

## Current Affairs 29<sup>th</sup> January 2025 by Saurabh Pandey Sir

### DeepSeek's Emergence in the AI Industry

🚀 New Entrant Chinese start-up DeepSeek has introduced advanced AI models, creating a buzz in the tech industry by competing with leading U.S. companies.

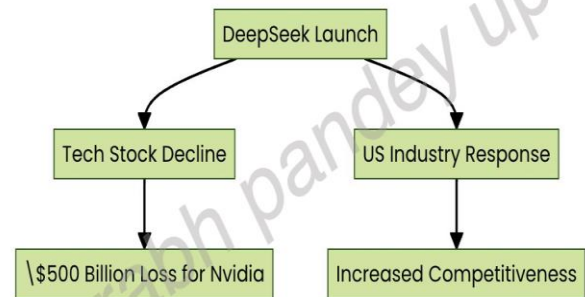
💰 Cost-Effective Solutions DeepSeek's AI model, DeepSeek-R1, is touted as more economical than OpenAI's GPT-4, with training expenses reportedly below \$6 million.

📉 Market Impact The launch has led to a significant decline in tech stocks, including a historic \$500 billion loss for Nvidia, impacting global markets.

Founded in 2023 by Liang Wenfeng in Hangzhou, DeepSeek is supported by the quantitative hedge fund High-Flyer, though financial specifics are not disclosed. Summary: DeepSeek, a burgeoning Chinese AI start-up, is challenging U.S. tech leaders with its cost-effective models, causing notable market disruptions and competitive concerns

🏢 Founding Background 🔍 Experts are skeptical about DeepSeek's cost claims and its access to Nvidia chips, highlighting potential cybersecurity issues. Skepticism and Concerns

🏆 DeepSeek's AI Assistant, powered by DeepSeek-v3, has overtaken OpenAI's ChatGPT as the top-rated free app on Apple's App Store.



The GSLV-F15 mission On the dawn of a new era in space exploration, the Indian Space Research Organisation (ISRO) has accomplished a monumental milestone their 100th launch from the Satish Dhawan Space Centre (SDSC) in Sriharikota. The GSLV-F15 mission, which lifted off with the NVS-02 navigation satellite, marks not just a number, but an odyssey of innovation and perseverance that has shaped India's position in the realm of space exploration. A Brief History of ISRO

🚀 The journey of ISRO began with the experimental flight of Satellite Launch Vehicle-3 (SLV-3 E10) on August 10, 1979. Despite facing initial setbacks, the relentless spirit of former President A.P.J. Abdul Kalam and the ISRO team paved the way for future successes.

**ISRO's record includes:** 2 SLV missions 4 Augmented Satellite Launch Vehicle (ASLV) missions 62 missions using the Polar Satellite Launch Vehicle (PSLV) 16 Geosynchronous Satellite Launch Vehicle (GSLV) missions 7 Launch Vehicle Mark 3 (LMV3) missions This history reflects an indomitable spirit and a commitment to pushing the boundaries of space technology.

The GSLV-F15 Mission The GSLV-F15 mission is a significant leap for ISRO, as it

heralds the deployment of the NVS-02 navigation satellite, expanding India's navigation capabilities. This mission not only strengthens the nation's satellite constellation but also enhances India's position in global navigation systems. Key Features of the GSLV-F15 Mission: Launch Date: Early hours of Wednesday Satellite Carried: NVS-02 Importance: Enhances navigation capabilities for diverse applications

Landmark Missions in ISRO's Journey ISRO's history is adorned with landmark missions that have redefined space exploration. Notable among them are: Chandrayaan-1 (2008): India's first lunar mission, which discovered water on the moon. Mangalyaan (Mars Orbiter Mission 2013): India's first interplanetary mission, making it the first Asian nation to reach Martian orbit. Chandrayaan-3 (2023): Successfully landed on the moon's polar region, a feat unmatched globally. These missions exemplify ISRO's commitment to scientific discovery and technological advancement.

