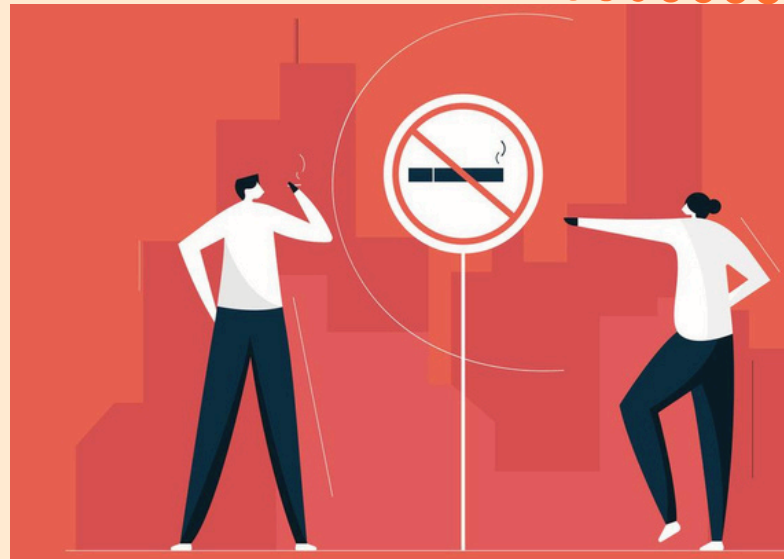


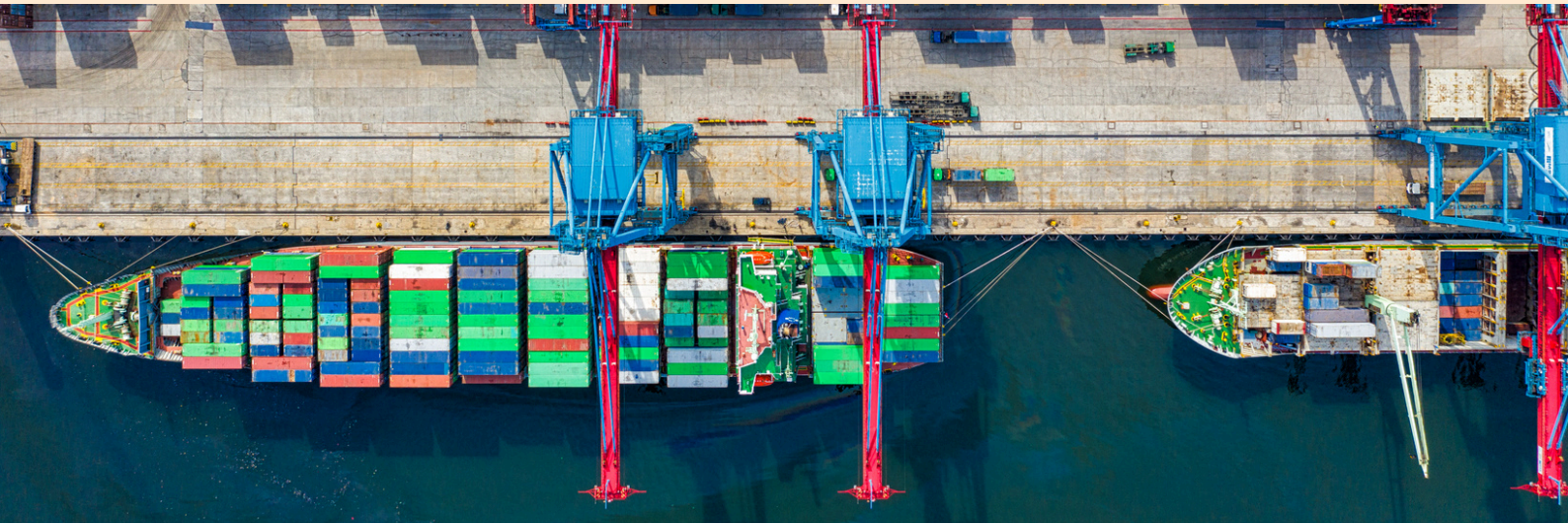
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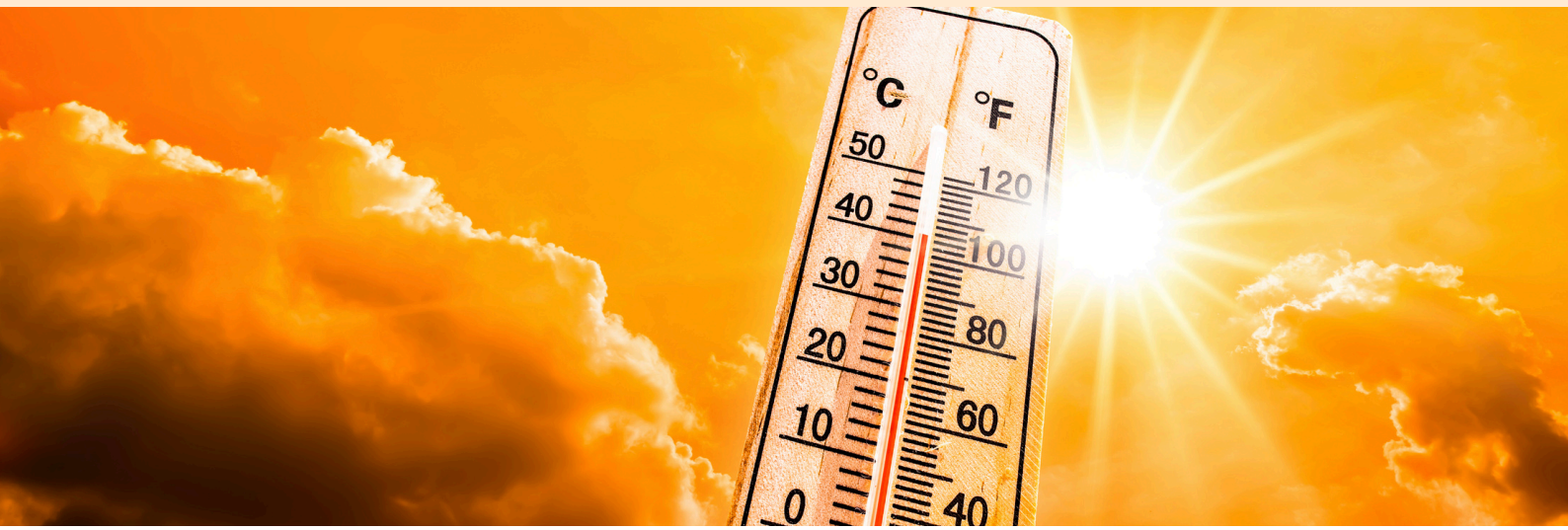
GAGAN - THE DESERVING INDIA





