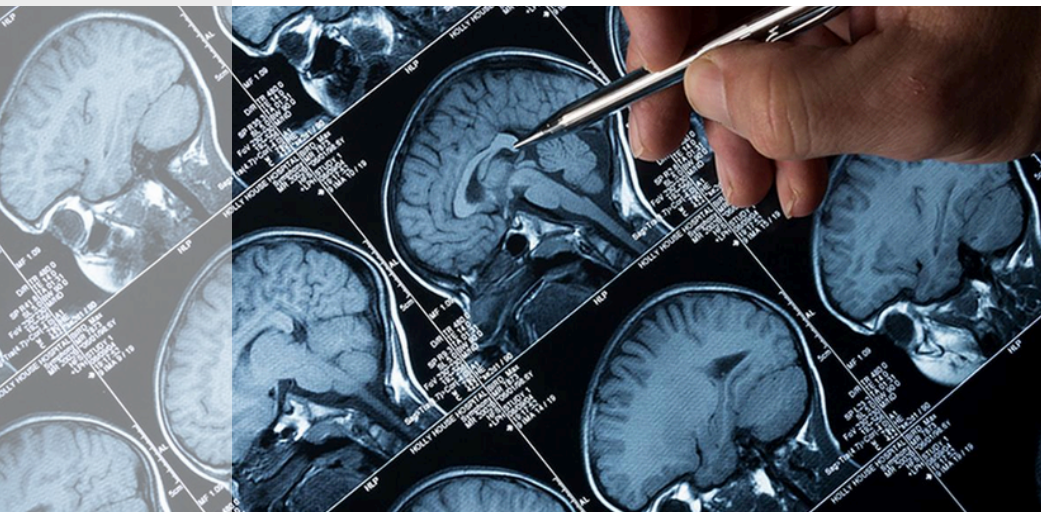


# WEEKLY **COMPILATION** C.A SHORT

17th August to 23th August



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# CENTRE APPROVES RESHUFFLE IN SENIOR BUREAUCRATIC POSTS



Vivek Joshi (IAS) has been appointed as Secretary, Department of Personnel and Training and Rajesh Kumar Singh (IAS) will be appointed as Officer on Special Duty in the Ministry of Defence and will eventually become Secretary, Department of Defence.

Katikathala Srinivas (IAS) has been appointed as Secretary, Ministry of Housing and Urban Affairs, while Manoj Goel (IAS) will serve as Secretary, Department of Expenditure.

Neelam Shammi Rao (IAS) has been appointed as Secretary, National Commission for Minorities, and Punya Salila Shrivastava (IAS) will become Officer on Special Duty in the Department of Health and Family Welfare.



# GROWING FLEET OF DRIVERLESS ROBOTAXI IN CHINA: A MIX OF WONDER AND INSECURITY SEEN ON THE ROADS



Wuhan now has one of the world's largest fleets of driverless taxis, with over 500 vehicles operated through Baidu's Apollo Go project.

Safety concerns have emerged following a fatal accident involving a Huawei-backed car and a minor collision involving a robotaxi, raising doubts about the technology.

Traditional taxi drivers express fears about job losses and possible price manipulation, while experts warn that autonomous driving technology is still not ready for mass deployment.

# ‘SUBCLINICAL TB IS THE REASON FOR SLOW DROP IN TB INCIDENCE’



**Subclinical TB Prevalence:** Both the national TB prevalence survey (2019-2021) and the Tamil Nadu TB prevalence survey found that a significant percentage of TB cases (42.6% and 39% respectively) were subclinical, meaning patients did not show typical TB symptoms like a persistent cough.

**Screening Challenges:** Screening for subclinical TB is challenging because people without symptoms are less likely to seek testing. However, large-scale screening, such as using mobile units for chest X-rays, has shown potential in detecting and reducing TB cases in high-burden areas.

**Infectious Risk of Subclinical TB:** People with subclinical TB can still be infectious, potentially spreading the disease despite not showing symptoms. This may be a reason for the slow decline in TB incidence even in countries with robust TB programs.

# INDIA NEEDS TO LIFT JOB GROWTH VIA REFORMS: IMF'S GOPINATH



**Education and Workforce:** India needs to enhance the depth and quality of its education system to create a more skilled and employable workforce, addressing the longstanding issue of skill mismatches.

**Labour and Land Reforms:** Reforms in land and labour markets, along with nurturing effective institutions like an efficient judiciary, are crucial for India's development and its goal to become a developed country.

**Trade and Tariffs:** Reducing import tariffs and being open to trade are essential for India to play a significant role in global supply chains, as its current tariff rates are higher compared to peer economies.



