



**TELEGRAM CHANNEL:** <https://t.me/patrioticIAS>

**YOUTUBE CHANNEL:** <https://www.youtube.com/@PatrioticIAS>

**CONTACT:** 9971932488



# PATRIOTIC IAS

## DAILY CURRENT AFFAIRS

## THE HINDU NEWSPAPER

## 14 OCTOBER 2025

**YouTube link:** <https://www.youtube.com/@PatrioticIAS>

**Telegram Channel:** <https://t.me/patrioticIAS>

**Address :** 3rd Floor, KV Tower, Padleyganj Road, Gorakhpur  
**Email Id :** info@patrioticias.in  
**Contact Number :** 9971932488  
**Website :** patrioticias.in



**PCS Special**

**14 October 2025**

**1. QUIZ**

**Questions and Answers to the previous day's daily quiz:** 1. In 2025, four faculty of this

U.S. institution have won the award in a single year. **Ans: University of California**

2. The latest category of the Nobel was established by this entity. **Ans: Economic sciences; Sveriges Riksbank (Sweden's central bank)**

3. The last time there was no Nobel Prize for this category was in 1972. **Ans: Peace**

4. This category has had the most laureates with 232 since inception. **Ans: Medicine**

5. The last individual to win a second Nobel prize. It was in this category. **Ans: K. Barry Sharpless in Chemistry (2001 and 2022)**

6. The common link between the five Peace laureates. **Ans: They were all under arrest at the time of the award of the Nobel Prize**

7. The surname of the only siblings to have won the Nobel Prize, with one sharing the 1969 Economics prize and the other the 1973 Medicine prize. **Ans: Tinbergen**

Visual: Identify this man. **Ans: Le Duc Tho**

**Early Birds:** Sujith. B| Gargi Ahirrao| Tito Shiladitya| Sukdev Shet| Tamal Biswas

**metal-organic frameworks (MOFs), materials with applications in CO<sub>2</sub> capture and water harvesting.**

### Significance and Impact

- These achievements bring the **total number of Nobel Prizes awarded to UC faculty to 75 since 1934.**
- The recognition underscores UC's **commitment to excellence in research** and its significant contributions to **scientific advancement.**

### Sveriges Riksbank Prize in Economic Sciences

- **Established:** In 1968, Sveriges Riksbank (Sweden's central bank) established the Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel.

## QUIZ

### University of California Achieves Historic Nobel Milestone in 2025

- In 2025, the **University of California (UC)** system achieved a historic milestone by having **four faculty members awarded Nobel Prizes** in a single year—a first in Nobel history.

#### 2025 Nobel Laureates from the University of California

##### 1. Nobel Prize in Medicine

- **Frederick J. Ramsdell**, a UC San Diego and UCLA alumnus, was honored for his groundbreaking research identifying **cells that prevent the immune system from attacking the body's own tissues.**

##### 2. Nobel Prize in Physics

- **John Clarke** (UC Berkeley), **Michel H. Devoret** (UC Santa Barbara), and **John M. Martinis** (UC Santa Barbara) received the **Nobel Prize in Physics** for their pioneering work demonstrating **quantum mechanical phenomena in macroscopic electronic circuits.**

##### 3. Nobel Prize in Chemistry

- **Omar Yaghi**, a former UCLA faculty member and current professor at UC Berkeley, was awarded the **Nobel Prize in Chemistry** for his development of **metal-organic frameworks (MOFs), materials with applications in CO<sub>2</sub> capture and water harvesting.**



**TELEGRAM CHANNEL:** <https://t.me/patrioticIAS>

**YOUTUBE CHANNEL:** <https://www.youtube.com/@PatrioticIAS>

**CONTACT: 9971932488**



- **Purpose:** The prize was created to recognize outstanding contributions in the field of economic sciences, complementing the original Nobel Prizes established by Alfred Nobel.
- **Foundation:** The prize was funded through a donation from Sveriges Riksbank on the occasion of the bank's 300th anniversary.
- **Administration:** The prize is awarded by the **Royal Swedish Academy of Sciences**, following the same principles as the original Nobel Prizes.
- **First Awarded:** The inaugural prize in economic sciences was awarded in **1969** to **Ragnar Frisch** and **Jan Tinbergen** for their development and application of dynamic models for the analysis of economic processes.
- **Prize Amount:** The prize amount is the same as for the Nobel Prizes and is paid by the Riksbank.
- **Recent Laureates:** In **2025**, the prize was awarded to **Joel Mokyr, Philippe Aghion, and Peter Howitt** for their groundbreaking work on innovation-driven economic growth.
- **Award Ceremony:** The prize is presented annually on **December 10**, the anniversary of Alfred Nobel's death, during the Nobel Prize Award Ceremony in Stockholm.

### Nobel Peace Prize: The 1972 Exception

- **1972:** No Nobel Peace Prize was awarded.
- **Reason:** The **Norwegian Nobel Committee** determined that no candidate met the criteria set out in **Alfred Nobel's will**.
- **Outcome:** The prize money allocated for that year was transferred to the **Nobel Foundation's Main Fund**.
- **Historical Context:** This remains the most recent instance where the **Nobel Peace Prize** was not awarded.
- **Notable Precedents:** Similar decisions occurred in other years, including **1914–1916, 1918, 1923, 1924, 1928, 1932, 1939–1943, 1948, 1955–1956, and 1966–1967**.

### Nobel Peace Prize Criteria

- **Alfred Nobel's Will:** The prize is intended for the person who has "done the most or the best work for **fraternity between nations, for the abolition or reduction of standing armies, and for the holding and promotion of peace congresses**."
- **Committee's Discretion:** The **Norwegian Nobel Committee** has the authority to withhold the prize if no nominee's work aligns with Nobel's vision of **peace**.
- **Financial Allocation:** In years when the prize is not awarded, the designated funds are either carried over to the next year or added to the **Nobel Foundation's reserves**.

### Recent Developments in the Nobel Peace Prize

- **2025 Award:** Venezuelan opposition leader **María Corina Machado** was awarded the **Nobel Peace Prize** for her unwavering commitment to a **democratic transition in Venezuela**.

### Nobel Prize in Physiology or Medicine:

- **Established:** In 1901, as one of the five original Nobel Prizes established by Alfred Nobel's will.
- **Awarded by:** The Nobel Assembly at the Karolinska Institute in Stockholm, Sweden.
- **Purpose:** To recognize individuals who have made outstanding contributions in the fields of physiology or medicine, benefiting humanity.
- **Prize Components:** A medal, a diploma, and a monetary award.

### Number of Laureates

- **Total Laureates (1901–2025):** 232 individuals have been awarded the Nobel Prize in Physiology or Medicine.
- **First Recipient:** Emil von Behring (1901) for his work on serum therapy and the development of a vaccine against diphtheria.

**Address : 3rd Floor, KV Tower, Padleyganj Road, Gorakhpur**  
**Email Id : info@patrioticias.in**  
**Contact Number : 9971932488**  
**Website : patrioticias.in**



**TELEGRAM CHANNEL:** <https://t.me/patrioticIAS>

**YOUTUBE CHANNEL:** <https://www.youtube.com/@PatrioticIAS>

**CONTACT: 9971932488**



- **First Female Laureate:** Gerty Cori (1947) for her role in elucidating the metabolism of glucose.
- **Recent Laureates:** In 2025, Mary E. Brunkow, Fred Ramsdell, and Shimon Sakaguchi were honored for their discoveries concerning peripheral immune tolerance.

### 2025 Nobel Prize in Physiology or Medicine

- **Awarded to:** Mary E. Brunkow, Fred Ramsdell, and Shimon Sakaguchi.
- **Discovery:** Their research focused on **peripheral immune tolerance, identifying regulatory T cells and the FOXP3 gene**, crucial in preventing autoimmune diseases.
- **Implications:** Their work has led to over 200 clinical trials exploring therapies for autoimmune diseases and cancer.

### K. Barry Sharpless: A Dual Nobel Laureate in Chemistry

- **Born:** April 28, 1941, Philadelphia, Pennsylvania, USA
- **Notable Contributions:** Pioneering work in stereochemistry, asymmetric catalysis, and the development of "click chemistry"

### First Nobel Prize in Chemistry (2001)

- **Awarded for:**
  - **Chirally Catalyzed Oxidation Reactions**
  - **Significance:** Enabled the selective synthesis of chiral molecules, which are crucial in pharmaceuticals and agrochemicals due to their distinct biological activities.
  - **Specific Reaction:** Sharpless Epoxidation, a method for creating optically active epoxides.
  - **Collaborators:** Shared the prize with William S. Knowles and Ryōji Noyori for their work on chirally catalyzed hydrogenation reactions.
  - **Affiliation at the Time:** The Scripps Research Institute, La Jolla, California.

### Second Nobel Prize in Chemistry (2022)

- **Awarded for:**
  - **Development of Click Chemistry and Bioorthogonal Chemistry**
  - **Significance:** Introduced efficient, reliable, and selective chemical reactions that can occur in living organisms without interfering with normal biological processes.
  - **Collaborators:** Shared the prize with Carolyn R. Bertozzi and Morten Meldal.
  - **Applications:**
    - **Bioorthogonal Reactions:** Used in cellular imaging, cancer diagnostics, and targeted drug delivery.
    - **Click Chemistry:** Facilitates the rapid assembly of complex molecules, impacting drug discovery and materials science.
  - **Affiliation at the Time:** The Scripps Research Institute.

### Nobel Peace Laureates Under Arrest at the Time of Award

- The **Nobel Peace Prize** is awarded annually by the **Norwegian Nobel Committee** to individuals or groups who have made significant contributions to **peace, conflict resolution, human rights, and diplomacy**.
- In some rare cases, the laureates were **under arrest or imprisoned** at the time the award was announced, making a powerful statement on **human rights and political oppression**.

### Arrested Laureates

- **Five Nobel Peace Prize winners** were **under arrest** when the Nobel Committee announced their awards.



### Notable Examples of Laureates Under Arrest

- **Aung San Suu Kyi (1991)**
  - Burmese politician and democracy activist.
  - **Awarded while under house arrest** for her opposition to the military regime in Myanmar.
  - **Significance:** Symbolized the struggle for democracy and non-violent resistance.
- **Liu Xiaobo (2010)**
  - Chinese literary critic, human rights activist, and pro-democracy advocate.
  - **Awarded while imprisoned in China** for his role in advocating democratic reforms.
  - **Significance:** Emphasized the importance of freedom of expression and political reforms.

### Tinbergen Siblings: Nobel Prize Laureates

- The **Tinbergen siblings** are the **only known siblings to have won Nobel Prizes in different categories**.
- Their achievements highlight the significant contributions of one family to both **Economics** and **Medicine**, showing the diversity of talent and impact.

#### Jan Tinbergen (1903–1994)

- **Category: Economics**
- **Award Year: 1969** (shared with Ragnar Frisch)
- **Contribution:**
  - One of the **founders of econometrics**, which combines **economic theory, mathematics, and statistical methods** to analyze economic phenomena.
  - Developed **mathematical models for economic policy planning**, especially to **stabilize economies and manage unemployment and inflation**.
- **Significance:**
  - His work helped governments **formulate economic policies based on quantitative analysis**, making economics more scientifically rigorous.

#### Niko Tinbergen (1907–1988)

- **Category: Medicine/Physiology (1973)**
- **Award Year: 1973** (shared with Konrad Lorenz and Karl von Frisch)
- **Contribution:**
  - Pioneer in **ethology**, the scientific study of **animal behavior in natural conditions**.
  - Introduced **experimental methods to study instinctive behavior**, such as **mating, feeding, and social interactions in animals**.
  - Formulated the **“Four Questions of Ethology”**, analyzing behavior in terms of **causation, development, evolution, and function**.
- **Significance:**

Revolutionized the understanding of **animal behavior and its biological basis**, influencing psychology, neuroscience, and ecology.

**GS Paper 1: History, Society and Geography**



**TOPICS COVERED**

**14 October 2025**

- |    |   |
|----|---|
| 1. | <b>Live-in relationships threat to Indian culture: U.P. Governor</b><br>लिव-इन रिश्ते भारतीय संस्कृति के लिए खतरा: उत्तर प्रदेश की राज्यपाल   |
| 2. | <b>Need to assess safety of Mullaperiyar dam, says Supreme Court</b><br>मुल्लापेरियार बांध की सुरक्षा का आकलन जरूरी है, सुप्रीम कोर्ट का कहना |
| 3. | <b>The need to address caste-based atrocities</b><br>जाति-आधारित अत्याचारों को संबोधित करने की आवश्यकता                                       |
| 4. | <b>Cuban Opposition leader Daniel Ferrer goes into exile in the U.S.</b><br>क्यूबाई विपक्षी नेता डैनियल फेरर अमेरिका में निर्वासन में चले गए  |



GS I: Mapping

Mexico's President Claudia Sheinbaum, centre, speaks with residents in Huauchinango while visiting areas impacted by torrential rains that left nearly 130 people dead or missing, following downpours that triggered landslides, cut off power and caused rivers to overflow. REUTERS

Mexico's President Claudia Sheinbaum, centre, speaks with residents in Huauchinango while visiting areas impacted by torrential rains that left nearly 130 people dead or missing, following downpours that triggered landslides, cut of power and caused rivers to overflow.



## Live-in relationships threat to Indian culture: U.P. Governor

लिव-इन रिश्ते भारतीय संस्कृति के लिए खतरा: उत्तर प्रदेश की राज्यपाल

- Uttar Pradesh Governor **Anandiben Patel** on Monday described **live-in relationships** as a “**threat to India’s ancient culture**”, and urged the **youth** to stay away from such “**decadent trends**” that put **families**, especially **young women**, at risk.

उत्तर प्रदेश की राज्यपाल आनंदीबेन पटेल ने सोमवार को लिव-इन रिश्तों को “भारत की प्राचीन संस्कृति के लिए खतरा” बताया और युवाओं से अपील की कि वे ऐसे “पतनशील रुझानों” से दूर रहें जो परिवारों, विशेष रूप से युवतियों, को जोखिम में डालते हैं।

- Speaking at the **30th convocation ceremony** of **Dr. Ram Manohar Lohia Avadh University** in **Ayodhya**, Ms. Patel warned the youth, saying that trends like **live-in relationships** are a blow to a country with an **ancient culture like India**.

अयोध्या में डॉ. राम मनोहर लोहिया अवध विश्वविद्यालय के 30वें दीक्षांत समारोह में बोलते हुए, सुश्री पटेल ने युवाओं को चेतावनी दी कि लिव-इन रिश्तों जैसे रुझान भारत जैसी प्राचीन संस्कृति वाले देश के लिए एक आघात हैं।

- It endangers the lives of **families** and **society**. यह परिवारों और समाज के जीवन को खतरे में डालता है।
- “Not as a **Governor**, but as a **woman and grandmother**, I urge you to stay away from this **subculture**,” Ms. Patel was quoted as saying in a statement issued by **Raj Bhavan**.



## Live-in relationships threat to Indian culture: U.P. Governor

**GS I: Society**

Uttar Pradesh Governor Anandiben Patel on Monday described live-in relationships as a “threat to India’s ancient culture”, and urged the youth to stay away from such “decadent trends” that put families, especially young women, at risk. Speaking at the 30th convocation ceremony of Dr. Ram Manohar Lohia Avadh University in Ayodhya, Ms. Patel warned the youth, saying that trends like live-in relationships are a blow to a country with an ancient culture like India. It endangers the lives of families and society. “Not as a Governor, but as a woman and grandmother, I urge you to stay away from this subculture,” Ms. Patel was quoted as saying in a statement issued by Raj Bhavan. <sup>PTI</sup>

## Need to assess safety of Mullaperiyar dam, says Supreme Court

**GS I: Drainage System**

**Aaratrika Bhaumik**  
NEW DELHI

The Supreme Court on Monday said that certain directions may be necessary to ensure the reinforcement of the 130-year-old limestone-and-surkhi-made Mullaperiyar dam in Kerala, in light of concerns regarding its safety and structural integrity.

A Bench of Chief Justice of India B.R. Gavai and Justice K. Vinod Chandran was hearing a petition filed by the organisation Save Kerala Brigade, seeking the decommissioning of the dam on the ground that it poses a threat to the lives of nearly 10 million people living downstream.

Constructed in 1895 across the Periyar River, the dam is operated by Tamil Nadu under a long-term lease agreement. While Kerala has raised

**The Bench has issued notices to the Union government and the States of Kerala and Tamil Nadu**

concerns over its structural safety and vulnerability to seismic activity, Tamil Nadu has maintained that the dam is critical for water supply in the southern districts.

Observing that the Mullaperiyar is “one of the oldest dams”, Chief Justice Gavai said the court would consider issuing directions to reinforce the structure or refer the matter to an expert body to assess its safety and the feasibility of constructing a new dam.

The Bench has issued notices to the Union government and the States of Kerala and Tamil Nadu, seeking their responses.

“मैं यह बात राज्यपाल के रूप में नहीं, बल्कि एक महिला और दादी के रूप में कह रही हूँ, आपसे अनुरोध है कि इस उपसंस्कृति से दूर रहें,” राजभवन द्वारा जारी एक बयान में सुश्री पटेल के हवाले से कहा गया।

## Need to assess safety of Mullaperiyar dam, says Supreme Court

मुल्लापेरियार बांध की सुरक्षा का आकलन जरूरी है, सुप्रीम कोर्ट का कहना

- The **Supreme Court** on **Monday** said that certain directions may be necessary to ensure the **reinforcement of the 130-year-old limestone-and-surkhi-made Mullaperiyar dam in Kerala**, in light of concerns regarding its **safety and structural integrity**.

सुप्रीम कोर्ट ने सोमवार को कहा कि 130 साल पुराने चूना-पत्थर और सुरखी से बने मुल्लापेरियार बांध की सुरक्षा और संरचनात्मक मजबूती को देखते हुए इसे मजबूत करने के लिए कुछ दिशा-निर्देश जरूरी हो सकते हैं।

- A **Bench of Chief Justice of India B.R. Gavai and Justice K. Vinod Chandran** was hearing a petition filed by the organisation **Save Kerala Brigade**, seeking the **decommissioning of the dam** on the ground that it poses a **threat to the lives of nearly 10 million people living downstream**.

भारत के मुख्य न्यायाधीश बी.आर. गवई और न्यायमूर्ति के. विनोद चंद्रन की पीठ सेव केरला ब्रिगेड नामक संगठन द्वारा



दायर एक याचिका पर सुनवाई कर रही थी, जिसमें बांध को निष्क्रिय करने की मांग की गई थी क्योंकि यह नीचे की ओर रहने वाले लगभग 1 करोड़ लोगों के जीवन के लिए खतरा है।

- Constructed in **1895** across the **Periyar River**, the dam is operated by **Tamil Nadu** under a **long-term lease agreement**.

पेरियार नदी पर 1895 में निर्मित यह बांध लंबी अवधि के पट्टा समझौते के तहत तमिलनाडु द्वारा संचालित किया जाता है।

- While **Kerala** has raised concerns over its **structural safety** and **vulnerability to seismic activity**, **Tamil Nadu** has maintained that the **dam is critical for water supply in the southern districts**.

जहां केरल ने इसकी संरचनात्मक सुरक्षा और भूकंपीय गतिविधि के प्रति संवेदनशीलता पर चिंता व्यक्त की है, वहीं तमिलनाडु ने कहा है कि यह बांध दक्षिणी जिलों में जल आपूर्ति के लिए अत्यंत महत्वपूर्ण है।

- Observing that the **Mullaperiyar** is “one of the oldest dams”, **Chief Justice Gavai** said the court would consider issuing directions to **reinforce the structure** or refer the matter to an **expert body** to assess its **safety** and the **feasibility of constructing a new dam**.

यह कहते हुए कि मुल्लापेरियार “सबसे पुराने बांधों में से एक” है, मुख्य न्यायाधीश गवई ने कहा कि अदालत संरचना को मजबूत करने के निर्देश जारी करने या इस मामले को किसी विशेषज्ञ निकाय के पास भेजने पर विचार करेगी ताकि इसकी सुरक्षा और नए बांध के निर्माण की संभावना का आकलन किया जा सके।

- The **Bench** has issued notices to the **Union government** and the **States of Kerala and Tamil Nadu**, seeking their **responses**.

पीठ ने केंद्र सरकार और केरल व तमिलनाडु राज्यों को नोटिस जारी कर उनके जवाब मांगे हैं।

- The first hydroelectric plant in India was the **Sidrapong Power Station in Darjeeling**, commissioned in 1897.
- The first hydroelectric power plant in the world was the **Oshkosh Power Plant** in Wisconsin, USA, which began operations in 1882.



# Number of births declines; deaths rise slightly: report

The Vital Statistics of India, based on the Civil Registration System report for 2023, shows 86.6 lakh deaths were registered that year, recording a marginal increase from the 86.5 lakh in 2022

**GS I: Population**

**Vijaita Singh**  
NEW DELHI

India registered 2.52 crore births in 2023, around 2.32 lakh fewer than in 2022, the Vital Statistics of India based on the Civil Registration System (CRS) report for the year 2023 shows.

The report, compiled by the Registrar-General of India (RGI) and released on Monday, stated that 86.6 lakh deaths were registered in 2023, a marginal increase from 86.5 lakh deaths in 2022.

The report shows that there was no major spike in deaths in 2022 and 2023, despite the COVID-19 dashboard maintained by the Health Ministry showing that the total number of pandemic-induced deaths stood at 5,33,665 as on May 5.

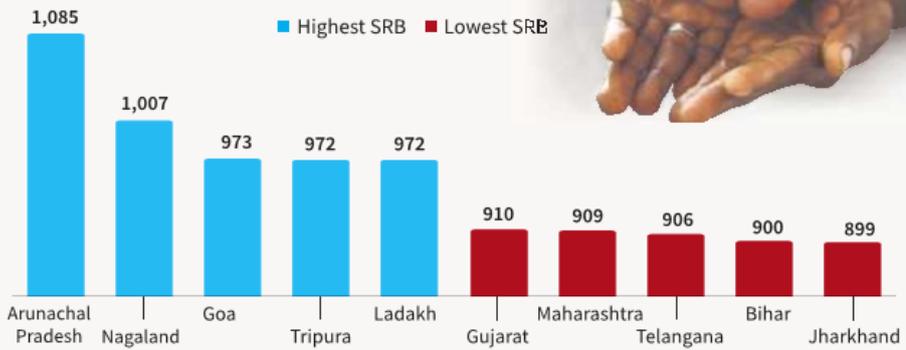
However, there was a significant rise in deaths in 2021, the second-year of COVID-19 lockdown, which recorded an excess of 21 lakh deaths from the 2020 count.

There were 81.2 lakh deaths in 2020 and 102.2 lakh in 2021.

The report also said that

## Gender imbalance

The chart shows five States/Union Territories each with the highest and lowest sex ratios at birth (SRB) in 2023. SRB is commonly defined as the number of female births for every 1,000 male births.



Source: Ministry of Home Affairs

Jharkhand recorded the lowest sex ratio at birth at 899, followed by Bihar at 900, Telangana at 906, Maharashtra at 909, Gujarat at 910, Haryana at 911 and Mizoram at 911. Since 2020, Bihar has been recording the lowest sex ratio, which is defined as the number of females born per 1,000 males.

### Sex ratio count

The highest sex ratio was reported by Arunachal Pradesh at 1,085, followed by Nagaland at 1,007, Goa at 973, Ladakh and Tripura at

972, and Kerala at 967.

The share of institutional births in total registered births is 74.7% in 2023. However, the report did not include information from Sikkim. Overall registration of births for the year 2023 stood at 98.4%.

### Statewise data

The report said that 11 States/Union Territories achieved more than 90% registration of births within the prescribed time limit of 21 days.

These States are Gujarat, Puducherry, Chandigarh,

Dadra and Nagar Haveli and Daman & Diu, Tamil Nadu, Lakshadweep, Andaman and Nicobar Islands, Haryana, Himachal Pradesh, Goa and Punjab. Five States – Odisha, Mizoram, Maharashtra, Chhattisgarh and Andhra Pradesh – reported 80-90% registration, while in 14 States – Assam, Delhi, Madhya Pradesh, Tripura, Telangana, Kerala, Karnataka, Bihar, Rajasthan, Jammu & Kashmir, Jharkhand, West Bengal, Meghalaya and Uttar Pradesh – the registration stood at 50-80%.

## Number of births declines; deaths rise slightly: report जन्मों की संख्या में गिरावट; मृत्यु में मामूली वृद्धि: रिपोर्ट

- The **Vital Statistics of India**, based on the **Civil Registration System report for 2023**, shows **86.6 lakh deaths** were registered that year, recording a marginal increase from the **86.5 lakh in 2022**.

2023 के नागरिक पंजीकरण प्रणाली (CRS) रिपोर्ट पर आधारित भारत के महत्वपूर्ण सांख्यिकी से पता चलता है कि उस वर्ष 86.6 लाख मौतें दर्ज की गईं, जो 2022 में 86.5 लाख से मामूली वृद्धि थी।



- India registered **2.52 crore births in 2023**, around **2.32 lakh fewer than in 2022**, the **Vital Statistics of India** based on the **CRS report** for the year 2023 shows.  
भारत ने 2023 में 2.52 करोड़ जन्म दर्ज किए, जो 2022 की तुलना में लगभग 2.32 लाख कम थे, जैसा कि 2023 की सीआरएस रिपोर्ट पर आधारित भारत के महत्वपूर्ण सांख्यिकी में दिखाया गया है।
- The report, compiled by the **Registrar-General of India (RGI)** and released on **Monday**, stated that **86.6 lakh deaths** were registered in 2023, a marginal increase from **86.5 lakh deaths** in 2022.  
भारत के रजिस्ट्रार जनरल (RGI) द्वारा तैयार और सोमवार को जारी की गई रिपोर्ट में कहा गया कि 2023 में 86.6 लाख मौतें दर्ज की गईं, जो 2022 की 86.5 लाख मौतों से मामूली वृद्धि थी।
- The report shows that there was **no major spike in deaths in 2022 and 2023**, despite the **COVID-19 dashboard** maintained by the **Health Ministry** showing that the total number of **pandemic-induced deaths** stood at **5,33,665 as on May 5**.  
रिपोर्ट से पता चलता है कि 2022 और 2023 में मौतों में कोई बड़ी वृद्धि नहीं हुई, जबकि स्वास्थ्य मंत्रालय द्वारा बनाए गए कोविड-19 डैशबोर्ड में दिखाया गया था कि महामारी से हुई कुल मौतों की संख्या 5 मई तक 5,33,665 थी।
- However, there was a **significant rise in deaths in 2021**, the **second year of the COVID-19 lockdown**, which recorded an **excess of 21 lakh deaths** from the 2020 count.  
हालांकि, 2021 में मौतों में उल्लेखनीय वृद्धि हुई, जो कोविड-19 लॉकडाउन का दूसरा वर्ष था, जिसमें 2020 की तुलना में 21 लाख अधिक मौतें दर्ज की गईं।
- There were **81.2 lakh deaths in 2020** and **102.2 lakh in 2021**.  
2020 में 81.2 लाख मौतें और 2021 में 102.2 लाख मौतें दर्ज की गईं।

## Sex ratio count लिंगानुपात गणना

- The report also said that **Jharkhand recorded the lowest sex ratio at birth at 899**, followed by **Bihar (900)**, **Telangana (906)**, **Maharashtra (909)**, **Gujarat (910)**, **Haryana (911)** and **Mizoram (911)**. Since 2020, **Bihar** has been recording the **lowest sex ratio**, which is defined as the number of **females born per 1,000 males**.  
रिपोर्ट में यह भी कहा गया कि झारखंड ने 899 के साथ जन्म के समय सबसे कम लिंगानुपात दर्ज किया, इसके बाद बिहार (900), तेलंगाना (906), महाराष्ट्र (909), गुजरात (910), हरियाणा (911) और मिजोरम (911) का स्थान रहा। 2020 से, बिहार लगातार सबसे कम लिंगानुपात दर्ज कर रहा है, जिसे प्रति 1,000 पुरुषों पर जन्मी महिलाओं की संख्या के रूप में परिभाषित किया जाता है।
- The **highest sex ratio** was reported by **Arunachal Pradesh (1,085)**, followed by **Nagaland (1,007)**, **Goa (973)**, **Ladakh and Tripura (972)**, and **Kerala (967)**.  
सबसे अधिक लिंगानुपात अरुणाचल प्रदेश (1,085) में दर्ज किया गया, इसके बाद नगालैंड (1,007), गोवा (973), लद्दाख और त्रिपुरा (972) तथा केरल (967) का स्थान रहा।
- The **share of institutional births in total registered births is 74.7% in 2023**. However, the report did not include information from **Sikkim**.  
2023 में कुल दर्ज जन्मों में संस्थागत जन्मों का हिस्सा 74.7% रहा। हालांकि, रिपोर्ट में सिक्किम की जानकारी शामिल नहीं थी।
- Overall **registration of births** for the year 2023 stood at **98.4%**.  
2023 में जन्मों का कुल पंजीकरण 98.4% रहा।

## Statewise data राज्यवार डेटा

- The report said that **11 States/Union Territories achieved more than 90% registration of births within the prescribed time limit of 21 days**.  
रिपोर्ट में कहा गया कि 11 राज्य/केंद्रशासित प्रदेशों ने 21 दिनों की निर्धारित समय सीमा के भीतर 90% से अधिक जन्म पंजीकरण प्राप्त किया।
- These States are **Gujarat, Puducherry, Chandigarh, Dadra and Nagar Haveli and Daman & Diu, Tamil Nadu, Lakshadweep, Andaman and Nicobar Islands, Haryana, Himachal Pradesh, Goa and Punjab**.



**TELEGRAM CHANNEL:** <https://t.me/patrioticIAS>

**YOUTUBE CHANNEL:** <https://www.youtube.com/@PatrioticIAS>

**CONTACT:** 9971932488



ये राज्य हैं — गुजरात, पुडुचेरी, चंडीगढ़, दादरा और नगर हवेली तथा दमन और दीव, तमिलनाडु, लक्षद्वीप, अंडमान और निकोबार द्वीप, हरियाणा, हिमाचल प्रदेश, गोवा और पंजाब।

- **Five States — Odisha, Mizoram, Maharashtra, Chhattisgarh and Andhra Pradesh — reported 80–90% registration**, while in **14 States — Assam, Delhi, Madhya Pradesh, Tripura, Telangana, Kerala, Karnataka, Bihar, Rajasthan, Jammu & Kashmir, Jharkhand, West Bengal, Meghalaya and Uttar Pradesh — the registration stood at 50–80%.**

पांच राज्यों — ओडिशा, मिजोरम, महाराष्ट्र, छत्तीसगढ़ और आंध्र प्रदेश — ने 80–90% पंजीकरण दर्ज किया, जबकि 14 राज्यों — असम, दिल्ली, मध्य प्रदेश, त्रिपुरा, तेलंगाना, केरल, कर्नाटक, बिहार, राजस्थान, जम्मू-कश्मीर, झारखंड, पश्चिम बंगाल, मेघालय और उत्तर प्रदेश — में पंजीकरण 50–80% के बीच रहा।

PATRIOTIC IAS

# The need to address caste-based atrocities

## GS I: Society

**D**espite constitutional promises of equality, Scheduled Castes (SCs), Scheduled Tribes (STs), and Other Backward Classes (OBCs) face persistent caste-based violence and exclusion. The National Crime Records Bureau (NCRB) report, released in late September, reported that 57,789 cases were registered against SCs in 2023, marking a 0.4% increase over the 57,582 cases reported in 2022, and 12,960 cases were registered against STs in 2023, a sharp 28.8% increase over the 10,064 cases reported in 2022. From assaults in rural areas for defying caste norms to urban discrimination in housing and employment, caste continues to deny citizens dignity and opportunity.

### Caste hierarchies remain

Social reformers such as Mahatma Phule, B.R. Ambedkar, Periyar, and Mahatma Gandhi, who challenged the Brahmanical caste order, remain a beacon of hope. Their movements, coupled with constitutional safeguards such as the Scheduled Castes and Scheduled Tribes (Prevention of Atrocities) Act, 1989, aimed to dismantle caste hierarchies. Despite these efforts, progress has been uneven. The belief in caste-based superiority persists, enabling social elites to perpetrate acts of violence, ranging from forcing Dalits to drink urine to ostracising Adivasis for asserting land rights, with alarming impunity. Such acts reflect not only individual prejudice but a societal failure to internalise humanitarian values. This raises questions about India's claim of being a civilised society.

The current political dispensation, led by the Bharatiya Janata Party (BJP), has fallen short in addressing this crisis. The government occasionally promotes symbolic gestures – by including Dalits and Adivasis in religious rituals, for instance; but these efforts lack substance. Hindutva narratives often frame



**Harish S. Wankhede**

Assistant Professor,  
Center for Political Studies,  
School of Social Sciences,  
JNU, New Delhi

From assaults in rural areas for defying caste norms to urban discrimination in housing and employment, caste continues to deny citizens dignity and opportunity

resistance from marginalised communities as a threat to cultural unity. They often label activists as “Hinduphobic”. This rhetoric stifles legitimate demands for justice. This was seen, for instance, in the vilification of those protesting an order of the Supreme Court that diluted provisions of the Atrocities Act. Restrictions on Dalit-Bahujan cultural expressions (as seen during the release of the Hindi film Phule) further alienate these communities from becoming part of the mainstream discourse. Moreover, policies promoting social justice, such as reservations in education and employment, are inconsistently implemented. As a result, social elites continue to control and dominate institutions.

