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27 FEBRUARY 2026

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PCS Special:	27 February
27F	Eminent scholar who placed Indian sociology on global intellectual map passes away at 88 भारतीय समाजशास्त्र को वैश्विक बौद्धिक मानचित्र पर स्थापित करने वाले प्रख्यात विद्वान का 88 वर्ष की आयु में निधन
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Eminent scholar who placed Indian sociology on global intellectual map passes away at 88

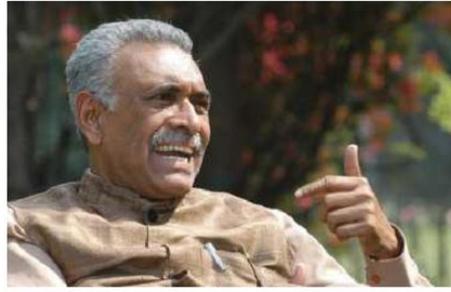
PCS

The Hindu Bureau
THIRUVANANTHAPURAM

T.K. Oommen, eminent sociologist and Professor-emeritus at the Centre for the Study of Social Systems of Jawaharlal Nehru University (JNU), who is regarded as a leading architect of modern Indian sociology, passed away on Thursday. He was 88, and his end came in Gurugram.

A respected scholar, teacher and author, Professor Oommen is known for his writings and approaches to social justice, identity and pluralism. He had gained wide attention for his study of the Bhoodan Movement and as chairperson of the Advisory Committee of Gujarat Harmony Project, formed after the communal violence in the State.

Professor Oommen was a former president of the



T.K. OOMMEN (1937-2026)

International Sociological Association (ISA), the Indian Sociological Society, and a member of the Sachar Committee which studied the social, economic and educational status of India's Muslim community.

For him, sociology was never a mere assemblage of abstract theories, but a scientific instrument to grasp the pulse of a society

in constant transition, Antony Palackal, former Professor and Head, Department of Sociology, University of Kerala, said. Professor Oommen placed Indian sociology firmly on the global intellectual map, he said.

Five major domains

"His scholarship spanned five major domains. First,

he examined social movements and their transformative potential, beginning with his study of the Bhoodan Movement. Second, in the sociology of occupation, his study of the nursing profession (1978) was pioneering, bringing attention to socially undervalued yet indispensable occupations. Third, in his work on state and ethnicity, most notably in "Understanding security: a new perspective", he offered a novel framework for analysing social security in the context of communal violence and ethnic conflict in India. He interrogated the complex relationship between State and civil society and explored how modern nation-states confront dissent and pluralism. Throughout, he argued that sociology is not an isolated discipline but one intrinsically

connected to history, politics, and culture," Dr. Palackal said.

Professor Oommen was born on October 16, 1937 in Venmony, Alappuzha, which was then part of Travancore. He described "his own position 'pluralist,' advocating theoretical eclecticism with attention to historical diversities, and reconciliation of national and basic humanist values, the 'alien' and the 'indigenous'," the ISA has noted in his biography on its website.

An author of around 20 books, he was also a recipient of a clutch of prestigious awards including the Padma Bhushan in 2008. He is a recipient of the V.K.R.V. Rao prize in sociology, the G.S. Ghurye prize in Sociology and Social Anthropology, and the UGC's Swami Pranavananda Award in Sociology.

27F. Eminent scholar who placed Indian sociology on global intellectual map passes away at 88

भारतीय समाजशास्त्र को वैश्विक बौद्धिक मानचित्र पर स्थापित करने वाले प्रख्यात विद्वान का 88 वर्ष की आयु में निधन

- T.K. Oommen, eminent sociologist and **Professor-emeritus** at the **Centre for the Study of Social Systems** of **Jawaharlal Nehru University (JNU)**, who is regarded as a leading architect of **modern Indian sociology**, passed away on Thursday.
टी.के. ओommen, प्रख्यात समाजशास्त्री और जवाहरलाल नेहरू विश्वविद्यालय (जेएनयू) के सेंटर फॉर द स्टडी ऑफ सोशल सिस्टम्स में प्रोफेसर एमेरिटस, जिन्हें आधुनिक भारतीय समाजशास्त्र के प्रमुख शिल्पकारों में माना जाता है, का गुरुवार को निधन हो गया।
- He was **88**, and his end came in **Gurugram**.
वह **88 वर्ष** के थे और उनका निधन **गुरुग्राम** में हुआ।
- A respected scholar, teacher and author, **Professor Oommen** is known for his writings and approaches to **social justice, identity and pluralism**.
एक सम्मानित विद्वान, शिक्षक और लेखक के रूप में, **प्रोफेसर ओommen** को सामाजिक न्याय, पहचान और बहुलवाद पर उनके लेखन और दृष्टिकोण के लिए जाना जाता है।
- He had gained wide attention for his study of the **Bhoodan Movement** and as chairperson of the **Advisory Committee of Gujarat Harmony Project**, formed after the **communal violence** in the State.
उन्होंने **भूदान आंदोलन** पर अपने अध्ययन और राज्य में **सांप्रदायिक हिंसा** के बाद गठित **गुजरात हार्मनी प्रोजेक्ट** की **सलाहकार समिति के अध्यक्ष** के रूप में व्यापक ध्यान आकर्षित किया।
- Professor Oommen was a former president of the **International Sociological Association (ISA)**, the **Indian Sociological Society**, and a member of the **Sachar Committee** which studied the social, economic and educational status of **India's Muslim community**.
प्रोफेसर ओommen **अंतरराष्ट्रीय समाजशास्त्रीय संघ (ISA)**, **इंडियन सोशियोलॉजिकल सोसाइटी** के पूर्व अध्यक्ष रहे और **सच्चर समिति** के सदस्य थे, जिसने **भारत के मुस्लिम समुदाय** की सामाजिक, आर्थिक और शैक्षिक स्थिति का अध्ययन किया था।