INDIA RECORDS TRADE DEFICIT WITH 9 OF TOP 10 TRADING PARTNERS IN 2023-24

- India recorded a trade deficit with nine of its top ten trading partners, including China, Russia, Singapore, and Korea, in 2023-24.
- The trade deficit with China, Russia, Korea, and Hong Kong increased, while it narrowed with the UAE, Saudi Arabia, Russia, Indonesia, and Iraq compared to 2022-23.
- China became India's largest trading partner with \$118.4 billion in trade, surpassing the U.S., and India has a trade surplus with the U.S. and several other countries, though the overall trade deficit narrowed to \$238.3 billion in 2023-24.



THIS CENTURY, HEATWAVES ARE MOVING SLOWER AND LASTING LONGER

- The jet stream, influenced by Earth's rotation, guides atmospheric waves affecting surface temperatures.
- A weakening jet stream causes these waves to move more slowly, resulting in more persistent and extreme weather events.
- While natural factors contribute to heatwave changes, human activities and greenhouse gas emissions have significantly increased the frequency and duration of slower-moving heatwaves.



AN OVERVIEW OF EUROPE'S AI CONVENTION

- The Council of Europe adopted the Framework Convention on Artificial Intelligence and Human Rights, Democracy, and the Rule of Law, also known as the 'AI convention', on May 17.
- This legally binding treaty outlines broader commitments and objectives, along with mechanisms to achieve them.
- The AI convention ensures that existing human and fundamental rights remain protected during the application of AI systems, without creating new AI-specific rights.



AT EXTREMELY HIGH STRAIN RATE, COPPER SURPRISES WITH THE STRENGTH OF STEEL

The discovery of steel greatly improved human civilization, providing stronger tools, better trade, advanced architecture, and superior weapons compared to copper and tin.

Researchers at MIT and Northwestern University found that heating and straining pure copper makes it act like a much harder material, which could help design devices for extreme conditions.