Challenges Faced by ISRO Despite its successes, ISRO has encountered challenges. The space agency faced setbacks with missions like: GSLV-F02/INSAT-4C (2006) GSLV-D3/GSAT-4 (2010) GSLV-F10/EOS-03 (2021) Each failure has been met with resilience, leading to improvements in technology and strategy

### Looking Ahead: The Future of Indian Space Exploration

As ISRO celebrates this historic milestone, it sets its sights on the future. Upcoming missions include: Gaganyaan: India's first manned space mission. Aditya-L1: A mission to study solar activities and their impact on the Earth. ISRO's vision encompasses

national interests and contributions to international space exploration efforts.

### FAQs

#### **What is the significance of the GSLV-F15 launch?**

The GSLV-F15 launch is crucial as it enhances India's navigation capabilities with the NVS-02 satellite. How many launches has ISRO completed until now? ISRO has completed 100 launches, showcasing its progress and achievements in space technology. What are some of the major missions conducted by ISRO?

Major missions include Chandrayaan-1, Mangalyaan, and Chandrayaan-3, among others. What challenges did ISRO face in its early years? ISRO faced multiple challenges, including technological setbacks and failures in early missions.

#### **How does the NVS-02 satellite contribute to navigation?**

The NVS-02 satellite enhances navigation services, benefiting various sectors including transportation and communication.

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### **WHO Guidelines on Sodium Intake and Health Impacts**

#### **🌐 WHO Guidelines**

The World Health Organization has released guidelines recommending the use of lower-sodium salt substitutes containing potassium.

❑ Sodium Intake WHO advises adults to reduce sodium intake to less than 2 grams per day, excluding pregnant women, children, and individuals with kidney issues.

◆ **Health Impact** High sodium intake leads to water retention, increasing blood pressure and negatively affecting cardiovascular health, potentially resulting in strokes.

The guidelines are particularly important for India, where there is a cultural tendency to add extra salt to food, aiming to promote population-level changes in salt availability.

### Significance for India

🏠 **Guidelines suggest using lower-sodium salt substitutes for household use, but not for packaged foods or those consumed outside the home.** Household Consumption

🛡️ **Reducing salt intake is an effective strategy to lower the risk of noncommunicable diseases (NCDs) like cardiovascular diseases and chronic kidney disease.** Noncommunicable Diseases

⇨ **Annually, 8 million deaths are linked to poor diets, with 1.9 million attributed to high sodium consumption.** Diet-Related Deaths

**Summary:** The WHO has issued guidelines advocating for lower-sodium salt substitutes to combat high sodium intake and its associated health risks, particularly in adults.

The Hindu

### Teressa Island

Teressa Island is part of the Nicobar Islands, located in the Bay of Bengal. It is known for its beautiful beaches and rich marine biodiversity. The island is home to various species of birds and wildlife, making it a popular spot for nature enthusiasts. Teressa has a small population primarily consisting of indigenous Nicobarese people. The island is accessible by boat and is less commercialized compared to other tourist destinations in the region. Teressa Island features lush greenery

and tropical forests, contributing to its scenic beauty. The local economy is largely based on fishing and agriculture, with some tourism activities. **Summary:** Teressa Island, part of the Nicobar Islands, is a scenic destination known for its biodiversity, Indigenous culture, and less commercialized tourism

### What is the Corpse Flower?

The corpse flower, scientifically known as *Amorphophallus Titanum*, is a titan among flora. This extraordinary plant, renowned for its infrequent and odorous bloom, can reach staggering heights of up to 3 meters.

#### Let's delve into some fascinating facts:

**Physical Characteristics:** Fluted crimson petals that can measure over a meter across. A central stalk that radiates heat to enhance its alluring scent. **Blooming Cycle:** Generally, blooms once every few years, often lasting merely a day. The last bloom in Sydney was recorded in 2010, making the recent event a rare spectacle. **Species Variants:** In New York, the *Amorphophallus gigas* bloomed alongside its Australian counterpart, both captivating audiences with their unique traits

#### Why Does It Smell?

The corpse flower is infamous for its repugnant aroma, often described as akin to rotting flesh. This pungent odor serves a vital purpose: **Pollination Strategy:** The smell attracts carrion insects, which are crucial for its pollination. Insects such as blowflies and carrion beetles are drawn to the scent, mistaking it for decaying matter. **Chemical Compounds:** The plant emits a mix of organic compounds, including dimethyl trisulfide, isovaleric acid, and indole. Emissions peak during the evening and night, when pollinators are most active.