- For him, sociology was never a mere assemblage of **abstract theories**, but a **scientific instrument** to grasp the pulse of a society in constant transition, **Antony Palackal**, former Professor and Head, Department of Sociology, **University of Kerala**, said.
उनके लिए समाजशास्त्र कभी केवल **सैद्धांतिक अवधारणाओं** का संग्रह नहीं था, बल्कि निरंतर परिवर्तनशील समाज की नब्ज समझने का एक **वैज्ञानिक उपकरण** था, ऐसा **केरल विश्वविद्यालय** के समाजशास्त्र विभाग के पूर्व प्रोफेसर एवं प्रमुख **एंटी पलक्कल** ने कहा।
- Professor Oommen placed **Indian sociology** firmly on the **global intellectual map**, he said.
उन्होंने कहा कि प्रोफेसर ओommen ने **भारतीय समाजशास्त्र** को दृढ़ता से **वैश्विक बौद्धिक मानचित्र** पर स्थापित किया।

Five major domains

पाँच प्रमुख क्षेत्र

- “His scholarship spanned **five major domains**.
“उनकी विद्वत्ता **पाँच प्रमुख क्षेत्रों** में फैली हुई थी।
- First, he examined **social movements** and their transformative potential, beginning with his study of the **Bhoodan Movement**.
पहला, उन्होंने **सामाजिक आंदोलनों** और उनकी परिवर्तनकारी क्षमता का अध्ययन किया, जिसकी शुरुआत **भूदान आंदोलन** से हुई।
- Second, in the **sociology of occupation**, his study of the **nursing profession (1978)** was pioneering, bringing attention to socially undervalued yet indispensable occupations.
दूसरा, **व्यवसाय के समाजशास्त्र** में **नर्सिंग पेशे (1978)** पर उनका अध्ययन अग्रणी था, जिसने सामाजिक रूप से कम आंके गए लेकिन अत्यंत आवश्यक व्यवसायों पर ध्यान केंद्रित किया।
- Third, in his work on **state and ethnicity**, most notably in “**Understanding security: a new perspective**”, he offered a novel framework for analysing **social security** in the context of **communal violence and ethnic conflict** in India.
तीसरा, **राज्य और जातीयता** पर अपने कार्य में, विशेष रूप से “**अंडरस्टैंडिंग सिक््योरिटी: ए न्यू पर्सपेक्टिव**” में, उन्होंने भारत में **सांप्रदायिक हिंसा और जातीय संघर्ष** के संदर्भ में **सामाजिक सुरक्षा** के विश्लेषण के लिए एक नया ढाँचा प्रस्तुत किया।
- He interrogated the complex relationship between **State and civil society** and explored how **modern nation-states** confront dissent and pluralism.
उन्होंने **राज्य और नागरिक समाज** के बीच जटिल संबंधों की पड़ताल की और यह खोजा कि **आधुनिक राष्ट्र-राज्य** असहमति और बहुलवाद का सामना कैसे करते हैं।
- Throughout, he argued that sociology is not an isolated discipline but one intrinsically connected to **history, politics, and culture**,” Dr. Palackal said.
पूरे समय उन्होंने यह तर्क दिया कि समाजशास्त्र कोई अलग-थलग विषय नहीं है, बल्कि **इतिहास, राजनीति और संस्कृति** से अंतर्निहित रूप से जुड़ा हुआ है,” डॉ. पलक्कल ने कहा।
- Professor Oommen was born on **October 16, 1937** in **Venmony, Alappuzha**, which was then part of **Travancore**.
प्रोफेसर ओommen का जन्म **16 अक्टूबर 1937** को **वेन्मोनी, अलप्पुझा** में हुआ था, जो उस समय **त्रावणकोर** का हिस्सा था।
- He described “his own position ‘**pluralist**,’ advocating **theoretical eclecticism** with attention to **historical diversities**, and reconciliation of **national and basic humanist values**, the ‘**alien**’ and the ‘**indigenous**,’” the **ISA** has noted in his biography on its website.
उन्होंने अपनी स्थिति को ‘**बहुलवादी**’ बताया, जिसमें **सैद्धांतिक बहुलता, ऐतिहासिक विविधताओं** पर ध्यान, तथा **राष्ट्रीय और मूल मानवतावादी मूल्यों, ‘विदेशी’ और ‘देशज’** के समन्वय की वकालत की गई, ऐसा **ISA** ने अपनी वेबसाइट पर उनकी जीवनी में उल्लेख किया है।
- An author of around **20 books**, he was also a recipient of a clutch of **prestigious awards** including the **Padma Bhushan in 2008**.
लगभग **20 पुस्तकों** के लेखक रहे प्रोफेसर ओommen को **2008 में पद्म भूषण** सहित कई **प्रतिष्ठित पुरस्कार** प्राप्त हुए।
- He is a recipient of the **V .K.R.V. Rao prize in sociology**, the **G.S. Ghurye prize in Sociology and Social Anthropology**, and the **UGC’s Swami Pranavananda Award in Sociology**.



वह वी.के.आर.वी. राव समाजशास्त्र पुरस्कार, जी.एस. घुर्ये समाजशास्त्र एवं सामाजिक मानवशास्त्र पुरस्कार, तथा यूजीसी के स्वामी प्रणवानंद समाजशास्त्र पुरस्कार के भी प्राप्तकर्ता थे।

A machine has verified the maths that won a Fields Medal: why it matters

Mathematicians announced that a machine had verified Maryna Viazovska's solution to the eight-dimensional sphere-packing problem; the feat used Gauss, an AI tool, to spell out proof in the machine's language; the wider goal is to make mathematical correctness depend more on verifiable proofs

PCS
Vasudevan Mukunth

A group of mathematicians has announced a milestone in the effort to thoroughly verify the solution of the Ukrainian mathematician Maryna Viazovska won the Fields Medal in 2022 – using a machine.

This version of the problem asks what the best way is to pack a bunch of spheres in eight dimensions.

On February 23, the team that achieved this said it now has a proof that a machine has verified fully.

Viazovska's proof, like many other (human) proofs of difficult maths problems, was originally written for mathematicians to make sense of. This means her paper skips steps that are considered "obvious" or which follow from some theorem awareness of which mathematicians may take for granted.

On the other hand, the new achievement involved a machine checking both the evident and the 'hidden' steps.

Benefits of checking

Mathematicians are making this effort because sometimes a logical flaw or an unstated assumption can slip through unnoticed.

Once a proof has been checked in this way, other mathematicians can know which definitions the proof used at all points, which theorems the prover relied on, etc., making it easier for them to audit it themselves or reuse parts of it in their work. Other machines can also use it future when verifying more complicated proofs of other problems.