The study revealed that at very high strain rates, copper becomes much stronger, similar to stainless steel, because of enhanced drag-strengthening, even though other strengthening mechanisms decrease.



WORLD LEADERS 'OUTRAGED' BY ISRAEL'S 'BARBARIC' ATTACK ON RAFAH TENT CAMP

- Israel faced condemnation for strikes on Rafah that killed at least 45 Palestinians, including displaced people in tents, with the overall Palestinian death toll in the war exceeding 36,000.
- The international community, including close allies like the U.S. and France, criticised Israel over civilian deaths, with calls for a ceasefire and adherence to international law.
- Turkey, Italy, and Qatar warned of long-term consequences and complications in ceasefire talks, urging accountability and efforts to protect civilians.



THE CONTROVERSY OVER EUCALYPTUS PLANTING IN KERALA

- The Kerala government approved the Kerala Forest Development Corporation (KFDC) to plant eucalyptus trees for financial support in 2024-2025.
- Environmentalists protested, arguing that planting eucalyptus would harm forests and increase human-animal conflicts.
- The decision contradicts the State's 2021 eco-restoration policy, which aims to tackle the spread of unsuitable invasive species and the depletion of natural forests.



MEITEI CIVIL SOCIETY ORGANISATIONS RAISE QUESTIONS OVER 'TARGETED ATTACKS' IN MANIPUR

- Civil society organisations representing the Meitei community alleged targeted attacks against them during the ongoing ethnic conflict in Manipur, with a focus on incidents on May 28, 2023.
- The Delhi Meitei Coordinating Committee (DMCC) and allied groups held a press conference, questioning the role of State and Central forces in the violence and accusing them of bias.
- The conflict between the Meitei and Kuki-Zo communities has resulted in over 220 deaths, thousands of injuries, and the displacement of at least 50,000 people.



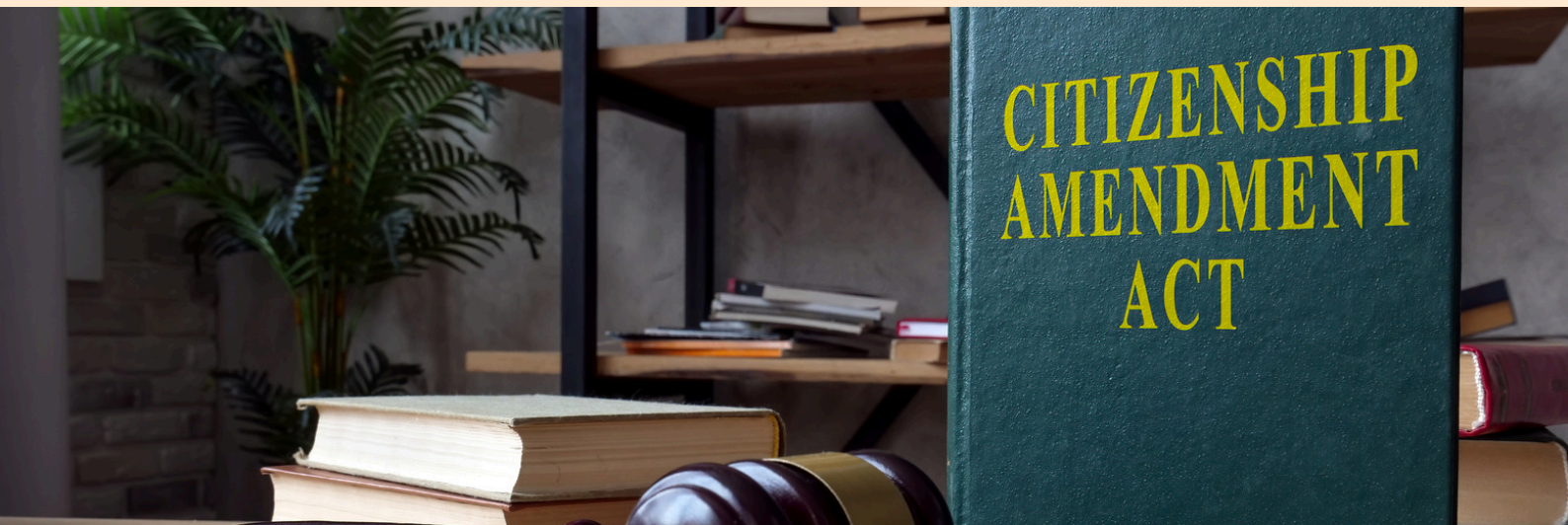
AN ALTERED PROTEIN AND FUSSY NEURONS CONSPIRE TO CAUSE MICROCEPHALY

- **Consanguineous marriages increase the risk of congenital microcephaly due to the higher likelihood of inheriting rare, mutated genes from both parents.**
- **Researchers found that suppressing the SASS6 gene in *C. elegans* embryos prevented the assembly of new centrioles, leading to developmental arrest.**
- **A study of a family with four members having microcephaly identified a mutation in the SASS6 gene, where isoleucine was replaced by threonine, known as Ile62Thr.**



