be invited to take up a single targeted charge: identify where cases pile up, set public targets for their disposal, and account for progress openly. Reform that belongs to everyone belongs to no one.

The judges will keep working through the heat, as they always do. The honest demand is not that they stop resting, but that the courts stop closing ranks and falling silent at the same moment, because justice, for five crore Indians, is not on vacation. It is overdue.

With contributions from Anushka Kewani of CUTS



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GS Paper III – Science & Technology

Why has China banned helium exports?

Why is helium emerging as a strategic resource? How vulnerable is the world to a helium supply shock? Why is it considered a critical input for future technologies? Why is storing and transporting helium so expensive? What makes it so hard to replace?

EXPLAINER

Vasudevan Mukunth

The story so far:
On July 10, the Ministry of Commerce and General Administration of Customs, China, has temporarily but immediately banned helium exports from the country. As of 4.30 pm IST on July 10, Beijing had not published any other information as to why it took this step now or its scope.

Is China a major helium producer?
China imports more than 80% of its helium needs but produces only around 1.6% of the world's helium. The export ban follows an extended period of supply strained by Russia's export restrictions – where the Prime Minister needs to sign off on shipments through 2027 – and supply risks tied to heightened tensions in West Asia.

The world's major helium producers are the U.S. (meeting 43% of total supply), followed by Qatar, Russia, Canada, and Algeria. In 2024, the U.S. privatised its Federal Helium Reserve and, selling its assets to the Messer Group and no longer buffering shocks such as those due to the U.S.-Iran conflict.

The next year, the U.S. House Committee on Oversight and Government Reform launched an investigation into Messer's Chinese interests, stoking the risk of tit-for-tat measures. Which China's latest export ban could be.

After the U.S., Qatar has been meeting 33% of the demand, especially in Asia. After the conflict with Iran escalated, as medical chemist and *Science* columnist Derek Lowe put it, "one-third of global helium production is now literally bottled up behind the Strait of Hormuz, a much higher percentage than world oil production [where the situation is bad enough already]."

In this light, China's new export restriction could preserve the country's helium supply for its domestic chip



Helium can only be transported in vacuum-jacketed stainless steel vessels that are manufactured only by a few companies worldwide. GETTY IMAGES

manufacturers and its medical sector.

How is helium obtained?

Helium is the second-lightest element, after hydrogen, and is not manufactured. It is a non-renewable resource generated deep in the earth's crust, where the radioactive decay of uranium and thorium atoms emits alpha particles, which capture electrons to form helium atoms.

Over millions of years, this helium migrates into the same reservoirs of natural gas, and they are extracted together. This said, natural gas is not processed to isolate the helium from it until the latter makes up at least 0.3% by volume.

But once it does, the gas is isolated using the fact that it has a different boiling point.

Some operators also recover helium from LNG plants and from the air but these quantities are too low to matter to the global demand. Helium for commercial use is usually at least 99.997% pure.

What is helium used for?

Helium has an extremely low boiling point – negative 269°C – and does not participate easily in chemical reactions. These are good properties for a coolant that needs to cool the magnets in MRI machines, the silicon wafers in the semiconductor fabricating industry, and, increasingly, some of the devices used in quantum computers. Its small atoms mean the gas escapes easily through gaps that might be too small for oxygen or nitrogen atoms – so engineers use helium as a leak-detector.

Helium is also used in the process of drawing optical fibres to rapidly and uniformly cool molten glass and to displace oxygen or nitrogen from forming bubbles inside the material. Spaceflight organisations like ISRO, NASA, and SpaceX use helium to pressurise fuel tanks in rockets. Research and the tourism sector in many parts of the world also use helium to inflate balloons and airships.

According to the U.S. Geological Survey, laboratory use-cases account for

22% of the demand for helium, followed by controlled atmospheres and semiconductors (17%), lifting gas (17%), MRI scanners (15%), aerospace (9%), and detecting leaks (5%).

How much does helium cost?