'Remarkable contribution'

The development is also notable for its use of an auto-formalisation agent called 'Gauss', developed by California-based company Math, Inc.

Formalisation here means translating a non-exhaustive human proof written in papers into the machine's language.

The language here was for a piece of software named Lean.

The Sphere Packing Lean project, an open-source effort to formalise Viazovska's proof, already had a large Lean codebase with many lemmas and definitions and a to-do list of the statements that still needed to be proved. 'Gauss', which is an AI tool, formalised the remaining statements for Lean to check.

"The project team is already in the process of reviewing and revising Gauss' code, thereby ensuring that it meets the editorial standards of the formalisation community. This process will ensure that the code is maintainable and reusable, and that it will support future formalisation work," Carnegie Mellon University PhD student Sidharth Hariharan wrote in a post on LinkedIn. "Gauss' remarkable contribution has saved the project months of effort, and Gauss will continue to play a role in the revisions."

Mr. Hariharan is also a maintainer of the Sphere Packing Lean project.

How Lean works

Lean is a programming language with a logical foundation. Mathematicians first translate definitions, theorems, and



Ukrainian mathematician Maryna Viazovska won the Fields Medal in 2022 for figuring out the best way to pack spheres in a volume in eight dimensions. REUTERS

proofs as Lean code, then its kernel – which is the checker – verifies if they're correct.

The kernel checks proofs using Lean's built-in logical rules, while a separate library called mathlib supplies most of the standard definitions and theorems that mathematicians can reuse.

To use Lean, mathematicians start by encoding a problem as a Lean statement, including what the objects involved in the proof are and what exactly is being claimed. Then they incorporate the necessary mathematical 'parts' of the proof inside Lean, in this case, real and complex analysis, Fourier transforms, special functions, modular/Theta-functions, inequalities, measure theory, etc.

Every step that a human might skip in a paper needs to be expanded into a chain of lemmas that Lean can verify. Then finally the kernel gets to work.

At the Lean Together conference in January, Lean creator Leo de Moura said the priorities for this year include finalising the Lean 4 compiler and improving its performance to reduce compilation times and to handle the large scale of modern Lean libraries.

Challenge of formalisation

According to mathematicians, the ultimate purpose is to make mathematical correctness less dependent on trust and

Some major theorems that have been completely formalised include the four-colour theorem itself, in 2005; the prime number theorem also in 2005; the Feit-Thompson odd order in 2012; and the Kepler conjecture in 2014.

Automation has helped in this regard, although it's still not come to the point where a tool can take a 'human proof' and turn it into a complete formal proof in a reliable way.

In September 2025, a team led by Indian Institute of Science mathematics professor Siddhartha Gadgil won a grant from the AI For Math Fund for its work on 'LeanAide'.

"By creating an accessible, no-code AI+Lean environment, the project seeks to simplify the formalisation process for Lean users and empower mathematicians with new, innovative tools for research, including agentic solutions," the citation reads.

Some other tools like Gauss include Lean Copilot, an AI helper inside Lean that suggests what step to try next; Sledgehammer, a tool that tries to solve your current goal automatically by calling other programs; and Alpha Proof, an AI tool developed by DeepMind to produce proofs that a proof assistant like Lean can check.

AI in mathematics

AI has been reshaping mathematics even as it has continued to evolve away from just being a powerful calculator. Platforms like Photomath and specialised educational intelligence, or SEI, models today serve as on-demand tutors that offer step-by-step explanations in natural language and can adapt to individual students.

Large language models (LLMs) are being used to generate high-quality standardised tests as well as to take on challenges like the International Mathematical Olympiad. In 2025, reasoning models from OpenAI and Google DeepMind achieved scores worthy of gold medals.

AI models have also become a reasoning partner for seasoned mathematicians, helping to solve problems by detecting patterns in large datasets.

It has been used to generate novel conjectures in topology and geometry, often spotting connections across disparate fields that evaded experts.

On February 13, for instance, OpenAI announced that two models built by the company helped physicists make a new finding in particle physics, overturning a belief the community had held for many years.

"[AI cofounder] Christian Szegedy has predicted that models will be mathematically 'superhuman in almost all respects' in six months to a year," University of Toronto assistant professor Daniel Litt wrote on his blog on February 21.

"I find that precise timeline hard to believe for most aspects of mathematical research, but I suspect that he won't be off by much when it comes to proving some class of involved statements that would previously have required an expert. This is a narrow conception of mathematics indeed, but it is true that producing such proofs is a large part of math research."

Helping with formalisation

The main barrier to getting a machine to thoroughly check a proof is to get it into the machine's language – i.e. formalisation.

27F. A machine has verified the maths that won a Fields Medal: why it matters
एक मशीन ने उस गणित को सत्यापित किया जिसने फील्ड्स मेडल जीता: यह क्यों महत्वपूर्ण

27F



- **Mathematicians** announced that a **machine** had **verified** Maryna Viazovska's solution to the **eight-dimensional sphere-packing problem**; the feat used **Gauss**, an **AI tool**, to spell out proof in the **machine's language**; the wider goal is to make **mathematical correctness** depend more on **verifiable proofs**
गणितज्ञों ने घोषणा की कि एक मशीन ने Maryna Viazovska के आठ-आयामी गोला-पैकिंग समस्या के समाधान को सत्यापित किया; इस उपलब्धि में Gauss, एक AI टूल, का उपयोग करके प्रमाण को मशीन की भाषा में प्रस्तुत किया गया; व्यापक उद्देश्य यह है कि गणितीय शुद्धता अधिकाधिक सत्यापन योग्य प्रमाणों पर निर्भर हो सके