**Public Reactions and Experiences** The recent blooms in Sydney and New York drew throngs of curious onlookers, eager to witness this natural marvel. Here are some highlights: **Crowd Enthusiasm:** Hundreds queued to catch a whiff of the infamous scent, with many sharing their experiences on social media. The excitement surrounding the event fostered a sense of community among nature enthusiasts. **Anecdotal Reactions:** Visitors described the smell as “both fascinating and revolting,” capturing the duality of the experience. Some even likened the atmosphere to a carnival filled with laughter and disbelief.

### Conclusion

The blooming of the corpse flower is not just a botanical event; it's a captivating spectacle that brings people together, uniting them in curiosity and awe. This rare occurrence reminds us of the wonders of nature and the intricate relationships that exist within ecosystems. As we look forward to the next bloom, let's continue to explore the fascinating world of unique plants and their role in our environment.

### The Hindu

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## Guillain-Barre Syndrome Outbreak


**in Pune Outbreak Overview** **Outbreak Details:** Over 100 suspected cases of Guillain-Barre Syndrome (GBS) have been recorded in Pune, linked to a bacterial infection. **Causative Agent:** The outbreak is caused by *Campylobacter jejuni*, a bacteria associated with contaminated food and water. **Symptoms:** Initial symptoms include gastroenteritis, such as vomiting, diarrhea, and nausea, followed by GBS symptoms like peripheral numbness and paralysis.


**Mortality:** There has been one reported death due to suspected GBS in a patient who visited Pune

## Understanding GBS

### GBS Overview

GBS is a rare autoimmune neurological disorder affecting the peripheral nervous system, leading to muscle weakness and paralysis.

 **Treatment:** Effective treatments include plasma exchange and intravenous immunoglobulin therapy, most effective if administered within two weeks of symptom onset **Preventive Measures**

 **Preventive Measures:** Rapid response teams are conducting water sample testing and community surveillance, emphasizing the need for clean drinking water and public health messaging

**Summary:** The GBS outbreak in Pune, linked to *Campylobacter jejuni*, underscores the importance of early detection and public health measures to prevent further cases.

**The Nayakkarpatti Tungsten Block Auction: A Controversial Decision** In a surprising turn of events, the Union Government has annulled the Nayakkarpatti tungsten block auction in Madurai, effectively halting protests that had been brewing over environmental and cultural concerns. This decision marks a rare instance of the Narendra Modi government making a swift ‘U-turn’ in response to public opposition. The Award to Hindustan Zinc Limited contract for mining 2,015.51 hectares was awarded to Vedanta’s Hindustan Zinc Limited. However, this decision was met with growing concerns from local communities and environmentalists.

**Environmental and Cultural Concerns Arittapatti:** Tamil Nadu's Biodiversity Heritage Site The Nayakkarpatti block is located near Arittapatti, which holds the title of Tamil Nadu's first biodiversity heritage site. This proximity raised alarms about the potential impact of mining activities on the local ecosystem. Historical Significance of the Area An Assembly resolution highlighted that mining could threaten historical cave temples, Jain symbols, Tamil Brahmi scripts, and habitats for rare species. The cultural and historical significance of the area cannot be overstated, making the stakes even higher

**The Importance of Tungsten** Tungsten, or wolfram, is a dense, lustrous metal that is crucial for various industries, including defense and high technology. Its unique properties make it irreplaceable in many applications. The Scarcity of Tungsten Resources in India Despite its importance, tungsten is indigenously rare in India, with only 5% of the country's tungsten mining resources located in Tamil Nadu, Haryana, Uttarakhand, and West Bengal. The rest is distributed across states like Karnataka, Rajasthan, Andhra Pradesh, and Maharashtra.

**Conclusion** The annulment of the Nayakkarpatti tungsten block auction highlights the complex interplay between environmental concerns, cultural heritage, and political dynamics in India. While the need for tungsten mining is undeniable, the government must strike a balance between economic development and the preservation of our natural and cultural heritage. A more consultative approach, involving local communities and experts, could lead to more sustainable decisions in the future categorizing 268 denotified, semi-nomadic,

and nomadic tribes. the Anthropological Survey of India (AnSI) and Tribal Research Institutes (TRI) have recently made a groundbreaking move by categorizing 268 denotified, semi-nomadic, and nomadic tribes. This is a significant step towards recognizing and including these communities in the socio-political fabric of the country.