The absence of a robust policy framework to bridge the gap between social elites and subaltern groups is glaring. The BJP and its affiliated organisations have not launched a national campaign to challenge caste prejudice or foster inter-caste fraternity in the fear that it would dilute the privileges of dominant castes. Instead, the promotion of Brahmanical cultural narratives often relegates the struggles of Dalit and Adivasi communities to the margins and portrays their resistance as a challenge to traditional authority rather than as a fight for universal dignity. This ideological stance, maintained by Hindutva ideologues, undermines the constitutional vision of an egalitarian society.

Historically, India witnessed powerful resistance movements that reshaped caste dynamics. The Dalit Panthers in the 1970s galvanised marginalised communities, asserting their right to political power and social prestige. The rise of the Bahujan Samaj Party in northern India further empowered Dalits and OBCs, amplifying their voices in governance and public discourse. Intellectual and cultural initiatives, from Dalit literature to Adivasi art, laid claim to India's pluralistic heritage. Yet, today, such

movements are fragmented or are relegated to the periphery, with little capacity to challenge current social ills. The response of civil society to caste atrocities has also waned.

The limitations of existing constitutional mechanisms and legislative orders are evident. While there are laws, enforcement is hampered by delayed investigations, low conviction rates, and societal bias within the judiciary and the police. For instance, a 2023 study by the National Campaign on Dalit Human Rights noted that over 60% of cases under the Atrocities Act remain pending in courts. This underscores the need for systemic reforms beyond legal provisions.

### A multi-pronged approach

Addressing caste atrocities demands a multi-pronged approach rooted in political will and social reform. First, the state must strengthen the enforcement of existing laws, ensuring swift prosecution of perpetrators and sensitising law enforcement agencies about the ills of the caste system. Second, political leaders must champion a national campaign to promote egalitarian values, using education, the media, and public platforms to challenge conventional caste relationships based on hierarchies and prejudices. Third, civil society, including religious institutions, cultural organisations, and academia must foster dialogue to bridge divides between communities. Fourth, affirmative action policies should be rigorously implemented, with transparent monitoring to ensure equitable access to education, jobs, and resources. Most crucially, Dalit, Adivasi, and Bahujan voices must be amplified. The legacy of resistance against the caste system needs a new podium and leadership. A revival of anti-caste social movements will build solidarity among marginalised social groups and re-establish the social justice agenda as a prime concern.

## The need to address caste-based atrocities

जाति-आधारित अत्याचारों को संबोधित करने की आवश्यकता

## Caste-Based Violence and Exclusion

जातिगत हिंसा और बहिष्कार



- Despite constitutional promises of equality, Scheduled Castes (SCs), Scheduled Tribes (STs), and Other Backward Classes (OBCs) face persistent caste-based violence and exclusion.  
समानता के संवैधानिक वादों के बावजूद, अनुसूचित जातियाँ (SCs), अनुसूचित जनजातियाँ (STs), और अन्य पिछड़े वर्ग (OBCs) लगातार जातिगत हिंसा और बहिष्कार का सामना कर रहे हैं।
- The **National Crime Records Bureau (NCRB) report**, released in late September 2023, reported **57,789 cases against SCs**, a **0.4% increase** over 57,582 cases in 2022, and **12,960 cases against STs**, a **28.8% increase** over 10,064 cases in 2022.  
नेशनल क्राइम रिकॉर्ड्स ब्यूरो (NCRB) की रिपोर्ट, जो सितंबर 2023 के अंत में जारी हुई, में SCs के खिलाफ 57,789 मामले दर्ज बताए गए, जो 2022 के 57,582 मामलों की तुलना में 0.4% वृद्धि है, और STs के खिलाफ 12,960 मामले, जो 2022 के 10,064 मामलों की तुलना में 28.8% वृद्धि है।
- From **assaults in rural areas** for defying caste norms to **urban discrimination in housing and employment**, caste continues to deny citizens **dignity and opportunity**.  
ग्रामीण क्षेत्रों में जाति नियमों का उल्लंघन करने पर हमलों से लेकर शहरी क्षेत्रों में आवास और रोजगार में भेदभाव तक, जाति नागरिकों से सम्मान और अवसर छीनती रहती है।

## Caste Hierarchies Remain जाति पदानुक्रम बने हुए हैं

- Social reformers like **Mahatma Phule, B.R. Ambedkar, Periyar, and Mahatma Gandhi**, who challenged the **Brahmanical caste order**, remain a **beacon of hope**.  
सामाजिक सुधारक जैसे महात्मा फुले, बी.आर. अम्बेडकर, पेरियार और महात्मा गांधी, जिन्होंने ब्राह्मणवादी जाति व्यवस्था को चुनौती दी, आशा की किरण बने हुए हैं।
- Their movements, coupled with **constitutional safeguards** like the **Scheduled Castes and Scheduled Tribes (Prevention of Atrocities) Act, 1989**, aimed to **dismantle caste hierarchies**.  
उनके आंदोलनों और संवैधानिक सुरक्षा उपायों, जैसे अनुसूचित जाति और अनुसूचित जनजाति (अत्याचार निवारण) अधिनियम, 1989, का उद्देश्य जातिगत पदानुक्रम को खत्म करना था।
- Despite these efforts, **progress has been uneven**. The **belief in caste-based superiority persists**, enabling **social elites to perpetrate acts of violence**, ranging from **forcing Dalits to drink urine to ostracising Adivasis for asserting land rights**, with **alarming impunity**.  
इन प्रयासों के बावजूद, प्रगति असमान रही है। जातिगत श्रेष्ठता का विश्वास बना हुआ है, जिससे सामाजिक अभिजात वर्ग हिंसा के कृत्यों को अंजाम देते हैं, जैसे दलितों को मूत्र पीने के लिए मजबूर करना या आदिवासियों को भूमि अधिकारों के लिए बहिष्कृत करना, और यह चौंकाने वाली कार्यवाही के साथ होता है।
- **Such acts reflect not only individual prejudice but a societal failure to internalise humanitarian values**, raising questions about India's claim of being a **civilised society**.  
ऐसे कृत्य केवल व्यक्तिगत पक्षपात ही नहीं बल्कि सामाजिक असफलता को दर्शाते हैं कि मानवता मूल्यों को अपनाया नहीं गया, जिससे भारत की सभ्य समाज होने की दावे पर प्रश्न उठते हैं।

## Political and Policy Shortcomings राजनीतिक और नीतिगत कमी

- The current political dispensation, led by the **Bharatiya Janata Party (BJP)**, has fallen short in addressing this crisis.  
वर्तमान राजनीतिक व्यवस्था, जिसका नेतृत्व भारतीय जनता पार्टी (BJP) करती है, इस संकट को संबोधित करने में असफल रही है।
- The government occasionally promotes **symbolic gestures**, e.g., including **Dalits and Adivasis in religious rituals**, but these efforts **lack substance**.  
सरकार कभी-कभी प्रतीकात्मक कदम उठाती है, जैसे धार्मिक अनुष्ठानों में दलित और आदिवासियों को शामिल करना, लेकिन ये प्रयास सार्थकता में कमजोर हैं।
- **Hindutva narratives** often frame **resistance from marginalised communities** as a **threat to cultural unity**, labeling activists as **"Hinduphobic"**, stifling **legitimate demands for justice**.



हिंदुत्व कथाएं अक्सर अल्पसंख्यक समुदायों से विरोध को सांस्कृतिक एकता के लिए खतरा बताती हैं, और एक्टिविस्ट्स को "हिंदूफोबिक" कहकर न्याय की वैध मांगों को दबाती हैं।

- This was seen during the **vilification of protesters against a Supreme Court order** that diluted **provisions of the Atrocities Act**.  
यह देखा गया जब अत्याचार अधिनियम की धारा को कमजोर करने वाले सुप्रीम कोर्ट आदेश के विरोध में प्रदर्शनकारियों को बदनाम किया गया।
- Restrictions on **Dalit-Bahujan cultural expressions** (e.g., release of the **Hindi film Phule**) further alienate these communities from the **mainstream discourse**.  
दलित-बहुजन सांस्कृतिक अभिव्यक्तियों पर प्रतिबंध (जैसे हिंदी फिल्म फुले का विमोचन) इन समुदायों को मुख्यधारा की चर्चा से और अधिक अलग कर देता है।
- Policies promoting **social justice**, like **reservations in education and employment**, are **inconsistently implemented**, allowing **social elites** to continue controlling **institutions**.  
सामाजिक न्याय को बढ़ावा देने वाली नीतियां, जैसे शिक्षा और रोजगार में आरक्षण, असमान रूप से लागू होती हैं, जिससे सामाजिक अभिजात वर्ग संस्थाओं पर नियंत्रण बनाए रखता है।
- The absence of a robust **policy framework** to bridge the gap between **social elites and subaltern groups** is glaring.  
सामाजिक अभिजात वर्ग और उपनिवासी समूहों के बीच अंतर को पाटने के लिए मजबूत नीतिगत ढांचे का अभाव स्पष्ट है।
- The **BJP and affiliated organisations** have not launched a **national campaign** to challenge **caste prejudice** or foster **inter-caste fraternity**, fearing dilution of **dominant caste privileges**.  
BJP और संबद्ध संगठन ने जाति पूर्वाग्रह को चुनौती देने या अंतर-जातीय भाईचारे को बढ़ावा देने के लिए राष्ट्रीय अभियान शुरू नहीं किया, क्योंकि उन्हें प्रधान जातियों के विशेषाधिकारों के कमजोर होने का डर है।
- Promotion of **Brahmanical cultural narratives** often relegates **Dalit and Adivasi struggles** to the margins and portrays their **resistance** as a challenge to **traditional authority**, undermining the **constitutional vision of an egalitarian society**.  
ब्राह्मणवादी सांस्कृतिक कथाओं का प्रचार अक्सर दलित और आदिवासी संघर्षों को किनारे करता है और उनके विरोध को परंपरागत सत्ता के लिए चुनौती के रूप में दिखाता है, जो समानतावादी समाज की संवैधानिक दृष्टि को कमजोर करता है।

## Historical Resistance Movements Against Caste

### जाति के खिलाफ ऐतिहासिक प्रतिरोध आंदोलन

- Historically, India witnessed **powerful resistance movements** that reshaped **caste dynamics**.  
ऐतिहासिक रूप से, भारत ने शक्तिशाली प्रतिरोध आंदोलन देखे जिन्होंने जातिगत संरचनाओं को नया रूप दिया।
- The **Dalit Panthers in the 1970s** galvanised **marginalised communities**, asserting their right to **political power and social prestige**.  
1970 के दशक में दलित पैथर्स ने अल्पसंख्यक समुदायों को सक्रिय किया, और उनके राजनीतिक अधिकार और सामाजिक प्रतिष्ठा के लिए आवाज उठाई।
- The **rise of the Bahujan Samaj Party in northern India** further empowered **Dalits and OBCs**, amplifying their voices in **governance and public discourse**.  
उत्तर भारत में बहुजन समाज पार्टी के उदय ने दलित और OBCs को और सशक्त बनाया, और उन्हें शासन और सार्वजनिक विमर्श में अपनी आवाज उठाने का अवसर मिला।
- Intellectual and cultural initiatives, from **Dalit literature to Adivasi art**, laid claim to India's **pluralistic heritage**.  
बौद्धिक और सांस्कृतिक पहलों, जैसे दलित साहित्य से लेकर आदिवासी कला, ने भारत की बहुलतावादी विरासत पर अधिकार जताया।
- Yet, today, such movements are **fragmented** or are relegated to the **periphery**, with **little capacity** to challenge current social ills.  
फिर भी, आज, ऐसे आंदोलन टूटे हुए हैं या किनारे पर relegated हैं, और वर्तमान सामाजिक कुप्रथाओं को चुनौती देने की कम क्षमता रखते हैं।
- The response of **civil society** to **caste atrocities** has also waned.  
सिविल सोसाइटी की जातिगत अत्याचारों के प्रति प्रतिक्रिया भी कम हो गई है।



## Limitations of Constitutional Mechanisms

### संवैधानिक तंत्र की सीमाएँ

- The limitations of existing **constitutional mechanisms and legislative orders** are evident. मौजूदा संवैधानिक तंत्र और विधायी आदेशों की सीमाएँ स्पष्ट हैं।
- While there are **laws, enforcement is hampered by delayed investigations, low conviction rates, and societal bias within the judiciary and police.** जबकि कानून मौजूद हैं, कार्यान्वयन में जांच में देरी, कम सजा दर और न्यायपालिका एवं पुलिस में सामाजिक पक्षपात की वजह से बाधा आती है।
- For instance, a **2023 study by the National Campaign on Dalit Human Rights** noted that **over 60% of cases under the Atrocities Act remain pending in courts.** उदाहरण के लिए, 2023 की नेशनल कैम्पेन ऑन दलित ह्यूमन राइट्स की एक अध्ययन ने नोट किया कि अत्याचार अधिनियम के तहत 60% से अधिक मामले अभी भी अदालतों में लंबित हैं।
- This underscores the need for **systemic reforms beyond legal provisions.** यह दर्शाता है कि कानूनी प्रावधानों से परे प्रणालीगत सुधारों की आवश्यकता है।

## Multi-Pronged Approach to Address Caste Atrocities

### जातिगत अत्याचारों को संबोधित करने के लिए बहुआयामी दृष्टिकोण

- Addressing caste atrocities demands a **multi-pronged approach** rooted in **political will and social reform.** जातिगत अत्याचारों को संबोधित करने के लिए राजनीतिक इच्छाशक्ति और सामाजिक सुधार पर आधारित बहुआयामी दृष्टिकोण की आवश्यकता है।
- First, the state must strengthen the enforcement of existing laws, ensuring swift prosecution of perpetrators and sensitising law enforcement agencies about the ills of the caste system.** पहले, राज्य को मौजूदा कानूनों के प्रवर्तन को मजबूत करना चाहिए, अपराधियों का त्वरित मुकदमा सुनाना सुनिश्चित करना चाहिए और कानून प्रवर्तन एजेंसियों को जाति प्रणाली के कुप्रभावों के बारे में संवेदनशील बनाना चाहिए।
- Second, **political leaders must champion a national campaign to promote egalitarian values, using education, media, and public platforms to challenge conventional caste relationships based on hierarchies and prejudices.** दूसरे, राजनीतिक नेताओं को राष्ट्रीय अभियान का नेतृत्व करना चाहिए ताकि समानतावादी मूल्यों को बढ़ावा दिया जा सके, और शिक्षा, मीडिया और सार्वजनिक मंचों का उपयोग करके पारंपरिक जातिगत संबंधों को चुनौती दी जा सके।
- Third, **civil society, including religious institutions, cultural organisations, and academia, must foster dialogue to bridge divides between communities.** तीसरे, सिविल सोसाइटी, जिसमें धार्मिक संस्थान, सांस्कृतिक संगठन और अकादमिक संस्थाएं शामिल हैं, सामुदायिक विभाजन को पाटने के लिए संवाद को बढ़ावा दें।
- Fourth, **affirmative action policies should be rigorously implemented, with transparent monitoring to ensure equitable access to education, jobs, and resources.** चौथे, सकारात्मक कार्रवाई नीतियों को कड़ाई से लागू किया जाना चाहिए, और पारदर्शी निगरानी सुनिश्चित करनी चाहिए ताकि शिक्षा, रोजगार और संसाधनों तक समान पहुंच हो।
- Most crucially, **Dalit, Adivasi, and Bahujan voices must be amplified.** सबसे महत्वपूर्ण, दलित, आदिवासी और बहुजन आवाजों को मजबूत किया जाना चाहिए।
- The **legacy of resistance against the caste system** needs a **new podium and leadership.** जाति प्रणाली के खिलाफ प्रतिरोध की विरासत को नई मंच और नेतृत्व की आवश्यकता है।
- A revival of **anti-caste social movements** will build **solidarity** among **marginalised social groups** and re-establish the **social justice agenda** as a **prime concern.** जातिवादी विरोधी सामाजिक आंदोलनों का पुनरुद्धार अल्पसंख्यक सामाजिक समूहों के बीच एकजुटता बनाएगा और सामाजिक न्याय एजेंडा को प्रधान प्राथमिकता के रूप में फिर से स्थापित करेगा।



## Cuban Opposition leader Daniel Ferrer goes into exile in the U.S.



AFP

### GS I: Mapping

Cuban dissident Jose Daniel Ferrer was freed from prison and put on a plane to the U.S. where he will live in exile with his family, officials said. Mr. Ferrer, who has been imprisoned multiple times as the long-term leader of the island's pro-democracy movement, has said he opted for exile after suffering "torture" behind bars. AFP

नेतृत्व करते हैं, ने कहा कि उन्होंने निर्वासन का विकल्प चुना है, जेल में "यातना" सहने के बाद।

## Cuban Opposition leader Daniel Ferrer goes into exile in the U.S.

क्यूबाई विपक्षी नेता डैनियल फेरर अमेरिका में निर्वासन में चले गए

• Cuban dissident **Jose Daniel Ferrer** was freed from **prison** and put on a **plane to the U.S.** where he will live in **exile** with his **family**, officials said.

क्यूबाई विघटनकारी जोसे डैनियल फेरर को जेल से रिहा किया गया और उन्हें **अमेरिका की उड़ान** में बैठाया गया, जहाँ वे अपने **परिवार** के साथ निर्वासन में रहेंगे, अधिकारियों ने कहा।

• Mr. Ferrer, who has been imprisoned multiple times as the long-term leader of the island's **pro-democracy movement**, has said he opted for **exile** after suffering "**torture**" behind bars.

श्री फेरर, जो **दीर्घकालिक नेता** के रूप में कई बार **जेल** में रहे हैं, जो इस द्वीप की **लोकतंत्र समर्थक आंदोलन** का

## ANTANANARIVO

## Celebrations in Madagascar ahead of embattled President's address



REUTERS

### GS I: Mapping

Soldiers joined hundreds celebrating in Madagascar's capital on Monday, hours before President Andry Rajoelina was due to address the nation following weeks of protests and growing calls for his resignation. He has not appeared in public since last Wednesday, fuelling speculation that he may have fled the country. AFP

## Celebrations in Madagascar ahead of embattled President's address

संघर्षरत राष्ट्रपति के संबोधन से पहले मेडागास्कर में उत्सव

• Soldiers joined **hundreds** celebrating in **Madagascar's capital** on **Monday**, hours before President **Andry Rajoelina** was due to address the nation following **weeks of protests** and growing calls for his **resignation**.

सैनिकों ने **सैकड़ों लोगों** के साथ **मेडागास्कर की राजधानी** में **सोमवार** को जश्न मनाया, कुछ घंटे पहले राष्ट्रपति **एंडी राजोएलिना** ने राष्ट्र को संबोधित करना था, **सप्ताहों की विरोध प्रदर्शनों** और उनके **इस्तीफे** की बढ़ती मांगों के बाद।

• He has not appeared in **public** since **last Wednesday**, fuelling speculation that he may have **fled the country**.

उन्होंने **पिछले बुधवार** के बाद से **सार्वजनिक रूप से** दिखाई नहीं दिया, जिससे यह अटकलें तेज हुई हैं कि वह शायद **देश छोड़कर भाग गए** हों।



## GS Paper II: Polity, Governance, And International Relations

### TOPICS COVERED

14 October 2025

1.	<b>Uttarakhand eases marriage registration rules under UCC</b> उत्तराखंड ने समान नागरिक संहिता (UCC) के तहत विवाह पंजीकरण नियमों में ढील दी
2.	<b>India invites Carney for AI summit, both sides agree to restart trade talks</b> भारत ने एआई शिखर सम्मेलन के लिए कार्नी को आमंत्रित किया, दोनों पक्षों ने व्यापार वार्ता फिर से शुरू करने पर सहमति व्यक्त की
3.	<b>Congress to boycott JPC on Bills to sack PM, CMs</b> प्रधानमंत्री, मुख्यमंत्रियों को हटाने वाले विधेयकों पर कांग्रेस का जेपीसी का बहिष्कार
4.	<b>Former Afghan govt. staffers fear for their future</b> पूर्व अफगान सरकार के कर्मचारी अपने भविष्य को लेकर चिंतित
5.	<b>Talking to Taliban</b> तालिबान से बातचीत
6.	<b>Testing governance</b> शासन का परीक्षण
7.	<b>A realignment of Pak.-Afghan relations</b> पाकिस्तान-अफगानिस्तान संबंधों का पुनर्संरिखण



# Uttarakhand eases marriage registration rules under UCC

GS II: UCC

Ishita Mishra

NEW DELHI

The Uttarakhand government on Monday approved a crucial amendment in the Uniform Civil Code (UCC) bringing relief to citizens of Nepali and Bhutanese origin who are living in the State and do not have an Aadhaar card as identity proof to register their marriage.

Sources in the State government, who were part of the Cabinet meeting, stated that the government has permitted people from Nepal, Bhutan and even Tibet to register their marriage using a certificate from the Foreign Registration Officer (FRO).

## Documents needed

“Under the new amendment in the UCC, foreign citizens will now be able register their marriages by uploading their citizenship certificate, residence certificate, passport, or valid identity card, whichever is more acceptable. In such a situation, citizens of these countries living in Uttarakhand who are already married or about to get married can register their marriage by uploading their documents,” the official said.

The official added that

## People from Nepal, Bhutan can register their marriage using a certificate from the Foreign Registration Officer, sources said.

the aim of the amendment in the law was aimed to give respite to people of Nepal, Bhutan, and Tibet, which not just share an international border with Uttarakhand but also have historic and cultural ties with the State in the form of residence, relationships, and marriage.

According to the data provided by the State, since the implementation of the UCC earlier this year, the pace of marriage registrations has steadily increased with over 4 lakh people already having registered their marriage on the UCC portal.

The UCC Bill ensures that women are given equal rights in matters related to property and inheritance rights. The UCC also made it mandatory to register marriages and divorces, failing which the couple concerned will be deprived of the benefits of all government facilities.. The code also has stringent provisions for failure to register live-in relationships.

## Uttarakhand eases marriage registration rules under UCC उत्तराखंड ने समान नागरिक संहिता (UCC) के तहत विवाह पंजीकरण नियमों में ढील दी

The Uttarakhand government on Monday approved a crucial amendment in the Uniform Civil Code (UCC) bringing relief to citizens of Nepali and Bhutanese origin who are living in the State and do not have an Aadhaar card as identity proof to register their marriage.

उत्तराखंड सरकार ने सोमवार को समान नागरिक संहिता (UCC) में एक महत्वपूर्ण संशोधन को मंजूरी दी, जिससे नेपाल और भूटान मूल के उन नागरिकों को राहत मिली है जो राज्य में रहते हैं और जिनके पास विवाह पंजीकरण के लिए पहचान प्रमाण के रूप में आधार कार्ड नहीं है।

Sources in the State government, who were part of the Cabinet meeting, stated that the government has permitted people from Nepal, Bhutan and even Tibet to register their marriage using a certificate from the Foreign Registration Officer (FRO).

राज्य सरकार के कैबिनेट बैठक में शामिल सूत्रों ने बताया कि सरकार ने नेपाल, भूटान और यहां तक कि तिब्बत के लोगों को विदेशी पंजीकरण अधिकारी (FRO) द्वारा जारी प्रमाणपत्र का उपयोग करके अपना विवाह पंजीकृत करने की अनुमति दी है।

## Documents needed आवश्यक दस्तावेज़

“Under the new amendment in the UCC, foreign citizens will now be able to register their marriages by uploading their citizenship certificate, residence certificate, passport, or valid identity card, whichever is more acceptable. In such a situation, citizens of these countries living in Uttarakhand who are already married or about to get married can register their marriage by uploading their documents,” the official said.

“UCC में नए संशोधन के तहत, विदेशी नागरिक अब अपने विवाह को नागरिकता प्रमाणपत्र, निवास प्रमाणपत्र, पासपोर्ट, या मान्य पहचान पत्र में से किसी एक को अपलोड करके पंजीकृत कर सकेंगे। ऐसी स्थिति में, उत्तराखंड में रहने वाले इन देशों के नागरिक जो पहले से विवाहित हैं या विवाह करने वाले हैं, वे अपने दस्तावेज़ अपलोड करके अपना विवाह पंजीकृत कर सकते हैं,” अधिकारी ने कहा।



- The official added that the aim of the amendment in the law was aimed to give respite to people of **Nepal, Bhutan, and Tibet**, which not just share an **international border** with Uttarakhand but also have **historic and cultural ties** with the State in the form of residence, relationships, and marriage.  
अधिकारी ने कहा कि कानून में संशोधन का उद्देश्य **नेपाल, भूटान और तिब्बत** के लोगों को राहत देना था, जो न केवल **उत्तराखंड के साथ अंतरराष्ट्रीय सीमा** साझा करते हैं बल्कि निवास, संबंधों और विवाह के रूप में राज्य के साथ **ऐतिहासिक और सांस्कृतिक संबंध** भी रखते हैं।
- According to the data provided by the **State**, since the implementation of the **UCC earlier this year**, the pace of marriage registrations has steadily increased with over **4 lakh people** already having registered their marriage on the **UCC portal**.  
राज्य द्वारा प्रदान किए गए आंकड़ों के अनुसार, इस वर्ष की शुरुआत में **UCC लागू होने** के बाद से विवाह पंजीकरण की गति लगातार बढ़ी है और अब तक **4 लाख से अधिक लोगों** ने **UCC पोर्टल** पर अपना विवाह पंजीकृत किया है।
- The **UCC Bill** ensures that **women** are given **equal rights** in matters related to **property and inheritance rights**. The **UCC** also made it **mandatory to register marriages and divorces**, failing which the couple concerned will be **deprived of the benefits of all government facilities**.  
**UCC विधेयक** यह सुनिश्चित करता है कि **महिलाओं** को **संपत्ति और उत्तराधिकार अधिकारों** से संबंधित मामलों में **समान अधिकार** मिले। **UCC** ने **विवाह और तलाक** के पंजीकरण को भी **अनिवार्य** बना दिया है, अन्यथा संबंधित जोड़े को **सभी सरकारी सुविधाओं के लाभ से वंचित** कर दिया जाएगा।
- The code also has **stringent provisions** for failure to register **live-in relationships**. इस संहिता में **लिव-इन रिश्तों** को पंजीकृत न करने पर **कड़े प्रावधान** भी शामिल हैं।

PATRIOTICIAS



# India invites Carney for AI summit, both sides agree to restart trade talks

India and Canada agree to restore ties against the backdrop of talks held between External Affairs Minister S. Jaishankar and Canadian counterpart Anita Anand; the two countries also begin discussions on SMR nuclear-powered reactors

**GS II: India-Canada**

**Sahasini Haidar**  
NEW DELHI

India and Canada agreed on a series of measures to restore relations, including relaunching the energy dialogue, after talks between External Affairs Minister S. Jaishankar and Canadian Foreign Minister Anita Anand on Monday.

Sources said the delegations discussed an invitation for Canadian Prime Minister Mark Carney to visit India in February next year for the Artificial Intelligence (AI) Summit. While Mr. Carney has not yet accepted the invitation, a senior official from the Canadian Prime Minister's Office was present during the meetings, indicating the visit to India was being considered seriously.

#### Areas of interest

Among the major announcements, both sides agreed to begin at the earliest, their ministerial-level discussions on bilateral trade and investments, besides re-establishing the Canada-India Ministerial Energy Dialogue for cooperation on renewables and critical



**New momentum:** Canada's Foreign Minister Anita Anand meeting with Prime Minister Narendra Modi in New Delhi on Monday. PTI

minerals, relaunching the Joint Science and Technology Cooperation Committee, and encouraging Canadian AI companies and researchers to participate in India's AI Impact Summit from February 19 to 20, 2026.

India and Canada have also begun preliminary talks on SMR (Small Modular Technology) nuclear-powered reactors and other cooperation in civil nuclear energy.

The focus on a number

of issues that have been put on the back-burner since 2023, when Canada accused Indian "government agents" of being involved in the killing of a Khalistani activist in Canada, was an attempt, said officials on both sides, to not allow the security issues between the two countries to overshadow all other areas of cooperation.

#### On repair mode

Since Mr. Carney and Prime Minister Narendra

Modi met in June this year, Delhi and Ottawa have intensified talks on repairing relations, and held security level talks separately when Canadian National Security and Intelligence Advisor Catherine Drouin met with National Security Advisor Ajit Doval in Delhi in September.

"Building on the momentum of Prime Minister Carney's meeting with PM Modi this summer at the G7 Summit, Canada and India are elevating the rela-

tionship between our countries, while maintaining our law enforcement and security dialogue and expanding our economic relationship," Ms. Anand said in a statement.

The officials said that although Mr. Carney and Mr. Modi had agreed during their meeting to restart trade talks for a Comprehensive Economic Partnership Agreement (CEPA), they may now abandon the previous effort, and start from scratch.

During her one-day visit to Delhi, Ms. Anand also met Commerce Minister Piyush Goyal.

"Our discussions focused on exploring areas of cooperation in the field of energy, technology, and food security. Also, reiterated India's readiness to reinvigorate mutually beneficial trade, investment, and economic ties based on trust and respect," Mr. Goyal posted, without speaking specifically about the CEPA.

The Canadian Foreign Minister flew to Mumbai on Monday evening, and will meet with investors and Indian industry leaders there on Tuesday.

## India invites Carney for AI summit, both sides agree to restart trade talks भारत ने एआई शिखर सम्मेलन के लिए कार्नी को आमंत्रित किया, दोनों पक्षों ने व्यापार वार्ता फिर से शुरू करने पर सहमति व्यक्त की

- India and Canada agree to restore ties against the backdrop of talks held between **External Affairs Minister S. Jaishankar** and **Canadian counterpart Anita Anand**; the two countries also begin discussions on **SMR nuclear-powered reactors**  
भारत और कनाडा ने विदेश मंत्री एस. जयशंकर और कनाडाई समकक्ष अनीता आनंद के बीच हुई वार्ता की पृष्ठभूमि में संबंधों को बहाल करने पर सहमति जताई; दोनों देशों ने एसएमआर परमाणु-संचालित रिएक्टरों पर भी चर्चा शुरू की
- India and Canada agreed on a series of measures to restore relations, including relaunching the **energy dialogue**, after talks between **External Affairs Minister S. Jaishankar** and **Canadian Foreign Minister Anita Anand** on Monday.  
भारत और कनाडा ने सोमवार को विदेश मंत्री एस. जयशंकर और कनाडाई विदेश मंत्री अनीता आनंद के बीच हुई वार्ता के बाद संबंधों को बहाल करने के लिए ऊर्जा संवाद को फिर से शुरू करने सहित कई उपायों पर सहमति जताई।
- Sources said the delegations discussed an invitation for **Canadian Prime Minister Mark Carney** to visit India in **February next year for the Artificial Intelligence (AI) Summit**.  
सूत्रों ने बताया कि प्रतिनिधिमंडलों ने कनाडाई प्रधानमंत्री मार्क कार्नी को अगले साल फरवरी में कृत्रिम बुद्धिमत्ता (एआई) शिखर सम्मेलन के लिए भारत आने के निमंत्रण पर चर्चा की।



- While Mr. Carney has not yet accepted the invitation, a senior official from the **Canadian Prime Minister's Office** was present during the meetings, indicating the visit to India was being considered seriously.  
हालांकि श्री कार्नी ने अभी तक निमंत्रण स्वीकार नहीं किया है, लेकिन बैठकों के दौरान **कनाडाई प्रधानमंत्री कार्यालय** का एक वरिष्ठ अधिकारी मौजूद था, जो यह संकेत देता है कि भारत की यात्रा पर गंभीरता से विचार किया जा रहा है।

### Areas of interest रुचि के क्षेत्र

- Among the major announcements, both sides agreed to begin at the earliest, their **ministerial-level discussions on bilateral trade and investments**, besides re-establishing the **Canada-India Ministerial Energy Dialogue** for cooperation on **renewables and critical minerals**, relaunching the **Joint Science and Technology Cooperation Committee**, and encouraging **Canadian AI companies** and researchers to participate in **India's AI Impact Summit** from **February 19 to 20, 2026**.  
मुख्य घोषणाओं में, दोनों पक्षों ने जल्द से जल्द **द्विपक्षीय व्यापार और निवेश पर मंत्रिस्तरीय स्तर की चर्चाएं** शुरू करने, **नवीकरणीय ऊर्जा और महत्वपूर्ण खनिजों पर सहयोग** के लिए **कनाडा-भारत मंत्रिस्तरीय ऊर्जा संवाद** को फिर से स्थापित करने, **संयुक्त विज्ञान और प्रौद्योगिकी सहयोग समिति** को पुनः प्रारंभ करने और **कनाडाई एआई कंपनियों** तथा शोधकर्ताओं को **19 से 20 फरवरी, 2026** तक होने वाले **भारत के एआई इम्पैक्ट शिखर सम्मेलन** में भाग लेने के लिए प्रोत्साहित करने पर सहमति व्यक्त की।
- India and Canada have also begun preliminary talks on **SMR (Small Modular Technology) nuclear-powered reactors and other cooperation in civil nuclear energy**.  
भारत और कनाडा ने **एसएमआर (स्मॉल मॉड्यूलर टेक्नोलॉजी) परमाणु-संचालित रिएक्टरों** और **नागरिक परमाणु ऊर्जा** में अन्य सहयोग पर प्रारंभिक बातचीत भी शुरू की है।
- The focus on a number of issues that have been put on the back-burner since **2023**, when **Canada accused Indian "government agents"** of being involved in the killing of a **Khalistani activist** in Canada, was an attempt, said officials on both sides, to not allow the security issues between the two countries to overshadow all other areas of cooperation.  
दोनों पक्षों के अधिकारियों ने कहा कि **2023** से ठंडे बस्ते में पड़े कई मुद्दों पर ध्यान केंद्रित करना, जब **कनाडा** ने **भारतीय "सरकारी एजेंटों"** पर कनाडा में एक **खालिस्तानी कार्यकर्ता** की हत्या में शामिल होने का आरोप लगाया था, यह प्रयास था कि दोनों देशों के बीच **सुरक्षा मुद्दे** अन्य सहयोग क्षेत्रों पर हावी न हों।

### On repair mode सुधार के मोड में

- Since Mr. **Carney** and **Prime Minister Narendra Modi** met in **June this year**, **Delhi and Ottawa** have intensified talks on repairing relations, and held **security level talks** separately when **Canadian National Security and Intelligence Advisor Catherine Drouin** met with **National Security Advisor Ajit Doval** in **Delhi in September**.  
जब से श्री कार्नी और प्रधानमंत्री नरेंद्र मोदी की मुलाकात इस साल **जून** में हुई, **दिल्ली और ओटावा** ने संबंधों की मरम्मत पर वार्ता तेज कर दी है और **सितंबर** में **कनाडाई राष्ट्रीय सुरक्षा और खुफिया सलाहकार कैथरीन ड्रुइन** ने **राष्ट्रीय सुरक्षा सलाहकार अजीत डोभाल** से **दिल्ली** में मुलाकात की, तब **सुरक्षा स्तर की वार्ता** अलग से आयोजित की गई।
- "Building on the momentum of Prime Minister Carney's meeting with PM Modi this summer at the **G7 Summit**, **Canada and India** are elevating the relationship between our countries, while maintaining our **law enforcement and security dialogue** and expanding our **economic relationship**," Ms. **Anand** said in a statement.  
श्रीमती **आनंद** ने एक बयान में कहा, "इस गर्मी के **जी7 शिखर सम्मेलन** में प्रधानमंत्री कार्नी और प्रधानमंत्री मोदी की बैठक की गति को आगे बढ़ाते हुए, **कनाडा और भारत** हमारे देशों के बीच संबंधों को ऊंचा कर रहे हैं, जबकि हम अपने **कानून प्रवर्तन और सुरक्षा संवाद** को बनाए रख रहे हैं और अपने **आर्थिक संबंधों** का विस्तार कर रहे हैं।"
- The officials said that although Mr. **Carney** and Mr. **Modi** had agreed during their meeting to restart **trade talks** for a **Comprehensive Economic Partnership Agreement (CEPA)**, they may now abandon the previous effort, and start from scratch.