Sphere-Packing Problem Verification गोला-संयोजन समस्या का सत्यापन

- A group of mathematicians has announced a milestone in verifying the solution of the **sphere-packing problem**.
गणितज्ञों के एक समूह ने गोला-संयोजन समस्या के समाधान के सत्यापन में एक मील का पत्थर घोषित किया है।
- The problem was solved by Ukrainian mathematician **Maryna Viazovska**, who won the **Fields Medal in 2022**.
इस समस्या का समाधान यूक्रेनी गणितज्ञ मैरीना वियाज़ोव्स्का ने किया था, जिन्हें 2022 में फ़िल्ड्स मेडल मिला।
- This version asks the best way to pack spheres in **eight dimensions**.
यह संस्करण आठ आयामों में गोले पैक करने का सर्वोत्तम तरीका पूछता है।
- On **February 23**, the team said a machine has now fully verified the proof.
23 फरवरी को टीम ने कहा कि मशीन ने अब प्रमाण को पूर्णतः सत्यापित कर दिया है।
- Viazovska's proof was written for mathematicians and skipped "obvious" steps.
वियाज़ोव्स्का का प्रमाण गणितज्ञों के लिए लिखा गया था और "स्पष्ट" चरणों को छोड़ दिया गया था।
- Such proofs assume awareness of certain theorems.
ऐसे प्रमाण कुछ प्रमेयों की जानकारी को स्वाभाविक मान लेते हैं।
- The new achievement involved a machine checking both evident and hidden steps.
नई उपलब्धि में मशीन ने स्पष्ट और छिपे दोनों चरणों की जाँच की।

Benefits of checking जाँच के लाभ

- Mathematicians verify proofs because logical flaws or unstated assumptions may slip unnoticed.
गणितज्ञ प्रमाणों की जाँच करते हैं क्योंकि तार्किक त्रुटियाँ या अनकही मान्यताएँ अनदेखी रह सकती हैं।
- Once checked, mathematicians know which definitions and theorems were used.
जाँच के बाद गणितज्ञ जान सकते हैं कि कौन-सी परिभाषाएँ और प्रमेय उपयोग हुए।
- It becomes easier to audit or reuse parts of the proof.
इससे प्रमाण की समीक्षा या उसके भागों का पुनः उपयोग आसान होता है।
- Other machines can use it to verify more complex proofs in future.
अन्य मशीनें भविष्य में अधिक जटिल प्रमाणों के सत्यापन में इसका उपयोग कर सकती हैं।

'Remarkable contribution' 'उल्लेखनीय योगदान'

- The development used an auto-formalisation agent called '**Gauss**'.
इस विकास में '**Gauss**' नामक स्वचालित औपचारिककरण एजेंट का उपयोग हुआ।
- '**Gauss**' was developed by California-based company **Math, Inc.**
'Gauss' को कैलिफोर्निया स्थित कंपनी **Math, Inc.** ने विकसित किया।
- Formalisation means translating a human proof into a machine's language.
औपचारिककरण का अर्थ मानव प्रमाण को मशीन की भाषा में अनुवाद करना है।
- The language used was for software named **Lean**.
यह भाषा **Lean** नामक सॉफ्टवेयर के लिए थी।



- The **Sphere Packing Lean project** is an open-source effort to formalise Viazovska's proof. **Sphere Packing Lean project** वियाज़ोव्स्का के प्रमाण को औपचारिक बनाने का एक ओपन-सोर्स प्रयास है।
- It already had many lemmas and definitions in its Lean codebase. इसके Lean कोडबेस में पहले से कई लेम्मा और परिभाषाएँ थीं।
- 'Gauss' formalised the remaining statements for Lean to check. 'Gauss' ने शेष कथनों को औपचारिक बनाया ताकि Lean उन्हें जाँच सके।
- The team is reviewing and revising Gauss' code to meet formalisation standards. टीम औपचारिककरण मानकों को पूरा करने हेतु Gauss के कोड की समीक्षा और संशोधन कर रही है।
- This ensures maintainable and reusable code for future work. यह भविष्य के कार्य हेतु बनाए रखने योग्य और पुनः उपयोग योग्य कोड सुनिश्चित करता है।
- Carnegie Mellon University PhD student **Sidharth Hariharan** shared this update. कार्नेगी मेलन विश्वविद्यालय के पीएचडी छात्र **सिद्धार्थ हरिहरन** ने यह जानकारी साझा की।
- He said Gauss saved the project months of effort. उन्होंने कहा कि Gauss ने परियोजना के कई महीनों के प्रयास बचाए।
- Gauss will continue to assist in revisions. Gauss संशोधनों में सहायता करता रहेगा।
- Mr. Hariharan is also a maintainer of the **Sphere Packing Lean project**. श्री हरिहरन **Sphere Packing Lean project** के एक मेंटेनर भी हैं।

How Lean works लीन कैसे कार्य करता है

- Lean is a programming language with a logical foundation. **Lean** एक तार्किक आधार वाला प्रोग्रामिंग भाषा है।
- Mathematicians translate definitions, theorems, and proofs as Lean code. गणितज्ञ परिभाषाएँ, प्रमेय और प्रमाणों को Lean कोड में अनुवादित करते हैं।
- Its kernel, which is the checker, verifies if they are correct. इसका **kernel** जो जाँचकर्ता है, सत्यापित करता है कि वे सही हैं या नहीं।
- The kernel checks proofs using Lean's built-in logical rules. kernel, Lean के अंतर्निहित तार्किक नियमों का उपयोग कर प्रमाणों की जाँच करता है।
- A separate library called **mathlib** supplies standard definitions and theorems. **mathlib** नामक अलग लाइब्रेरी मानक परिभाषाएँ और प्रमेय प्रदान करती है।
- Mathematicians encode a problem as a Lean statement. गणितज्ञ समस्या को Lean कथन के रूप में एन्कोड करते हैं।
- They specify the objects involved and what is being claimed. वे शामिल वस्तुओं और दावे को स्पष्ट करते हैं।
- They incorporate necessary mathematical parts such as real and complex analysis, Fourier transforms, special functions, modular/Theta-functions, inequalities, measure theory, etc. वे वास्तविक और जटिल विश्लेषण, **Fourier transforms**, विशेष फलन, **modular/Theta-functions**, असमानताएँ, माप सिद्धांत आदि को शामिल करते हैं।
- Every skipped human step must be expanded into lemmas that Lean can verify. मानव द्वारा छोड़ा गया प्रत्येक चरण लेम्माओं की श्रृंखला में विस्तारित किया जाता है जिसे Lean सत्यापित कर सके।
- Finally, the kernel verifies the entire chain. अंततः kernel पूरी श्रृंखला की जाँच करता है।
- At the **Lean Together conference in January**, creator **Leo de Moura** outlined priorities. **जनवरी में Lean Together सम्मेलन** में निर्माता **लियो डे मौरा** ने प्राथमिकताएँ बताईं।
- These include finalising the **Lean 4 compiler** and improving performance. इनमें **Lean 4 compiler** को अंतिम रूप देना और प्रदर्शन सुधारना शामिल है।
- The aim is to reduce compilation times and handle large modern libraries. उद्देश्य संकलन समय कम करना और आधुनिक बड़ी लाइब्रेरियों को संभालना है।