# FMRI MAY REVEAL DEPRESSION 'SUBTYPES' AND TREATMENTS THAT COULD WORK



## THE GIST

Depression manifests in different ways. It appears as faulty brain patterns. These patterns can be grouped into six unique subtypes. At least three of these subtypes could predict the antidepressants or modes of therapy that may work

An fMRI can capture the brain's electrical activity and the way it changes over time. In those with mental illness, brain circuits don't activate normally. When some brain patterns were shared between people with a specific mental illness, researchers called it a subtype

The team proved the subtypes were real, not artefacts in data, by validating them with people's symptoms and performance on behavioural tests. Researchers found that people bearing three of the six depressive subtypes could get treatment and expect symptoms to improved



# HASINA'S EXIT AND INDIA'S HOUR OF RECKONING



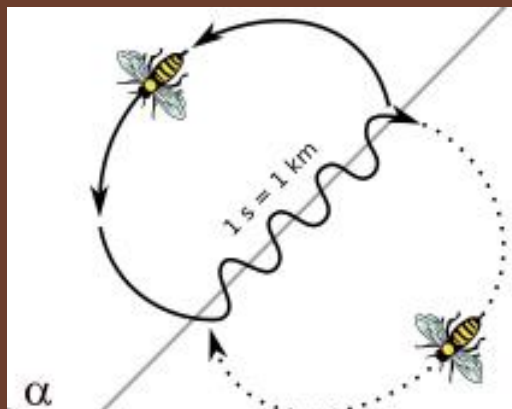
## THE GIST

The spark that ignited the protests came on June 5, when the High Court re-established a job quota reserving 30% of civil service posts for the children and grandchildren of freedom fighters of Bangladesh's liberation war.

As the movement grew, so did the tension between the protesters and authorities. On July 14, a controversial statement by Prime Minister Hasina, referring to protesters as the "children of Razakars" (collaborators of Pakistani forces during the 1971 war), inflamed the situation.

As the movement transitioned from quota reform protests to a broader call for political change, Bangladesh is entering uncharted territory.

# MANDYAM SRINIVASAN OF BEE STUDIES FAME FACES MISCONDUCT ALLEGATIONS



## THE GIST

**Allegations of Misconduct:** Two scientists have raised concerns about multiple scientific papers co-authored by Dr. Mandyam Srinivasan, alleging that the papers, which focus on the honeybee waggle dance, contain erroneous information, data duplication, and possible manipulation.

**Response and Defense:** Dr. Srinivasan has denied the allegations, stating that the issues raised are minor typographical errors that do not impact the validity of the data or conclusions of the studies.

**Journal Response:** Following an investigation, the Journal of Experimental Biology issued an "expression of concern" for two of the flagged papers, with other journals also investigating the claims. Opinions among experts on the validity of the data discrepancies are divided.

# A CHANGE IN INDIA'S POWER EXPORT RULES



## THE GIST

On August 14, Reuters reported on the introduction of an amendment to India's power export rules. Purported to hedge against political risks in Bangladesh, it allows Indian power exporters to reroute their output to Indian grids if there is a delay in payments from partner countries.

The Jharkhand-subsidary of Adani Power supplies 1,496-megawatt net capacity power to Bangladesh from the ultra super-critical thermal power plant in Godda.

The criticisms emanated from the use of coal imported from the Carmichael mine in Australia into India to produce power for Bangladesh.

# SUNITA AND BARRY WILL BE ON THE ISS LONGER THAN EXPECTED.

## WHAT NEXT?



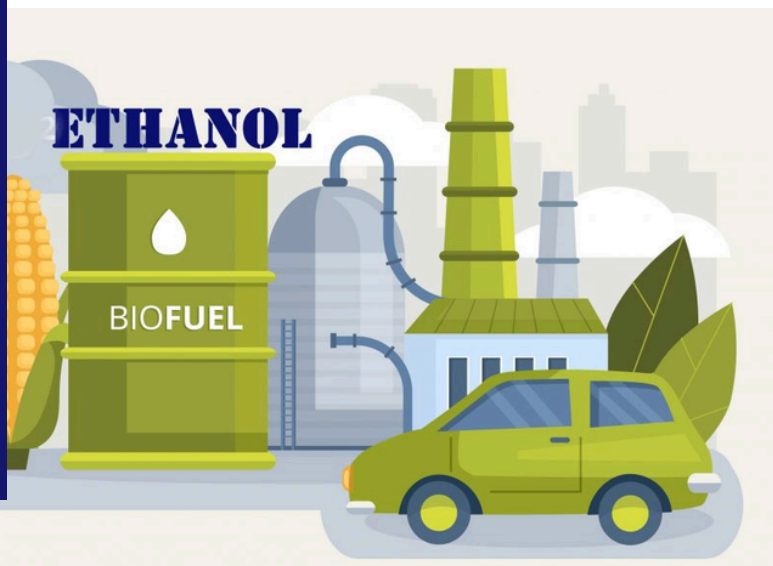
**Starliner Mission Delay:** Barry Wilmore and Sunita Williams were supposed to return from the ISS after an eight-day mission. However, due to Starliner's helium leak and malfunctioning thrusters, their mission has been extended, and their return is now expected in 2025.