अधिकारियों ने कहा कि हालांकि श्री कार्नी और श्री मोदी ने अपनी बैठक के दौरान व्यापक आर्थिक साझेदारी समझौते (सीईपीए) के लिए व्यापार वार्ता को फिर से शुरू करने पर सहमति जताई थी, लेकिन अब वे पिछला प्रयास छोड़कर नई शुरुआत कर सकते हैं।

- During her **one-day visit** to **Delhi**, Ms. **Anand** also met **Commerce Minister Piyush Goyal**. अपने एक दिवसीय दिल्ली दौरे के दौरान श्रीमती आनंद ने वाणिज्य मंत्री पीयूष गोयल से भी मुलाकात की।
- “Our discussions focused on exploring areas of cooperation in the field of **energy, technology, and food security**. Also, reiterated India’s readiness to reinvigorate mutually beneficial **trade, investment, and economic ties** based on trust and respect,” Mr. **Goyal** posted, without speaking specifically about the **CEPA**.  
श्री गोयल ने पोस्ट किया, “हमारी चर्चाएं ऊर्जा, प्रौद्योगिकी और खाद्य सुरक्षा के क्षेत्र में सहयोग के क्षेत्रों की खोज पर केंद्रित थीं। साथ ही, भारत की विश्वास और सम्मान पर आधारित पारस्परिक रूप से लाभदायक व्यापार, निवेश और आर्थिक संबंधों को पुनर्जीवित करने की तत्परता को दोहराया,” हालांकि उन्होंने सीईपीए के बारे में विशेष रूप से बात नहीं की।
- The **Canadian Foreign Minister** flew to **Mumbai** on **Monday evening**, and will meet with investors and **Indian industry leaders** there on **Tuesday**.  
कनाडाई विदेश मंत्री ने सोमवार शाम को मुंबई के लिए उड़ान भरी, और वे मंगलवार को वहां निवेशकों और भारतीय उद्योग जगत के नेताओं से मुलाकात करेंगी।

PATRIOTIC IAS



TELEGRAM CHANNEL: <https://t.me/patrioticIAS>

YOUTUBE CHANNEL: <https://www.youtube.com/@PatrioticIAS>

CONTACT: 9971932488



## Congress to boycott JPC on Bills to sack PM, CMs

GS II: Legislature  
The Hindu Bureau

NEW DELHI

The Congress has conveyed to the government its decision to not join the Joint Parliamentary Committee (JPC) that will review the Bills on the removal of the Prime Minister, Chief Ministers, and Ministers arrested on serious criminal charges for 30 days.

According to sources, the Congress informed Parliamentary Affairs Minister Kiren Rijiju about the party's decision on Monday.

The Lok Sabha had passed a resolution to refer the Bills to a joint committee soon after Union Home Minister Amit Shah had introduced it in the Lok Sabha on August 20.

### Three Bills

The three Bills, introduced by the Home Minister, are the Constitution (One Hundred and Thirtieth Amendment) Bill, 2025; the Jammu and Kashmir Reorganisation (Amendment) Bill, 2025; and the Government of Union Territories (Amendment) Bill, 2025.

The Opposition has argued that the intent of this legislation is malafide and that it is futile to participate in a panel where the BJP will be in a majority.

## Congress to boycott JPC on Bills to sack PM, CMs प्रधानमंत्री, मुख्यमंत्रियों को हटाने वाले विधेयकों पर कांग्रेस का जेपीसी का बहिष्कार

The Congress has conveyed to the government its decision to not join the Joint Parliamentary Committee (JPC) that will review the Bills on the removal of the Prime Minister, Chief Ministers, and Ministers arrested on serious criminal charges for 30 days.

कांग्रेस ने सरकार को यह सूचित किया है कि वह प्रधानमंत्री, मुख्यमंत्रियों और गंभीर आपराधिक आरोपों में गिरफ्तार मंत्रियों को हटाने से संबंधित विधेयकों की समीक्षा करने वाली संयुक्त संसदीय समिति (जेपीसी) में शामिल नहीं होगी, जिसकी अवधि 30 दिन होगी।

According to sources, the Congress informed Parliamentary Affairs Minister Kiren Rijiju about the party's decision on Monday.

सूत्रों के अनुसार, कांग्रेस ने सोमवार को संसदीय कार्य मंत्री किरें रिजिजू को पार्टी के निर्णय की जानकारी दी।

The Lok Sabha had passed a resolution to refer the Bills to a joint committee soon after Union Home Minister Amit Shah had introduced it in the Lok Sabha on August 20.

लोकसभा ने 20 अगस्त को केंद्रीय गृह मंत्री अमित शाह द्वारा विधेयक पेश किए जाने के तुरंत बाद उन्हें संयुक्त समिति को भेजने का प्रस्ताव पारित किया था।

Three Bills / तीन विधेयक

The three Bills, introduced by the Home Minister, are the Constitution (One Hundred and Thirtieth Amendment) Bill, 2025; the Jammu and Kashmir Reorganisation (Amendment) Bill, 2025; and the Government of Union Territories (Amendment) Bill, 2025.

गृह मंत्री द्वारा पेश किए गए तीन विधेयक हैं — संविधान (एक सौ तीसवां संशोधन) विधेयक, 2025; जम्मू और कश्मीर पुनर्गठन (संशोधन) विधेयक, 2025; और केंद्रशासित प्रदेशों की सरकार (संशोधन) विधेयक, 2025।

The Opposition has argued that the intent of this legislation is mala fide and that it is futile to participate in a panel where the BJP will be in a majority.

विपक्ष का तर्क है कि इस कानून का उद्देश्य दुर्भावनापूर्ण (मलाफाइड) है और ऐसी समिति में भाग लेना व्यर्थ है जहां भाजपा का बहुमत होगा।

•



# Former Afghan govt. staffers fear for their future

GS II: India's Neighbours

NEWS ANALYSIS

**Suhasini Haidar**

NEW DELHI

At the heart of the controversy over the Taliban acting Foreign Minister Amir Khan Muttaqi's exclusion of women from his first press conference is a deeper tussle between the Taliban regime in Kabul, which calls itself the Islamic Emirate of Afghanistan, and the former, democratically elected Afghan government, which refers to itself as the Islamic Republic of Afghanistan, and is still recognised by India, over the control of the Afghanistan Embassy compound in New Delhi.

The Afghan diplomatic staff remaining in Delhi see the press conferences, which they claim the In-

dian External Affairs Ministry encouraged, as an attempt to grab control of the embassy. They now say they fear for their lives and the safety of their families.

The External Affairs Ministry has consistently said it had "no involvement in the press interaction" held by Mr. Muttaqi.

After outrage from journalists over his first press conference in Delhi last Friday, Mr. Muttaqi held a second one, inviting journalists without any gender restriction on Sunday. Even as the Islamic Republic of Afghanistan's red, green and black flag flew on the tall flagpole in front of the embassy, the Taliban delegation used their own black and white flags.

Russia, China, Pakistan, and some Gulf and Central Asian countries have accepted the Emirate flag at



Amir Khan Muttaqi

their Afghan embassies, but none of the Western and East Asian countries that host the embassies of the former government have done so thus far.

"We waged  *Jihad*  under this flag. We fought with the flag and won with the flag, and that's the reason we have this flag here today," Mr. Muttaqi said in response to a question from *The Hindu* on Sunday. Asked how much of the embassy they controlled, he replied "100%", claiming all five lakh Af-

ghan government employees and mission staff worldwide now work for the Islamic Emirate.

**Recognition by India**

However, the Charge d' Affaires of the Afghanistan Embassy in Delhi, Mohammad Ibrahimkhil, who was present at the press conference, said the claim was "not correct".

"This is a lie. Until the Indian government recognises the Taliban government, this embassy is with the Republic, and our flag is flying on Shantipath (where the Afghan embassy is situated in New Delhi). When India recognises them, we will respectfully leave, and hand the MEA the keys to the embassy. Then it is for the MEA to decide whether India will fly the Emirate flag of the Taliban here," one of the

staffers, who unsuccessfully tried to stop the Taliban delegation from putting up its flags, said.

With India now agreeing to upgrade its technical mission to an embassy in Kabul and Mr. Muttaqi's announcement that India will now accept the Emirate's diplomats, the staff members said they would be powerless to resist any further takeover and fear losing their jobs and their safety if they were forced to return to Afghanistan.

The External Affairs Ministry did not respond to questions posed by *The Hindu* on the situation at the embassy and at what level India and the acting Government of Afghanistan would exchange diplomats following the agreement announced by External Affairs Minister S. Jaishankar.

## Former Afghan govt. staffers fear for their future

### पूर्व अफगान सरकार के कर्मचारी अपने भविष्य को लेकर चिंतित

- At the heart of the controversy over the **Taliban acting Foreign Minister Amir Khan Muttaqi's** exclusion of **women** from his first press conference is a deeper tussle between the **Taliban regime in Kabul**, which calls itself the **Islamic Emirate of Afghanistan**, and the former, democratically elected **Afghan government**, which refers to itself as the **Islamic Republic of Afghanistan**, and is still **recognised by India**, over the control of the **Afghanistan Embassy compound in New Delhi**.  
तालिबान के कार्यवाहक विदेश मंत्री आमिर खान मुत्ताकी द्वारा अपनी पहली प्रेस कॉन्फ्रेंस से महिलाओं को बाहर रखने के विवाद के केंद्र में, काबुल में तालिबान शासन, जो खुद को अफगानिस्तान का इस्लामी अमीरात कहता है, और पूर्व लोकतांत्रिक रूप से निर्वाचित अफगान सरकार, जो खुद को अफगानिस्तान का इस्लामी गणराज्य कहती है और जिसे अब भी भारत द्वारा मान्यता प्राप्त है, के बीच नई दिल्ली में अफगानिस्तान दूतावास परिसर के नियंत्रण को लेकर गहरा संघर्ष है।
- The **Afghan diplomatic staff** remaining in Delhi see the press conferences, which they claim the **Indian External Affairs Ministry** encouraged, as an attempt to grab control of the embassy.  
दिल्ली में बचे हुए अफगान राजनयिक कर्मचारी इन प्रेस कॉन्फ्रेंस को, जिन्हें वे दावा करते हैं कि भारतीय विदेश मंत्रालय ने प्रोत्साहित किया, दूतावास पर नियंत्रण हासिल करने का प्रयास मानते हैं।
- They now say they fear for their lives and the **safety of their families**.  
वे अब कहते हैं कि उन्हें अपने जीवन और अपने परिवारों की सुरक्षा की चिंता है।
- The **External Affairs Ministry** has consistently said it had "no involvement in the press interaction" held by **Mr. Muttaqi**.  
विदेश मंत्रालय ने लगातार कहा है कि उसका श्री मुत्ताकी द्वारा आयोजित "प्रेस इंटरैक्शन में कोई हस्तक्षेप नहीं" था।
- After **outrage from journalists** over his first press conference in **Delhi last Friday**, **Mr. Muttaqi** held a second one, inviting journalists without any **gender restriction** on **Sunday**.  
पिछले शुक्रवार दिल्ली में हुई अपनी पहली प्रेस कॉन्फ्रेंस पर पत्रकारों के आक्रोश के बाद, श्री मुत्ताकी ने रविवार को दूसरी प्रेस कॉन्फ्रेंस की, जिसमें उन्होंने लिंग प्रतिबंध के बिना पत्रकारों को आमंत्रित किया।



- Even as the Islamic Republic of Afghanistan's red, green and black flag flew on the tall flagpole in front of the embassy, the Taliban delegation used their own black and white flags.  
जबकि अफगानिस्तान के इस्लामी गणराज्य का लाल, हरा और काला झंडा दूतावास के सामने ऊँचे ध्वजस्तंभ पर लहरा रहा था, तालिबान प्रतिनिधिमंडल ने अपना काला और सफेद झंडा इस्तेमाल किया।
- Russia, China, Pakistan, and some Gulf and Central Asian countries have accepted the Emirate flag at their Afghan embassies, but none of the Western and East Asian countries that host the embassies of the former government have done so thus far.  
रूस, चीन, पाकिस्तान और कुछ खाड़ी तथा मध्य एशियाई देशों ने अपने अफगान दूतावासों में अमीरात का झंडा स्वीकार कर लिया है, लेकिन पश्चिमी और पूर्वी एशियाई देशों में से किसी ने भी, जो पूर्व सरकार के दूतावासों की मेजबानी करते हैं, अब तक ऐसा नहीं किया है।
- "We waged jihad under this flag. We fought with the flag and won with the flag, and that's the reason we have this flag here today," Mr. Muttaqi said in response to a question from The Hindu on Sunday.  
श्री मुत्ताकी ने रविवार को द हिंदू के एक सवाल के जवाब में कहा, "हमने इस झंडे के नीचे जिहाद किया। हमने इस झंडे के साथ लड़ाई लड़ी और इस झंडे के साथ जीते, और यही कारण है कि आज हमारे पास यह झंडा यहां है।"
- Asked how much of the embassy they controlled, he replied "100%", claiming all five lakh Afghan government employees and mission staff worldwide now work for the Islamic Emirate.  
जब उनसे पूछा गया कि वे दूतावास के कितने हिस्से पर नियंत्रण रखते हैं, तो उन्होंने जवाब दिया "100%", यह दावा करते हुए कि अब पाँच लाख अफगान सरकारी कर्मचारी और विश्वभर के मिशन स्टाफ इस्लामी अमीरात के लिए काम कर रहे हैं।

## Recognition by India भारत द्वारा मान्यता

- However, the Charge d'Affaires of the Afghanistan Embassy in Delhi, Mohammad Ibrahimkhil, who was present at the press conference, said the claim was "not correct".  
हालांकि दिल्ली में अफगानिस्तान दूतावास के प्रभारी राजनयिक मोहम्मद इब्राहिमखिल, जो प्रेस कॉन्फ्रेंस में मौजूद थे, ने कहा कि यह दावा "सही नहीं" है।
- "This is a lie. Until the Indian government recognises the Taliban government, this embassy is with the Republic, and our flag is flying on Shantipath (where the Afghan embassy is situated in New Delhi).  
"यह झूठ है। जब तक भारतीय सरकार तालिबान सरकार को मान्यता नहीं देती, यह दूतावास गणराज्य के साथ है, और हमारा झंडा शांतिपथ (जहाँ नई दिल्ली में अफगान दूतावास स्थित है) पर लहरा रहा है।
- When India recognises them, we will respectfully leave, and hand the MEA the keys to the embassy. Then it is for the MEA to decide whether India will fly the Emirate flag of the Taliban here," one of the staffers, who unsuccessfully tried to stop the Taliban delegation from putting up its flags, said.  
जब भारत उन्हें मान्यता देगा, तो हम सम्मानपूर्वक चले जाएंगे और विदेश मंत्रालय (MEA) को दूतावास की चाबियाँ सौंप देंगे। फिर यह MEA पर निर्भर करेगा कि भारत यहाँ तालिबान का अमीरात झंडा फहराएगा या नहीं," उन कर्मचारियों में से एक ने कहा, जिन्होंने तालिबान प्रतिनिधिमंडल को झंडे लगाने से रोकने की असफल कोशिश की थी।
- With India now agreeing to upgrade its technical mission to an embassy in Kabul and Mr. Muttaqi's announcement that India will now accept the Emirate's diplomats, the staff members said they would be powerless to resist any further takeover and fear losing their jobs and safety if they were forced to return to Afghanistan.  
अब भारत द्वारा काबुल में अपने तकनीकी मिशन को दूतावास में अपग्रेड करने पर सहमति जताने और श्री मुत्ताकी द्वारा यह घोषणा करने के बाद कि भारत अब अमीरात के राजनयिकों को स्वीकार करेगा, कर्मचारियों ने कहा कि वे किसी भी आगे के अधिग्रहण का विरोध करने में असमर्थ होंगे और यदि उन्हें अफगानिस्तान लौटने के लिए मजबूर किया गया तो उन्हें अपनी नौकरी और सुरक्षा खोने का डर है।
- The External Affairs Ministry did not respond to questions posed by The Hindu on the situation at the embassy and at what level India and the acting Government of Afghanistan would exchange diplomats following the agreement announced by External Affairs Minister S. Jaishankar.



**TELEGRAM CHANNEL:** <https://t.me/patrioticIAS>

**YOUTUBE CHANNEL:** <https://www.youtube.com/@PatrioticIAS>

**CONTACT: 9971932488**



विदेश मंत्रालय ने द हिंदू द्वारा दूतावास की स्थिति और विदेश मंत्री एस. जयशंकर द्वारा घोषित समझौते के बाद भारत और अफगानिस्तान की कार्यवाहक सरकार किस स्तर पर राजनयिकों का आदान-प्रदान करेंगी, इस पर पूछे गए सवालों का कोई जवाब नहीं दिया।

PATRIOTIC IAS

**Address : 3rd Floor, KV Tower, Padleyganj Road, Gorakhpur**  
**Email Id : info@patrioticias.in**  
**Contact Number : 9971932488**  
**Website : patrioticias.in**



GS II: India's Neighbour

## Talking to Taliban

India must be wary of terror groups, even if they are in power

Marked by controversy, Afghanistan's Acting Foreign Minister Amir Khan Muttaqi's ongoing visit to India was meant to signal a major reset in ties between New Delhi and the Taliban. The visit was his first since the Taliban grabbed power in 2021, as was his meeting with External Affairs Minister S. Jaishankar and National Security Adviser Ajit Doval. It was made possible by the UN Security Council's Sanctions committee that waived the travel ban on Mr. Muttaqi, who is on the list of sanctioned terrorists since 2001. New Delhi has strategic reasons for the warm welcome and enhanced relationship. Close ties neutralise the considerable security risk and terror threat from India's western flank, and protect India's personnel and considerable investment in projects there. The deterioration in Afghan-Pakistan ties indicates that the Taliban, as an "enemy's enemy", could prove a valuable ally. Given that the Taliban now control nearly all of Afghanistan, it would seem pragmatic to engage with them at the level other regional powers including Russia, China, Pakistan, Iran and the Central Asian states do. India has announced that it would upgrade the Indian Embassy in Kabul, a "technical mission" thus far, and that both sides will exchange diplomats. This takes India a step closer to recognising the Taliban government, something only Russia has done. India also announced initiatives to build hospitals, provide humanitarian assistance and enhance trade levels. Significantly, both sides "emphasized respect for each other's sovereignty and territorial integrity" – indicating that neither side accepts Pakistan's territorial claims. Mr. Muttaqi also affirmed that the Afghan government will not allow its territory to be used against India, a considerable shift from 2001-21 when Taliban forces targeted India's missions and infrastructure projects.

While the text of the joint statement was substantive, the headlines of the visit have been overshadowed by several missteps and poorly structured optics. The press conference at the Afghan Embassy, and the attempt to raise the flag of the Islamic Emirate of Afghanistan was one. It also emerged that no women journalists had been invited, leading to outrage. Two days later, Mr. Muttaqi held another, all-inclusive press conference. The government, which distanced itself from the event, missed an opportunity to express its stand on the wider question of the Taliban's ban on women's education and employment, lack of an inclusive political process, treatment of minorities and past attacks by the group. While engaging the Taliban is no doubt important, and vital, for regional security, India must clarify how far it plans to go down the road of appeasing the group, and risking its reputation, towards that end.

Kabul from a "technical mission" and that both sides will exchange diplomats, moving India closer to recognising the Taliban government, something only Russia has done. भारत ने घोषणा की कि वह काबुल में भारतीय दूतावास को "तकनीकी मिशन" से उन्नत करेगा और दोनों

## Talking to Taliban तालिबान से बातचीत

- India must be wary of terror groups, even if they are in power.

भारत को आतंकवादी समूहों के प्रति सतर्क रहना चाहिए, भले ही वे सत्ता में हों।

## India-Taliban Engagement and Amir Khan Muttaqi's Visit

### भारत-तालिबान सहभागिता और आमिर खान मुत्ताकी का दौरा

- Marked by **controversy**, Afghanistan's Acting Foreign Minister **Amir Khan Muttaqi's** ongoing visit to India was meant to signal a **major reset in ties** between **New Delhi** and the **Taliban**. **विवादों से घिरा**, अफगानिस्तान के कार्यवाहक विदेश मंत्री **आमिर खान मुत्ताकी** का भारत दौरा **नई दिल्ली** और **तालिबान** के बीच **मुख्य संबंधों के पुनर्निर्माण** का संकेत देने के लिए था।

- The visit was his **first** since the Taliban grabbed power in **2021**, including meetings with **External Affairs Minister S. Jaishankar** and **National Security Adviser Ajit Doval**.

यह दौरा उनका **पहला** था जब से तालिबान ने **2021** में सत्ता संभाली, जिसमें **विदेश मंत्री एस. जयशंकर** और **राष्ट्रीय सुरक्षा सलाहकार अजीत डोवाल** से बैठकें शामिल थीं।

- The visit was made possible by the **UN Security Council's Sanctions committee** waiving the **travel ban** on Mr. Muttaqi, who has been on the list of **sanctioned terrorists since 2001**.

यह दौरा **संयुक्त राष्ट्र सुरक्षा परिषद के प्रतिबंध समिति** द्वारा **यात्रा प्रतिबंध** को हटाने के कारण संभव हुआ, जिनके नाम **2001 से प्रतिबंधित आतंकियों की सूची** में हैं।

- **New Delhi** has **strategic reasons** for the warm welcome and enhanced relationship.

**नई दिल्ली** के पास इस गर्मजोशी से स्वागत और **संबंध सुधार** के लिए **रणनीतिक कारण** हैं।

- Close ties **neutralise security risks** and **terror threats** from India's **western flank**, and protect India's **personnel** and **investment** in projects there.

करीबी संबंध भारत के **पश्चिमी मोर्चे** से आने वाले **सुरक्षा जोखिम** और **आतंक खतरे** को **तटस्थ** करते हैं, और वहां भारत के **कर्मचारी** और **निवेश** की सुरक्षा करते हैं।

- The deterioration in **Afghan-Pakistan ties** indicates the Taliban, as an "**enemy's enemy**", could prove a **valuable ally**. **अफगानिस्तान-पाकिस्तान संबंधों** में गिरावट से पता चलता है कि तालिबान, एक "**शत्रु का शत्रु**" के रूप में, एक **मूल्यवान सहयोगी** साबित हो सकता है।

- Given the Taliban now **control nearly all of Afghanistan**, it seems pragmatic to engage with them as other regional powers including **Russia, China, Pakistan, Iran, and Central Asian states** do.

चूंकि तालिबान अब **लगभग पूरे अफगानिस्तान** पर नियंत्रण रखते हैं, इसलिए उनके साथ **संलग्न होना व्यावहारिक** लगता है, जैसा कि अन्य क्षेत्रीय शक्तियाँ **रूस, चीन, पाकिस्तान, ईरान और मध्य एशियाई राज्य** करती हैं।

- India announced it would **upgrade the Indian Embassy in**



पक्ष राजनयिकों का आदान-प्रदान करेंगे, जिससे भारत तालिबान सरकार को मान्यता देने के करीब आएगा, जिसे केवल रूस ने किया है।

- India also announced initiatives to **build hospitals**, provide **humanitarian assistance**, and **enhance trade levels**.  
भारत ने अस्पताल बनाने, मानवतावादी सहायता प्रदान करने, और व्यापार स्तर बढ़ाने की पहल की घोषणा की।
- Both sides emphasized **respect for each other's sovereignty and territorial integrity**, indicating that neither side accepts **Pakistan's territorial claims**.  
दोनों पक्षों ने एक-दूसरे की संप्रभुता और क्षेत्रीय अखंडता का सम्मान करने पर जोर दिया, यह संकेत देता है कि किसी ने भी पाकिस्तान के क्षेत्रीय दावों को स्वीकार नहीं किया।
- Mr. Muttaqi affirmed that the Afghan government will not allow its territory to be used against India, a **considerable shift** from **2001-21** when Taliban forces targeted **India's missions and infrastructure projects**.  
श्री मुत्ताकी ने पुष्टि की कि अफगान सरकार अपने क्षेत्र का उपयोग भारत के खिलाफ नहीं होने देगी, जो **2001-21** की अवधि से एक महत्वपूर्ण बदलाव है जब तालिबान ने भारत के मिशनों और अवसंरचना परियोजनाओं को निशाना बनाया।
- While the **joint statement** was substantive, the visit's headlines were overshadowed by several **missteps** and poorly structured **optics**.  
जबकि संयुक्त बयान सारगर्भित था, दौरे के शीर्षक कई गलतियों और खराब तरीके से संरचित दृश्य प्रभाव से प्रभावित हुए।
- The **press conference** at the Afghan Embassy, and the attempt to raise the **flag of the Islamic Emirate of Afghanistan**, was one misstep.  
अफगान दूतावास में प्रेस कॉन्फ्रेंस और इस्लामिक अमीरात अफगानिस्तान का झंडा उठाने का प्रयास एक गलती थी।
- It emerged that **no women journalists** had been invited, leading to **outrage**. Two days later, Mr. Muttaqi held another **all-inclusive press conference**.  
यह सामने आया कि **किसी भी महिला पत्रकार** को आमंत्रित नहीं किया गया था, जिससे रोष पैदा हुआ। दो दिन बाद, श्री मुत्ताकी ने एक और **सभी को शामिल करने वाली प्रेस कॉन्फ्रेंस** आयोजित की।
- The government, which distanced itself from the event, missed an opportunity to express its stand on **women's education and employment**, lack of **inclusive political process**, **treatment of minorities**, and past **attacks by the group**.  
सरकार, जिसने इस घटना से दूरी बनाई, ने महिलाओं की शिक्षा और रोजगार, सामावेशी राजनीतिक प्रक्रिया की कमी, अल्पसंख्यकों के साथ व्यवहार, और समूह द्वारा किए गए पूर्व हमलों पर अपना रुख व्यक्त करने का अवसर खो दिया।
- While engaging the Taliban is important for **regional security**, India must clarify how far it plans to go in **appeasing the group** and risking its **reputation**.  
जबकि तालिबान के साथ संबंध बनाना क्षेत्रीय सुरक्षा के लिए महत्वपूर्ण है, भारत को स्पष्ट करना चाहिए कि वह समूह को मनाने और अपनी प्रतिष्ठा जोखिम में डालने तक कितनी दूर जाने की योजना बना रहा है।



## Testing governance

National security and ecological responsibility reinforce each other

GS II: India's Neighbour

**F**resh impetus for the Sawalkote Hydroelectric Project, planned as a 1.8-GW scheme on the Chenab, coincides with India's unilateral suspension of the Indus Waters Treaty (IWT) after the Pahalgam attack, giving it a geopolitical symbolism that risks overshadowing questions relating to the environmental impact. The Union Ministries of Power and Home Affairs have repeatedly stressed its strategic value to press for exemptions from impact and carrying capacity studies. But other factors cannot be wished away with a magic wand. The Chenab already hosts the Dulhasti, Baglihar, and Salal projects, in a "bumper-to-bumper" hydropower corridor. Ignoring cumulative impact here means underestimating compounded sediment loads and slope instability. The gravity dam proposed at Sawalkote, despite being described as run-of-river, will form a reservoir of over 50,000 crore litres, rendering it functionally closer to a storage dam. Its estimated cost has risen by ₹9,000 crore due to inflation and prolonged administrative uncertainty. The NHPC Limited's recent record in comparable Himalayan projects shows many schedule slippages and cost overruns. Finally, rehabilitation costs account for just 0.6% of total expenditure whereas nearly 1,500 families will have to be resettled and 847 hectares of forests will have to be diverted.

In strategic terms, the project's timing signals India's intent to operationalise its entitlement over western rivers following the IWT's suspension. Keeping the treaty in abeyance also removed procedural constraints, allowing projects such as Sawalkote and the Wullar Barrage to go ahead. However, this approach risks diminishing India's credibility as a riparian state that abides by treaties, particularly in fora where it advocates rule-based transboundary governance. Pakistan has already challenged the suspension's legality vis-à-vis the 1960 framework. Should India proceed with multiple large projects without cooperative mechanisms, future negotiations may potentially invite third-party scrutiny – precisely what New Delhi has long resisted. In any case, strategic assertion should come with ecological restraint, and would require regional studies and protocols to manage sediments for all future projects, regardless of treaty status. India should also institutionalise data transparency through regional or multilateral platforms, converting hydrological monitoring from a security risk into a confidence-building measure, which would also align strategic autonomy with stewardship. Sawalkote's legacy will ultimately depend on whether India realises that national security and ecological responsibility reinforce each other.

## Testing governance शासन का परीक्षण

•National security and ecological responsibility reinforce each other.

राष्ट्रीय सुरक्षा और पारिस्थितिक जिम्मेदारी एक-दूसरे को मजबूत करती हैं।

### Sawalkote Hydroelectric Project and India's IWT Suspension

सवालकोट हाइड्रोइलेक्ट्रिक प्रोजेक्ट और भारत का IWT निलंबन

•Fresh impetus for the **Sawalkote Hydroelectric Project**, planned as a **1.8-GW scheme on the Chenab**, coincides with India's unilateral suspension of the Indus Waters Treaty (IWT) after the Pahalgam attack, giving it geopolitical symbolism that risks overshadowing environmental impact questions.

सवालकोट हाइड्रोइलेक्ट्रिक प्रोजेक्ट के लिए नई पहल, जो चेनाब पर 1.8-GW योजना के रूप में प्रस्तावित है, भारत के पहलाम हमला के बाद इंडस वाटर्स ट्रीटी (IWT) के एकतरफा निलंबन के साथ मेल खाती है, जिससे इसे भू-राजनीतिक प्रतीकात्मकता मिलती है और यह पर्यावरणीय प्रभाव से संबंधित प्रश्नों को छाया में डालने का जोखिम रखती है।

•The **Union Ministries of Power and Home Affairs** have stressed its **strategic value** to press for exemptions from **impact and carrying capacity studies**.

केंद्रीय विद्युत और गृह मंत्रालयों ने इसके रणनीतिक मूल्य पर जोर दिया है ताकि इसे प्रभाव और वहन क्षमता अध्ययनों से छूट दिलाई जा सके।

•The **Chenab** already hosts the **Dulhasti, Baglihar, and Salal projects**, forming a "bumper-to-bumper" hydropower corridor.

चेनाब पहले ही दुलहस्ती, बगलीहार, और सालाल परियोजनाओं की मेजबानी करता है, जिससे एक "बम्पर-टू-बम्पर" हाइड्रोपावर कॉरिडोर बनता है।

•Ignoring **cumulative impact** risks **underestimating compounded sediment loads and slope instability**.

संचयी प्रभाव की अनदेखी करने से संयोजित तलछट भार और ढलान अस्थिरता का अनुमान कम आंका जा सकता है।

•The **gravity dam** proposed at **Sawalkote**, though described as **run-of-river**, will form a **reservoir of over 50,000 crore litres**, making it functionally closer to a **storage dam**.

सवालकोट पर प्रस्तावित गुरुत्वाकर्षण डैम, हालांकि इसे रन-ऑफ-रिवर बताया गया है, 50,000 करोड़ लीटर से अधिक का जलाशय बनाएगा, जिससे यह कार्यात्मक रूप से स्टोरेज डैम के करीब होगा।

•Its **estimated cost** has risen by **₹9,000 crore** due to **inflation** and **prolonged administrative uncertainty**.