Challenge of formalisation

औपचारिककरण की चुनौती

- The goal is to make mathematical correctness less dependent on trust.
उद्देश्य गणितीय शुद्धता को विश्वास पर कम निर्भर बनाना है।
- It should rely more on explicit and verifiable mathematics.
इसे स्पष्ट और सत्यापन योग्य गणित पर आधारित होना चाहिए।
- In **1879**, **Alfred Kempe** published a proof of the **four-colour theorem**.
1879 में **अल्फ्रेड केम्पे** ने **चार-रंग प्रमेय** का प्रमाण प्रकाशित किया।
- The theorem states a flat map can be coloured using only four colours so adjacent regions differ.
यह प्रमेय कहता है कि समतल मानचित्र को केवल चार रंगों से इस प्रकार रंगा जा सकता है कि सटे क्षेत्र अलग रंग के हों।
- Kempe's proof was accepted for about a decade.
केम्पे का प्रमाण लगभग एक दशक तक स्वीकार किया गया।
- In **1890**, **Percy Heawood** found a mistake that invalidated it.
1890 में **पर्सी हीवुड** ने उसमें त्रुटि खोजी जिससे वह अमान्य हो गया।
- The theorem was later proven true, but Kempe's proof was wrong.
बाद में प्रमेय सत्य सिद्ध हुआ, पर केम्पे का प्रमाण गलत था।
- In the **20th century**, mathematicians realised proofs are formal objects checkable by machines.
20वीं सदी में गणितज्ञों ने समझा कि प्रमाण औपचारिक वस्तुएँ हैं जिन्हें मशीन से जाँचा जा सकता है।
- They sought practical tools for this purpose.
उन्होंने इसके लिए व्यावहारिक उपकरण विकसित करने की इच्छा की।
- Modern proofs can be extremely long and hard for peer-reviewers to verify fully.
आधुनिक प्रमाण अत्यंत लंबे हो सकते हैं और समीक्षकों के लिए पूर्ण जाँच कठिन होती है।
- Proof assistants emerged to raise and meet verification standards.
सत्यापन के मानकों को ऊँचा करने और पूरा करने हेतु **proof assistants** विकसित हुए।

Helping with formalisation

औपचारिककरण में सहायता

- The main barrier to getting a machine to thoroughly check a proof is formalisation.
किसी प्रमाण को मशीन से पूर्ण रूप से जाँचने में मुख्य बाधा **औपचारिककरण** है।
- Formalisation means getting the proof into the machine's language.
औपचारिककरण का अर्थ है प्रमाण को मशीन की भाषा में बदलना।
- Major theorems completely formalised include the **four-colour theorem (2005)**.
पूरी तरह औपचारिक किए गए प्रमुख प्रमेयों में **चार-रंग प्रमेय (2005)** शामिल है।
- The **prime number theorem (2005)** was also formalised.
अभाज्य संख्या प्रमेय (2005) भी औपचारिक किया गया।
- The **Feit-Thompson odd order theorem (2012)** was formalised.
फीट-थॉम्पसन विषम क्रम प्रमेय (2012) का भी औपचारिककरण हुआ।
- The **Kepler conjecture (2014)** was formalised.
केप्लर अनुमान (2014) भी औपचारिक किया गया।
- Automation has helped but tools still cannot reliably convert a human proof into a complete formal proof.
स्वचालन ने सहायता की है, पर उपकरण अभी भी मानव प्रमाण को पूर्ण औपचारिक प्रमाण में विश्वसनीय रूप से परिवर्तित नहीं कर सकते।
- In **September 2025**, a team led by **Siddhartha Gadgil** from **Indian Institute of Science** won a grant from the **AI For Math Fund**.
सितंबर 2025 में **भारतीय विज्ञान संस्थान** के प्रोफेसर **सिद्धार्थ गाडगिल** के नेतृत्व वाली टीम को **AI For Math Fund** से अनुदान मिला।
- The grant was for work on '**LeanAide**'.
यह अनुदान '**LeanAide**' पर कार्य के लिए था।



- The project aims to create an accessible, no-code **AI+Lean environment**.
परियोजना का उद्देश्य सुलभ, बिना-कोड वाला **AI+Lean वातावरण** बनाना है।
- It seeks to simplify formalisation and empower mathematicians with agentic solutions.
यह औपचारिककरण को सरल बनाने और गणितज्ञों को एजेंटिक समाधान प्रदान करने का प्रयास करता है।
- Other tools include **Lean Copilot**, **Sledgehammer**, and **Alpha Proof**.
अन्य उपकरणों में **Lean Copilot**, **Sledgehammer**, और **Alpha Proof** शामिल हैं।
- Lean Copilot suggests the next proof step inside Lean.
Lean Copilot Lean के भीतर अगला प्रमाण चरण सुझाता है।
- Sledgehammer tries to solve goals automatically by calling other programs.
Sledgehammer अन्य प्रोग्रामों को बुलाकर लक्ष्य हल करने का प्रयास करता है।
- Alpha Proof, developed by **DeepMind**, produces proofs checkable by assistants like Lean.
DeepMind द्वारा विकसित Alpha Proof ऐसे प्रमाण बनाता है जिन्हें Lean जैसे सहायक जाँच सकते हैं।