**ISS Crew and Supplies:** Nine crew members currently reside on the ISS as part of Expedition 71. The station was recently restocked with essential supplies, including food, water, and oxygen, through resupply missions in August 2024, ensuring sufficient resources for the crew.

**Backup Plan for Return:** If the Starliner is deemed unfit for the return journey, NASA plans to use the Crew 9 Dragon mission, scheduled for February 2025, to bring Wilmore and Williams back to Earth as part of Expedition 72.



# ON THE ETHANOL BLENDING PROGRAMME



## THE GIST

The roadmap for achieving ethanol blending targets, prepared by the Niti Aayog, had laid down that the capacity of sugarcane-based distilleries would need to increase from 426 crore litres in 2021 to 760 crore litres in 2026, while grain-based distilleries' capacity should increase from 258 to 740 crore litres.

Ethanol will not only reduce greenhouse gas emissions, it will also prevent an estimated foreign exchange outgo of some \$4 billion per year, as per Maruti Suzuki company estimates, and bolster the rural economy by promoting the cultivation of various crops through an assured market.

Meanwhile, the developing ethanol economy has impacted States differently. While the fuel ethanol pricing is the same across India, States determine the pricing of Extra Neutral Alcohol (ENA) that goes into making liquor for consumption and other uses.

## ICAR, PENN STATE TEAM MAKES A TOOL SMALL ENOUGH TO EDIT PLANT GENOMES



**Development of a Smaller Genome Editor:** Researchers developed a plant genome editor using the protein ISDra2TnpB, which is derived from *Deinococcus radiodurans*. This protein is less than half the size of commonly used CRISPR proteins Cas9 and Cas12, making it more suitable for plant cells.

**Enhanced Editing Efficiency:** The team improved the editing efficiency of the TnpB-based system by optimizing codons and regulatory elements for plant cells. This led to a 33.58% editing efficiency in plants, making the system effective for both monocots and dicots.

**Potential Applications in Agriculture:** The new genome editing tool could revolutionize agriculture by enabling precise gene editing in crops, potentially leading to enhanced resistance to disease, improved crop yields, and the removal of undesirable traits like anti-nutrient factors.



## **WERE 8 CRORE NEW JOBS CREATED IN THREE YEARS?**

### **THE GIST**

KLEMS stands for Capital (K), Labour (L), Energy (E), Material (M) and Services (S). It is a framework used to measure industry-level “total factor productivity” (TFP), which is considered a measure of the efficiency of all the inputs to produce a unit of output. The objective of the KLEMS framework is not to produce data on employment.

In India-KLEMS, the estimates of population in 2017-18, 2018-19 and 2019-20 were borrowed from the Economic Survey (ES), 2021-22. The ES projected these populations by assuming that population growth rates between 2001 and 2011 were the same for the years after 2011.

Data from India-KLEMS, which was designed for very different purposes, are being used to drive a political narrative on employment generation.

# WHEN SWELTERING HEAT TURNS PUBLIC HOSPITALS INTO POTENTIAL 'DEATH TRAPS'



## THE GIST

Heat-related deaths are likely being underreported. Reasons include lack of knowledge among healthcare professionals and inadequate autopsy services. Also patients developing heat-related illness after admission for a different illness can cause underreporting

People who come to hospitals for certain illnesses are more vulnerable to heat-related illnesses. If someone has a fever it is very important to dissipate heat via sweating. However, if the ambient heat in the hospital ward is high, they will not be able to do so. This puts them at high risk of heat exhaustion

Individual measures taken by doctors cannot cope with systemic failings of poor health infrastructure and the problem of climate change at large. Hospitals need to have a strategy in place every year to deal with such occurrences



# A LOOK AT ONGOING INDIAN SPACE MISSIONS



## THE GIST

ISRO made major progress with missions like Aditya L1 for solar research, Gaganyaan TV-D1 testing crew safety, and XPoSat for X-ray studies.

Successful launches and tests include the SSLV's final development flight, the INSAT-3DS meteorological satellite, and the RLV-TD landing experiments.

ISRO is focused on its 25-year roadmap for Gaganyaan, a new Next Generation Launch Vehicle, and the Bharatiya Antariksh Station by 2035.

NSIL manages commercial missions, and private companies like Agnikul Cosmos and Skyroot Aerospace are advancing their own space technologies.

New policies and licenses are boosting private sector participation and foreign investment in India's space sector.