इसके अनुमानित लागत में मुद्रास्फीति और दीर्घकालिक प्रशासनिक अनिश्चितता के कारण ₹9,000 करोड़ की वृद्धि हुई है।

•**NHPC Limited's recent record** in comparable Himalayan projects shows many **schedule slippages** and **cost overruns**.



NHPC लिमिटेड का हालिया रिकॉर्ड, समान हिमालयी परियोजनाओं में, कई अनुसूची विलंब और लागत वृद्धि दिखाता है।

- **Rehabilitation costs account for just 0.6% of total expenditure, whereas nearly 1,500 families will have to be resettled and 847 hectares of forests diverted.**  
पुनर्वास लागत कुल खर्च का केवल 0.6% है, जबकि लगभग 1,500 परिवारों को पुनर्वासित करना होगा और 847 हेक्टेयर वन का विस्थापन करना होगा।
- Strategically, the project's timing signals India's intent to **operationalise its entitlement** over western rivers following the IWT's **suspension**.  
रणनीतिक रूप से, परियोजना का समय भारत के इरादे का संकेत देता है कि वह पश्चिमी नदियों पर अपने अधिकार को लागू करना चाहता है, IWT के निलंबन के बाद।
- Keeping the treaty in **abeyance** removed procedural constraints, allowing projects such as **Sawalkote and the Wullar Barrage** to proceed.  
संधि को निलंबित रखने से प्रक्रियात्मक प्रतिबंध हटा दिए गए, जिससे सवालकोट और वुल्लर बैराज जैसी परियोजनाओं को आगे बढ़ने की अनुमति मिली।
- This approach risks diminishing India's **credibility** as a **riparian state** that abides by treaties, particularly in fora advocating **rule-based transboundary governance**.  
इस दृष्टिकोण से भारत की विश्वसनीयता पर खतरा है, क्योंकि वह एक नदीपार्श्वीय राज्य के रूप में संधियों का पालन करता है, विशेष रूप से उन मंचों में जो नियम-आधारित सीमा-पार शासन की वकालत करते हैं।
- **Pakistan** has challenged the suspension's **legality** vis-à-vis the **1960 framework**.  
पाकिस्तान ने 1960 ढांचे के संदर्भ में निलंबन की कानूनीता को चुनौती दी है।
- Proceeding with multiple **large projects** without **cooperative mechanisms** may invite **third-party scrutiny**, which New Delhi has long resisted.  
सहयोगी तंत्रों के बिना कई बड़ी परियोजनाओं को आगे बढ़ाना तीसरे पक्ष की जांच को आमंत्रित कर सकता है, जिसे नई दिल्ली लंबे समय से रोक रही है।
- Strategic assertion should come with **ecological restraint**, requiring **regional studies and protocols** to manage **sediments** for all future projects, regardless of treaty status.  
रणनीतिक दबदबा पारिस्थितिक नियंत्रण के साथ होना चाहिए, सभी भविष्य की परियोजनाओं के लिए तलछट प्रबंधन के लिए क्षेत्रीय अध्ययन और प्रोटोकॉल आवश्यक हैं, चाहे संधि की स्थिति कुछ भी हो।
- India should institutionalise **data transparency** through **regional or multilateral platforms**, converting **hydrological monitoring** from a **security risk** into a **confidence-building measure**.  
भारत को क्षेत्रीय या बहुपक्षीय प्लेटफॉर्म के माध्यम से डेटा पारदर्शिता को संस्थागत करना चाहिए, जिससे जल विज्ञान निगरानी को सुरक्षा जोखिम से विश्वास निर्माण उपाय में बदला जा सके।
- Sawalkote's **legacy** will ultimately depend on whether India realises that **national security** and **ecological responsibility reinforce each other**.  
सवालकोट की विरासत अंततः इस बात पर निर्भर करेगी कि भारत यह समझता है कि राष्ट्रीय सुरक्षा और पारिस्थितिक जिम्मेदारी एक-दूसरे को मजबूत करती हैं।



# A realignment of Pak.-Afghan relations

At the core of the conflict is how Pakistan's military Establishment and the Taliban perceive each other. Pakistan looks at the Taliban as its vassal. It expects the latter to be grateful for its crucial political and military support; a view that is not shared by the increasingly independent Taliban

## GS II: India's Neighbours

### WORLD INSIGHT

D. Suba Chandran

**I**n October 11 and 12, there was an intense clash along the Durand Line between Pakistan and Afghanistan with substantial casualties on both sides. According to Islamabad, its forces killed more than 200 fighters on the Afghan side, while the Taliban has claimed the killing of 58 Pakistani soldiers. According to an official press release by the Pakistan Establishment (military), there were precision fires and strikes and physical raids targeting "Taliban camps and posts, terrorist training facilities and support networks operating from Afghan territory, including elements linked to Fitna al Khwarizj (FAK), Fitna al Hindustan (FAH) and ISKP/ Daesh." The Afghan military was quoted to have stated that the Afghan attacks were "in retaliation for the air strikes by Pakistani forces." Taliban's defence ministry went on to state that the operations ended at midnight of October 11 and "if the opposing side violates Afghanistan's territory again, our armed forces are ready to defend their territory and will respond firmly."

Following the clashes, Pakistan has closed the border crossings between the two countries.

For Pakistan, the clashes started on October 11, with "unprovoked" attacks from the Afghan side. For the Taliban, the border clashes were a response to an earlier attack by Pakistan on October 9, inside Afghanistan in the Kabul and Paktika province. While there have been minor skirmishes during recent years across the Durand Line, the latest attacks are the most important in recent Afghanistan-Pakistan history, and likely to be transformative in the Taliban-Pakistan military Establishment relationship.

### Understanding the geography

The first set of attacks in the last week took place on October 9 in Kabul, the Afghan capital, and in the Paktika province. Kabul is just 230 km by road from Torkham at the western end of the Khyber Pass in the Khyber Pakhtunkhwa (KP) province. As the crow flies, it should be less than 100 km if Pakistan has to conduct any aerial operations over Kabul. Of the five eastern Afghan provinces that share a border with two provinces of Pakistan, KP and Balochistan, Paktika shares the border with two tribal regions in KP – North and South Waziristan – the stronghold of the Mehsud and Wazir tribes.

The second set of attacks took place from October 11 to 12 along the Durand Line across the tribal regions – starting from Chitral in the north to Waziristan in the south. In return, Pakistan had targeted Afghan posts as well as training command and forts on the Afghan side.

### Chequered history

After propping up the Taliban in the 1990s, and supporting it over the next two decades, why has Pakistan turned against them now?

The trigger for the recent clashes differ for both countries. Media reports have speculated that the target of Pakistan's attack in Kabul could have been Noor Wali Mehsud, leader of the Pakistan Taliban. The two attacks on October 9 could also have been a warning to Afghanistan to not get close to India, for on that day, the Afghan foreign minister had landed in New Delhi for a week-long trip in India. Surprisingly, Pakistan's DG-ISPR statement on October 12 also



**On the road:** Afghans en route to Afghanistan sit atop a truck, as they await deportation at the Pakistan-Afghanistan border in Chaman on October 13. AFP

refers to the Afghan minister's visit to India, but links it to Afghanistan's "serious provocation," and ignores its earlier October 9 attack in Kabul.

While the above two incidents were the trigger, the following five reasons could be identified as the underlying causes for the tensions between Pakistan's Establishment and the Taliban. At the core of the conflict is how Pakistan and the Taliban perceive each other. Pakistan's Establishment looks at the Taliban as its vassal. It expects the latter to be grateful for its creation in the 1990s, and the crucial political and military support it has received, both overtly and covertly, during the last three decades from Pakistan. On the other hand, the Taliban sees itself as independent, having weathered the previous two decades, especially Pakistan playing a double act during the U.S. occupation of Afghanistan during 2001-21.

Pakistan wants Kabul to be subservient to its strategic interests, while the Taliban seeks to chart a new beginning and pursue an independent policy, both within Afghanistan and outside.

Kabul had also initiated a dialogue with China. In August 2025, China's foreign minister, Wang Yi, visited Kabul and talked about investments in Afghanistan, especially in the mining sector. China has also started receiving official delegations from Afghanistan, including its Ambassador. In July 2025, Russia recognised the Taliban and accepted its Ambassador in Moscow. The Taliban wants to have its own external engagement while Islamabad expects its approval for the same. Pakistan's attack in Kabul and Paktika last week, when the Afghan foreign minister was visiting India, is not a coincidence. Pakistan wants the Taliban to be dependent on it, from economy and trade to foreign policy. The recent New Delhi-Kabul rapprochement has not gone down well with the Establishment.

Secondly, Pakistan wants the Taliban to give up its support to the Tehrik-e-Taliban-Pakistan (TTP). Pakistan has been accusing the Taliban of providing a safe haven for the TTP, and also to Daesh and Indian proxies. The

Taliban had developed close linkages with the TTP during the U.S. occupation. The Pakistani Taliban, especially the Mehsuds and Wazirs, had provided crucial support to the Taliban when Pakistan was playing a double game during 2001-21. So, it is possible that the Taliban still maintains connections with the TTP. However, Taliban disagrees with the Pakistan Establishment, and blames the latter's militant problems squarely on Pakistan itself. For the Taliban, the Daesh militants are equally a threat.

Third, within Pakistan, the Establishment has either usurped external relations vis-à-vis the Taliban and Afghanistan, or the Parliament has abdicated its responsibility of the same. Since the Soviet invasion of Afghanistan in 1979, it has been the Establishment which has carried out Pakistan's Afghan policy and not the Parliament. The latter has become a mere spectator, and even a supporter. The first thing that Pakistan Prime Minister Shehbaz Sharif said after the latest clashes with Afghanistan was to praise the Army Chief for his resolve. The weak civil-military relations within Pakistan have been an important factor in Pakistan's troubled relationship with all its neighbours, including Afghanistan.

Fourth, for the Taliban, the biggest issue is Islamabad's unilateral decision to deport Afghan nationals from Pakistan. Since the 1980s, Pakistan has been hosting millions of Afghans who crossed the Durand Line in multiple waves. During the 1980s and 90s, Pakistan saw Afghan nationals as an asset, and as part of its strategic interests. Now, with the Taliban at the helm, Pakistan considers the Afghans within their territory as a liability. Since 2023, Pakistan has been unilaterally deporting, first, undocumented Afghan migrants (who came into Pakistan without any valid papers or registration), and later even registered Afghan refugees. The Taliban and the Afghans are against such unilateral deportation. Even international organisations, such as the UN Human Rights Council, have criticised Pakistan's decision to deport Afghan migrants and refugees.

The fifth and final issue is the unilateral

and repeated closure of border points by Pakistan in KP and Balochistan – especially at Torkham and Chaman. These two border points are not only the largest bilateral trade posts but also the primary entry and exit points for goods and people into Afghanistan. Though Afghanistan shares borders with Iran and Central Asia, historically, these two points have acted as global gateways for the movement of Afghans and of goods. Pakistan understands the strategic importance of these border points for Afghanistan; in recent years, it has repeatedly closed these two border posts, primarily as a pressure strategy against Kabul.

Pakistan sees the border points as a leverage, while Afghanistan sees them as their lifeline.

### Readjusting relations

Pakistan, during the last few years, has been looking at the changing regional situation and pursuing actions to address it. Its recent rapprochement with Iran, its defence agreement with Saudi Arabia and the recent developments with the U.S. are part of this.

Similarly, the Taliban has also started to readjust to its regional environment. During recent years, it has been facing an assertive Iran, and like Islamabad, Tehran has also been deporting Afghan nationals. As mentioned above, the Taliban has opened a front with its immediate and extended neighbourhood – Moscow, Beijing and now New Delhi. Taliban needs these external engagements, not only for political reasons, but also to sustain its economy and rebuild Afghanistan.

Pakistan also has a serious internal problem in Balochistan and KP, for which the Establishment is blaming other nations, especially India.

If Pakistan sees Afghanistan as a vassal state, blaming Kabul (and India) for all its internal violence will worsen the relationship. The Establishment's control of Pakistan's Afghan policy will worsen an already bad situation.

*D. Suba Chandran is Professor and Dean, School of Conflict and Security Studies, National Institute of Advanced Studies.*

## THE GIST

For Pakistan, the clashes started on October 11, with "unprovoked" attacks from the Afghan side. For the Taliban, the border clashes were a response to an earlier attack by Pakistan on October 9, inside Afghanistan in the Kabul and Paktika province.

Media reports have speculated that the target of Pakistan's attack in Kabul could have been Noor Wali Mehsud, leader of the Pakistan Taliban. The two attacks on October 9 could also have been a warning to Afghanistan to not get close to India.

If Pakistan sees Afghanistan as a vassal state, blaming Kabul (and India) for all its internal violence will worsen the relationship.

**A realignment of Pak.-Afghan relations**  
**पाकिस्तान-अफगानिस्तान संबंधों का पुनर्सिखण**



- At the core of the **conflict** is how **Pakistan's military Establishment** and the **Taliban** perceive each other.  
संघर्ष के केंद्र में यह है कि **पाकिस्तान की सैन्य स्थापना** और **तालिबान** एक-दूसरे को कैसे देखते हैं।
- **Pakistan** looks at the **Taliban** as its **vassal**.  
पाकिस्तान तालिबान को अपना **सहयोगी/वासन** मानता है।
- It expects the latter to be **grateful for its crucial political and military support**;  
यह उम्मीद करता है कि तालिबान उसके महत्वपूर्ण **राजनीतिक और सैन्य समर्थन** के लिए **कृतज्ञ** होगा;
- A view that is not shared by the increasingly **independent Taliban**.  
यह दृष्टिकोण बढ़ती हुई **स्वतंत्र तालिबान** द्वारा साझा नहीं किया जाता।

## Durand Line Clashes between Pakistan and Afghanistan

### पाकिस्तान और अफगानिस्तान के बीच डुरंड लाइन पर टकराव

- On **October 11 and 12**, there was an **intense clash** along the **Durand Line** between **Pakistan and Afghanistan** with **substantial casualties** on both sides.  
11 और 12 अक्टूबर को **डुरंड लाइन** पर पाकिस्तान और अफगानिस्तान के बीच तीव्र संघर्ष हुआ, जिसमें दोनों पक्षों को भारी हानि हुई।
- According to **Islamabad**, its forces killed more than **200 fighters** on the **Afghan side**, while the **Taliban** has claimed the killing of **58 Pakistani soldiers**.  
इस्लामाबाद के अनुसार, उसके बलों ने अफगान पक्ष के **200 से अधिक लड़ाके** मारे, जबकि तालिबान ने **58 पाकिस्तानी सैनिकों** के मरने का दावा किया।
- According to an official **press release** by the **Pakistan Establishment (military)**, there were **precision fires and strikes** and **physical raids** targeting "**Taliban camps and posts, terrorist training facilities and support networks operating from Afghan territory**", including elements linked to **Fitna al Khwarij (FAK)**, **Fitna al Hindustan (FAH)** and **ISKP/Daesh**.  
पाकिस्तान प्रतिष्ठान (सैनिक) द्वारा आधिकारिक प्रेस विज्ञप्ति के अनुसार, "तालिबान शिविरों और पोस्ट, आतंकवादी प्रशिक्षण सुविधाओं और अफगान क्षेत्र से संचालित सहायता नेटवर्क" को निशाना बनाकर सटीक हमले और छापामारी की गई, जिसमें **Fitna al Khwarij (FAK)**, **Fitna al Hindustan (FAH)** और **ISKP/Daesh** से जुड़े तत्व शामिल थे।
- The **Afghan military** was quoted to have stated that the Afghan attacks were "**in retaliation for the air strikes by Pakistani forces**."  
अफगान सेना के हवाले से कहा गया कि अफगान हमले **पाकिस्तानी बलों द्वारा हवाई हमलों के प्रतिशोध** में थे।
- **Taliban's defence ministry** stated that the operations ended at **midnight of October 11** and "if the opposing side violates Afghanistan's territory again, our armed forces are ready to defend their territory and will respond firmly."  
तालिबान के रक्षा मंत्रालय ने कहा कि संचालन **11 अक्टूबर की आधी रात** को समाप्त हो गया और "यदि विरोधी पक्ष फिर से अफगानिस्तान की सीमा का उल्लंघन करता है, तो हमारे सशस्त्र बल अपनी सीमा की रक्षा के लिए तैयार हैं और सख्ती से प्रतिक्रिया करेंगे।"
- Following the clashes, **Pakistan has closed the border crossings** between the two countries.  
टकराव के बाद, **पाकिस्तान ने दोनों देशों के बीच सीमा पार करने वाले मार्ग बंद कर दिए हैं।**
- For **Pakistan**, the clashes started on **October 11**, with "**unprovoked attacks**" from the Afghan side.  
पाकिस्तान के लिए, टकराव **11 अक्टूबर** को शुरू हुआ, अफगान पक्ष की ओर से "**बिना उकसावे के हमले**" के साथ।
- For the **Taliban**, the border clashes were a response to an earlier attack by Pakistan on **October 9**, inside **Afghanistan** in the **Kabul and Paktika province**.



तालिबान के लिए, सीमा पर टकराव 9 अक्टूबर को पाकिस्तान द्वारा अफगानिस्तान के काबुल और पक्तिका प्रांत में किए गए पहले हमले का जवाब था।

- While there have been minor **skirmishes** during recent years across the **Durand Line**, the latest attacks are the most important in recent **Afghanistan-Pakistan history**, and likely to be transformative in the **Taliban-Pakistan military Establishment relationship**.  
हाल के वर्षों में **डुरंड लाइन** पर छोटे संघर्ष होते रहे हैं, लेकिन हाल के हमले हाल की **अफगानिस्तान-पाकिस्तान इतिहास** में सबसे महत्वपूर्ण हैं और संभवतः **तालिबान-पाकिस्तान सैन्य प्रतिष्ठान संबंध** को बदलने वाले होंगे।

## Understanding the Geography

### भूगोल की समझ

- The first set of attacks in the last week took place on **October 9** in **Kabul**, the Afghan capital, and in the **Paktika province**.  
पिछले सप्ताह के पहले हमले **9 अक्टूबर** को अफगान राजधानी **काबुल** और **पक्तिका प्रांत** में हुए।
- **Kabul is just 230 km by road from Torkham at the western end of the Khyber Pass in the Khyber Pakhtunkhwa (KP) province.**  
**काबुल** सड़क मार्ग से **खैबर पास** के पश्चिमी छोर पर **टोरखम** से केवल **230 किमी** दूर है, जो **खैबर पख्तूनख्वा (KP)** प्रांत में स्थित है।
- As the crow flies, it should be **less than 100 km** if **Pakistan** has to conduct any **aerial operations** over Kabul.  
सीधी दूरी में, यदि **पाकिस्तान** को **काबुल** पर कोई **हवाई संचालन** करना हो तो यह **100 किमी से कम** होना चाहिए।
- Of the five **eastern Afghan provinces** that share a border with two provinces of Pakistan, **KP and Balochistan**, **Paktika** shares the border with two **tribal regions** in KP — **North and South Waziristan** — the stronghold of the **Mehsud and Wazir tribes**.  
उन पांच **पूर्वी अफगान प्रांतों** में से जो पाकिस्तान के दो प्रांतों **KP** और **बलूचिस्तान** से सटी हैं, **पक्तिका KP** के दो **जनजातीय क्षेत्रों** — **उत्तर और दक्षिण वजीरिस्तान** — से सटी है, जो **महसूद और वजीर जनजातियों** का किला है।
- The second set of attacks took place from **October 11 to 12** along the **Durand Line** across the **tribal regions** — starting from **Chitral** in the north to **Waziristan** in the south.  
दूसरे हमले **11 से 12 अक्टूबर** के बीच **डुरंड लाइन** पर **जनजातीय क्षेत्रों** में हुए — उत्तर में **चितराल** से शुरू होकर दक्षिण में **वजीरिस्तान** तक।
- In return, **Pakistan** had targeted **Afghan posts** as well as **training command and forts** on the Afghan side.  
इसके जवाब में, **पाकिस्तान** ने **अफगान पोस्ट** के साथ-साथ **प्रशिक्षण कमान और किले** को भी अफगान पक्ष पर निशाना बनाया।

## Chequered History

### उतार-चढ़ाव भरा इतिहास

- After **propping up the Taliban in the 1990s**, and supporting it over the next two decades, why has **Pakistan turned against them now**?  
**1990 के दशक** में **तालिबान** को **समर्थन देने** और अगले दो दशकों तक **सहायता करने** के बाद, अब **पाकिस्तान ने उनके खिलाफ क्यों रुख किया**?
- The trigger for the recent clashes differ for both countries.  
हाल के टकराव का कारण दोनों देशों के लिए अलग-अलग है।
- Media reports have speculated that the target of **Pakistan's attack in Kabul** could have been **Noor Wali Mehsud**, leader of the **Pakistan Taliban**.



मीडिया रिपोर्टों ने अटकलें लगाई हैं कि काबुल में पाकिस्तान के हमले का लक्ष्य नूर वली महसूद, पाकिस्तान तालिबान के नेता हो सकते हैं।

- The two attacks on **October 9** could also have been a warning to **Afghanistan** to not get close to **India**, as on that day, the **Afghan foreign minister** had landed in **New Delhi** for a week-long trip.  
**9 अक्टूबर** के दो हमले अफगानिस्तान को भारत के करीब न जाने की चेतावनी भी हो सकते हैं, क्योंकि उस दिन अफगान विदेश मंत्री ने नई दिल्ली में एक सप्ताह की यात्रा के लिए कदम रखा था।
- Surprisingly, **Pakistan's DG-ISPR statement** on **October 12** also refers to the **Afghan minister's visit to India**, but links it to Afghanistan's "**serious provocation**," and ignores its earlier **October 9 attack in Kabul**.  
आश्चर्यजनक रूप से, **12 अक्टूबर** को पाकिस्तान के **DG-ISPR** बयान में भी अफगान मंत्री की भारत यात्रा का उल्लेख है, लेकिन इसे अफगानिस्तान के "गंभीर उकसावे" से जोड़ता है और **9 अक्टूबर के काबुल हमले** को नजरअंदाज करता है।
- While the above two incidents were the trigger, the following **five reasons** could be identified as the underlying causes for the tensions between **Pakistan's Establishment** and the **Taliban**.  
जबकि ऊपर के दो घटनाक्रम ट्रिगर थे, लेकिन पाकिस्तान प्रतिष्ठान और तालिबान के बीच तनाव के पीछे के कारण के रूप में निम्न पांच कारण पहचाने जा सकते हैं।
- **At the core of the conflict is how Pakistan and the Taliban perceive each other.**  
संघर्ष का मूल यह है कि पाकिस्तान और तालिबान एक-दूसरे को कैसे देखते हैं।
- **Pakistan's Establishment** looks at the Taliban as its **vassal**. It expects the latter to be grateful for its creation in the **1990s**, and the crucial political and military support it has received over the last **three decades**.  
पाकिस्तान प्रतिष्ठान तालिबान को अपना सहयोगी मानता है। यह उम्मीद करता है कि तालिबान **1990 के दशक में अपने निर्माण** और पिछले **तीन दशकों में प्राप्त महत्वपूर्ण राजनीतिक और सैन्य सहायता** के लिए आभारी रहे।
- The Taliban sees itself as **independent**, having weathered the previous **two decades**, especially Pakistan playing a **double act** during the **U.S. occupation of Afghanistan (2001-21)**.  
तालिबान खुद को **स्वतंत्र** मानता है, जिसने पिछले **दो दशकों** को झोला है, विशेष रूप से **अमेरिका के अफगानिस्तान कब्जे (2001-21)** के दौरान पाकिस्तान द्वारा किए गए **दोहरे खेल** को।
- **Pakistan wants Kabul to be subservient to its strategic interests**, while the Taliban seeks to chart a **new beginning** and pursue an **independent policy**, both within Afghanistan and outside.  
पाकिस्तान चाहता है कि काबुल उसके **सामरिक हितों** के अधीन हो, जबकि तालिबान एक **नई शुरुआत** करना चाहता है और **स्वतंत्र नीति** अपनाना चाहता है, चाहे वह अफगानिस्तान में हो या बाहर।
- **Kabul had initiated a dialogue with China**. In **August 2025**, **China's foreign minister, Wang Yi**, visited Kabul and talked about **investments in Afghanistan**, especially in the **mining sector**.  
**काबुल** ने **चीन** के साथ संवाद शुरू किया था। **अगस्त 2025** में, **चीन के विदेश मंत्री, वांग यी**, ने काबुल का दौरा किया और अफगानिस्तान में **निवेश**, विशेष रूप से **खनन क्षेत्र** के बारे में चर्चा की।
- China has started receiving **official delegations** from Afghanistan, including its **Ambassador**.  
चीन ने अफगानिस्तान से **आधिकारिक प्रतिनिधिमंडल**, जिसमें उसका **राजदूत** शामिल है, प्राप्त करना शुरू कर दिया है।
- In **July 2025**, **Russia** recognized the Taliban and accepted its **Ambassador** in Moscow.  
**जुलाई 2025** में, **रूस** ने तालिबान को मान्यता दी और मास्को में उसके **राजदूत** को स्वीकार किया।



- The Taliban wants to have its own external engagement, while Islamabad expects its approval.  
तालिबान अपनी बाहरी संलग्नता चाहता है, जबकि इस्लामाबाद उसकी मंजूरी की उम्मीद करता है।
- Pakistan's attack in Kabul and Paktika last week, when the Afghan foreign minister was visiting India, is not a coincidence.  
पाकिस्तान का पिछले सप्ताह काबुल और पक्तिका में हमला, जब अफगान विदेश मंत्री भारत का दौरा कर रहे थे, संयोग नहीं है।
- Pakistan wants the Taliban to be dependent on it, from economy and trade to foreign policy.  
पाकिस्तान चाहता है कि तालिबान इस पर निर्भर रहे, चाहे वह अर्थव्यवस्था और व्यापार हो या विदेश नीति।
- The recent New Delhi-Kabul rapprochement has not gone down well with the Establishment.  
हाल की नई दिल्ली-काबुल दोस्ती प्रतिष्ठान को पसंद नहीं आई है।
- Secondly, Pakistan wants the Taliban to give up its support to the Tehrik-e-Taliban-Pakistan (TTP).  
दूसरा, पाकिस्तान चाहता है कि तालिबान तेहरिक-ए-तालिबान-पाकिस्तान (TTP) का समर्थन छोड़ दे।
- Pakistan has been accusing the Taliban of providing a safe haven for the TTP, as well as Daesh and Indian proxies.  
पाकिस्तान तालिबान पर TTP, साथ ही Daesh और भारतीय प्रॉक्सी को सुरक्षित ठिकाना देने का आरोप लगा रहा है।
- The Taliban had developed close linkages with the TTP during the U.S. occupation.  
तालिबान ने अमेरिकी कब्जे के दौरान TTP के साथ सघन संबंध विकसित किए थे।
- The Pakistani Taliban, especially the Mehsuds and Wazirs, had provided crucial support to the Taliban when Pakistan was playing a double game (2001-21).  
पाकिस्तानी तालिबान, विशेष रूप से महसूद और वजीर, ने तालिबान को महत्वपूर्ण समर्थन दिया जब पाकिस्तान दोहरा खेल (2001-21) खेल रहा था।
- It is possible that the Taliban still maintains connections with the TTP, but Taliban disagrees with the Pakistan Establishment, blaming Pakistan for militant problems.  
संभव है कि तालिबान अभी भी TTP के साथ संबंध बनाए रखता हो, लेकिन तालिबान पाकिस्तान प्रतिष्ठान से असहमत है और पाकिस्तानी मामलों के लिए इसे दोषी ठहराता है।
- For the Taliban, the Daesh militants are equally a threat.  
तालिबान के लिए, Daesh के आतंकवादी भी समान रूप से खतरा हैं।
- Third, within Pakistan, the Establishment has either usurped external relations vis-à-vis the Taliban and Afghanistan, or the Parliament has abdicated its responsibility.  
तीसरा, पाकिस्तान के भीतर, प्रतिष्ठान ने तालिबान और अफगानिस्तान के संबंधों में हस्तक्षेप किया है या संसद ने अपनी जिम्मेदारी छोड़ दी है।
- Since the Soviet invasion of Afghanistan in 1979, it has been the Establishment which has carried out Pakistan's Afghan policy, not the Parliament.  
1979 में अफगानिस्तान पर सोवियत आक्रमण के बाद से, पाकिस्तान की अफगान नीति को प्रतिष्ठान ने लागू किया है, संसद ने नहीं।
- The first thing that Pakistan Prime Minister Shehbaz Sharif said after the latest clashes with Afghanistan was to praise the Army Chief for his resolve.  
अफगानिस्तान के साथ नवीनतम टकराव के बाद पाकिस्तान के प्रधानमंत्री शहबाज शरीफ ने सबसे पहले सेना प्रमुख की दृढ़ता की प्रशंसा की।
- The weak civil-military relations within Pakistan have been an important factor in Pakistan's troubled relationship with all its neighbours, including Afghanistan.  
पाकिस्तान में कमजोर सिविल-सैनिक संबंध सभी पड़ोसियों, विशेषकर अफगानिस्तान के साथ पाकिस्तान के कठिन संबंध का महत्वपूर्ण कारक रहे हैं।



- Fourth, for the Taliban, the biggest issue is Islamabad's unilateral decision to deport Afghan nationals from Pakistan.  
चौथा, तालिबान के लिए सबसे बड़ी समस्या इस्लामाबाद का पाकिस्तान से अफगान नागरिकों को एकतरफा निर्वासित करने का निर्णय है।
- Since the 1980s, Pakistan has been hosting millions of Afghans who crossed the Durand Line in multiple waves.  
1980 के दशक से, पाकिस्तान ने लाखों अफगानों को रखा है जिन्होंने डुरंड लाइन को कई लहरों में पार किया।
- During the 1980s and 90s, Pakistan saw Afghan nationals as an asset and part of its strategic interests.  
1980 और 90 के दशक में, पाकिस्तान ने अफगान नागरिकों को संपत्ति और अपने सामरिक हितों का हिस्सा माना।
- Now, with the Taliban at the helm, Pakistan considers the Afghans within their territory as a liability.  
अब, जब तालिबान सत्ता में है, पाकिस्तान अपने क्षेत्र में अफगानों को जिम्मेदारी का बोझ मानता है।
- Since 2023, Pakistan has been unilaterally deporting, first, undocumented Afghan migrants, and later even registered Afghan refugees.  
2023 से, पाकिस्तान ने एकतरफा निर्वासन शुरू किया है, पहले अदालतों में अभिलेख न रखने वाले अफगान प्रवासी, और बाद में पंजीकृत अफगान शरणार्थियों को भी।
- The Taliban and the Afghans are against such unilateral deportation.  
तालिबान और अफगान ऐसे एकतरफा निर्वासन के खिलाफ हैं।
- Even international organisations, such as the UN Human Rights Council, have criticised Pakistan's decision to deport Afghan migrants and refugees.  
अंतरराष्ट्रीय संगठन, जैसे संयुक्त राष्ट्र मानवाधिकार परिषद, ने अफगान प्रवासियों और शरणार्थियों को निर्वासित करने के पाकिस्तान के निर्णय की आलोचना की है।
- Fifth, the unilateral and repeated closure of border points by Pakistan in KP and Balochistan, especially at Torkham and Chaman, is a major issue.  
पांचवा, पाकिस्तान द्वारा KP और बलूचिस्तान में सीमा बिंदुओं का एकतरफा और बार-बार बंद होना, विशेष रूप से टोरखम और चमन, एक प्रमुख मुद्दा है।
- These two border points are not only the largest bilateral trade posts but also the primary entry and exit points for goods and people into Afghanistan.  
ये दो सीमा बिंदु केवल सबसे बड़े द्विपक्षीय व्यापार पोस्ट ही नहीं हैं, बल्कि अफगानिस्तान में माल और लोगों के मुख्य प्रवेश और निकास बिंदु भी हैं।
- Though Afghanistan shares borders with Iran and Central Asia, historically, these two points have acted as global gateways for the movement of Afghans and goods.  
हालांकि अफगानिस्तान की ईरान और मध्य एशिया के साथ सीमाएँ हैं, ऐतिहासिक रूप से, ये दोनों बिंदु अफगानों और माल की वैश्विक गेटवे के रूप में कार्य करते रहे हैं।
- Pakistan understands the strategic importance of these border points for Afghanistan; in recent years, it has repeatedly closed these two border posts, primarily as a pressure strategy against Kabul.  
पाकिस्तान समझता है कि ये सीमा बिंदु अफगानिस्तान के लिए कितने सामरिक महत्व के हैं; हाल के वर्षों में, इसने इन दोनों सीमा पोस्ट को बार-बार बंद किया, मुख्य रूप से काबुल पर दबाव बनाने की रणनीति के रूप में।
- Pakistan sees the border points as a leverage, while Afghanistan sees them as their lifeline.  
पाकिस्तान इन सीमा बिंदुओं को हथियार के रूप में देखता है, जबकि अफगानिस्तान उन्हें अपनी जीवनरेखा मानता है।

## Readjusting Relations

### संबंधों का पुनःसमायोजन



- **Pakistan**, during the last few years, has been looking at the **changing regional situation** and pursuing actions to address it.  
पिछले कुछ वर्षों में, पाकिस्तान क्षेत्रीय परिस्थितियों में बदलाव को देख रहा है और इसे संबोधित करने के लिए कदम उठा रहा है।
- Its recent **rapprochement with Iran**, its **defence agreement with Saudi Arabia**, and the recent developments with the **U.S.** are part of this.  
इसका हालिया ईरान के साथ मेलजोल, सऊदी अरब के साथ रक्षा समझौता, और यू.एस. के साथ हाल की घटनाएँ इसका हिस्सा हैं।
- Similarly, the **Taliban** has also started to readjust to its **regional environment**.  
इसी तरह, तालिबान ने भी अपने क्षेत्रीय माहौल के अनुसार खुद को पुनःसमायोजित करना शुरू कर दिया है।
- During recent years, it has been facing an assertive **Iran**, and like Islamabad, **Tehran** has also been deporting **Afghan nationals**.  
हाल के वर्षों में, यह एक आक्रामक ईरान का सामना कर रहा है, और इस्लामाबाद की तरह, तेहरान भी अफगान नागरिकों को निर्वासित कर रहा है।
- As mentioned above, the Taliban has opened a front with its immediate and extended neighbourhood — **Moscow, Beijing, and now New Delhi**.  
जैसा कि ऊपर उल्लेख किया गया है, तालिबान ने अपने निकट और विस्तारित पड़ोस के साथ एक मोर्चा खोला है — **माँस्को, बीजिंग, और अब नई दिल्ली**।
- Taliban needs these **external engagements**, not only for **political reasons**, but also to **sustain its economy and rebuild Afghanistan**.  
तालिबान को ये बाहरी संबंध चाहिए, न केवल राजनीतिक कारणों के लिए, बल्कि अपनी अर्थव्यवस्था को बनाए रखने और अफगानिस्तान को पुनर्निर्मित करने के लिए भी।
- Pakistan also has a serious **internal problem in Balochistan and KP**, for which the **Establishment** is blaming other nations, especially **India**.  
पाकिस्तान के पास भी बलूचिस्तान और KP में एक गंभीर आंतरिक समस्या है, जिसके लिए प्रतिष्ठान अन्य देशों, विशेष रूप से भारत को दोषी ठहरा रहा है।
- If Pakistan sees Afghanistan as a **vassal state**, blaming **Kabul (and India)** for all its **internal violence** will worsen the relationship.  
यदि पाकिस्तान अफगानिस्तान को एक सहयोगी राज्य मानता है, तो अपनी सभी आंतरिक हिंसा के लिए काबुल (और भारत) को दोष देना संबंधों को और बिगाड़ देगा।

The **Establishment's control** of Pakistan's **Afghan policy** will worsen an already **bad situation**.  
पाकिस्तान की अफगान नीति पर प्रतिष्ठान का नियंत्रण पहले से ही बुरी स्थिति को और बिगाड़ देगा।

## GS Paper III: Economy, S&T, Environment, DM, & IS

### TOPICS COVERED

14\_10\_2025

1.