AI in mathematics गणित में AI

- AI has reshaped mathematics beyond being a calculator.
AI ने गणित को केवल गणना उपकरण से आगे बढ़कर बदल दिया है।
- Platforms like **Photomath** and **SEI models** act as on-demand tutors.
Photomath और **SEI मॉडल** मांग पर उपलब्ध शिक्षक की तरह कार्य करते हैं।
- They offer step-by-step explanations in natural language.
वे प्राकृतिक भाषा में चरण-दर-चरण व्याख्या देते हैं।
- They adapt to individual students.
वे व्यक्तिगत विद्यार्थियों के अनुसार अनुकूलित होते हैं।
- **Large language models (LLMs)** generate high-quality standardised tests.
बड़े भाषा मॉडल (LLMs) उच्च गुणवत्ता वाली मानकीकृत परीक्षाएँ तैयार करते हैं।
- They attempt challenges like the **International Mathematical Olympiad**.
वे अंतरराष्ट्रीय गणित ओलंपियाड जैसी चुनौतियाँ भी लेते हैं।
- In **2025**, models from **OpenAI** and **Google DeepMind** achieved gold-medal level scores.
2025 में **OpenAI** और **Google DeepMind** के मॉडलों ने स्वर्ण-पदक स्तर के अंक प्राप्त किए।
- AI models assist mathematicians by detecting patterns in large datasets.
AI मॉडल बड़े डेटा में पैटर्न पहचानकर गणितज्ञों की सहायता करते हैं।
- They have generated novel conjectures in topology and geometry.
उन्होंने टोपोलॉजी और ज्यामिति में नए अनुमानों का निर्माण किया है।
- They often spot connections across disparate fields.
वे विभिन्न क्षेत्रों के बीच संबंध पहचानते हैं।
- On **February 13**, **OpenAI** said two models helped physicists make a new particle physics finding.
13 फरवरी को **OpenAI** ने कहा कि उसके दो मॉडलों ने भौतिकविदों को कण भौतिकी में नई खोज करने में सहायता की।
- The finding overturned a long-held belief.
इस खोज ने लंबे समय से प्रचलित विश्वास को बदल दिया।
- On **February 21**, **Daniel Litt** cited a prediction by **Christian Szegedy** of xAI.
21 फरवरी को **डैनियल लिट** ने xAI के **क्रिश्चियन सेगेडी** की भविष्यवाणी का उल्लेख किया।
- Szegedy predicted models would become mathematically superhuman in six months to a year.
सेगेडी ने भविष्यवाणी की कि मॉडल छह महीने से एक वर्ष में गणितीय रूप से अतिमानवीय बन सकते हैं।
- Litt found the timeline hard to believe for most research.
लिट ने अधिकांश शोध के लिए इस समयरेखा पर संदेह व्यक्त किया।
- He said AI may soon prove complex statements previously requiring experts.
उन्होंने कहा कि AI शीघ्र ही ऐसे जटिल कथनों को सिद्ध कर सकता है जिनके लिए पहले विशेषज्ञों की आवश्यकता होती थी।
- Producing such proofs is a large part of mathematical research.
ऐसे प्रमाण तैयार करना गणितीय शोध का बड़ा भाग है।



Know your English

English
S. Upendran

"Hi! I see that you have finally managed to get the speakers mounted on the wall."
"I did that yesterday. It was the devil of a job getting them to..."
"...devil of a job? What are you talking about?"
"When you say that something was the 'devil of a job', it means it was a very difficult task."
"I see. Is it an informal expression?"
"Yes, it is. For example, it was the devil of a job trying to find an auto in the pouring rain."
"It was the devil of a job scoring runs against the spinners."
"Last week I had the devil of a job trying to fix the scooter."
"What was wrong with it?"
"I'll tell you later. By the way, 'the devil's own job' means the same thing as 'the devil of a job'."
"So, is it O.K to say, it was the devil's own job trying to find an auto in the pouring rain?"
"It sounds good to me. It was the devil's own job fixing the car."
"Why didn't you take it to a mechanic?"
"The last time I took the car to a mechanic, he did a snow job on me."
"We don't get any snow here. How could he do a snow job on you?"
"When you do a snow job on someone, you deceive them or confuse them."
"That's what our politicians do all the time."
"Exactly! Here's an example. The students wanted to do a snow job on the teacher. Unfortunately, she knew all the tricks."

"I bet she did."
"The children wanted to do a snow job on their parents. But it backfired."
"That's happened to me several times."
"Neena seems to know when I am trying to do a snow job on her. Last week she..."
"... talking about Neena. How is she doing?"
"Not too good actually. She's pretty depressed. She fell down on the job. So they sacked her last week."
"Fell down on the job! Did she hurt herself?"
"Ha! Ha! When someone falls down on the job, it means he/she fails to do his/her job satisfactorily."
"I see. Many people in our school feel that our Physics teacher falls down on the job. Can I say that?"
"I guess you could."
"In the private sector, if you fall down on the job, you are likely to be fired."
"If you are part of the public sector, on the other hand, nobody really cares..."
"... really cares if you work or not. But tell me more about poor Neena. She's lost..."
"... oh, don't worry about her. She'll land a job soon."
"Another expression with the word 'job'. Tell me, does 'land' mean to find a job?"
"That's right. Once again, it's an informal expression. Mohan says, as soon as he lands a job, he is going to buy a CD player."
"My cousin hasn't managed to land a job as yet."
"I am sure..."
"... do you think Neena will land a job soon?"
"I am sure she will."
Published in *The Hindu* on September 28, 1999.

27F. Know your English अपने अंग्रेज़ी ज्ञान को बढ़ाइए

- "Hi! I see that you have finally managed to get the **speakers mounted on the wall**."
"हाय! मैं देख रहा हूँ कि तुमने आखिरकार दीवार पर **स्पीकर्स लगा ही दिए**।"
- "I did that yesterday. It was the **devil of a job** getting them to..."
"मैंने यह कल किया था। उन्हें लगाना एक **बेहद मुश्किल काम** था..."
- "...devil of a job? What are you talking about?"
"...डेविल ऑफ़ अ जॉब? तुम किस बारे में बात कर रहे हो?"
- "When you say that something was the '**devil of a job**', it means it was a **very difficult task**."
"जब आप कहते हैं कि कोई काम '**डेविल ऑफ़ अ जॉब**' था, तो उसका मतलब होता है कि वह **बहुत कठिन काम** था।"
- "I see. Is it an **informal expression**?"

"समझ गया। क्या यह एक **अनौपचारिक अभिव्यक्ति** है?"