ON FIRE SAFETY REGULATIONS IN INDIA

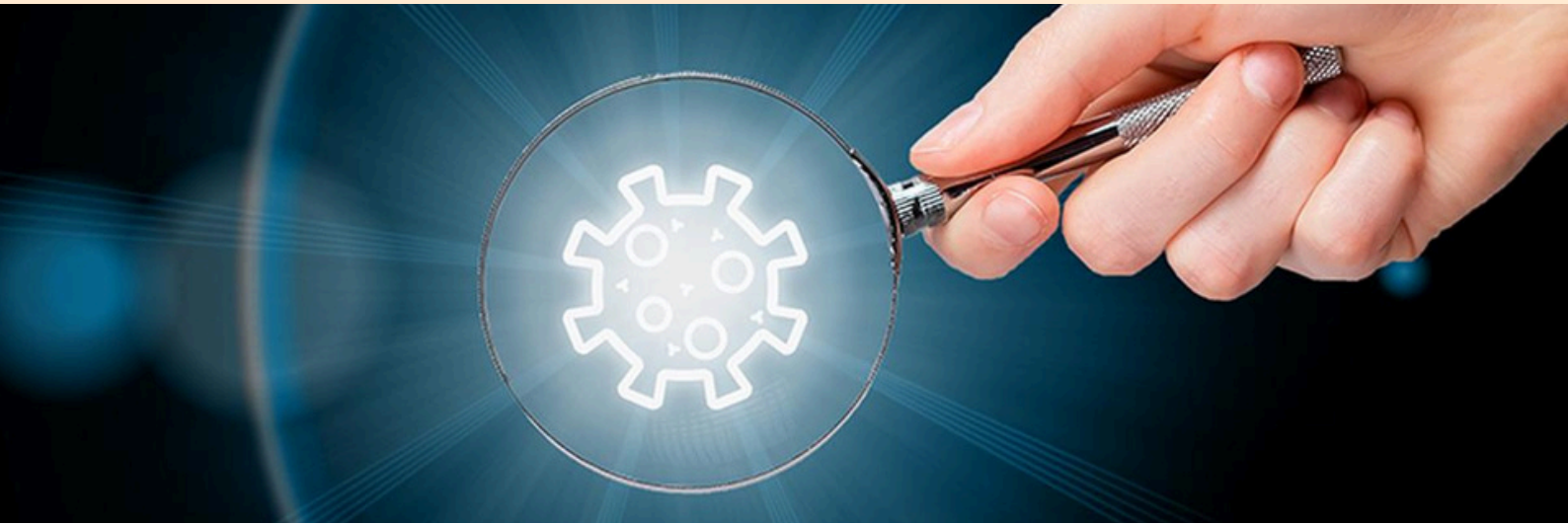
- On May 25, a fire in New Born Baby Care Hospital in Vivek Vihar, Delhi, resulted in the deaths of seven babies, leading to the arrest of the hospital owner, Naveen Khichi, and the on-duty doctor.
- The Union of India emphasises that fire safety responsibilities lie with State governments, guided by the Model Building Bye-Laws, 2016, specifically Chapter 11 on "Fire Protection and Fire Safety Requirements."
- With 241 fires in commercial buildings and 42 in government buildings in 2022, causing 257 deaths (NCRB data), stricter enforcement of building code and bye-law provisions is crucial.



CITIZENSHIP GRANTED UNDER THE CAA TO APPLICANTS IN 3 STATES

The Union Home Ministry announced that citizenship certificates under the CAA were granted in West Bengal, Uttarakhand, and Haryana, including at least eight Hindu migrants from Bangladesh in West Bengal.