In June 2026, the spot price for highly pure helium in Northeast Asia had reportedly spiked to \$150-205 per thousand cubic feet, almost double what it was in late 2025. At least one major supplier, the U.S.-based industrial supplier Airgas, has invoked force majeure and tacked on surcharges of \$13.50 per hundred cubic feet to existing contracts. Liquid helium is by default expensive to store and transport because helium only liquefies at -269°C.

In fact, the helium supply chain as a whole is cost-intensive because purification, storage, and transport are each expensive and technically sophisticated. A mid- to large-scale purification and liquefaction facility will require more than \$100 million while smaller ones can cost around \$10 million, thanks to the need for corrosion-resistant alloys that can withstand ultra-low temperatures.

The gas can be stored in underground salt caverns, which reduce leaks significantly – but these formations are rare and developing a new one can cost more than \$200 million. It can also be stored as compressed gas or cryogenic liquid. The former typically costs up to \$10 million to build while bulk cryogenic liquid storage systems generally need between \$0.5 million and \$20 million depending on capacity. Then there are the operational expenses.

Finally, helium can only be transported in vacuum-jacketed stainless steel vessels – which are manufactured by relatively few companies worldwide, including several Chinese ones.

Finally, the contractor transporting the containers must also ensure they are delivered before the holding time expires, after which the helium will start boiling off into the atmosphere.

THE GIST

The export ban follows an extended period of supply strained by Russia's export restrictions – where the Prime Minister needs to sign off on shipments through 2027 – and supply risks tied to heightened tensions in West Asia.

Helium is an important coolant in the semiconductor fabricating industry, where it removes heat from silicon wafers.

The helium supply chain as a whole is cost-intensive because purification, storage, and transport are each expensive and technically sophisticated.



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GS Paper III – Science & Technology

Insular incentive

Ethanol-blended fuel should not be forced on consumers irrationally

The Indian government's policy to continue producing E20 petrol at a cost higher than that of pure petrol when oil prices dip under \$70 a barrel to "compensate farmers adequately" is a deceptively well-formulated proposition. Most feedstock for the fuel-blending programme is from sugarcane, one of India's most water- and fertilizer-intensive crops, mainly grown in water-stressed Maharashtra and Karnataka. Whether the policy's net economic benefit remains positive will depend on the gains from lower crude imports, environmental improvements, and higher rural incomes outweighing these additional costs. Efficiency also remains a concern. Consumers – including people who are poorer than sugarcane farmers – pay more at the pump, oil marketing companies procure ethanol at the administered price, distilleries buy feedstock, and only then do farmers receive higher prices. Higher feedstock prices also do not address most reasons farmers have lower incomes, such as post-harvest losses and limited market access. Crucially, if the government rewards every unit of ethanol irrespective of feedstock, the policy will favour whichever feedstock has the largest installed base: sugarcane. Instead, the objectives should include resource efficiency and food security. The state could invest in irrigation and logistics and institute revenue-sharing arrangements with ethanol producers and cooperatives.

India has encouraged maize and grain-based distillation capacity has expanded rapidly, periodically allowed ethanol to be produced from the Food Corporation's surplus or damaged rice holdings, and has supported commercial plants using agricultural residues such as rice straw under Ministry of Petroleum and Natural Gas schemes. Maize and millets are less thirsty but maize still demands significant fertilizer inputs while millets produce less fermentable starch per hectare. Sweet sorghum is less water-intensive and has a shorter growing season than sugarcane. Lignocellulosic biomass such as rice and wheat straw, maize stover and groundnut shells can also support second-generation (2G) ethanol. 2G ethanol from agricultural residues can avoid using cropland for fuel, reducing competition with food crops and addressing stubble burning. It is more expensive and technologically demanding but that is a better problem to solve, with proactive policymaking. The government could pay a premium for ethanol produced from residues, subsidise equipment and infrastructure to collect and store crop residue, facilitate contracts between aggregators and distilleries, and provide viability-gap funding and offtake agreements. Ultimately, ethanol policy should not be independent of agricultural policy. And import substitution is no excuse for consumers being forced to pay more for lower-mileage fuel than pure petrol.

CM