### **The Study Overview Who Conducted the Study?**

The AnSI, along with various TRIs across India, embarked on this extensive study that spanned three years. Their goal? To comprehensively classify tribes that were previously thought to be unclassifiable. Key Findings of the Study Number of Communities Categorized Out of the 268 tribes studied, a whopping 179 communities have been recommended for inclusion in the Scheduled Castes (SC), Scheduled Tribes (ST), and Other Backward Classes (OBC) lists. This is a monumental achievement, especially since 85 of these communities are being classified for the very first time!

**Communities Not Traceable** However, the study also revealed that 63 communities are "not traceable" anymore. This means they may have assimilated into larger groups, changed their names, or even migrated to different states. It's a reminder of how fluid and dynamic cultural identities can be.

### **Historical Context**

The Criminal Tribes Act of 1924 To understand why this study was necessary, we need to look back at history. The Criminal Tribes Act of 1924 labeled certain tribes as "criminal," leading to stigmatization and marginalization. After its repeal in 1949, efforts to classify these communities began, but they faced numerous challenges.

**Previous Efforts at Classification Notable Commissions and Their Findings Act** Various commissions, including the First Backward Classes Commission and the Idate Commission, have attempted to classify these tribes. However, they often fell short, leaving many communities unrecognized. The Idate Commission, for instance, identified over 1,200 tribes but could not classify them all

**The Need for Categorization Importance of Accurate Classification** The Parliamentary Standing Committee on Social Justice and Empowerment highlighted the urgent need for categorization. Without proper classification, these communities miss out on benefits and welfare schemes designed for SC/STs. It's like being left out of a party you were invited to

**Community Activism and Demands Within the Development and Welfare Board for Denotified, Nomadic, and Semi-Nomadic Communities**, there are two main schools of thought. One advocates for completing the classification process to ensure benefits, while the other calls for a separate classification for denotified tribes in the Constitution. It's a fascinating debate that reflects the complexities of identity and representation

### **Future Steps**

**The Role of the Special Committee** The report from AnSI and TRIs is now with a Special Committee led by the Vice-Chairperson of the NITI Aayog. They are currently scrutinizing the recommendations, which could lead to significant changes in policy. **Expected Outcomes** Depending on the government's response to these recommendations, we could see a more inclusive approach to tribal welfare, making

it easier for state governments to initiate inclusion processes.

In conclusion, the comprehensive categorization of denotified, semi-nomadic, and nomadic tribes is a monumental step toward recognizing the rich tapestry of India's cultural heritage. It's a journey that has taken decades, and while there's still a long way to go, this study marks a significant milestone in the fight for recognition and rights

**Birthright Citizenship and Legal Challenges** **Key Developments** Judge Blocks Executive Order: On January 23, U.S. District Judge John Coughenour blocked President Trump's executive order aimed at limiting citizenship. **birthright** **Definition of Birthright Citizenship:** Birthright citizenship grants automatic citizenship to individuals born in a country, regardless of their parents' citizenship status, as established by the 14th Amendment of the U.S. Constitution. **Historical Context:** The 14th Amendment, ratified in 1868, was a result of the struggle for racial equality and overturned the Dred Scott decision, which denied citizenship to African Americans. **Citizenship Principles:** Countries typically use "jus soli" (right of the soil) or "jus sanguinis" (right of blood) to determine citizenship; the U.S. employs both principles

**Trump's Order Interpretation:** Trump's order reinterprets the 14th Amendment, suggesting that children born to undocumented or temporarily legal parents are not automatically citizens, contradicting historical precedents. **Narrow Definition of Parents:** The executive order defines "mother" and "father" strictly as biological progenitors, excluding transgender and queer parents from its scope.

⚖️ Legal Challenges Ahead: Judge Coughenour deemed the order "blatantly unconstitutional" and noted that further legal challenges may lead to a resolution by the U.S. Supreme Court. Summary A U.S. District Judge blocked Trump's executive order on birthright citizenship, citing its unconstitutionality and historical precedents.

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