- The process began with West Bengal's Empowered Committee issuing the first certificates, followed by similar actions in Haryana and Uttarakhand.**
- The first CAA certificates were given to Pakistani Hindus in Delhi on May 15. Despite potential benefits for over 2.5 crore people in West Bengal, the Act is opposed by Chief Minister Mamata Banerjee as discriminatory.**



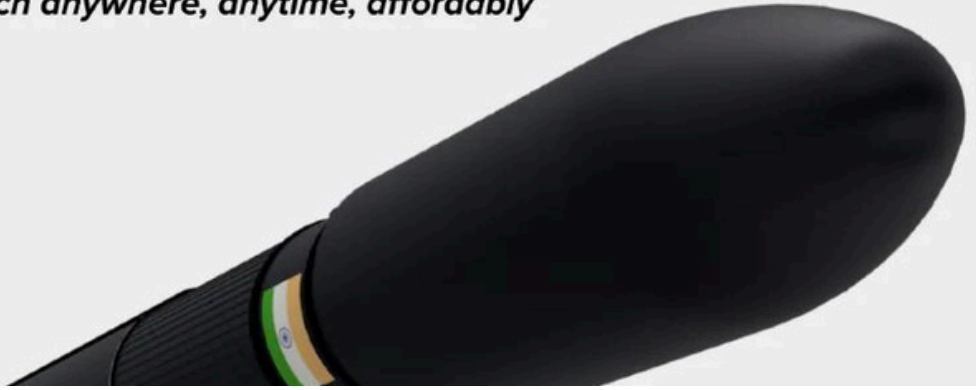
NEW LIGHT-BASED TOOL COULD CUT COST OF SPOTTING VIRAL INFECTIONS

- Researchers from Harvard and Jiangsu University have developed a quick, cost-effective method to detect viral infections in cells using light diffraction patterns, which can identify infected cells by changes in their shapes and features.
- This new method is cheaper (costing about a tenth of current methods) and faster (taking two hours versus 40 hours), while maintaining high accuracy. It distinguishes between uninfected, virus-infected, and dead cells.
- The tool's simplicity and low cost make it useful for monitoring livestock and pets, aiding in early detection of viral outbreaks, and managing animal health. Its ability to detect various viral infections, including new viruses, adds to its utility.



AN OVERVIEW OF THE AMRUT SCHEME

- The AMRUT (Atal Mission for Rejuvenation and Urban Transformation) scheme, launched by the NDA-1 government in June 2015, aimed to provide every household with tap water and sewerage connections, develop greenery and parks, and reduce pollution through public and non-motorised transport.
- The mission focused on enhancing urban infrastructure and quality of life in cities, promoting sustainable and well-maintained public spaces.
- AMRUT's design was criticised for being mechanical and not involving city participation in its planning and implementation.