**Retail inflation hits 8-year low of 1.54% in Sept.**  
**खुदरा मुद्रास्फीति सितंबर में 8 साल के निचले स्तर 1.54% पर पहुंची**



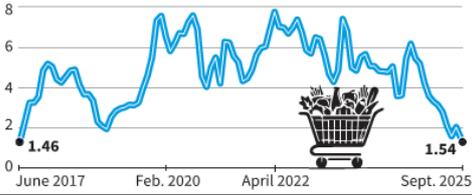
2.	<b>'Early warning systems are strategic investments'</b> <b>'अर्ली वार्निंग सिस्टम रणनीतिक निवेश हैं'</b>
3.	<b>Snow leopards are the world's least genetically diverse big cat</b> <b>हिम तेंदुआ दुनिया की सबसे कम आनुवंशिक विविधता वाला बड़ा बिल्ली प्रजाति है</b>
4.	<b>Arctic seals, birds in new 'red list' of endangered species: IUCN</b> <b>आर्कटिक सील और पक्षी नई 'रेड लिस्ट' में शामिल: IUCN</b>
5.	<b>QUIZ</b>
6.	<b>Estimating India's potential growth rate</b> <b>भारत की संभावित विकास दर का अनुमान</b>
7.	<b>A green transition accelerating at express speed</b> <b>एक हरित संक्रमण जो तेज गति से बढ़ रहा है</b>
8.	<b>Counting calories: a brief history of how the unit of food was conceptualised</b> <b>कैलोरी गिनना: यह कि खाद्य इकाई कैसे कल्पित हुई इसका संक्षिप्त इतिहास</b>
9.	<b>Mokyr, Aghion and Howitt win Nobel economics prize</b> <b>मोकीर, एघियोन और हॉवित ने जीता नोबेल अर्थशास्त्र पुरस्कार</b>
10.	<b>Turbulent markets help LME recover from nickel crisis</b> <b>उथल-पुथल भरे बाजारों ने LME को निकल संकट से उबरने में मदद की</b>



# Retail inflation hits 8-year low of 1.54% in Sept.

## Historic low

India's retail inflation slipped to 1.54% this month, the lowest since June 2017. The chart shows Y-o-Y inflation rate (in %)



SOURCE: MOSPI

## GS III: Inflation

**T.C.A. Sharad Raghavan**  
NEW DELHI

Retail inflation fell to a more than eight-year-low of 1.54% in September on falling food and fuel prices, official data showed on Monday. This is once again below the Reserve Bank of India's lower comfort bound of 2%.

Inflation, as measured by the Consumer Price Index released by the Ministry of Statistics and Programme Implementation, was last lower in June 2017, when it stood at 1.46%. Inflation had fallen below the RBI's lower comfort limit in July 2025, before rising marginally to 2.1% in August.

The food and beverages grouping saw a contraction of 1.4% in September, compared with a growth of 0.05% in August and 8.4% inflation in September last year.

## Food inflation

"Looking ahead, food inflation is likely to stay benign supported by a favourable base and good monsoon," Rajani Sinha, chief economist at CareEdge Ratings, said.

"That said, risks remain from the late withdrawal of the monsoon and heavy rain in certain regions, which could risk crop damage."

In addition, Ms. Sinha said that persistently high double-digit inflation in edible oils warrants close monitoring, given weak sowing trends, import dependence, and elevated

global edible oil prices.

Inflation in the oil and fats category stood at 18.3% in September, the 11th consecutive month of double-digit inflation in the sub-grouping.

Inflation in the fuel and light category came in at 1.98% in September, down from 2.3% in August. Save for one month, inflation in this category has been easing since April.

"The moderation in food and fuel prices has provided much-needed relief to households and improved purchasing power," Rajeev Juneja, president of the PHDCCI, said.

Inflation in the clothing and footwear category was 2.28% in September, marginally lower than the 2.33% seen in August 2025 and the 2.7% in September last year. This is the fifth consecutive month of slowing inflation in this category.

Inflation in the pan, tobacco and other intoxicants category, however, quickened to 2.7% in September from 2.5% in August.

Similarly, the housing sector also saw inflation quickening to 4% in September from 3.1% in the previous month.

Economists say that the low inflation figures, with the RBI's Monetary Policy Committee revising downwards its inflation forecast for the year for the fourth time in a row during its most recent monetary policy meeting, raises hopes of a rate cut in the next meeting in December.

## Retail inflation hits 8-year low of 1.54% in Sept. खुदरा मुद्रास्फीति सितंबर में 8 साल के निचले स्तर 1.54% पर पहुंची

Retail inflation fell to a more than eight-year-low of 1.54% in September on falling food and fuel prices, official data showed on Monday. This is once again below the Reserve Bank of India's lower comfort bound of 2%.

खुदरा मुद्रास्फीति सितंबर में 1.54% पर पहुंच गई, जो खाद्य और ईंधन की कीमतों में गिरावट के कारण 8 साल से अधिक का सबसे निचला स्तर है, आधिकारिक आंकड़ों ने सोमवार को दिखाया। यह एक बार फिर भारतीय रिजर्व बैंक की 2% की निचली सीमा से नीचे है।

Inflation, as measured by the Consumer Price Index released by the Ministry of Statistics and Programme Implementation, was last lower in June 2017, when it stood at 1.46%. Inflation had fallen below the RBI's lower comfort limit in July 2025, before rising marginally to 2.1% in August.

सांख्यिकी और कार्यक्रम कार्यान्वयन मंत्रालय द्वारा जारी उपभोक्ता मूल्य सूचकांक (CPI) के अनुसार मुद्रास्फीति आखिरी बार जून 2017 में 1.46% थी। मुद्रास्फीति जुलाई 2025 में RBI की निचली सीमा से नीचे चली गई थी, इससे पहले कि यह अगस्त में मामूली रूप से 2.1% तक बढ़ी।

The food and beverages grouping saw a contraction of 1.4% in September, compared with a growth of 0.05% in August and 8.4% inflation in September last year.

खाद्य और पेय पदार्थ समूह में सितंबर में 1.4% की गिरावट दर्ज की गई, जबकि अगस्त में 0.05% की वृद्धि और पिछले वर्ष सितंबर में 8.4% मुद्रास्फीति थी।

## Food inflation खाद्य मुद्रास्फीति

"Looking ahead, food inflation is likely to stay benign supported by a favourable base and good monsoon," Rajani Sinha, chief economist at CareEdge Ratings, said.

"आगे देखते हुए, खाद्य मुद्रास्फीति अनुकूल आधार और अच्छे मानसून के समर्थन से स्थिर रहने की संभावना है," केयरएज रेटिंग्स की मुख्य अर्थशास्त्री रजनी सिन्हा ने कहा।

"That said, risks remain from the late withdrawal of the monsoon and heavy rain in certain regions, which could risk crop damage."

"फिर भी, कुछ क्षेत्रों में मानसून की देर से वापसी और भारी वर्षा से फसलों को नुकसान का खतरा बना हुआ है।"

In addition, Ms. Sinha said that persistently high double-digit inflation in edible oils warrants close monitoring, given weak sowing trends, import dependence, and elevated global edible oil prices.

इसके अलावा, श्रीमती सिन्हा ने कहा कि खाद्य तेलों में लगातार दो अंकों की मुद्रास्फीति पर करीबी निगरानी की आवश्यकता है, क्योंकि बुवाई की कमजोर प्रवृत्ति, आयात पर निर्भरता, और वैश्विक खाद्य तेल कीमतों में वृद्धि बनी हुई है।

Inflation in the oil and fats category stood at 18.3% in September, the 11th consecutive month of double-digit inflation in the sub-grouping.

तेल और वसा श्रेणी में मुद्रास्फीति सितंबर में 18.3% रही, जो इस उप-समूह में लगातार 11वां महीना है जब दो अंकों की मुद्रास्फीति दर्ज हुई।



- Inflation in the **fuel and light category** came in at **1.98% in September**, down from **2.3% in August**. Save for one month, inflation in this category has been **easing since April**.  
ईंधन और प्रकाश श्रेणी में मुद्रास्फीति सितंबर में 1.98% रही, जो अगस्त के 2.3% से कम है। एक महीने को छोड़कर, इस श्रेणी में मुद्रास्फीति अप्रैल से लगातार घट रही है।
- “The moderation in **food and fuel prices** has provided much-needed relief to **households** and improved **purchasing power**,” **Rajeev Juneja**, president of the **PHDCCI**, said.  
राजीव जुनेजा, PHDCCI के अध्यक्ष ने कहा कि खाद्य और ईंधन की कीमतों में गिरावट ने घरेलू उपभोक्ताओं को राहत दी है और उनकी क्रय शक्ति में सुधार किया है।
- Inflation in the **clothing and footwear category** was **2.28% in September**, marginally lower than the **2.33% seen in August 2025** and the **2.7% in September last year**. This is the **fifth consecutive month of slowing inflation** in this category.  
कपड़ा और जूता श्रेणी में मुद्रास्फीति सितंबर में 2.28% रही, जो अगस्त 2025 के 2.33% और पिछले वर्ष सितंबर के 2.7% से थोड़ी कम है। यह इस श्रेणी में लगातार पांचवां महीना है जब मुद्रास्फीति धीमी हुई है।
- Inflation in the **pan, tobacco and other intoxicants category**, however, quickened to **2.7% in September** from **2.5% in August**.  
हालांकि, पान, तंबाकू और अन्य मादक पदार्थ श्रेणी में मुद्रास्फीति अगस्त के 2.5% से बढ़कर सितंबर में 2.7% हो गई।
- Similarly, the **housing sector** also saw inflation quickening to **4% in September** from **3.1% in the previous month**.  
इसी तरह, आवास क्षेत्र में भी मुद्रास्फीति पिछले महीने के 3.1% से बढ़कर सितंबर में 4% हो गई।
- Economists say that the **low inflation figures**, with the **RBI's Monetary Policy Committee** revising downwards its **inflation forecast for the year** for the **fourth time in a row** during its most recent **monetary policy meeting**, raises hopes of a **rate cut in the next meeting in December**.  
अर्थशास्त्रियों का कहना है कि कम मुद्रास्फीति के आंकड़े, और RBI की मौद्रिक नीति समिति द्वारा इस वर्ष के मुद्रास्फीति अनुमान को लगातार चौथी बार घटाना, जो हालिया मौद्रिक नीति बैठक में किया गया, दिसंबर की अगली बैठक में दरों में कटौती की उम्मीदें बढ़ाता है।

## ‘Early warning systems are strategic investments’

### ‘Early warning systems are strategic investments’ ‘अर्ली वार्निंग सिस्टम रणनीतिक निवेश हैं’

#### GS III: Disaster Management

India's early warning systems are not “technological luxuries but strategic investments in resilience”, Principal Secretary to PM P.K. Mishra emphasised at the ongoing G20 ministerial meeting in Durban.

In a session on disaster risk reduction, Mr. Mishra outlined India's multi-agency architecture integrating meteorological, hydrological, seismic, and oceanographic institutions via a Common Alert Protocol-compliant Integrated Alert System, which had already issued over 109 billion alerts. He urged the G20 to strengthen interoperable regional platforms, shared data protocols, and joint capacity-building initiatives under the global ‘Early Warnings for All’ framework.

• India's **early warning systems** are not “**technological luxuries** but **strategic investments in resilience**”, **Principal Secretary to PM P.K. Mishra** emphasised at the ongoing **G20 ministerial meeting in Durban**.

भारत के अर्ली वार्निंग सिस्टम “प्रौद्योगिकी की विलासिता नहीं बल्कि लचीलापन बढ़ाने में रणनीतिक निवेश” हैं, यह बात प्रधानमंत्री के प्रधान सचिव पी.के. मिश्रा ने डरबन में चल रही जी20 मंत्री स्तरीय बैठक में कही।

• In a session on **disaster risk reduction**, Mr. Mishra outlined **India's multi-agency architecture** integrating **meteorological, hydrological, seismic, and oceanographic institutions** via a **Common Alert Protocol-compliant Integrated Alert System**, which had already issued over **109 billion alerts**.

आपदा जोखिम न्यूनीकरण पर एक सत्र में, श्री मिश्रा ने भारत की बहु-एजेंसी संरचना का विवरण दिया, जो मौसम, जलविज्ञान, भूकंपीय और महासागरीय संस्थानों को कॉमन अलर्ट प्रोटोकॉल के अनुरूप एकीकृत अलर्ट सिस्टम के माध्यम से जोड़ती है, जिसने अब तक 109 अरब से अधिक अलर्ट जारी किए हैं।

• He urged the **G20** to strengthen **interoperable regional platforms**, **shared data protocols**, and **joint capacity-building initiatives** under the global ‘**Early Warnings for All**’ framework.

उन्होंने जी20 से आग्रह किया कि वह वैश्विक ‘सभी के लिए प्रारंभिक चेतावनी’ ढांचे के तहत परस्पर कार्यशील क्षेत्रीय प्लेटफॉर्म, साझा डेटा प्रोटोकॉल, और संयुक्त क्षमता-विकास पहल को मजबूत करें।



# Snow leopards are the world's least genetically diverse big cat

A new Stanford-based study explains the implications of this phenomenon for the future of the elusive feline; researchers used whole-genome sequencing data for 37 snow leopards and concluded that the low genetic diversity is likely due to a persistently small population size

**GS III: Environment**

Divya Gandhi

**T**he snow leopard, the agile “ghost of the mountains” that inhabits the rugged ranges of 12 Asian countries, including India, has the lowest genetic diversity of any big cat species in the world, even lower than that of the dwindling cheetah.

A new study led by researchers at Stanford University, published in *Proceedings of the National Academy of Sciences* (PNAS) on October 7, explained the implications of this phenomenon.

The researchers used whole-genome sequencing data for 37 snow leopards and concluded that the low genetic diversity is, however, “likely due to a persistently small population size throughout their evolutionary history rather than recent inbreeding.”

### ‘Purging’ of mutations

This means that “mutations that could potentially cause health issues in snow leopards have been removed from the population over many generations,” lead author Katie Solari, a research scientist in biology at Stanford, told *The Hindu*.

The PNAS paper added, “We found snow leopards to have the lowest heterozygosity of any big cat species, with heterozygosity for every snow leopard sample included in this study falling lower than that observed in any other big cat.” This included cheetahs, “which have long been considered the archetype of low heterozygosity in big cats.”

The good news is that snow leopards, compared to several *Panthera* species, have a significantly lower highly deleterious homozygous load – genes inherited from the mother and father that have fewer instances of duplicated copies of potentially harmful mutations that are connected with health issues.

This, the authors said, suggests effective “purging” of bad mutations during their evolutionary history at small population sizes.

“If a negative trait surfaced, those individuals died before reproducing, or their progeny were less successful. This purging, facilitated by historic inbreeding, allowed the snow leopard population to remain relatively healthy even at their small numbers,” an article in the *Stanford Report* read.

In fact, “the inbreeding coefficient of snow leopards is significantly higher than other big cats and was even significantly lower than the Asian leopard and puma, indicating that the lower genetic diversity observed in snow leopards is not explained by higher inbreeding,” per the research paper.

Dr. Solari told *The Hindu* that the very low genetic diversity and small population sizes mean they may not be able to adapt well to future anthropogenic challenges.

### Critical to Asia's mountains

The wild feline indeed faces a long list of threats today: climate change, habitat loss, decreased availability of primary prey (mountain ungulates such as the Siberian ibex), retaliatory killings for livestock predation, and poaching for their skin. All this while climate change in Asia's high mountains threatens their future. Despite this, snow leopards, which were first listed as ‘endangered,’ were



The snow leopard is distinguished by an unusually long tail that it uses like a rudder to stay balanced as it traverses rough terrain. PUBLIC DOMAIN

controversially downlisted to ‘vulnerable’ in 2017, as they did not meet certain criteria for population size.

There are no more than 4,500 to 7,500 individuals, each critical to the Asian mountain ecosystem “that offers immense ecosystem services – acting as an important source of carbon storage and providing water to almost two billion people.”

Hearteningly, however, the international community has worked for decades to establish a sustainable zoo population: in 2008, there were 445 snow leopards across 205 institutions globally, the paper read.

The snow leopard, distinguished by an unusually long tail, which acts as a rudder to help it keep its balance as it traverses its rough terrain, happens to be the least genetically studied of all big cat species. There is, however, evidence of continuous habitat connectivity across at least 75 km in Pakistan and around 1,000 km in Mongolia, and the animal is known to cross long distances between mountain ranges, according to the study.

### ‘Very poorly studied’

As for India, a pioneering survey last year estimated that 718 snow leopards exist in the wild: 477 in Ladakh, 124 in Uttarakhand, 51 in Himachal Pradesh, 36 in Arunachal Pradesh, 21 in Sikkim, and nine in Jammu and Kashmir. The Indian snow leopard accounts for 10-15 percent of the global population.

“Of the 12 countries with wild snow leopards, India has the highest numbers after China and Mongolia. That makes

**If a negative trait surfaced, those individuals died before reproducing, or their progeny were less successful. This purging, facilitated by historic inbreeding, allowed the snow leopard population to remain relatively healthy even at their small numbers**

India one of the most important countries for the conservation of this species,” Kulbhushansingh Suryawanshi, with the India programme of the Snow Leopard Trust at the Nature Conservation Foundation (NCF), Mysore, told *The Hindu*.

He added that the genetic diversity of leopards in India “is very poorly studied ... We need to sample across the high mountains to understand the genetic diversity of snow leopards in India.”

“India’s Project Snow Leopard, dedicated to the conservation of snow leopards, and NGOs such as the NCF, have been working on snow leopard conservation for 27 years. Local community members from snow leopard habitats such as Ladakh, Jammu and Kashmir, Himachal Pradesh, Uttarakhand, Sikkim, and Arunachal are key partners in the conservation of snow leopards,” said Dr. Suryawanshi.

But the snow leopard in India is threatened by land use change and climate change, he said.

“Almost the entire snow leopard habitat in India is within 50-100 km of the

international border. Large-scale infrastructure is changing the face of this region. Climate change-induced warming and floods are impacting the wildlife of this landscape, including the snow leopards, to a large extent.”

### Maintaining integrity

Dr. Suryawanshi, who is a co-author of the paper, said the main challenge of studying snow leopards is in “getting the samples.” Bureaucratic hurdles in getting permissions to study snow leopards generally slow down research, he said.

“In addition, the timelines of funding and permissions often do not match. The Stanford study collaborated with researchers around the world, and only then were they able to put together enough samples to make an assessment of the genetic diversity of snow leopards. We need to collect a similar number of samples from within India to understand the genetic diversity of snow leopards in the country.”

On the future fate of snow leopards of the fragile high-elevation landscape of the Himalayas, “we need to treat these landscapes and the people that live here with respect,” said Dr. Suryawanshi. “The effects of rampant large infrastructure projects are clearly visible in the scale of destruction in the recurrent floods that occur every monsoon.”

Maintaining the integrity of the snow leopard’s habitat is crucial for the long-term conservation of this charismatic species of the Himalaya, Dr. Suryawanshi added.

[divya.gandhi@thehindu.co.in](mailto:divya.gandhi@thehindu.co.in)

**Snow leopards are the world's least genetically diverse big cat**



## हिम तेंदुआ दुनिया की सबसे कम आनुवंशिक विविधता वाला बड़ा बिल्ली प्रजाति है

### Snow Leopard Genetic Diversity

#### हिम तेंदुआ की आनुवंशिक विविधता

- The snow leopard, the agile “ghost of the mountains” that inhabits the rugged ranges of **12 Asian countries**, including **India**, has the **lowest genetic diversity** of any big cat species in the world, even lower than that of the dwindling **cheetah**.  
फुर्तीला “पहाड़ों का भूत” कहा जाने वाला हिम तेंदुआ, जो भारत सहित 12 एशियाई देशों के दुर्गम पर्वतीय क्षेत्रों में रहता है, दुनिया की सभी बड़ी बिल्ली प्रजातियों में सबसे कम आनुवंशिक विविधता वाला है, यहाँ तक कि घटती आबादी वाले चीतों से भी कम।
- A new study led by researchers at **Stanford University**, published in **Proceedings of the National Academy of Sciences (PNAS)** on **October 7**, explained the implications of this phenomenon.  
स्टैनफोर्ड विश्वविद्यालय के शोधकर्ताओं द्वारा की गई एक नई अध्ययन, जो 7 अक्टूबर को नेशनल एकेडमी ऑफ साइंसेज (PNAS) में प्रकाशित हुई, ने इस घटना के निहितार्थों को समझाया।
- The researchers used **whole-genome sequencing data** for **37 snow leopards** and concluded that the low genetic diversity is, however, “likely due to a **persistently small population size** throughout their evolutionary history rather than recent inbreeding.”  
शोधकर्ताओं ने 37 हिम तेंदुओं के संपूर्ण-जीनोम अनुक्रमण डेटा का उपयोग किया और निष्कर्ष निकाला कि कम आनुवंशिक विविधता का कारण हालिया इनब्रिडिंग (सगोत्री प्रजनन) नहीं बल्कि उनके विकासवादी इतिहास के दौरान लगातार छोटी आबादी है।

#### ‘Purging’ of Mutations

#### म्यूटेशनों का ‘शुद्धिकरण’

- This means that “mutations that could potentially cause health issues in snow leopards have been removed from the population over many generations,” said **lead author Katie Solari**, a research scientist in biology at Stanford.  
इसका अर्थ यह है कि “वे म्यूटेशन (अनुवंशिक परिवर्तन) जो हिम तेंदुओं में स्वास्थ्य समस्याएँ उत्पन्न कर सकते थे, उन्हें कई पीढ़ियों में उनकी आबादी से हटा दिया गया,” ऐसा कहा **मुख्य लेखिका केटी सोलारी**, स्टैनफोर्ड की जैवविज्ञान शोध वैज्ञानिक ने।
- The **PNAS paper** added, “We found snow leopards to have the **lowest heterozygosity** of any big cat species, with heterozygosity for every snow leopard sample included in this study falling lower than that observed in any other big cat.”  
**PNAS शोधपत्र** में कहा गया, “हमने पाया कि हिम तेंदुओं में किसी भी बड़ी बिल्ली प्रजाति की तुलना में सबसे कम विषमयुग्मता (heterozygosity) है; इस अध्ययन में शामिल हर हिम तेंदुआ के नमूने में यह स्तर अन्य सभी बड़ी बिल्लियों से कम पाया गया।”
- This included **cheetahs**, “which have long been considered the archetype of low heterozygosity in big cats.”  
इसमें चीतों को भी शामिल किया गया, “जिन्हें लंबे समय से बड़ी बिल्लियों में कम विषमयुग्मता का उदाहरण माना गया है।”
- The good news is that **snow leopards**, compared to several **Panthera species**, have a significantly **lower highly deleterious homozygous load** — genes inherited from the mother and father that have fewer instances of duplicated harmful mutations.  
अच्छी खबर यह है कि हिम तेंदुओं में कई पैथेरा प्रजातियों की तुलना में हानिकारक समयुग्मक जीनों का स्तर (deleterious homozygous load) काफी कम है — यानी माता और पिता से विरासत में मिले जीनों में हानिकारक म्यूटेशन के कम उदाहरण पाए गए हैं।
- This suggests effective “**purging**” of bad mutations during their evolutionary history at small population sizes.  
यह उनके विकासवादी इतिहास के दौरान छोटी आबादी में “हानिकारक म्यूटेशन के प्रभावी शुद्धिकरण” का संकेत देता है।
- “If a negative trait surfaced, those individuals died before reproducing, or their progeny were less successful. This purging, facilitated by historic inbreeding, allowed the snow leopard population to remain relatively healthy even at their small numbers,” said the **Stanford**



### Report.

“यदि कोई नकारात्मक गुण उभरा, तो वे व्यक्ति प्रजनन से पहले ही मर गए, या उनकी संतति कम सफल रही। यह शुद्धिकरण, जो ऐतिहासिक इनब्रिडिंग से संभव हुआ, ने हिम तेंदुओं की आबादी को कम संख्या के बावजूद सापेक्षतः स्वस्थ बनाए रखा,” ऐसा स्टैनफोर्ड रिपोर्ट में कहा गया।

- In fact, “the **inbreeding coefficient** of snow leopards is significantly **higher than other big cats** and was even **lower than the Asian leopard and puma**, indicating that the lower genetic diversity observed in snow leopards is not explained by higher inbreeding,” per the research paper.

वास्तव में, “हिम तेंदुओं का इनब्रिडिंग गुणांक (inbreeding coefficient) अन्य बड़ी बिल्लियों से काफी अधिक है, और एशियाई तेंदुए तथा प्यूमा से भी कम है, जो दर्शाता है कि हिम तेंदुओं में देखी गई कम आनुवंशिक विविधता का कारण अधिक इनब्रिडिंग नहीं है,” शोध पत्र के अनुसार।

- Dr. Solari told *The Hindu* that the **very low genetic diversity** and **small population sizes** mean they may not be able to **adapt well to future anthropogenic challenges**.

डॉ. सोलारी ने द हिंदू को बताया कि बहुत कम आनुवंशिक विविधता और छोटी आबादी का अर्थ है कि वे भविष्य में आने वाली मानव-जनित चुनौतियों के प्रति अच्छी तरह अनुकूल नहीं हो पाएँगे।

### Critical to Asia's Mountains

#### एशिया के पर्वतों के लिए अत्यंत महत्वपूर्ण

- The wild feline indeed faces a long list of **threats** today: **climate change**, **habitat loss**, decreased availability of **primary prey** (mountain ungulates such as the **Siberian ibex**), **retaliatory killings** for livestock predation, and **poaching** for their skin.  
यह जंगली बिल्ली वास्तव में आज कई खतरों का सामना कर रही है: **जलवायु परिवर्तन**, **आवास हानि**, **मुख्य शिकार** (जैसे साइबेरियन आइबेक्स) की घटती उपलब्धता, पशुधन पर हमलों के कारण **प्रतिशोधात्मक हत्या**, और उनकी **खाल के लिए शिकार**।

- All this while **climate change** in Asia's high mountains threatens their **future**.  
इन सबके बीच, एशिया के **ऊँचे पर्वतीय क्षेत्रों में जलवायु परिवर्तन** उनके **भविष्य** को खतरे में डाल रहा है।

- Despite this, snow leopards, which were first listed as **'endangered'**, were controversially **downlisted to 'vulnerable' in 2017**, as they did not meet certain criteria for population size. इसके बावजूद, हिम तेंदुओं को जो पहले **'लुप्तप्राय' (Endangered)** के रूप में सूचीबद्ध थे, **2017 में विवादास्पद रूप से 'असुरक्षित' (Vulnerable)** श्रेणी में रखा गया, क्योंकि वे जनसंख्या के कुछ मानदंडों को पूरा नहीं करते थे।

- There are **no more than 4,500 to 7,500 individuals**, each critical to the **Asian mountain ecosystem**, which offers **immense ecosystem services** — acting as a **carbon storage source** and **providing water to nearly two billion people**.

**4,500 से 7,500 से अधिक हिम तेंदुए नहीं बचे हैं**, और प्रत्येक एशियाई पर्वतीय पारिस्थितिकी तंत्र के लिए अत्यंत महत्वपूर्ण है, जो **कार्बन भंडारण** और **लगभग दो अरब लोगों को पानी उपलब्ध कराने** जैसी **अमूल्य पारिस्थितिक सेवाएँ** प्रदान करता है।

- Hearteningly, the **international community** has worked for decades to establish a **sustainable zoo population**: in **2008**, there were **445 snow leopards across 205 institutions globally**, the paper read.

उत्साहजनक बात यह है कि **अंतरराष्ट्रीय समुदाय** ने दशकों से एक **सतत चिड़ियाघर जनसंख्या** स्थापित करने के लिए काम किया है: **2008** में, दुनिया भर के **205 संस्थानों में 445 हिम तेंदुए** थे, शोधपत्र के अनुसार।

### Physical and Genetic Characteristics

#### भौतिक और आनुवंशिक विशेषताएँ

- The snow leopard, distinguished by an **unusually long tail**, uses it as a **rudder for balance** in rough terrain and happens to be the **least genetically studied big cat** species.

हिम तेंदुआ अपनी **असामान्य रूप से लंबी पूँछ** से पहचाना जाता है, जो उसे दुर्गम इलाकों में **संतुलन बनाए रखने में मदद करती है**, और यह सभी बड़ी बिल्ली प्रजातियों में **सबसे कम आनुवंशिक रूप से अध्ययन की गई प्रजाति** है।

- There is evidence of **continuous habitat connectivity** across at least **75 km in Pakistan** and about **1,000 km in Mongolia**, and the animal is known to **cross long distances** between mountain ranges.



कम से कम 75 किमी (पाकिस्तान) और लगभग 1,000 किमी (मंगोलिया) तक आवास की निरंतर कनेक्टिविटी के प्रमाण मिले हैं, और यह जानवर पर्वत श्रृंखलाओं के बीच लंबी दूरी तय करने के लिए जाना जाता है।

## ‘Very Poorly Studied’ in India भारत में ‘बहुत कम अध्ययन किया गया’

- A pioneering survey last year estimated **718 snow leopards** in the wild in India: **477 in Ladakh, 124 in Uttarakhand, 51 in Himachal Pradesh, 36 in Arunachal Pradesh, 21 in Sikkim, and 9 in Jammu & Kashmir.**  
पिछले वर्ष के एक अग्रणी सर्वेक्षण ने अनुमान लगाया कि भारत में जंगली में **718 हिम तेंदुए** हैं: **लद्दाख में 477, उत्तराखंड में 124, हिमाचल प्रदेश में 51, अरुणाचल प्रदेश में 36, सिक्किम में 21, और जम्मू-कश्मीर में 9।**
- The Indian snow leopard population accounts for **10–15% of the global population.**  
**भारतीय हिम तेंदुआ जनसंख्या** विश्व की कुल जनसंख्या का **10–15%** हिस्सा है।
- “Of the **12 countries** with wild snow leopards, **India has the highest numbers after China and Mongolia.** That makes India one of the **most important countries for conservation,**” said **Kulbushansingh Suryawanshi** from the **Snow Leopard Trust, NCF Mysore.**  
“**12 देशों** में जहाँ जंगली हिम तेंदुए पाए जाते हैं, उनमें **भारत की संख्या चीन और मंगोलिया के बाद सबसे अधिक है।** इससे भारत इस प्रजाति के **संरक्षण के लिए सबसे महत्वपूर्ण देशों में से एक बनता है,**” ऐसा कहा **कुलभूषणसिंह सूर्यवंशी, स्नो लेपर्ड ट्रस्ट (NCF मैसूर)** से।
- He added that the **genetic diversity** of leopards in India “is **very poorly studied... We need to sample across high mountains** to understand it.”  
उन्होंने कहा कि भारत में तेंदुओं की **आनुवंशिक विविधता “बहुत कम अध्ययन की गई है... इसे समझने के लिए हमें उच्च पर्वतीय क्षेत्रों से नमूने एकत्र करने होंगे।”**

## Conservation Efforts in India भारत में संरक्षण प्रयास

- “**India’s Project Snow Leopard,** and NGOs such as the **NCF,** have been working on conservation for **27 years.** Local communities from **Ladakh, Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Sikkim, and Arunachal Pradesh** are key partners in these efforts,” said Dr. Suryawanshi.  
“**भारत का प्रोजेक्ट स्नो लेपर्ड और NCF जैसी गैर-सरकारी संस्थाएँ** पिछले **27 वर्षों** से संरक्षण कार्य में लगी हैं। **लद्दाख, जम्मू-कश्मीर, हिमाचल, उत्तराखंड, सिक्किम और अरुणाचल प्रदेश** के स्थानीय समुदाय इस संरक्षण कार्य में **महत्वपूर्ण भागीदार हैं,**” डॉ. सूर्यवंशी ने कहा।
- But the snow leopard in India is **threatened by land use change and climate change.**  
लेकिन भारत में हिम तेंदुआ **भूमि उपयोग में परिवर्तन और जलवायु परिवर्तन** के कारण खतरे में है।
- “Almost the entire snow leopard habitat in India lies within **50–100 km of the international border.** **Large-scale infrastructure projects** are altering this region. **Climate change-induced warming and floods** are severely affecting the wildlife, including snow leopards.”  
“भारत में लगभग पूरा हिम तेंदुआ आवास **अंतरराष्ट्रीय सीमा से 50–100 किमी** के भीतर है। **बड़े पैमाने पर बुनियादी ढांचा परियोजनाएँ** इस क्षेत्र को बदल रही हैं। **जलवायु परिवर्तन से प्रेरित ताप वृद्धि और बाढ़ें** वन्यजीवों, विशेष रूप से हिम तेंदुओं, को गंभीर रूप से प्रभावित कर रही हैं।”

## Maintaining Integrity अखंडता बनाए रखना

- The main challenge of studying snow leopards lies in **obtaining samples,** said Dr. Suryawanshi, who is a **co-author** of the study.  
अध्ययन के **सह-लेखक डॉ. सूर्यवंशी** ने कहा कि हिम तेंदुओं पर अध्ययन का **मुख्य चुनौती नमूने प्राप्त करना** है।
- **Bureaucratic hurdles** in getting research permissions slow down the work, and **funding timelines** often do not align with approval processes.