- "Yes, it is. For example, it was the **devil of a job** trying to find an auto in the **pouring rain**."
"हाँ, है। उदाहरण के लिए, **मूसलाधार बारिश** में ऑटो ढूँढना एक **बेहद मुश्किल काम** था।"
- "It was the **devil of a job** scoring runs against the **spinners**."
"स्पिनरों के खिलाफ रन बनाना एक **बेहद कठिन काम** था।"
- "Last week I had the **devil of a job** trying to fix the **scooter**."
"पिछले हफ्ते मुझे **स्कूटर ठीक** करने में **बहुत कठिनाई** हुई।"
- "What was wrong with it?"
"उसमें क्या खराबी थी?"
- "I'll tell you later. By the way, '**the devil's own job**' means the same thing as '**the devil of a job**'."
"मैं बाद में बताऊँगा। वैसे, '**डेविल्स ओन जॉब**' का मतलब भी '**डेविल ऑफ़ अ जॉब**' जैसा ही होता है।"
- "So, is it O.K to say, it was the **devil's own job** trying to find an auto in the pouring rain?"
"तो क्या यह कहना ठीक है कि मूसलाधार बारिश में ऑटो ढूँढना **डेविल्स ओन जॉब** था?"
- "It sounds good to me. It was the **devil's own job** fixing the **car**."
"मुझे तो ठीक लगता है। **कार ठीक** करना एक **बेहद मुश्किल काम** था।"
- "Why didn't you take it to a **mechanic**?"
"तुम इसे **मैकेनिक** के पास क्यों नहीं ले गए?"
- "The last time I took the car to a mechanic, he did a **snow job** on me."
"पिछली बार जब मैं कार मैकेनिक के पास ले गया, उसने मेरे साथ **सो जॉब** किया।"
- "We don't get any snow here. How could he do a **snow job** on you?"
"यहाँ तो बर्फ नहीं पड़ती। उसने तुम्हारे साथ **सो जॉब** कैसे किया?"
- "When you do a **snow job** on someone, you **deceive** them or **confuse** them."
"जब आप किसी के साथ **सो जॉब** करते हैं, तो आप उसे **धोखा** देते हैं या **भ्रमित** करते हैं।"
- "That's what our **politicians** do all the time."
"यही काम हमारे **राजनेता** हर समय करते हैं।"
- "Exactly! Here's an example. The students wanted to do a **snow job** on the **teacher**. Unfortunately, she knew all the **tricks**."



“बिल्कुल! एक उदाहरण देखिए। छात्रों ने शिक्षक के साथ **सो जॉब** करने की कोशिश की। दुर्भाग्य से, वह सारे हथकंडे जानती थी।”

- “I bet she did.”
“मुझे यकीन है कि वह जानती थी।”
- “The children wanted to do a **snow job** on their **parents**. But it **backfired**.”
“बच्चे अपने **माता-पिता** के साथ **सो जॉब** करना चाहते थे, लेकिन उल्टा पड़ गया।”
- “That’s happened to me several times.”
“मेरे साथ भी ऐसा कई बार हुआ है।”
- “Neena seems to know when I am trying to do a **snow job** on her. Last week she...”
“नीना को लगता है कि उसे पता चल जाता है जब मैं उसके साथ **सो जॉब** करने की कोशिश करता हूँ। पिछले हफ्ते वह...”
- “... talking about Neena. How is she doing?”
“...नीना की बात कर रहे हो। वह कैसी है?”
- “Not too good actually. She’s pretty **depressed**. She **fell down on the job**. So they **sacked** her last week.”
“असल में ठीक नहीं है। वह काफी **उदास** है। वह अपने काम में **असफल रही**। इसलिए पिछले हफ्ते उसे **नौकरी से निकाल दिया गया**।”
- “Fell down on the job! Did she hurt herself?”
“काम में गिर गई! क्या उसे चोट लगी?”
- “Ha! Ha! When someone **falls down on the job**, it means he/she **fails to do the job satisfactorily**.”
“हा! हा! जब कोई **काम में गिर जाता है**, तो उसका मतलब होता है कि वह अपना काम **संतोषजनक ढंग से नहीं कर पाया**।”
- “I see. Many people in our school feel that our **Physics teacher** falls down on the job. Can I say that?”
“समझ गया। हमारे स्कूल में कई लोग मानते हैं कि हमारे **फिज़िक्स शिक्षक** काम में असफल रहते हैं। क्या मैं ऐसा कह सकता हूँ?”
- “I guess you could.”
“मुझे लगता है कि तुम कह सकते हो।”
- “In the **private sector**, if you fall down on the job, you are likely to be **fired**.”
“**निजी क्षेत्र** में, अगर आप काम में असफल होते हैं, तो आपको **निकाला जा सकता है**।”
- “If you are part of the **public sector**, on the other hand, nobody really cares...”
“दूसरी ओर, अगर आप **सरकारी क्षेत्र** का हिस्सा हैं, तो किसी को ज़्यादा परवाह नहीं...”
- “... really cares if you work or not. But tell me more about poor Neena. She’s lost...”
“...कि आप काम करते हैं या नहीं। लेकिन उस बेचारी नीना के बारे में और बताओ। उसने खो दिया है...”
- “... oh, don’t worry about her. She’ll **land a job** soon.”
“...ओह, उसकी चिंता मत करो। उसे जल्द ही **नौकरी मिल जाएगी**।”
- “Another expression with the word ‘**job**’. Tell me, does ‘**land**’ mean to find a job?”
“**जॉब** शब्द के साथ एक और अभिव्यक्ति। बताओ, क्या ‘**लैंड**’ का मतलब नौकरी पाना होता है?”
- “That’s right. Once again, it’s an **informal expression**. Mohan says, as soon as he **lands a job**, he is going to buy a **CD player**.”
“बिल्कुल सही। एक बार फिर, यह एक **अनौपचारिक अभिव्यक्ति** है। मोहन कहता है कि जैसे ही उसे **नौकरी मिलेगी**, वह **सीडी प्लेयर** खरीदेगा।”
- “My cousin hasn’t managed to **land a job** as yet.”
“मेरा चचेरा भाई अभी तक **नौकरी पाने** में सफल नहीं हुआ है।”
- “I am sure...”
“मुझे यकीन है...”
- “... do you think Neena will **land a job** soon?”
“...क्या तुम्हें लगता है कि नीना को जल्द ही **नौकरी मिल जाएगी**?”
- “I am sure she will.”
“मुझे पूरा यकीन है कि उसे मिल जाएगी।”
- Published in **The Hindu** on **September 28, 1999**.
द हिंदू में 28 सितंबर 1999 को प्रकाशित।