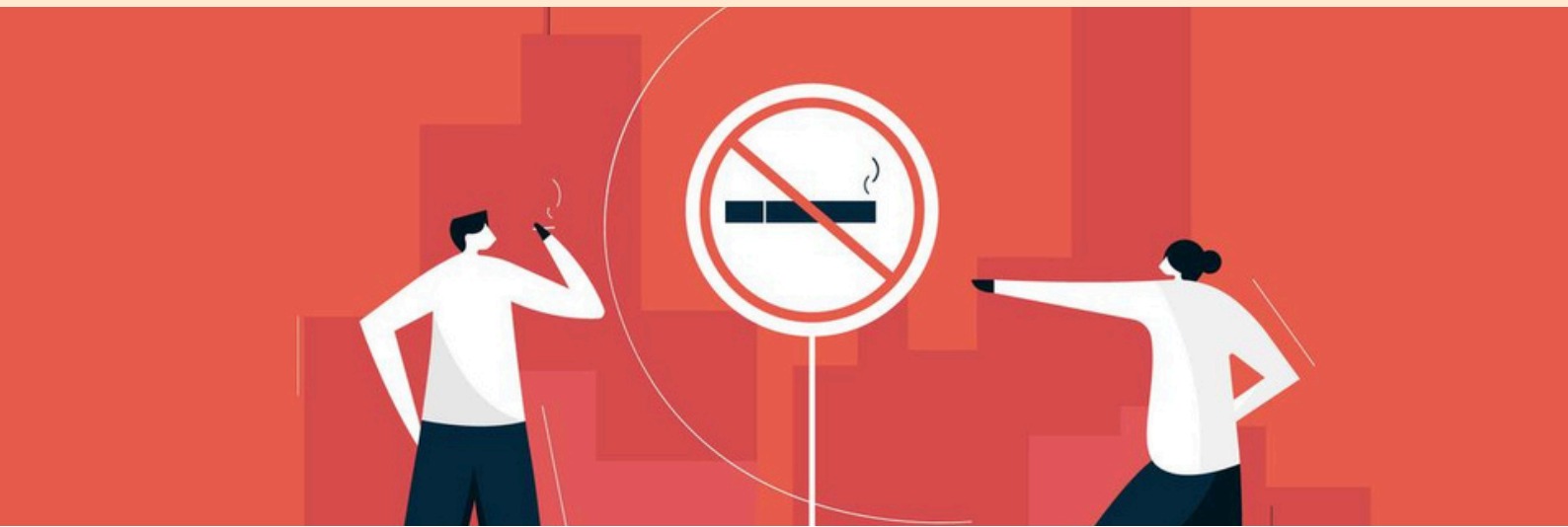
START-UP AGNIKUL LAUNCHES WORLD'S FIRST ROCKET WITH FULLY 3D-PRINTED ENGINE

- Agnikul Cosmos launched the world's first rocket with a single-piece 3D-printed engine, Agnibaan SOrTeD, from Sriharikota at 7:15 a.m. on Thursday.
- This launch marks India's first private launchpad, 'Dhanush,' and the first semi-cryogenic engine-powered rocket with an indigenously designed single-piece 3D-printed engine.
- The mission aimed to test in-house technologies, gather flight data, and ensure system functionality for Agnikul's future orbital launch vehicle, 'Agnibaan.'



THE RISING INCIDENCE OF PAEDIATRIC INFLAMMATORY BOWEL DISEASE IN INDIA

- **Children with weak or dysregulated immune systems may develop IBD due to environmental triggers like viruses or bacteria, and genetic factors can also play a role, as IBD can run in families.**
- **IBD is often chronic, requiring years of therapy. While a small minority of children do well without medication after years of control, most need ongoing medication, and some require surgery.**
- **Many patients face high costs for biologics and struggle with delayed or incorrect diagnosis due to IBD's varied symptoms, often mistaking it for tuberculosis.**



THE TOBACCO EPIDEMIC IN INDIA

India has the second-highest number of tobacco consumers globally, with nearly 26 crore users estimated in 2016-2017.

- As a signatory to the WHO's Framework Convention on Tobacco Control (FCTC) since 2005, India aims to reduce tobacco usage through demand and supply reduction strategies.**
- Studies by the Central Tobacco Research Institute show that with government support, tobacco farmers can switch to alternative crops like jowar, which offers higher returns (1.84 per rupee invested) compared to tobacco (1.48 per rupee invested).**



MARATHON POLLING SEASON ENDS TODAY

- The counting of votes will take place on June 4.
- The Election Commission has directed CEOs and State machineries to manage the adverse impact of hot weather or rainfall where predicted.
- Extensive monitoring of the poll process includes 2,707 flying squads, 2,799 static surveillance teams, 1,080 surveillance teams, 560 video viewing teams, 201 international border check posts, and 906 inter-State border check posts to prevent illicit activities.



JHUGGISBEAR THE BRUNTAS TAPS RUN DRY ACROSS VAST SWATHES OF NATIONAL CAPITAL

- Residents of Delhi's Sanjay Camp and Vivekanand Camp face daily struggles for water, waiting in chaos for a tanker that delivers 10,000 liters. Despite living near affluent Chanakyapuri, they suffer severe shortages while the rich have running water.
- Locals like Meena Devi and Prem Devi highlight the high cost of packaged water and the physical toll of fetching it, often with the help of children. The crisis worsens despite the Water Minister's rationing plan, leading to unsanitary conditions as people limit bathing to save water.
- Women bear the brunt, fetching and carrying water while men work. Residents are disillusioned with political promises and find it ironic to be fined for wasting water when they barely have enough to drink.



APRIL CORE SECTOR OUTPUT RISES 6.2% AS ELECTRICITY, STEEL BUOY

- India's infrastructure output in April rose by 6.2% year-on-year, driven by strong electricity and steel production.
- Coal production grew 7.5%, electricity generation rose 9.4%, and steel production increased by 7.1% year-on-year in April.
- Fertilizer production fell by 0.8% in April, while other sectors, including refinery products and natural gas, saw growth.