शोध की अनुमति प्राप्त करने में आने वाली नौकरशाही बाधाएँ कार्य को धीमा करती हैं, और वित्त पोषण की समयसीमा अक्सर अनुमति प्रक्रिया से मेल नहीं खाती।

- The **Stanford study** succeeded only because of **global collaboration**, which helped collect **enough samples** to assess **genetic diversity**.  
स्टैनफोर्ड अध्ययन केवल वैश्विक सहयोग के कारण सफल हो सका, जिसने पर्याप्त नमूने एकत्र करने और आनुवंशिक विविधता का आकलन करने में मदद की।
- “We need to collect a similar number of samples from within India to understand the genetic diversity of snow leopards,” he said.  
“हमें भारत से भी इतने ही नमूने एकत्र करने की आवश्यकता है ताकि हिम तेंदुओं की आनुवंशिक विविधता को समझा जा सके,” उन्होंने कहा।
- On the **future of snow leopards** in the fragile **Himalayan landscape**, he emphasized that we must **treat both the landscapes and local people with respect**.  
हिमालय के नाजुक परिदृश्य में हिम तेंदुओं के भविष्य पर बात करते हुए, उन्होंने जोर दिया कि हमें इन परिदृश्यों और वहाँ रहने वाले लोगों का सम्मानपूर्वक व्यवहार करना चाहिए।
- “The effects of **large infrastructure projects** are visible in the **scale of destruction** caused by recurrent **monsoon floods**,” he said.  
“बड़े बुनियादी ढांचा परियोजनाओं के प्रभाव बार-बार आने वाली मानसूनी बाढ़ों से हुए विनाश के पैमाने में स्पष्ट रूप से देखे जा सकते हैं,” उन्होंने कहा।
- Maintaining the **integrity of the snow leopard’s habitat** is **crucial for the long-term conservation** of this **charismatic Himalayan species**, Dr. Suryawanshi added.  
हिमालय की इस आकर्षक प्रजाति के दीर्घकालिक संरक्षण के लिए हिम तेंदुए के आवास की अखंडता बनाए रखना अत्यंत आवश्यक है, डॉ. सूर्यवंशी ने कहा।

PATRIOTICIAS



## Arctic seals, birds in new 'red list' of endangered species: IUCN

**GS III: Environment**  
Agence France Presse

**A**rctic seals and birds are coming under increasing threat, mainly due to climate change and human activity, according to an updated list of endangered species released Friday by the world's top conservation body.

The International Union for Conservation of Nature (IUCN) said habitat loss driven by logging and agricultural expansion is a threat to birds. At the same time, seals were at risk mostly due to global warming and human activities, including maritime traffic.

The IUCN said it was changing the status of the hooded seal from vulnerable to endangered while bearded and harp seals are now classified as near threatened.

"This timely global update highlights the ever increasing impact human activity is having on nature and the climate and the devastating effects this has," its director general Gretel Aguilar told reporters at its World Conservation Congress in Abu Dhabi.

The IUCN red list now includes "172,620 species of which 48,646 are threatened with extinction," it said in a statement.

Global warming is destroying the natural habitat of animals including seals that live in the cold parts of the world. Maritime traffic, mining and oil extraction, industrial fishing and hunting are among other risks to the species.

"Global warming is occurring four times faster in the Arctic than in other regions, which is drastically reducing the extent and duration of sea ice cover," the IUCN said.

"Ice-dependent seals are a key food source for other animals," it added.

They "play a central role in the food web, consuming fish and invertebrates and recycling nutrients" and are one of the "keystone species" of their ecosystem.

Kit Kovacs, a scientist at the Norwegian Polar Institute, raised the alarm about the Svalbard archipelago, halfway between Norway and the North Pole.

### Habitat loss is a threat to birds. At the same time, seals were at risk mostly due to global warming and human activities

"When I lived on the archipelago, just a couple of decades ago, we had five months of sea ice cover in areas that are now winter ice-free. It is really hard to express just how rapidly the Arctic is changing," she said.

The IUCN said its red list of birds is the fruit of nine years of work by "thousands of experts".

"Overall, 61% of bird species have declining populations – an estimate that has increased from 44 percent in 2016," the IUCN said.

It studied thousands of bird species worldwide and found that "1,256 (or 11.5%) of the 11,185 species assessed are globally threatened".

This year's update focused on regions where the destruction of tropical forest poses a growing threat to birds. In Madagascar, 14 species were newly classified as near threatened and three others were labelled vulnerable. In West Africa, five more bird species were found to be near threatened in addition to one more in Central America.

The report also mentioned a positive development. The green turtle is no longer endangered, it said, citing "decades of sustained conservation action" that saw its population recover by 28% since the 1970s.

Nicolas Pilcher, the Executive Director of the Marine Research Foundation, said this success should spur action not complacency.

"Just because we have reached this great step in conservation isn't a reason to sit back and then become complacent," he said.

logging and agricultural expansion is a threat to birds.

अंतरराष्ट्रीय प्रकृति संरक्षण संघ (IUCN) ने कहा कि वन कटाई (logging) और कृषि विस्तार के कारण आवास का नुकसान पक्षियों के लिए खतरा बन गया है।

**Arctic seals, birds in new 'red list' of endangered species: IUCN**  
आर्कटिक सील और पक्षी नई 'रेड लिस्ट' में शामिल: IUCN

**Arctic seals and birds in new 'red list' of endangered species: IUCN**  
लुप्तप्राय प्रजातियों की नई 'रेड लिस्ट' में आर्कटिक सील और पक्षी: IUCN

- Arctic seals and birds are coming under increasing threat, mainly due to **climate change** and **human activity**, according to an updated list of endangered species released on **Friday** by the world's top conservation body.

आर्कटिक सील और पक्षी बढ़ते खतरे का सामना कर रहे हैं, मुख्यतः जलवायु परिवर्तन और मानव गतिविधियों के कारण, जैसा कि शुक्रवार को दुनिया की शीर्ष संरक्षण संस्था द्वारा जारी लुप्तप्राय प्रजातियों की अद्यतन सूची में बताया गया।

- The **International Union for Conservation of Nature (IUCN)** said habitat loss driven by



- At the same time, seals were at risk mostly due to **global warming** and **human activities**, including **maritime traffic**.  
साथ ही, सील मुख्य रूप से वैश्विक ऊष्मीकरण और मानव गतिविधियों जैसे समुद्री यातायात (**maritime traffic**) के कारण खतरे में हैं।
- The IUCN said it was changing the status of the **hooded seal** from **vulnerable** to **endangered**, while **bearded** and **harp seals** are now classified as **near threatened**.  
IUCN ने कहा कि **हुडेड सील** की स्थिति को **असुरक्षित (vulnerable)** से बदलकर **लुप्तप्राय (endangered)** किया गया है, जबकि **बीअर्डेड** और **हार्प सील्स** को अब **निकट संकटग्रस्त (near threatened)** के रूप में वर्गीकृत किया गया है।
- “This timely global update highlights the ever increasing impact human activity is having on **nature** and the **climate** and the **devastating effects** this has,” said **Director General Grethel Aguilar** at the **World Conservation Congress in Abu Dhabi**.  
“यह समयानुकूल वैश्विक अद्यतन दिखाता है कि **प्रकृति और जलवायु** पर **मानव गतिविधियों** का बढ़ता प्रभाव और इसके **विनाशकारी परिणाम** कितने गंभीर हैं,” ऐसा कहा **महानिदेशक ग्रेथेल एगुइलर** ने **अबू धाबी में विश्व संरक्षण सम्मेलन** में।
- The IUCN red list now includes **172,620 species**, of which **48,646** are **threatened with extinction**, it said in a statement.  
IUCN की रेड लिस्ट में अब **1,72,620 प्रजातियाँ** शामिल हैं, जिनमें से **48,646 प्रजातियाँ विलुप्ति के खतरे में** हैं, ऐसा बयान में कहा गया।
- **Global warming** is destroying the **natural habitat** of animals including **seals** that live in **cold regions**.  
**वैश्विक ऊष्मीकरण ठंडे क्षेत्रों** में रहने वाले जानवरों, जैसे कि **सील**, के **प्राकृतिक आवासों** को नष्ट कर रहा है।
- **Maritime traffic, mining, oil extraction, industrial fishing, and hunting** are among other risks to the species.  
**समुद्री यातायात, खनन, तेल निष्कर्षण, औद्योगिक मत्स्य पालन, और शिकार** भी इन प्रजातियों के लिए अन्य जोखिम हैं।
- “**Global warming** is occurring **four times faster in the Arctic** than in other regions, drastically reducing the **extent and duration of sea ice cover**,” the IUCN said.  
IUCN ने कहा कि “**आर्कटिक क्षेत्र** में **वैश्विक ऊष्मीकरण** अन्य क्षेत्रों की तुलना में **चार गुना तेज़ी** से हो रहा है, जिससे **समुद्री बर्फ की परत की सीमा और अवधि** में भारी कमी आई है।”
- “**Ice-dependent seals** are a key food source for other animals,” it added.  
“**बर्फ पर निर्भर सील्स** अन्य जानवरों के लिए एक प्रमुख **खाद्य स्रोत** हैं,” उसने जोड़ा।
- They “play a **central role in the food web**, consuming fish and invertebrates and recycling nutrients” and are one of the **keystone species** of their ecosystem.  
वे “**मछलियाँ और अकशरुकी जीव** खाकर और **पोषक तत्वों को पुनर्चक्रित** करके **खाद्य जाल (food web)** में **केंद्रीय भूमिका** निभाते हैं” और अपने पारिस्थितिकी तंत्र की **मुख्य प्रजातियों (keystone species)** में से एक हैं।
- **Kit Kovacs**, a scientist at the **Norwegian Polar Institute**, raised the alarm about the **Svalbard archipelago**, halfway between **Norway and the North Pole**.  
**नॉर्वेजियन पोलर इंस्टीट्यूट** की वैज्ञानिक **किट कोवाक्स** ने **नॉर्वे और उत्तरी ध्रुव** के बीच स्थित **स्वालबार्ड द्वीपसमूह** के बारे में चेतावनी दी।
- “When I lived on the archipelago, just a couple of decades ago, we had **five months of sea ice cover** in areas that are now **winter ice-free**. It is really hard to express just how rapidly the Arctic is changing,” she said.  
“कुछ दशक पहले जब मैं इस द्वीपसमूह में रहती थी, तब यहाँ **पाँच महीने तक समुद्री बर्फ की परत** रहती थी, लेकिन अब वे क्षेत्र **सर्दियों में भी बर्फ-मुक्त (ice-free)** हो गए हैं। यह बताना मुश्किल है कि **आर्कटिक कितनी तेज़ी से बदल रहा है**,” उन्होंने कहा।
- The IUCN said its **red list of birds** is the result of **nine years of work** by “**thousands of experts**.”  
IUCN ने कहा कि उसकी **पक्षियों की रेड लिस्ट** “**हजारों विशेषज्ञों**” के **नौ वर्षों के कार्य** का परिणाम है।
- “Overall, **61% of bird species** have **declining populations** — an estimate that has increased from **44% in 2016**,” the IUCN said.  
“कुल मिलाकर, **61% पक्षी प्रजातियों की जनसंख्या घट रही है**, जो **2016 के 44%** से बढ़ी है,” IUCN ने कहा।



- It studied thousands of bird species worldwide and found that **1,256 (11.5%) of 11,185 species** assessed are **globally threatened**.  
इसने विश्वभर की हजारों पक्षी प्रजातियों का अध्ययन किया और पाया कि **11,185 प्रजातियों में से 1,256 (11.5%) वैश्विक स्तर पर संकटग्रस्त हैं।**
- This year's update focused on regions where the **destruction of tropical forests** poses a growing threat to birds.  
इस वर्ष के अद्यतन ने उन क्षेत्रों पर ध्यान केंद्रित किया जहाँ **उष्णकटिबंधीय वनों का विनाश** पक्षियों के लिए बढ़ता खतरा है।
- In **Madagascar**, **14 species** were newly classified as **near threatened**, and **three others** were labeled **vulnerable**.  
**मेडागास्कर में 14 प्रजातियों को निकट संकटग्रस्त (near threatened) और तीन प्रजातियों को असुरक्षित (vulnerable) के रूप में वर्गीकृत किया गया।**
- In **West Africa**, **five more bird species** were found to be **near threatened**, along with **one more in Central America**.  
**पश्चिम अफ्रीका में पाँच और पक्षी प्रजातियाँ निकट संकटग्रस्त पाई गईं, जबकि मध्य अमेरिका में एक और प्रजाति को इसी श्रेणी में जोड़ा गया।**
- The report also mentioned a **positive development** — the **green turtle is no longer endangered**, citing **decades of sustained conservation action** that led to a **28% population recovery** since the **1970s**.  
रिपोर्ट ने एक **सकारात्मक विकास** का भी उल्लेख किया — **ग्रीन टर्टल (हरा कछुआ)** अब **लुप्तप्राय नहीं रहा**, और इसका श्रेय **1970 के दशक से चली आ रही संरक्षण कार्रवाइयों** को दिया गया, जिससे उसकी **जनसंख्या में 28% वृद्धि हुई है।**
- **Nicolas Pilcher**, Executive Director of the **Marine Research Foundation**, said this success should **spur action**, not **complacency**.  
**मरीन रिसर्च फाउंडेशन के कार्यकारी निदेशक निकोलस पिल्चर ने कहा कि यह सफलता कार्रवाई को प्रेरित करनी चाहिए, आलस्य (complacency) को नहीं।**
- "Just because we have reached this great step in conservation isn't a reason to sit back and then become complacent," he said.  
"सिर्फ इसलिए कि हमने संरक्षण में यह बड़ी उपलब्धि हासिल की है, इसका मतलब यह नहीं कि हम **आराम से बैठ जाएँ और आत्मसंतुष्ट हो जाएँ**," उन्होंने कहा।



TELEGRAM CHANNEL: <https://t.me/patrioticIAS>

YOUTUBE CHANNEL: <https://www.youtube.com/@PatrioticIAS>

CONTACT: 9971932488



performance from being eligible for setting or breaking a record because, beyond this speed, the wind provides a measurable aerodynamic advantage. The performance itself is logged as valid, however. What's the value of Y?

Answers to October 9 quiz:

1. Compound that donates phosphate group to ADP - Ans: **PEP**

2. Expanded form of TOT - Ans: **Turnover time**

3. Formula for nitrogen atoms joined by a double bond - Ans: **N<sub>2</sub>N**

4. Expanded form of radar - Ans: **Radio detection and ranging**

5. Long, narrow craft propelled by paddles - Ans: **Kayak**

Visual: **Wow!**

First contact: K.N. Viswanathan |  
Tamal Biswas | Anmol Agrawal |  
Deepak Gogiya

## QUIZ

### Compound that Donates Phosphate Group to ADP – PEP (Phosphoenolpyruvate)

Basic Concept: PEP Donating Phosphate to ADP

- Phosphoenolpyruvate (PEP) is a **high-energy compound** formed during the **glycolytic pathway**.
- In the **final step of glycolysis**, PEP donates its phosphate group to **ADP** to form **ATP**, while PEP itself converts into **pyruvate**.
- This reaction is catalyzed by the enzyme **Pyruvate Kinase**.
- The process is an example of **substrate-level phosphorylation**, meaning ATP is generated directly from a high-energy substrate without involving the electron transport chain.

Reaction Equation



- **Enzyme:** Pyruvate kinase
- **Type of reaction:** Substrate-level phosphorylation
- **Energy change:** Highly exergonic ( $\Delta G^\circ \approx -61.9 \text{ kJ/mol}$ )
- The large negative free energy ensures that this step proceeds **irreversibly** in the direction of ATP formation.

### Why PEP Has High Phosphoryl Transfer Potential

- PEP contains a **high-energy enol phosphate bond**.
- When this bond breaks, the resulting **pyruvate** undergoes **tautomerization** from the **enol** form to the more stable **keto** form, releasing a large amount of free energy.
- This energy makes it capable of phosphorylating ADP to ATP.

### Role of Pyruvate Kinase

- **Pyruvate kinase** catalyzes the transfer of the phosphate group from PEP to ADP.
- It ensures the **final generation of ATP** in glycolysis.
- It exists in different **isoforms** in various tissues (e.g., liver, muscle, brain).
- It is an important **regulatory enzyme** in carbohydrate metabolism.

### Regulation of Pyruvate Kinase

- **Activated by:**
  - **Fructose-1,6-bisphosphate (F1,6BP)** – a glycolytic intermediate that activates pyruvate kinase through **feed-forward regulation**.
- **Inhibited by:**
  - **ATP** – indicates that energy levels are sufficient.
  - **Alanine** – signals that building blocks for biosynthesis are abundant
- **Hormonal control (in liver):**
  - **Glucagon** activates phosphorylation of pyruvate kinase → inactivates enzyme → slows glycolysis during fasting.
  - **Insulin** promotes dephosphorylation → activates enzyme → enhances glycolysis in fed state.



## Significance of the Reaction

- This step is one of the **two ATP-yielding steps in glycolysis**.
- It is **irreversible**, helping to drive glycolysis forward.
- The **pyruvate** formed enters the **mitochondrial matrix** (in aerobic conditions) for **oxidative decarboxylation** to **acetyl-CoA**, which then enters the **TCA cycle**.
- In **anaerobic conditions**, pyruvate is converted into **lactate** (in animals) or **ethanol and CO<sub>2</sub>** (in yeast).

## Meaning & Definition of Turnover Time

- **Turnover Time (TOT)** refers to the average time it takes for a **pool** of molecules (or a pool of substrate) to be **replaced** (i.e. turned over) through processes of production and consumption.
- In biochemical contexts, **turnover time** is often defined as:  

$$\tau = \frac{\text{Pool Size (P)}}{\text{Flux or Rate of Usage (v)}}$$

$$\tau = \frac{\text{Pool Size (P)}}{\text{Flux or Rate of Usage (v)}}$$
 In steady state, the rate of formation = rate of usage =  $v$ , so turnover time is pool size divided by flux.
- Essentially, turnover time is like the **average “residence time”** of a molecule in a metabolic pool before it is transformed or removed.

## Why It Matters & Key Concepts

- Turnover time helps us understand **how fast** metabolic intermediates are being cycled in a cell.
- Short turnover times imply that molecules are very dynamic — they’re made and used quickly.
- Long turnover times imply slower cycling or more stable pools.
- It links with metabolic flux (how much material passes through a pathway per unit time) and pool sizes (concentrations of intermediates).
- This concept is applicable in many areas: metabolism, signaling, turnover of proteins/RNAs, ecological turnover, etc.

## Illustrative Example (Metabolism / Cellular Pools)

- Suppose a metabolite pool in a cell has **concentration** such that the pool size is  $P$ .
- The flux through that metabolite (i.e. how many moles per second are used or produced) is  $v$ .
- Then turnover time  $\tau = \frac{P}{v}$   
 For instance, if  $P = 10 \text{ mM}$  and flux  $v = 2 \text{ mM/s}$ ,  
 $\tau = \frac{10}{2} = 5 \text{ seconds}$   
 Meaning on average the pool is turned over in 5 seconds.
- In plant metabolism (e.g. **Arabidopsis**), many central metabolic intermediates have turnover times on the **order of seconds or less**.
- In bacteria, many amino acid or metabolite pools are turned over in under a minute.

## Relation to Enzyme Kinetics & Catalysis

- Although “turnover time” is conceptually different from **turnover number ( $k_{cat}$ )** in enzyme kinetics, they are related by how fast molecules are processed.
- **Turnover number ( $k_{cat}$ )** is the maximum number of substrate molecules one enzyme active site converts to product per unit time.
- Turnover time is about the entire pool of substrate, not just per enzyme.



## Formula for Nitrogen Atoms Joined by a Double Bond – $N_2N$

### Understanding the Bonding in Nitrogen Molecules

- **Nitrogen Molecule ( $N_2$ ):** The nitrogen molecule ( $N_2$ ) consists of **two nitrogen atoms bonded together**.
- **Bond Type:** The bond between the two nitrogen atoms in  $N_2$  is a **triple covalent bond**, not a double bond.
  - **Three pairs of electrons** are shared between the two nitrogen atoms.
  - Each nitrogen atom contributes three electrons, resulting in a total of six shared electrons.
- **Electron Configuration:**
  - Each nitrogen atom has **five valence electrons**.
  - To achieve a **stable octet**, they share three pairs of electrons, forming a **triple bond**.
  - This bonding satisfies the **octet rule** for both nitrogen atoms.
- **Bond Representation:**
  - The triple bond is represented as  **$N \equiv N$** , where the three lines between the nitrogen atoms indicate the sharing of three pairs of electrons.
- **Bond Strength:**
  - **Triple bonds** are stronger than single or double bonds due to the greater number of shared electrons.
  - The nitrogen-nitrogen **triple bond** in  $N_2$  is one of the **strongest bonds** known.

### Applications and Importance

- **Atmospheric Composition:**  $N_2$  makes up about **78% of Earth's atmosphere** and is relatively inert due to the strength of the triple bond.
- **Industrial Relevance:** The strong triple bond in  $N_2$  makes it challenging to break apart, which is why **nitrogen fixation** processes are necessary to convert atmospheric nitrogen into forms usable by plants and animals.
- **Chemical Reactions:** Understanding the bonding in  $N_2$  is crucial for various chemical reactions, including those in **fertilizers and explosives**.

## Expanded Form of RADAR – Radio Detection and Ranging

### Introduction to RADAR

- **Definition:** RADAR stands for **Radio Detection and Ranging**. It is a technology that uses **radio waves** to detect and determine the distance, angle, and velocity of objects.
- **Origin:** The term "RADAR" was coined in **1940** by the United States Navy as an acronym for "Radio Detection and Ranging".
- **Functionality:** RADAR systems emit radio waves, which travel through the air and reflect off objects. The system then analyzes the reflected waves (echoes) to gather information about the object's location and movement.

### Working Principle of RADAR

- **Transmission:** A RADAR system transmits a pulse of radio waves through an antenna.
- **Reflection:** These waves travel until they encounter an object, such as an aircraft, ship, or precipitation particles, causing the waves to reflect back toward the RADAR system.
- **Reception:** The RADAR antenna receives the reflected waves, and the system processes the time it took for the waves to return.



**TELEGRAM CHANNEL:** <https://t.me/patrioticIAS>

**YOUTUBE CHANNEL:** <https://www.youtube.com/@PatrioticIAS>

**CONTACT: 9971932488**



- **Analysis:** By calculating the time delay, the system determines the distance to the object. Additionally, the frequency shift of the reflected waves can provide information about the object's speed (Doppler effect).

### Components of a RADAR System

- **Transmitter:** Generates the radio frequency (RF) pulses.
- **Antenna:** Directs the RF pulses and receives the reflected signals.
- **Receiver:** Detects the reflected signals and converts them into a usable form.
- **Signal Processor:** Analyzes the received signals to extract information about the object.
- **Display:** Presents the processed information, often in the form of a visual display showing the object's position and movement.

### Applications of RADAR

- **Weather Monitoring:** RADAR is extensively used in meteorology to detect precipitation, monitor storms, and study atmospheric conditions.
- **Aviation:** Air traffic control relies on RADAR to track aircraft positions and ensure safe distances between flights.
- **Maritime Navigation:** Ships use RADAR to detect other vessels, navigate safely, and avoid collisions.
- **Military:** RADAR systems are employed for surveillance, target tracking, and missile guidance.
- **Automotive:** Modern vehicles use RADAR for adaptive cruise control and collision avoidance systems.

### Advantages of RADAR

- **All-Weather Capability:** RADAR systems can operate in various weather conditions, including fog, rain, and snow.
- **Long-Range Detection:** RADAR can detect objects at significant distances, making it suitable for early warning systems.
- **Speed Measurement:** The Doppler effect allows RADAR to measure the speed of moving objects.
- **Penetration Ability:** Certain RADAR systems can penetrate through obstacles like clouds or ground surfaces, depending on the frequency used.

## Long, Narrow Craft Propelled by Paddles – Kayak

### Introduction to Kayak

- **Definition:** A **kayak** is a small, narrow watercraft that is **propelled by a double-bladed paddle**. It is designed for speed, maneuverability, and stability in various water conditions.
- **Origin:** Kayaks were originally developed by the **Indigenous peoples of the Arctic regions**, particularly the Inuit, for hunting and transportation.
- **Construction:** Traditional kayaks were made from **wooden frames covered with animal skins**, while modern kayaks are built from **plastic, fiberglass, or composite materials**.

### Structure and Features

- **Length and Shape:** Kayaks are **long and narrow**, which allows for **efficient movement through water** and better speed.
- **Seating:** The paddler sits **inside a cockpit**, often with **legs extended forward**.
- **Paddle:** A **double-bladed paddle** is used to propel the kayak by alternating strokes on either side.



**TELEGRAM CHANNEL:** <https://t.me/patrioticIAS>

**YOUTUBE CHANNEL:** <https://www.youtube.com/@PatrioticIAS>

**CONTACT: 9971932488**



- **Stability:** Despite being narrow, the **design ensures balance**, and skilled paddlers can navigate through turbulent water.
- **Types:**
  - **Recreational Kayaks:** Suitable for calm waters and beginners.
  - **Sea Kayaks:** Long and designed for open water and long-distance travel.
  - **Whitewater Kayaks:** Short and agile, built for rapids and turbulent rivers.

### Uses and Applications

- **Transportation:** Traditionally used by Arctic indigenous communities for hunting **seals and fishing**.
- **Sports and Recreation:** Kayaking is popular in **adventure sports**, including **whitewater rafting, sea kayaking, and kayak racing**.
- **Tourism:** Kayaks are widely used in rivers, lakes, and coastal areas for **eco-tourism and water-based excursions**.
- **Rescue Operations:** Kayaks are sometimes used in **flood or emergency rescue operations** due to their portability and maneuverability.

### Advantages of Kayaks

- **Portability:** Lightweight and easy to transport.
- **Low Environmental Impact:** Silent and eco-friendly compared to motorized boats.
- **Fitness Benefits:** Paddling strengthens **arms, shoulders, back, and core muscles**.
- **Accessibility:** Available in different sizes and designs for all skill levels.



# Estimating India's potential growth rate

## GS III: Economy

Several authors, including us, have argued that a growth rate of 6.5% appears to be the potential growth rate of India as of now. But the first quarter growth rate of 2025-26 is estimated at 7.8%. Does this alter our perception about the potential growth rate?

The first quarter real GDP growth in the post-COVID-19 years, from 2022-23 to 2024-25, has averaged 9.9% as compared to corresponding average levels of the second, third and fourth quarters of 7.0%, 6.9% and 7.5%. Thus, a 7.8% real GDP growth in the first quarter of 2025-26 is below the average for the first quarter of the previous three years. The annual real GDP growth rates for 2022-23 to 2024-25 were at 7.6%, 9.2% and 6.5%, respectively.

On the output side, real GVA growth in the first quarter of 2025-26 was 7.6%. This was also lower than the corresponding average GVA growth of 9.5% in the previous three years. The GVA growth in the first quarter of 2025-26 was largely based on improvements in the growth rates of manufacturing and the three important services sectors. It was mainly in manufacturing that the first quarter 2025-26 growth at 7.7% was higher than average first quarter growth for the previous three years at 5.8%.

### Potential growth rate and ICOR

We may note that in the three important service sectors – namely trade, transport and others, financial, real estate and others, and public administration and others, growth rates in the first quarter of 2025-26 were quite high at 8.6%, 9.5% and 9.8%. But these were still lower than their corresponding averages in the previous three years at 12.9%, 11.3% and 13.1%, respectively. An increase in potential growth rate would require a sustained increase in growth in all these sectors. It is also important to note that the real gross fixed capital formation rate (GFCFR) in the first quarter was nearly the same in 2023-24, 2024-25 and 2025-26 at 34.5%, 34.6% and 34.6%, respectively. Thus, there is no structural break.

The estimation of 6.5% as potential growth rate in our article, "Potential growth stays at 6.5%"



**C. Rangarajan**

is Chairman, Madras School of Economics, and former Governor, Reserve Bank of India



**D.K. Srivastava**

is Honorary Professor, Madras School of Economics, and Member, Advisory Council to the Sixteenth Finance Commission

Positive and negative forces may balance themselves out, leaving a figure that is close to 6.5%

(The Hindu-BusinessLine, July 4, 2025) is based on the behaviour of GFCFR and Incremental Capital-Output Ratio (ICOR). While the GFCFR does not fluctuate too much, the ICOR is very volatile. The probable reason is that it is not estimated independently. It is derived from dividing the real GFCFR by real GDP growth rate. Thus, the fluctuations in growth get reflected in the ICOR. It is notable that the real GFCFR has been stable at 33.6%, 33.5%, and 33.7% of GDP during 2022-23, 2023-24 and 2024-25, respectively. Using an average ICOR on the GFCFR, the potential growth rate may be derived. With the GFCFR remaining at an average of 33.6% and an ICOR of 5.2, the potential growth rate remains at around 6.5%. For potential growth to rise above this level, it is important that the GFCFR improves tangibly above this average level for the previous three years or the ICOR falls below 5.2.

It may be noted that growth rates and the ICOR have been volatile in recent years because of the COVID-19 pandemic and subsequent adjustments. In estimating India's potential growth rate, one has to look at its performance over a much longer period. India's real GDP growth rate during 2011-12 to 2023-24 averaged 6.1%. In assessing a country's growth potential one may have to give greater weight to recent performance.

### On public sector investment

The ICOR is a reflection of how efficiently capital is used. Technology and management ultimately determine the ICOR. One can be confident of sustained higher growth only if fixed capital formation rate goes up. A recent phenomenon in gross fixed capital formation is the bigger role played by government expenditure. In recent years, the share of the public sector in total real GFCF has increased from 21.6% in 2021-22 to 25.1% in 2023-24. Public sector investment is largely focused on infrastructure which has a high sectoral ICOR.

The surge in public sector investment was largely led by the central government. However, that momentum appears to be slowing down.

Growth in the Centre's capital expenditure was at 39.4%, 24.4%, and 28.9% in 2021-22, 2022-23 and 2023-24, respectively. However, this growth fell to 10.8% in 2024-25.

In order to increase the potential growth rate above 6.5%, we will need to increase the GFCFR by about 2% points from the recent average GFCFR which is around 34%. This will call for an increase in the share of real investment of the private corporate sector in total GFCF which has fallen from 37% to 34.4%, during 2021-22 to 2023-24. This may be supplemented by a reduction in the ICOR.

### Prospects of growth

Some of the influences that may affect the long-term potential growth on the positive side would include the impact of changing technology such as Artificial Intelligence (AI) and Gen AI. On the negative side, there would be the impact of a growing share of capital consumption as capital stock becomes older and new technologies call for a replacement of old capital at a faster rate. These forces may balance themselves out, leaving India's long term potential growth close to 6.5%.

The global trade environment also remains challenging for India. Given the tariff and supply chain uncertainties, much depends on the pace at which India is able to diversify its trade destinations and investment sources globally. After remaining positive for the previous four consecutive quarters, the contribution of net exports turned negative at (-)1.4% points in the first quarter of 2025-26. This trend is likely to continue. We may recognise that a potential growth rate of 6.5% is, in the present world environment, a reasonably high level, although for creating a higher growth of employment, we do need to push our potential growth further. For this, we need to get the private investment rate to move up. Policymakers need to address this issue at the aggregate and sectoral levels. They must understand what is holding back private investment and suggest appropriate remedies.

The views expressed are personal

## Estimating India's potential growth rate भारत की संभावित विकास दर का अनुमान

### India's Potential Growth Rate भारत की संभावित विकास दर

- Several authors, including us, have argued that a **growth rate of 6.5%** appears to be the **potential growth rate of India** as of now.  
कई लेखकों ने, जिनमें हम भी शामिल हैं, तर्क दिया है कि वर्तमान में भारत की संभावित विकास दर लगभग **6.5%** प्रतीत होती है।
- The **first quarter growth rate of 2025-26** is estimated at **7.8%**. Does this alter perception about the **potential growth rate**?  
**2025-26 की पहली तिमाही की विकास दर का अनुमान 7.8%** है। क्या यह संभावित विकास दर के हमारे अनुमान को बदलता है?
- The **first quarter real GDP growth** in the **post-COVID-19 years** from 2022-23 to 2024-25 has averaged **9.9%** compared to average levels of **second, third, and fourth quarters** of **7.0%, 6.9%, and 7.5%**.  
**पोस्ट-COVID-19 वर्षों** 2022-23 से 2024-25 तक की **पहली तिमाही की वास्तविक GDP वृद्धि** का औसत **9.9%** रहा, जबकि **दूसरी, तीसरी और चौथी तिमाही** का औसत क्रमशः **7.0%, 6.9%, और 7.5%** रहा।
- Thus, a **7.8% real GDP growth** in the **first quarter of 2025-26** is below the average for the first quarter of the previous three years.



इस प्रकार, 2025-26 की पहली तिमाही में 7.8% वास्तविक GDP वृद्धि पिछले तीन वर्षों की पहली तिमाही के औसत से कम है।

- The annual real GDP growth rates for 2022-23 to 2024-25 were 7.6%, 9.2%, and 6.5%, respectively.  
2022-23 से 2024-25 के लिए वार्षिक वास्तविक GDP वृद्धि दर क्रमशः 7.6%, 9.2%, और 6.5% रही।
- On the output side, real GVA growth in the first quarter of 2025-26 was 7.6%, lower than the corresponding average GVA growth of 9.5% in the previous three years.  
उत्पादन पक्ष पर, 2025-26 की पहली तिमाही में वास्तविक GVA वृद्धि 7.6% रही, जो पिछले तीन वर्षों के औसत 9.5% से कम है।
- The GVA growth in the first quarter of 2025-26 was largely based on improvements in manufacturing and the three important services sectors.  
2025-26 की पहली तिमाही में GVA वृद्धि मुख्य रूप से निर्माण क्षेत्र और तीन प्रमुख सेवा क्षेत्रों में सुधार पर आधारित थी।
- In manufacturing, the first quarter 2025-26 growth at 7.7% was higher than the average first quarter growth for the previous three years at 5.8%.  
निर्माण क्षेत्र में, 2025-26 की पहली तिमाही की वृद्धि 7.7% रही, जो पिछले तीन वर्षों की पहली तिमाही के औसत 5.8% से अधिक है।

## Potential Growth Rate and ICOR

### संभावित विकास दर और ICOR

- In the three important service sectors — trade, transport and others, financial, real estate and others, and public administration and others — growth rates in the first quarter of 2025-26 were 8.6%, 9.5%, and 9.8%, still lower than their corresponding averages in the previous three years of 12.9%, 11.3%, and 13.1%.  
तीन महत्वपूर्ण सेवा क्षेत्रों — व्यापार, परिवहन और अन्य, वित्तीय, रियल एस्टेट और अन्य, और सार्वजनिक प्रशासन और अन्य — में 2025-26 की पहली तिमाही की वृद्धि दरें 8.6%, 9.5%, और 9.8% रही, जो पिछले तीन वर्षों के औसत 12.9%, 11.3%, और 13.1% से कम हैं।
- An increase in potential growth rate would require a sustained increase in growth in all these sectors.  
संभावित विकास दर बढ़ाने के लिए इन सभी क्षेत्रों में सतत वृद्धि आवश्यक होगी।
- The real gross fixed capital formation rate (GFCFR) in the first quarter was nearly the same in 2023-24, 2024-25, and 2025-26 at 34.5%, 34.6%, and 34.6%, respectively, indicating no structural break.  
पहली तिमाही में वास्तविक सकल स्थिर पूंजी निर्माण दर (GFCFR) 2023-24, 2024-25 और 2025-26 में लगभग समान 34.5%, 34.6%, और 34.6% रही, जो कोई संरचनात्मक बदलाव नहीं दर्शाती है।
- The estimation of 6.5% as potential growth rate is based on the behaviour of GFCFR and Incremental Capital-Output Ratio (ICOR).  
संभावित विकास दर को 6.5% मानने का अनुमान GFCFR और इंक्रीमेंटल कैपिटल-आउटपुट रेशियो (ICOR) के व्यवहार पर आधारित है।
- While the GFCFR does not fluctuate much, the ICOR is very volatile because it is derived from dividing real GFCFR by real GDP growth rate.  
जबकि GFCFR अधिक बदलता नहीं है, ICOR बहुत अस्थिर है क्योंकि इसे वास्तविक GFCFR को वास्तविक GDP वृद्धि दर से विभाजित करके निकाला जाता है।
- The real GFCFR has been stable at 33.6%, 33.5%, and 33.7% of GDP during 2022-23, 2023-24, and 2024-25.  
वास्तविक GFCFR 2022-23, 2023-24 और 2024-25 के दौरान GDP का 33.6%, 33.5%, और 33.7% स्थिर रही है।
- Using an average ICOR on the GFCFR, the potential growth rate may be derived. With GFCFR at 33.6% and ICOR of 5.2, the potential growth rate remains around 6.5%.  
GFCFR पर औसत ICOR का उपयोग करके संभावित विकास दर निकाली जा सकती है। GFCFR 33.6% और ICOR 5.2 रहने पर संभावित विकास दर लगभग 6.5% बनी रहती है।
- For potential growth to rise above this level, GFCFR must improve above the previous three years' average or ICOR must fall below 5.2.



संभावित विकास दर को इस स्तर से ऊपर बढ़ाने के लिए, GFCFR को पिछले तीन वर्षों के औसत से ऊपर बढ़ाना होगा या ICOR को 5.2 से नीचे लाना होगा।

- Growth rates and ICOR have been volatile in recent years due to the COVID-19 pandemic and subsequent adjustments.  
हाल के वर्षों में वृद्धि दरें और ICOR COVID-19 महामारी और उसके बाद के समायोजन के कारण अस्थिर रही हैं।
- Estimating India's potential growth rate requires examining performance over a longer period.  
भारत की संभावित विकास दर का अनुमान लगाने के लिए दीर्घकालिक प्रदर्शन का मूल्यांकन करना आवश्यक है।
- India's real GDP growth rate during 2011-12 to 2023-24 averaged 6.1%.  
भारत की वास्तविक GDP वृद्धि दर 2011-12 से 2023-24 के दौरान औसतन 6.1% रही।
- In assessing a country's growth potential, one may give greater weight to recent performance.  
किसी देश की विकास संभावनाओं का आकलन करते समय हालिया प्रदर्शन को अधिक महत्व दिया जा सकता है।

## On Public Sector Investment सार्वजनिक क्षेत्र में निवेश पर

- The ICOR is a reflection of how efficiently capital is used. Technology and management ultimately determine the ICOR.  
ICOR यह दर्शाता है कि पूंजी का कितना कुशलता से उपयोग हो रहा है। तकनीक और प्रबंधन अंततः ICOR को निर्धारित करते हैं।
- One can be confident of sustained higher growth only if fixed capital formation rate goes up.  
केवल तभी कोई लगातार उच्च विकास की संभावना पर भरोसा कर सकता है जब स्थिर पूंजी निर्माण दर बढ़े।
- A recent phenomenon in gross fixed capital formation is the bigger role played by government expenditure.  
सकल स्थिर पूंजी निर्माण में हाल का एक पैटर्न यह है कि सरकारी खर्च की भूमिका बढ़ गई है।
- In recent years, the share of the public sector in total real GFCF has increased from 21.6% in 2021-22 to 25.1% in 2023-24.  
हाल के वर्षों में कुल वास्तविक GFCF में सार्वजनिक क्षेत्र का हिस्सा 2021-22 में 21.6% से बढ़कर 2023-24 में 25.1% हो गया है।
- Public sector investment is largely focused on infrastructure, which has a high sectoral ICOR.  
सार्वजनिक क्षेत्र का निवेश मुख्य रूप से इन्फ्रास्ट्रक्चर पर केंद्रित है, जिसका उच्च क्षेत्रीय ICOR है।
- The surge in public sector investment was largely led by the central government. However, that momentum appears to be slowing down.  
सार्वजनिक क्षेत्र में निवेश में वृद्धि मुख्य रूप से केंद्र सरकार द्वारा संचालित थी। हालांकि, इस गति में अब धीमापन दिखाई दे रहा है।
- Growth in the Centre's capital expenditure was at 39.4%, 24.4%, and 28.9% in 2021-22, 2022-23, and 2023-24, respectively. However, this growth fell to 10.8% in 2024-25.  
केंद्र सरकार के पूंजीगत व्यय में वृद्धि क्रमशः 2021-22, 2022-23 और 2023-24 में 39.4%, 24.4%, और 28.9% रही। हालांकि, यह वृद्धि 2024-25 में 10.8% पर गिर गई।
- To increase the potential growth rate above 6.5%, GFCFR needs to rise by about 2 percentage points from the recent average (~34%).  
संभावित विकास दर को 6.5% से ऊपर बढ़ाने के लिए, GFCFR को हाल के औसत (~34%) से लगभग 2 प्रतिशत अंक बढ़ाना होगा।
- This will require an increase in the share of real investment of the private corporate sector in total GFCF, which fell from 37% to 34.4% during 2021-22 to 2023-24.  
इसके लिए कुल GFCF में निजी कॉर्पोरेट क्षेत्र के वास्तविक निवेश का हिस्सा बढ़ाना आवश्यक होगा, जो 2021-22 से 2023-24 के दौरान 37% से घटकर 34.4% हो गया।



- This may be supplemented by a **reduction in the ICOR**.  
इसे ICOR में कमी से पूरक किया जा सकता है।

## Prospects of Growth विकास की संभावनाएँ

- Positive influences on **long-term potential growth** include **changing technology** such as **Artificial Intelligence (AI) and Gen AI**.  
दीर्घकालिक संभावित विकास पर सकारात्मक प्रभावों में बदलती तकनीक, जैसे आर्टिफिशियल इंटेलिजेंस (AI) और जन AI, शामिल हैं।
- Negative influences include the impact of a **growing share of capital consumption** as **capital stock ages** and **new technologies require faster replacement of old capital**.  
नकारात्मक प्रभावों में पूंजी खपत के बढ़ते हिस्से का प्रभाव शामिल है, क्योंकि पूंजी स्टॉक पुराना होता है और नई तकनीकें पुराने पूंजी का तेजी से प्रतिस्थापन मांगती हैं।
- These forces may balance each other, leaving **India's long-term potential growth close to 6.5%**.  
ये ताकतें आपस में संतुलित हो सकती हैं, जिससे भारत की दीर्घकालिक संभावित विकास दर लगभग 6.5% बनी रहती है।
- The **global trade environment** remains challenging for India due to **tariff and supply chain uncertainties**.  
वैश्विक व्यापार वातावरण भारत के लिए चुनौतीपूर्ण बना हुआ है, शुल्क और आपूर्ति श्रृंखला की अनिश्चितताओं के कारण।
- Much depends on how quickly India is able to **diversify trade destinations and investment sources globally**.  
बहुत कुछ इस बात पर निर्भर करता है कि भारत वैश्विक स्तर पर व्यापार गंतव्य और निवेश स्रोतों का विविधीकरण कितनी तेजी से कर पाता है।
- After remaining positive for the previous **four consecutive quarters**, the contribution of **net exports** turned negative at **(-1.4% points in the first quarter of 2025-26)**.  
पिछले चार लगातार तिमाहियों तक सकारात्मक रहने के बाद, 2025-26 की पहली तिमाही में शुद्ध निर्यात का योगदान (-)1.4% अंक पर नकारात्मक हो गया।
- This trend is likely to continue.  
यह प्रवृत्ति जारी रहने की संभावना है।
- A **potential growth rate of 6.5%** is, in the **present world environment**, reasonably high, though higher growth for employment would require pushing **potential growth further**.  
वर्तमान वैश्विक परिस्थितियों में 6.5% की संभावित विकास दर पर्याप्त रूप से उच्च है, हालांकि रोजगार के लिए उच्च विकास के लिए संभावित विकास को और बढ़ाना होगा।
- To achieve this, the **private investment rate** needs to increase. Policymakers need to address this at **aggregate and sectoral levels**.  
इसे प्राप्त करने के लिए, निजी निवेश दर बढ़ानी होगी। नीति निर्माताओं को इसे सकल और क्षेत्रीय स्तर पर संबोधित करना चाहिए।
- Policymakers must understand **what is holding back private investment** and suggest **appropriate remedies**.  
नीति निर्माताओं को यह समझना चाहिए कि निजी निवेश को क्या रोक रहा है और उचित समाधान सुझाने चाहिए।



# A green transition accelerating at express speed

GS III: Infrastructure

**T**he successful trial of India's first hydrogen-powered coach at the Integral Coach Factory (ICF) in July 2025 is more than a technological breakthrough. It is a testament to Indian Railways' accelerating green transition.

As one of the largest rail networks in the world, the Indian Railways is undertaking a transformation with few global parallels, with the aim of achieving net-zero carbon emissions by 2030, four decades ahead of the national target.

This ambitious shift is not just limited to clean energy adoption but also extends to a fundamental rethinking of infrastructure, operations and financing models, placing the Indian Railways at the forefront of India's sustainable development agenda.

With over 24 million passengers and three million tonnes of freight moved daily, the decarbonisation of India's railways has direct implications for national climate targets.

## The initiatives undertaken

In the last 10 years, the Railways has electrified close to 45,000 kilometres of its broad gauge network. As a result, over 98% of its broad gauge network stands electrified, reducing diesel dependence and cutting emissions sharply. The transition is complemented by large-scale renewable integration, with 553 MW of solar, 103 MW of wind and 100 MW of hybrid capacity (756 MW in total) already commissioned. More than 2,000 stations and service buildings are powered by solar energy, while several railway buildings, including in the Northeast Frontier zone, have secured the Bureau of Energy Efficiency's "Shunya" net-zero label. Innovation in clean traction is exemplified by the first hydrogen-powered train, part of a wider "Hydrogen for Heritage" initiative to deploy 35 such units.

Parallel measures include shifting freight from road to rail to raise its modal share to 45% by 2030, introducing biofuel blends, constructing green buildings, and operationalising Dedicated Freight Corridors which are expected to avert 457 million tonnes of carbon dioxide (CO<sub>2</sub>) over 30 years. These steps signal a technological



**Ishaan Sharma**

is an IRAS officer, currently posted as Deputy Financial Adviser and Chief Accounts Officer, South Western Railway. He is also a recipient of the Chevening Scholarship from the Government of U.K., 2023

If done right, the decarbonisation plan of the Indian Railways can prove that state-run systems can bring about change without derailing fiscal discipline

transformation and a systemic reimagining of the Indian Railways as a climate-positive backbone of national mobility.

## Climate finance takes the main line

The decarbonisation drive is increasingly underpinned by a robust and evolving green finance architecture. Since FY2023, the government has issued sovereign green bonds worth ₹58,000 crore, with the transport sector emerging as a major beneficiary. According to data from the Ministry of Finance, approximately ₹42,000 crore has been allocated for the procurement of electric locomotives and metro and suburban rail expansions. These allocations integrate climate objectives into the very core of capital budgeting.

At the institutional level, the Indian Railway Finance Corporation (IRFC) has played a pivotal role in mobilising climate aligned capital. Beginning with its \$500 million green bond issuance in 2017 which was utilised for the re-financing procurement of electric locomotives, the IRFC has steadily expanded its green financing footprint. Most recently, it extended a ₹7,500 crore loan to NTPC Green Energy for the development of renewable power capacity, signalling a growing trend of cross-sectoral financing aimed at strengthening India's low-carbon infrastructure.

Multilateral agencies have also supported the green transition of the Indian Railways. In June 2022, the World Bank approved a \$245 million loan for the Rail Logistics Project, aimed at enhancing rail freight infrastructure, decongesting corridors and reducing greenhouse gas emissions.

Yet, more can be done. The first priority is to match electrification with genuinely decarbonised electricity. If the additional traction power is drawn from a coal-heavy grid, climate gains will be diluted. A solution lies in directly procuring large volumes of renewable energy through long-term contracts with solar and wind producers, a step that has already seen some progress. This would ensure that "green trains" are powered by truly green power, making emissions reductions real rather than notional.

Second, last-mile connectivity must be approached with a climate lens. Railway stations should evolve into multi-modal green hubs, seamlessly integrating electric buses, bicycle-sharing networks and pedestrian-friendly infrastructure. For freight, the low-carbon advantage of rail must be preserved through cleaner first-and-last-mile links, whether through electric trucks, Liquefied natural gas-powered vehicles, or emerging hydrogen mobility solutions.

Third, rolling stock innovation must keep pace with global benchmarks. Hydrogen fuel cell trains could be piloted on select non-electrified branch and heritage lines where full electrification is not cost-effective. In parallel, the adoption of lightweight coaches, aerodynamic locomotive designs and Artificial Intelligence-driven energy optimisation systems can reduce traction energy needs and improve operational efficiency.

Finally, technology alone will not drive transformation; behavioural change is equally critical. Green certification for trains, carbon labelling of freight services and public awareness campaigns can make passengers and businesses conscious participants in climate action. With its vast daily reach, the Indian Railways can shape public perception of sustainable mobility in a way no other transport system can.

## Meeting the challenge

By 2030, if the net zero target is achieved, Indian Railways could prevent over 60 million tonnes of annual CO<sub>2</sub> emissions which is equivalent to taking 13 million cars off the road. The financial case is equally compelling: electrification and energy efficiency measures are projected to generate cumulative fuel cost savings of over ₹1 lakh crore by the end of the decade.

The challenge is not in setting targets but in mobilising and managing the capital to meet them. Done right, India's railway decarbonisation plan could become a global benchmark, proving that large, state-run transport systems can transition to low-carbon operations without derailing fiscal discipline.

*The views expressed are personal*

## A green transition accelerating at express speed

एक हरित संक्रमण जो तेज गति से बढ़ रहा है

## India's Hydrogen-Powered Coach Trial

भारत के हाइड्रोजन-चालित कोच परीक्षण

- The successful trial of India's first hydrogen-powered coach at the Integral Coach Factory (ICF) in July 2025 is more than a technological breakthrough. जुलाई 2025 में इंटीग्रल कोच फैक्ट्री (ICF) में भारत के पहले हाइड्रोजन-चालित कोच का सफल परीक्षण केवल तकनीकी उपलब्धि नहीं है।
- It is a testament to Indian Railways' accelerating green transition. यह भारतीय रेलवे के तेजी से बढ़ते हरित परिवर्तन का प्रमाण है।
- As one of the largest rail networks in the world, the Indian Railways is undertaking a transformation with few global parallels.



दुनिया के सबसे बड़े रेलवे नेटवर्कों में से एक के रूप में, भारतीय रेलवे एक ऐसा परिवर्तन कर रहा है जिसका वैश्विक तुलना में कम उदाहरण हैं।

- The aim is achieving **net-zero carbon emissions by 2030**, four decades ahead of the national target.  
इसका लक्ष्य है **2030 तक शुद्ध-शून्य कार्बन उत्सर्जन** प्राप्त करना, जो राष्ट्रीय लक्ष्य से चार दशक पहले है।
- This ambitious shift includes not just **clean energy adoption** but also **rethinking of infrastructure, operations, and financing models**.  
यह महत्वाकांक्षी बदलाव केवल **स्वच्छ ऊर्जा अपनाने** तक सीमित नहीं है, बल्कि इसमें **अवसंरचना, संचालन और वित्तीय मॉडल का पुनर्विचार** भी शामिल है।
- The Indian Railways is positioned at the forefront of **India's sustainable development agenda**.  
भारतीय रेलवे को **भारत के सतत विकास एजेंडे** में अग्रणी स्थिति में रखा गया है।
- With over **24 million passengers and 3 million tonnes of freight daily**, decarbonisation has direct implications for **national climate targets**.  
प्रतिदिन **24 मिलियन यात्री और 3 मिलियन टन माल** के साथ, रेलवे का डिकार्बोनाइजेशन सीधे **राष्ट्रीय जलवायु लक्ष्यों** को प्रभावित करता है।

## The Initiatives Undertaken

### उठाए गए कदम

- In the last **10 years**, Railways has **electrified close to 45,000 kilometres** of its broad gauge network.  
पिछले **10 वर्षों** में, रेलवे ने अपने ब्रॉड गेज नेटवर्क के लगभग **45,000 किलोमीटर** का विद्युतीकरण किया है।
- Over **98% of its broad gauge network stands electrified**, reducing **diesel dependence** and cutting **emissions sharply**.  
अपने ब्रॉड गेज नेटवर्क का **98% से अधिक** विद्युतीकृत है, जिससे **डीजल निर्भरता** कम हुई और **उत्सर्जन में तेज कटौती** हुई।
- The transition is complemented by **large-scale renewable integration**, with **553 MW solar, 103 MW wind, and 100 MW hybrid capacity** (total **756 MW**) already commissioned.  
इस परिवर्तन के साथ **बड़े पैमाने पर नवीकरणीय ऊर्जा एकीकरण** भी हुआ है, जिसमें **553 MW सौर, 103 MW पवन, और 100 MW हाइब्रिड क्षमता** (कुल **756 MW**) शामिल हैं।
- More than **2,000 stations and service buildings** are powered by **solar energy**.  
**2,000 से अधिक स्टेशन और सेवा भवन सौर ऊर्जा** से संचालित हैं।
- Several railway buildings, including in the **Northeast Frontier zone**, have secured **Bureau of Energy Efficiency's "Shunya" net-zero label**.  
कई रेलवे भवनों, विशेष रूप से **नॉर्थईस्ट फ्रंटियर ज़ोन** में, ने **ब्यूरो ऑफ एनर्जी एफिशिएंसी का "शून्य" नेट-जीरो लेबल** प्राप्त किया है।
- Innovation in **clean traction** is exemplified by the **first hydrogen-powered train**, part of the **"Hydrogen for Heritage" initiative** to deploy **35 such units**.  
**स्वच्छ ट्रैक्शन** में नवाचार का उदाहरण है **पहली हाइड्रोजन-चालित ट्रेन**, जो **"हाइड्रोजन फॉर हेरिटेज"** पहल का हिस्सा है और इसमें **35 ऐसी यूनिटें** तैनात की जाएंगी।
- Parallel measures include:  
**समानांतर कदमों में शामिल हैं:**
  - Shifting **freight from road to rail** to raise **modal share to 45% by 2030**.  
माल को **सड़क से रेल में स्थानांतरित** करना, ताकि **2030 तक मोडल शेयर 45%** हो।
  - Introducing **biofuel blends**.  
**बायोफ्यूल मिश्रणों** को लागू करना।
  - Constructing **green buildings**.  
**ग्रीन बिल्डिंग्स** का निर्माण।
  - Operationalising **Dedicated Freight Corridors**, expected to avert **457 million tonnes of CO2 over 30 years**.  
**डेडिकेटेड फ्रेट कॉरिडोर्स** को चालू करना, जिससे **30 वर्षों में 457 मिलियन टन CO2** बचाने की संभावना।
- These steps signal a **technological transformation** and a **systemic reimagining** of Indian Railways as a **climate-positive backbone of national mobility**.



ये कदम तकनीकी परिवर्तन और भारतीय रेलवे की राष्ट्रीय गतिशीलता के लिए जलवायु-सकारात्मक रीइमेजनिंग का संकेत देते हैं।

## Climate Finance Takes the Main Line

### मुख्य धारा में जलवायु वित्त

- The **decarbonisation drive** is increasingly underpinned by a **robust and evolving green finance architecture**.  
डिकार्बोनाइजेशन अभियान अब एक मजबूत और विकसित हो रहे हरित वित्त ढांचे पर आधारित है।
- Since **FY2023**, the government has issued **sovereign green bonds worth ₹58,000 crore**, with the **transport sector** emerging as a major beneficiary.  
वित्त वर्ष 2023 से, सरकार ने ₹58,000 करोड़ के संप्रभु हरित बॉन्ड जारी किए हैं, जिसमें परिवहन क्षेत्र मुख्य लाभार्थी बनकर उभरा है।
- According to **Ministry of Finance** data, approximately **₹42,000 crore** has been allocated for **procurement of electric locomotives and metro and suburban rail expansions**.  
वित्त मंत्रालय के आंकड़ों के अनुसार, लगभग ₹42,000 करोड़ का आवंटन इलेक्ट्रिक लोकोमोटिव की खरीद और मेट्रो एवं उपनगरीय रेलवे विस्तार के लिए किया गया है।
- These allocations **integrate climate objectives into capital budgeting**.  
ये आवंटन पूंजी बजटिंग में जलवायु उद्देश्यों को शामिल करते हैं।
- At the institutional level, the **Indian Railway Finance Corporation (IRFC)** has played a pivotal role in mobilising **climate-aligned capital**.  
संस्थागत स्तर पर, भारतीय रेलवे फाइनेंस कॉर्पोरेशन (IRFC) ने जलवायु-संगत पूंजी जुटाने में महत्वपूर्ण भूमिका निभाई है।
- Beginning with its **\$500 million green bond issuance in 2017** for re-financing **procurement of electric locomotives**, the IRFC has steadily expanded its **green financing footprint**.  
2017 में \$500 मिलियन के ग्रीन बॉन्ड जारी करने से, जो इलेक्ट्रिक लोकोमोटिव की पुनःवित्त पोषण के लिए था, IRFC ने लगातार अपने ग्रीन फाइनेंसिंग नेटवर्क का विस्तार किया है।
- Most recently, IRFC extended a **₹7,500 crore loan to NTPC Green Energy** for the development of **renewable power capacity**, signaling a trend of **cross-sectoral financing**.  
हाल ही में, IRFC ने NTPC ग्रीन एनर्जी को ₹7,500 करोड़ का ऋण दिया है, नवीकरणीय ऊर्जा क्षमता के विकास के लिए, जो क्रॉस-सेक्टरल फाइनेंसिंग की बढ़ती प्रवृत्ति को दर्शाता है।
- **Multilateral agencies** have also supported the **green transition** of the Indian Railways.  
बहुपक्षीय एजेंसियों ने भी भारतीय रेलवे के हरित संक्रमण का समर्थन किया है।
- In **June 2022**, the **World Bank** approved a **\$245 million loan** for the **Rail Logistics Project**, aimed at **enhancing rail freight infrastructure, decongesting corridors and reducing greenhouse gas emissions**.  
जून 2022 में, वर्ल्ड बैंक ने \$245 मिलियन का ऋण रेल लॉजिस्टिक्स प्रोजेक्ट के लिए मंजूर किया, जिसका उद्देश्य रेल माल ढुलाई अवसंरचना में सुधार, गलियारों को कम भीड़भाड़ बनाना और ग्रीनहाउस गैस उत्सर्जन कम करना है।
- More can be done: the first priority is to **match electrification with genuinely decarbonised electricity**.  
और बहुत कुछ किया जा सकता है: पहली प्राथमिकता है विद्युतीकरण को वास्तव में डिकार्बोनाइज्ड बिजली के साथ मेल करना।
- If additional traction power comes from a **coal-heavy grid**, climate gains will be diluted.  
अगर अतिरिक्त ट्रैक्शन पावर कोयला-प्रधान ग्रिड से आती है, तो जलवायु लाभ कमजोर होंगे।
- Solution lies in **direct procurement of large volumes of renewable energy** through **long-term contracts** with solar and wind producers.  
समाधान यह है कि सौर और पवन उत्पादकों के साथ दीर्घकालिक अनुबंध के माध्यम से बड़ी मात्रा में नवीकरणीय ऊर्जा सीधे खरीदी जाए।
- This ensures **“green trains” are powered by truly green power**, making **emissions reductions real**.  
यह सुनिश्चित करेगा कि “ग्रीन ट्रेनों” को वास्तव में हरित ऊर्जा से शक्ति मिले, जिससे उत्सर्जन में कटौती वास्तविक बने।



- **Last-mile connectivity** must be approached with a **climate lens**: stations should become **multi-modal green hubs**, integrating **electric buses, bicycle-sharing, and pedestrian-friendly infrastructure**.  
अंतिम मील कनेक्टिविटी को जलवायु दृष्टिकोण से देखना चाहिए: रेलवे स्टेशन मल्टी-मोडल ग्रीन हब बनें, जिसमें इलेक्ट्रिक बसें, साइकिल साझा नेटवर्क और पैदल-मैत्रीपूर्ण अवसंरचना शामिल हों।
- For freight, the **low-carbon advantage of rail** must be preserved through **clean first-and-last-mile links**, such as **electric trucks, LNG-powered vehicles, or hydrogen mobility solutions**.  
माल के लिए, रेल का कम-कार्बन लाभ साफ प्रथम और अंतिम मील लिंक के माध्यम से संरक्षित रहना चाहिए, जैसे इलेक्ट्रिक ट्रक, LNG-चालित वाहन, या हाइड्रोजन मोबिलिटी समाधान।
- **Rolling stock innovation** must keep pace with **global benchmarks**:  
रेल गाड़ी नवाचार को वैश्विक मानकों के अनुरूप बनाए रखना चाहिए:
  - **Hydrogen fuel cell trains** could be piloted on **non-electrified branch and heritage lines**.  
हाइड्रोजन फ्यूल सेल ट्रेनें गैर-विद्युतीकृत शाखा और हेरिटेज लाइनों पर पायलट की जा सकती हैं।
  - Adoption of **lightweight coaches, aerodynamic locomotive designs, and AI-driven energy optimisation systems** can reduce **traction energy needs** and improve **operational efficiency**.  
हल्के कोच, एयरोडायनामिक लोकोमोटिव डिजाइन, और AI-संचालित ऊर्जा अनुकूलन सिस्टम अपनाए से ट्रेक्शन ऊर्जा आवश्यकताएं कम होंगी और संचालन दक्षता बढ़ेगी।
- **Behavioural change** is equally critical: **green certification for trains, carbon labelling of freight services, and public awareness campaigns** can engage passengers and businesses in **climate action**.  
व्यवहारिक बदलाव भी उतना ही महत्वपूर्ण है: ट्रेनों के लिए ग्रीन सर्टिफिकेशन, माल सेवा पर कार्बन लेबलिंग, और सार्वजनिक जागरूकता अभियान यात्रियों और व्यवसायों को जलवायु कार्रवाई में शामिल कर सकते हैं।
- By **2030**, achieving a net-zero target could prevent **over 60 million tonnes of annual CO2 emissions**, equivalent to **taking 13 million cars off the road**.  
2030 तक, नेट-जीरो लक्ष्य हासिल करने से सालाना 60 मिलियन टन CO2 उत्सर्जन रोका जा सकता है, जो 13 मिलियन कारों को सड़क से हटाने के बराबर है।
- **Electrification and energy efficiency measures** are projected to generate **cumulative fuel cost savings of over ₹1 lakh crore** by the end of the decade.  
विद्युतीकरण और ऊर्जा दक्षता उपायों से दशक के अंत तक ₹1 लाख करोड़ से अधिक ईंधन लागत बचत होने का अनुमान है।
- The challenge lies in **mobilising and managing capital** to meet targets.  
चुनौती यह है कि लक्ष्यों को पूरा करने के लिए पूंजी जुटाना और प्रबंधित करना।
- Done right, **India's railway decarbonisation plan** could become a **global benchmark**, proving that **large state-run transport systems** can transition to **low-carbon operations** without derailing **fiscal discipline**.  
सही तरीके से किया जाए, तो भारत की रेलवे डिकार्बोनाइजेशन योजना एक वैश्विक मानक बन सकती है, जो यह साबित करती है कि बड़े सरकारी परिवहन सिस्टम कम-कार्बन संचालन की ओर संक्रमण कर सकते हैं बिना राजकोषीय अनुशासन को प्रभावित किए।



# Counting calories: a brief history of how the unit of food was conceptualised

Science alone didn't make the calorie a household name. Fashion did. Physician Lulu Hunt Peters, in her blockbuster book, brilliantly linked calorie counting to the trendy 'flapper' ideal: a thin, boyish figure that symbolised a modern, liberated lifestyle

**GS III: Poverty and Hunger**

**Jahnavi Phalkey**

Ever glanced at the back of a food packet and seen that bold number staring back at you? Calories. For over a century, this single unit has dominated our conversations about food, health, and weight. We count them, burn them, and often, feel guilty about them. But have you ever wondered where this powerful little number came from? The story is a fascinating journey involving French chemists, German physiologists, American innovators, and surprising facts you won't find on any food label.

## How 'calorie' came to be

The story begins not in a kitchen, but in a Parisian laboratory in the 1780s. The brilliant French chemist Antoine Lavoisier proposed a radical idea: breathing is a form of combustion, just like a candle burning. To prove it, he and his colleague Pierre-Simon Laplace built a device called an ice calorimeter, large enough to house a guinea pig. By measuring the heat the animal produced (by how much ice it melted), they linked the energy of life to the physics of heat. Soon after, the word "calorie," from Latin for heat, was coined

to measure this energy.

For decades, the calorie remained a tool for physicists and engineers. Its journey into our diets began with a German baron, Justus von Liebig, who was concerned about malnourishment. In the 1840s, he developed a concentrated beef extract to provide cheap, energy-rich food for the poor: a product we know today as the Oxo cube. His students, inspired by his work, began meticulously measuring the energy the human body extracted from different foods. One of them, Max Rubner, established that proteins, fats, and carbohydrates could be measured by their equivalent heat value. This simple idea – that different foods could be compared through a single number – laid the groundwork for every diet fad to come.

The calorie truly went global when an American chemist, Wilbur Olin Atwater, who studied in Germany brought the science back to the U.S. In the 1890s, he published influential government bulletins that calculated the energy values of hundreds of foods. It was Atwater who established the capitalised "Calorie" (actually a kilocalorie, or 1,000 small calories) that we now see on U.S. food labels.

But science alone didn't make the calorie a household name. Fashion did. In the roaring twenties, physician Lulu Hunt Peters published her blockbuster book, *Diet and Health*. She brilliantly linked calorie counting to the trendy "flapper" ideal: a thin, boyish figure that symbolised a modern, liberated lifestyle. Suddenly, counting calories wasn't just for scientists; it was a chic tool for self-transformation. The ordinary act of eating was forever changed, governed by arithmetic.

However, the original motivation for counting calories wasn't personal health or beauty. It was about social control and efficiency. Early nutritionists studied prisoners, factory workers, and the impoverished to determine the minimum amount of fuel needed to keep them productive without causing food riots. The goal was to find the cheapest way to feed the masses in institutions such as schools, the military, and workhouses.

A question of justice – how to feed the hungry – was reframed as a problem of cost and management.

## Looking beyond

Today, science is revealing the limits of this 18th-century idea. The simple model

of "calories in, calories out" is being challenged. We now know that the numbers on food labels are averages, with significant margins of error. More importantly, our bodies are not simple furnaces. How we absorb energy depends on our unique genes, gut bacteria, and even the way food is cooked. Not all calories are created equal; 200 calories of almonds are processed very differently from 200 calories of fizzy drink.

The future of nutrition lies in a more personalised and complex understanding. Fields such as nutrigenomics are exploring how our individual genetic makeup interacts with the food we eat. We are slowly moving away from the simple act of counting and towards understanding the intricate relationships within our bodies.

Calories gave us a language to talk about food energy, but it's a language that's now due for an update. So, the next time you look at that number on a label, remember its rich and complicated history – a story of guinea pigs, beef cubes, and flappers – and know that we are far more complex than a simple calculation.

*Jahnavi Phalkey is the founding director, Science Gallery Bengaluru.*

## Counting calories: a brief history of how the unit of food was conceptualised

### कैलोरी गिनना: यह कि खाद्य इकाई कैसे कल्पित हुई इसका संक्षिप्त इतिहास

- **Science alone** didn't make the **calorie** a household name. **Fashion** did.

केवल **विज्ञान** ने कैलोरी को सामान्य लोगों के बीच लोकप्रिय नाम नहीं बनाया। इसे लोकप्रिय बनाया **फैशन** ने।

- **Physician Lulu Hunt Peters**, in her **blockbuster book**, brilliantly linked **calorie counting** to the trendy **'flapper' ideal**:

**डॉक्टर लुलु हंट पीटर्स** ने अपनी **बेस्टसेलर**

**पुस्तक** में कैलोरी गिनने को फैशनेबल **'फ्लैपर'** आदर्श से शानदार ढंग से जोड़ा:

- A **thin, boyish figure** that symbolised a **modern, liberated lifestyle**. एक पतला, लड़कियों जैसा शरीर जो **आधुनिक, स्वतंत्र जीवनशैली** का प्रतीक था।



GETTY IMAGES



## Counting Calories: A Brief History

### कैलोरी गिनती: एक संक्षिप्त इतिहास

- Ever glanced at the back of a **food packet** and seen that **bold number** staring back at you? **Calories**.  
क्या आपने कभी **खाद्य पैकेट** के पीछे देखा है और उस **बोल्ड नंबर** को देखा है? **कैलोरीज़**।
- For over a **century**, this single unit has dominated our conversations about **food, health, and weight**.  
एक **सदी** से अधिक समय तक, इस एक इकाई ने हमारे **भोजन, स्वास्थ्य और वजन** के बारे में बातचीत पर हावी रही है।
- We count them, burn them, and often feel guilty about them.  
हम इन्हें गिनते हैं, जलाते हैं, और अक्सर इनके बारे में अपराधबोध महसूस करते हैं।
- But have you ever wondered where this powerful little number came from?  
लेकिन क्या आपने कभी सोचा है कि यह शक्तिशाली छोटा नंबर कहाँ से आया?
- The story involves **French chemists, German physiologists, American innovators**, and surprising facts you won't find on any **food label**.  
यह कहानी **फ्रेंच रसायनज्ञ, जर्मन फिजियोलॉजिस्ट, अमेरिकी नवप्रवर्तकों** और आश्चर्यजनक तथ्यों से जुड़ी है, जो किसी भी **खाद्य लेबल** पर नहीं मिलेंगे।

## How 'Calorie' Came to Be

### कैलोरी कैसे अस्तित्व में आई

- The story begins in a **Parisian laboratory** in the **1780s**.  
यह कहानी **1780 के दशक** में एक **पेरिस प्रयोगशाला** में शुरू होती है।
- French chemist **Antoine Lavoisier** proposed that **breathing is a form of combustion**, like a **candle burning**.  
फ्रेंच रसायनज्ञ **एंटीइन लावोइज़ियर** ने प्रस्तावित किया कि **साँस लेना दहन का एक रूप है**, जैसे एक **मोमबत्ती जल रही हो**।
- Lavoisier and **Pierre-Simon Laplace** built an **ice calorimeter**, large enough to house a **guinea pig**.  
लावोइज़ियर और **पियरे-सिमोन लैप्लास** ने एक **आइस कैलोरीमीटर** बनाया, जो एक **गिनी पिग** को रख सके।
- By measuring the **heat the animal produced** (how much **ice it melted**), they linked **energy of life** to the **physics of heat**.  
जानवर द्वारा उत्पन्न ताप (कितना **बर्फ पिघलाया**) मापकर उन्होंने **जीवन की ऊर्जा** को **ताप विज्ञान** से जोड़ा।
- The word "**calorie**", from Latin for **heat**, was coined to measure this **energy**.  
शब्द "**कैलोरी**", जिसका लैटिन में अर्थ **ताप** है, इस **ऊर्जा** को मापने के लिए बनाया गया।
- For decades, the **calorie** remained a tool for **physicists and engineers**.  
दशकों तक, **कैलोरी** केवल **भौतिकशास्त्रियों और इंजीनियरों** के लिए एक उपकरण रही।
- **German baron Justus von Liebig**, in the **1840s**, developed **concentrated beef extract** to provide cheap, energy-rich food for the poor (**Oxo cube**).  
**जर्मन बैरन जस्टस वॉन लीबिग**, ने **1840 के दशक** में गरीबों के लिए सस्ता और ऊर्जा-समृद्ध भोजन तैयार करने के लिए **संकेंद्रित बीफ़ एक्सट्रैक्ट** विकसित किया (**Oxo क्यूब**)।
- His students measured the **energy human body extracted from different foods**.  
उनके छात्रों ने मापा कि **मानव शरीर विभिन्न खाद्य पदार्थों से कितनी ऊर्जा निकालता है**।
- **Max Rubner** established that **proteins, fats, and carbohydrates** could be measured by their **equivalent heat value**.  
**मैक्स रुबनर** ने स्थापित किया कि **प्रोटीन, वसा, और कार्बोहाइड्रेट** को उनके समान ताप मूल्य से मापा जा सकता है।



- This idea — comparing foods through a single number — laid the groundwork for every **diet fad** to come.  
यह विचार — एक संख्या के माध्यम से खाद्य पदार्थों की तुलना करना — आने वाले हर **आहार प्रवृत्ति** का आधार बना।
- **American chemist Wilbur Olin Atwater**, studied in Germany, brought this science to the **U.S.** in the **1890s**.  
अमेरिकी रसायनज्ञ **विल्बर ओलिन एटवाटर**, जिन्होंने जर्मनी में अध्ययन किया, ने इस विज्ञान को **1890 के दशक** में **यू.एस.** में लाया।
- Atwater published **government bulletins** calculating **energy values of hundreds of foods**.  
एटवाटर ने **सरकारी बुलेटिन** प्रकाशित किए, जिसमें **सैकड़ों खाद्य पदार्थों के ऊर्जा मान** की गणना की।
- He established the **capitalised “Calorie”** (actually a **kilocalorie**, 1,000 small calories) seen on **U.S. food labels**.  
उन्होंने **“Calorie”** स्थापित किया (वास्तव में **किलो कैलोरी**, 1,000 छोटी कैलोरी) जो **यू.एस. खाद्य लेबल** पर दिखाई देती है।
- Science alone didn't make the **calorie** a household name; **fashion did**.  
केवल विज्ञान ने **कैलोरी** को घरेलू नाम नहीं बनाया; **बल्कि फैशन** ने।
- In the **1920s**, physician **Lulu Hunt Peters** published **Diet and Health**, linking **calorie counting** to the trendy **“flapper” ideal**.  
**1920 के दशक** में, चिकित्सक **लुलु हंट पीटर्स** ने **Diet and Health** प्रकाशित की, जिसमें **कैलोरी गिनती** को **फैशनेबल “फ्लैपर” आदर्श** से जोड़ा।
- Counting calories became a **chic tool for self-transformation**, not just for scientists.  
कैलोरी गिनना केवल वैज्ञानिकों के लिए नहीं, बल्कि **स्वयं परिवर्तन के लिए एक फैशनेबल उपकरण** बन गया।
- **Original motivation was social control and efficiency, not personal health or beauty**.  
मूल प्रेरणा **सामाजिक नियंत्रण और दक्षता** थी, व्यक्तिगत स्वास्थ्य या सुंदरता नहीं।
- Early **nutritionists** studied **prisoners, factory workers, and impoverished** to find minimum **fuel for productivity**.  
प्रारंभिक **पोषण विशेषज्ञों** ने **कैदी, कारखाने के कामगार और गरीबों** का अध्ययन किया ताकि **उत्पादकता के लिए न्यूनतम ईंधन** पता लगाया जा सके।
- **Goal: find the cheapest way to feed masses in schools, military, workhouses**.  
लक्ष्य: **स्कूल, सैन्य, कार्यशालाओं में जनता को भोजन देने का सस्ता तरीका** खोजना।

## Looking Beyond आगे देखने की दृष्टि

- Today, science reveals the **limits of 18th-century idea**.  
आज, विज्ञान **18वीं सदी के विचार की सीमाओं** को उजागर करता है।
- The model of **“calories in, calories out”** is being challenged.  
**“कैलोरी इन, कैलोरी आउट”** मॉडल को चुनौती दी जा रही है।
- Food label numbers are **averages with significant error margins**.  
खाद्य लेबल पर दिए गए अंक **औसत हैं जिनमें महत्वपूर्ण त्रुटि सीमा** है।
- **Bodies are not simple furnaces; energy absorption depends on genes, gut bacteria, and cooking methods**.  
शरीर सरल **भट्टियाँ** नहीं हैं; ऊर्जा अवशोषण **जीन, आंत बैक्टीरिया और खाना पकाने की विधियों** पर निर्भर करता है।
- **200 calories of almonds processed differently from 200 calories of fizzy drink**.  
**200 कैलोरी बादाम** को **200 कैलोरी फ़िज़ी ड्रिंक** से अलग तरीके से संसाधित किया जाता है।



- Future of nutrition lies in **personalised understanding**; **nutrigenomics** studies **gene-food interactions**.  
पोषण का भविष्य व्यक्तिगत समझ में है; न्यूट्रिजेनोमिक्स अध्ययन करता है जीन-खाद्य अंतःक्रियाओं को।
- **Calories gave a language to talk about food energy, but this language needs updating.**  
कैलोरी ने खाद्य ऊर्जा पर बात करने की भाषा दी, लेकिन अब इस भाषा को अपडेट करने की आवश्यकता है।

Next time you see a **calorie number**, remember its **rich history** — **guinea pigs, beef cubes, flappers** — and know we are more **complex than a simple calculation**.

अगली बार जब आप किसी कैलोरी संख्या को देखें, तो इसकी समृद्ध इतिहास याद रखें — गिनी पिग, बीफ क्यूब, फ्लैपर्स — और जानें कि हम सरल गणना से कहीं अधिक जटिल हैं।

अगली बार जब आप किसी कैलोरी संख्या को देखें, तो इसकी समृद्ध इतिहास याद रखें — गिनी पिग, बीफ क्यूब, फ्लैपर्स — और जानें कि हम सरल गणना से कहीं अधिक जटिल हैं।

# Mokyr, Aghion and Howitt win Nobel economics prize

Winners are professors in U.S., French and British universities; prize worth \$1.2 mn highlights work on innovation-driven economic growth

**GS III: Economy**

**Reuters**  
STOCKHOLM

**J**oel Mokyr, Philippe Aghion and Peter Howitt won the 2025 Nobel economics prize for “having explained innovation-driven economic growth”, the Royal Swedish Academy of Sciences said on Monday.

The prestigious award, formally known as the Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel, is the final prize to be given out this year and is worth 11 million Swedish Kronor (\$1.2 million).

“The laureates have taught us that sustained growth cannot be taken for granted,” the prize-awarding body said in a statement. Economic stagnation, not growth, has been the norm for most of human history. Their work shows that we must be aware of, and counteract, threats to continued growth.”

Mr. Mokyr is a professor at Northwestern University, in Evanston in the United States, while Mr. Aghion is professor at the College de France and INSEAD, in Paris, and at the London School of Economics and Political Science, in Britain. Mr. Howitt is a professor at Brown University, in Providence in the United States. Mr. Mokyr was



**Moment of pride:** Visuals of Joel Mokyr, Philippe Aghion and Peter Howitt, recipients of the Nobel Economics prize. REUTERS

awarded half the prize with the other half being shared between Aghion and Howitt.

“Joel Mokyr used historical observations to identify the factors necessary for sustained growth based on technological innovations,” John Hassler, member of the Nobel Committee, said.

### Creative destruction

“Philippe Aghion and Peter Howitt produced a mathematical model of creative destruction, an endless process in which new and better products replace the old.”

The awards for medicine, physics, chemistry, peace and literature were announced last week.

Those prizes were established in the will of Swedish dynamite inventor and businessman Alfred Nobel and have been handed out since 1901, with a few interruptions mostly due to the

world wars.

The economics prize was established much later, being given out first in 1969 when it was won by Norway’s Ragnar Frisch and Jan Tinbergen from the Netherlands for work in dynamic economic modelling. Tinbergen’s brother Nikolaas also won a prize, taking home Medicine in 1973.

While few economists are household names, relatively well-known winners include former U.S. Federal Reserve chairman Ben Bernanke, and Paul Krugman and Milton Friedman. Last year’s economics award went to U.S.-based academics Simon Johnson, James Robinson and Daron Acemoglu for research that explored the relationship between colonisation and the establishment of public institutions to explain why some countries have been mired in poverty for decades.

## Mokyr, Aghion and Howitt win Nobel economics prize मोकीर, एघियोन और हॉवित ने जीता नोबेल अर्थशास्त्र पुरस्कार

• Winners are professors in U.S., French and British universities; prize worth \$1.2 million highlights work on innovation-driven economic growth. विजेता संयुक्त राज्य, फ्रांस और ब्रिटेन की विश्वविद्यालयों में प्रोफेसर हैं; \$1.2 मिलियन मूल्य का यह पुरस्कार नवाचार-आधारित आर्थिक विकास पर कार्य को रेखांकित करता है।

• **Joel Mokyr, Philippe Aghion and Peter Howitt won the 2025 Nobel economics prize** for “having explained innovation-driven economic growth”, the Royal Swedish Academy of Sciences said on Monday.

जोएल मोकीर, फिलिप एघियोन और पीटर हॉवित ने 2025 का नोबेल अर्थशास्त्र पुरस्कार जीता “नवाचार-आधारित आर्थिक विकास की व्याख्या करने” के लिए, यह जानकारी रॉयल स्वीडिश एकेडमी ऑफ साइंसेज ने सोमवार को दी।

• The prestigious award, formally known as the **Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel**, is the **final prize** to be given out this year and is worth **11 million Swedish Kronor (\$1.2 million)**.

यह प्रतिष्ठित पुरस्कार, जिसे औपचारिक रूप से स्वेरिजेस रिक्सबैंक प्राइज इन इकोनॉमिक साइंसेज इन मेमोरी ऑफ अल्फ्रेड नोबेल कहा जाता है, इस वर्ष दिया जाने वाला अंतिम पुरस्कार है और इसका मूल्य 11 मिलियन स्वीडिश क्रोनर (\$1.2 मिलियन) है।

• “The laureates have taught us that

sustained growth cannot be taken for granted,” the prize-awarding body said in a statement.



Economic stagnation, not growth, has been the norm for most of human history. Their work shows that we must be aware of, and counteract, threats to continued growth."

“पुरस्कार विजेताओं ने हमें सिखाया है कि सतत विकास को स्वतःसिद्ध नहीं माना जा सकता,” पुरस्कार देने वाली संस्था ने अपने बयान में कहा। मानव इतिहास के अधिकांश समय में आर्थिक ठहराव, न कि विकास, सामान्य रहा है। उनका कार्य दिखाता है कि हमें सतत विकास के खतरों को पहचानना और उनका मुकाबला करना चाहिए।”

- Mr. Mokyr is a professor at Northwestern University in the United States, while Mr. Aghion is a professor at the College de France and INSEAD in Paris, and at the London School of Economics and Political Science in Britain. Mr. Howitt is a professor at Brown University in Providence, United States.

श्री मोकीर संयुक्त राज्य अमेरिका की नॉर्थवेस्टर्न यूनिवर्सिटी में प्रोफेसर हैं, जबकि श्री एघियोन कॉलेज डे फ्रांस और INSEAD (पेरिस) तथा लंदन स्कूल ऑफ इकोनॉमिक्स एंड पॉलिटिकल साइंस (ब्रिटेन) में प्रोफेसर हैं। श्री हॉवित संयुक्त राज्य अमेरिका के प्रोविडेंस स्थित ब्राउन यूनिवर्सिटी में प्रोफेसर हैं।

- Mr. Mokyr was awarded half the prize, with the other half being shared between Aghion and Howitt.

श्री मोकीर को पुरस्कार का आधा हिस्सा दिया गया, जबकि शेष आधा हिस्सा एघियोन और हॉवित के बीच साझा किया गया।

- “Joel Mokyr used historical observations to identify the factors necessary for sustained growth based on technological innovations,” John Hassler, member of the Nobel Committee, said.

“जोएल मोकीर ने प्रौद्योगिकी नवाचारों पर आधारित सतत विकास के लिए आवश्यक कारकों की पहचान करने हेतु ऐतिहासिक अवलोकनों का उपयोग किया,” नोबेल समिति के सदस्य जॉन हास्लर ने कहा।

- Creative destruction / रचनात्मक विनाश
  - “Philippe Aghion and Peter Howitt produced a mathematical model of creative destruction, an endless process in which new and better products replace the old.”
- “फिलिप एघियोन और पीटर हॉवित ने रचनात्मक विनाश का गणितीय मॉडल विकसित किया, जो एक अंतहीन प्रक्रिया है जिसमें नए और बेहतर उत्पाद पुराने उत्पादों की जगह लेते हैं।”

- The awards for medicine, physics, chemistry, peace and literature were announced last week.

चिकित्सा, भौतिकी, रसायन, शांति और साहित्य के पुरस्कारों की घोषणा पिछले सप्ताह की गई थी।

- Those prizes were established in the will of Swedish dynamite inventor and businessman Alfred Nobel and have been handed out since 1901, with a few interruptions mostly due to the world wars.

ये पुरस्कार स्वीडिश डायनामाइट आविष्कारक और व्यवसायी अल्फ्रेड नोबेल की वसीयत के तहत स्थापित किए गए थे और 1901 से दिए जा रहे हैं, बीच में कुछ विराम विश्व युद्धों के कारण आए।

- The economics prize was established much later, being given out first in 1969, when it was won by Norway’s Ragnar Frisch and Jan Tinbergen from the Netherlands for work in dynamic economic modelling. Tinbergen’s brother Nikolaas also won a prize in Medicine in 1973.

अर्थशास्त्र का पुरस्कार काफी बाद में स्थापित किया गया था, इसे पहली बार 1969 में दिया गया, जब इसे नॉर्वे के राग्नेर फ्रिश् और नीदरलैंड्स के जान टिनबर्गन को गतिशील आर्थिक मॉडलिंग में कार्य के लिए दिया गया। टिनबर्गन के भाई निकोलास ने भी 1973 में चिकित्सा का नोबेल पुरस्कार जीता था।

- While few economists are household names, relatively well-known winners include former U.S. Federal Reserve chairman Ben Bernanke, and Paul Krugman and Milton Friedman. हालांकि कुछ ही अर्थशास्त्री प्रसिद्ध नाम हैं, लेकिन अपेक्षाकृत जाने-माने विजेताओं में पूर्व अमेरिकी फेडरल रिजर्व अध्यक्ष बेन बर्नान्के, पॉल क्रुगमैन और मिल्टन फ्राइडमैन शामिल हैं।

- Last year’s economics award went to U.S.-based academics Simon Johnson, James Robinson and Daron Acemoglu for research that explored the relationship between colonisation and public institutions, explaining why some countries have been mired in poverty for decades.

पिछले वर्ष का अर्थशास्त्र पुरस्कार संयुक्त राज्य अमेरिका के विद्वानों साइमन जॉनसन, जेम्स रॉबिन्सन और डैरॉन एसेमोग्लू को मिला था, जिन्होंने उपनिवेशवाद और सार्वजनिक संस्थानों के बीच संबंध का अध्ययन किया और यह बताया कि कुछ देश दशकों से गरीबी में क्यों फंसे हुए हैं।



# Turbulent markets help LME recover from nickel crisis

**GS III: Capital Market**

**Reuters**  
LONDON

Crisis? What crisis? It's hard to believe that just over three years ago the **London Metal Exchange (LME)** was teetering on the brink of a death spiral after its nickel contract blew up.

Yet as the global metals industry descends on London for the annual **LME Week** festivities starting on **Monday**, the **148-year-old exchange**, owned by **Hong Kong Exchanges and Clearing**, appears in robust good health.

Trading volumes are up, with nickel itself back to pre-crisis activity levels. New LME warehouses have opened for business in the Saudi Arabian port of Jeddah and Hong Kong.

Even the exchange's open-outcry trading ring continues to defy expecta-



**On an upswing:** Trading volumes are up, with nickel itself back to pre-crisis activity levels. REUTERS

tions of inevitable demise with U.S. broker Clear Street joining the hallowed red-leather circle.

The tumultuous events of March 2022 still cast a long shadow in the form of the exchange's ongoing reform programme and tougher enforcement policies.

But the LME is being buoyed by turbulence in physical metal supply chains, not least this year's special guest in London - Doctor Copper.

#### **Must do better**

The Financial Conduct Authority (FCA) drew a line under the nickel crisis

earlier this year with a hefty fine on the LME, reduced for co-operating with the UK regulator, and a detailed, at times scathing, analysis of what went wrong.

Were it a school report, it would have ended with the words "must do better".

The exchange, to be fair, has been trying, pushing through a market restructuring programme in the face of predictable hostility from many of its members.

After much pushing and shoving, the LME will go ahead and introduce block trade thresholds to direct more liquidity to its electronic platform.

But it's had to concede greater latitude for inter-office trading on the front part of the curve to appease its industrial base.

An attempt to extend

block-trade rules into the over-the-counter (OTC) segment of the market was dropped after strong resistance from both members and futures industry associations. The LME's response is a hike in the fee charged for "lookalike" contracts, a popular instrument in the OTC market. Likely less controversial is the exchange's proposal to shift its options contracts from inter-office to electronic trading.

The London metals options market is underdeveloped relative to peer exchanges.

The Shanghai Futures Exchange (ShFE) only introduced options trading in 2018 but now has liquid contracts across the full spectrum of its metals suite, including even the new aluminium alloy contract. U.S. exchange CME,

meanwhile, has expanded its copper options offering with weekly contracts.

The LME's timeline for going electronic is extended but the ambition gets a vote of confidence from Dutch options trader Optiver, which has just become a non-clearing member.

The LME, no doubt under the watchful eye of the FCA, has toughened up its handling of over-size positions by extending its lending rules beyond the cash date to the nearest monthly prompt.

The new lending rules were presented as a response to low exchange stocks, particularly those of aluminium and copper, markets in which physical supply chains have been distorted by sanctions on Russian metal and the U.S. tariff trade respectively.

## Turbulent markets help LME recover from nickel crisis

### उथल-पुथल भरे बाजारों ने LME को निकल संकट से उबरने में मदद की

- Crisis? What crisis? It's hard to believe that just over **three years ago** the **London Metal Exchange (LME)** was teetering on the brink of a **death spiral** after its **nickel contract blew up**.  
संकट? कौन सा संकट? यह विश्वास करना कठिन है कि सिर्फ **तीन साल पहले**, **लंदन मेटल एक्सचेंज (LME)** अपने **निकेल अनुबंध फटने** के बाद **विनाश की कगार** पर था।
- Yet as the **global metals industry** descends on **London** for the annual **LME Week** festivities starting on **Monday**, the **148-year-old exchange**, owned by **Hong Kong Exchanges and Clearing**, appears in **robust good health**.  
फिर भी जैसे ही **वैश्विक धातु उद्योग सोमवार** से शुरू हो रही **वार्षिक LME वीक** उत्सवों के लिए **लंदन** आता है, **148 साल पुराना एक्सचेंज**, जो **हांगकांग एक्सचेंज और क्लियरिंग** के स्वामित्व में है, **मजबूत स्वास्थ्य** में दिखाई देता है।
- **Trading volumes are up**, with **nickel itself back to pre-crisis activity levels**.  
**व्यापार की मात्रा बढ़ गई है**, और **निकेल स्वयं संकट से पहले के स्तर पर लौट आया है**।
- **New LME warehouses** have opened for business in the **Saudi Arabian port of Jeddah** and **Hong Kong**.  
**नए LME गोदाम सऊदी अरब के जेदा बंदरगाह और हांगकांग** में व्यापार के लिए खुले हैं।
- Even the exchange's **open-outcry trading ring** continues to defy expectations of inevitable demise with **U.S. broker Clear Street** joining the **hallowed red-leather circle**.  
**एक्सचेंज की ओपन-आउटक्राय ट्रेडिंग रिंग** भी **अमेरिकी दलाल क्लियर स्ट्रीट** के **लाल-चमड़े के पवित्र सर्कल** में शामिल होने के साथ **अनिवार्य विनाश की उम्मीदों को चुनौती** देती रही है।
- The tumultuous events of **March 2022** still cast a **long shadow** in the form of the exchange's ongoing **reform programme** and **tougher enforcement policies**.  
**मार्च 2022** की उथल-पुथल भरी घटनाएँ अब भी **लंबी छाया** डालती हैं, जो **एक्सचेंज के चल रहे सुधार कार्यक्रम और कड़े प्रवर्तन नीतियों** के रूप में दिखाई देती है।
- But the **LME** is being buoyed by **turbulence in physical metal supply chains**, not least this year's **special guest in London - Doctor Copper**.  
लेकिन **LME** को **भौतिक धातु आपूर्ति श्रृंखलाओं में उथल-पुथल** से सहारा मिल रहा है, खासकर इस साल के **लंदन में विशेष अतिथि - डॉक्टर कॉपर**।



- **Must do better / बेहतर करना होगा**
- The **Financial Conduct Authority (FCA)** drew a line under the **nickel crisis** earlier this year with a **hefty fine on the LME**, reduced for **co-operating with the UK regulator**, and a detailed, at times scathing, **analysis of what went wrong**.  
**फाइनेशियल कंडक्ट अथॉरिटी (FCA)** ने इस वर्ष की शुरुआत में **निकेल संकट** पर **LME** पर भारी जुर्माना लगाया, जिसे **यूके नियामक के सहयोग** के लिए कम किया गया, और एक विस्तृत, कभी-कभी तीखी, **विश्लेषण कि क्या गलत हुआ** प्रस्तुत किया।
- Were it a **school report**, it would have ended with the words “**must do better**”.  
अगर यह एक **स्कूल रिपोर्ट** होती, तो यह “**बेहतर करना होगा**” के शब्दों के साथ समाप्त होती।
- The exchange, to be fair, has been trying, pushing through a **market restructuring programme** in the face of **predictable hostility from many of its members**.  
एक्सचेंज, न्यायसंगत रूप से, प्रयासरत रहा है, **अनुमेय शत्रुता** का सामना करते हुए **बाजार पुनर्गठन कार्यक्रम** को आगे बढ़ा रहा है।
- After much pushing and shoving, the **LME** will go ahead and introduce **block trade thresholds** to direct more **liquidity** to its **electronic platform**.  
काफी धक्कामुक्की के बाद, **LME** आगे बढ़ेगा और **ब्लॉक ट्रेड थ्रेशहोल्ड्स** पेश करेगा ताकि अधिक तरलता को उसके **इलेक्ट्रॉनिक प्लेटफॉर्म** पर निर्देशित किया जा सके।
- But it's had to concede greater latitude for **inter-office trading** on the **front part of the curve** to appease its **industrial base**.  
लेकिन इसे अपनी **औद्योगिक आधार** को संतुष्ट करने के लिए **कर्व के सामने हिस्से में इंटर-ऑफिस ट्रेडिंग** के लिए अधिक स्वतंत्रता स्वीकार करनी पड़ी।
- An attempt to extend **block-trade rules into the over-the-counter (OTC) segment** of the market was dropped after strong **resistance from both members and futures industry associations**.  
बाजार के **ओवर-द-काउंटर (OTC) सेक्शन** में **ब्लॉक ट्रेड नियमों का विस्तार** करने का प्रयास **सदस्यों और फ्यूचर्स उद्योग संघों दोनों के कड़े विरोध** के बाद रद्द कर दिया गया।
- The LME's response is a **hike in the fee** charged for “**lookalike**” contracts, a popular instrument in the **OTC market**.  
**LME** का उत्तर है कि “**लुकअलाइक**” अनुबंधों के लिए **शुल्क बढ़ाया जाए**, जो **OTC मार्केट** में एक लोकप्रिय उपकरण है।
- Likely less controversial is the exchange's proposal to shift its **options contracts** from **inter-office to electronic trading**.  
संभावित रूप से कम विवादास्पद है एक्सचेंज का प्रस्ताव कि उसके **ऑप्शंस अनुबंध** को **इंटर-ऑफिस से इलेक्ट्रॉनिक ट्रेडिंग** में स्थानांतरित किया जाए।
- The **London metals options market** is underdeveloped relative to **peer exchanges**.  
**लंदन धातु विकल्प बाजार** तुलनात्मक रूप से **समान एक्सचेंजों** की तुलना में कम विकसित है।
- The **Shanghai Futures Exchange (ShFE)** only introduced **options trading in 2018** but now has **liquid contracts across the full spectrum of its metals suite**, including even the **new aluminium alloy contract**.  
**शंघाई फ्यूचर्स एक्सचेंज (ShFE)** ने केवल **2018 में विकल्प ट्रेडिंग** शुरू की थी, लेकिन अब उसके पास **धातुओं के पूरे स्पेक्ट्रम में तरल अनुबंध** हैं, जिसमें **नया एल्यूमिनियम मिश्र धातु अनुबंध** भी शामिल है।
- **U.S. exchange CME**, meanwhile, has expanded its **copper options offering** with **weekly contracts**.  
इस बीच, **यूएस एक्सचेंज CME** ने अपने **कॉपर विकल्प ऑफरिंग** को **साप्ताहिक अनुबंधों** के साथ विस्तारित किया है।
- The **LME's timeline for going electronic** is extended but the ambition gets a **vote of confidence** from **Dutch options trader Optiver**, which has just become a **non-clearing member**.  
**LME का इलेक्ट्रॉनिक होने का समय-सीमा** बढ़ाया गया है, लेकिन इसके **महत्वाकांक्षा को विश्वास का वोट** मिला है **डच ऑप्शंस ट्रेडर Optiver** से, जो अभी हाल ही में **नॉन-क्लीयरिंग सदस्य** बना है।
- The **LME**, no doubt under the watchful eye of the **FCA**, has **toughened up its handling of over-size positions** by extending its **lending rules** beyond the **cash date** to the **nearest monthly prompt**.  
**LME**, निस्संदेह **FCA की निगरानी** में, ने अपने **अत्यधिक आकार की स्थिति** के प्रबंधन को **कड़ा किया है**, इसके **लेंडिंग नियमों को कैश तिथि से आगे निकटतम मासिक तिथि तक बढ़ाकर**।



**TELEGRAM CHANNEL:** <https://t.me/patrioticIAS>

**YOUTUBE CHANNEL:** <https://www.youtube.com/@PatrioticIAS>

**CONTACT: 9971932488**



- The **new lending rules** were presented as a response to **low exchange stocks**, particularly those of **aluminium and copper**, markets in which **physical supply chains** have been **distorted by sanctions on Russian metal and the U.S. tariff trade respectively**.  
नए लेंडिंग नियमों को कम एक्सचेंज स्टॉक्स के जवाब में पेश किया गया, विशेष रूप से एल्यूमिनियम और कॉपर के, जिनके बाजार में भौतिक आपूर्ति श्रृंखलाओं को रूसी धातु पर प्रतिबंध और अमेरिकी टैरिफ ट्रेड द्वारा विकृत किया गया है।

PATRIOTIC IAS