GS Paper II: Polity,

TOPICS COVERED

27 February 2026

27F SC bans textbook, orders seizure of all copies
SC ने पाठ्यपुस्तक पर प्रतिबंध लगाया, सभी प्रतियों को ज़ब्त करने का आदेश

27F Why bulldozers threaten due process
बुलडोज़र प्रक्रिया के विधिसम्मत अधिकार के लिए क्यों खतरा हैं

SC bans textbook, orders seizure of all copies

Court initiates contempt action over a section on 'corruption' in judiciary in Class 8 NCERT textbook

The remarks are a 'calculated move' to instil bias in children, 'heads must roll', the Bench insists

Court would not let the issue fade with an apology from government or NCERT, the Chief Justice said

GS II Polity
Krishnadas Rajagopal
NEW DELHI

The Supreme Court on Thursday said there was a "deep-rooted conspiracy" behind the "very, very calculated move" to portray the judiciary as a venal institution in a Class 8 social science textbook with "selective reference" about "corruption" in it.

The court ordered a "blanket and complete" ban on the book and the immediate seizure and sealing of each and every copy, both in digital and physical form.

The textbook was published by the National Council of Education Research and Training (NCERT), an autonomous organisation under the Ministry of Education, in February.

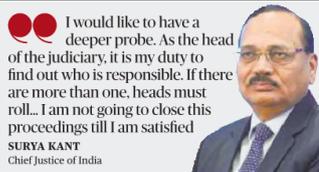
A three-judge Bench headed by Chief Justice of

India Surya Kant, in a *suo motu* case hearing, said the "reckless, irresponsible, motivated, contemptuous conduct and manner" of the textual depiction was meant to instil a bias against the judiciary in the "impressionable minds" of young schoolchildren, and through them, to society at large and even future generations.

Unconditional apology
The Bench said that "heads must roll" and initiated the contempt action.

"All of us are holding our heads in shame," Solicitor-General Tushar Mehta, appearing for the Centre, said and offered the court an unconditional and unqualified apology.

The court would not let the issue fade into oblivion after a word of apology from the government or the NCERT, Chief Justice Kant said.



SURYA KANT
Chief Justice of India

"This is a well-orchestrated and planned move. I would like to have a deeper probe. As the head of the judiciary, it is my duty to find out who is responsible. If there are more than one, heads must roll... I am not going to close this proceeding till I am satisfied," the Chief Justice told the Union government.

Mr. Mehta said the people who worked on the textbook would never be assigned the task again by the Education Ministry. If he had his way, Mr.

Mehta added, they would not be employed by any other Ministry either.

Initiating contempt action, the court issued a show cause notice to both the Secretary of the Department of School Education and Literacy, Ministry of Education, and the NCERT Director, Dinesh Prasad Saklani, whom the court said had "defended" the "offensive content" even when the Supreme Court Secretary General, on the instruction of Chief Justice Kant, had sought an

Modi calls for accountability

NEW DELHI
Prime Minister Narendra Modi has called for fixing accountability over the chapter on "corruption" in judiciary in NCERT's textbook. » PAGE 5

explanation. "They fired the gun and the judiciary is bleeding today," Chief Justice Kant said, addressing the law officer.

'Definitely deliberate'
The court said that, *prima facie*, an examination of the book's contents and the response from the director, seemed like a calculated move to undermine the institutional authority and demean the dignity of the judiciary.

The Bench said, in its order, that the publication

"washed off with one stroke of the pen the illustrious history associated with the Supreme Court, the High Courts" and their substantive contributions towards the preservation of democratic values.

"The text fails to mention the imperative role of the judiciary in upholding constitutional morality and basic structure which is the lifeblood of the Indian citizenry. The narrative of the book chooses not to delve into any of the transformative measures or initiatives to overhaul even the legal aid and streamline the ease of access to justice mechanism. This silence is particularly egregious given the sheer volume of high ranking officers who have been censured by this very court in the past for corrupt practices, fraudulent activities," the Bench noted. Senior members of the

Bar, including senior advocates Kapil Sibal, A.M. Singhvi, and Supreme Court Bar Association president Vikas Singh, agreed that the content was "definitely deliberate".

"The book will not remain confined to students only. Its contents are bound to travel from teacher to pupil to parent and to the entire society, including the next generation... It may have a lasting impact on judicial independence. Such misconduct falls within criminal contempt. If this conduct proves to be deliberate, it will amount to scandalising the institution and bring it to disrepute," the court observed.

The court clarified that its *suo motu* registration of the case should not be construed as a move to stifle legitimate criticism of public institutions, including the judiciary.

27F. SC bans textbook, orders seizure of all copies

SC ने पाठ्यपुस्तक पर प्रतिबंध लगाया, सभी प्रतियों को ज़ब्त करने का आदेश

- Court initiates contempt action over a section on 'corruption' in judiciary in **Class 8 NCERT textbook**.
कक्षा 8 की **NCERT पाठ्यपुस्तक** में न्यायपालिका में 'भ्रष्टाचार' से जुड़े हिस्से पर अदालत ने अवमानना की कार्रवाई शुरू की।
- The remarks are a '**calculated move**' to instill **bias** in children, '**heads must roll**', the Bench insists.
पीठ ने कहा कि ये टिप्पणियाँ बच्चों में **पूर्वाग्रह** भरने की एक '**सुनियोजित चाल**' हैं और '**जिम्मेदारों पर कार्रवाई होनी चाहिए**'।
- The Court would not let the issue fade with an **apology** from the government or **NCERT**, the **Chief Justice** said.
मुख्य न्यायाधीश ने कहा कि सरकार या **NCERT** की **माफ़ी** से अदालत इस मुद्दे को खत्म नहीं होने देगी।
- The **Supreme Court** on Thursday said there was a "**deep-rooted conspiracy**" behind the "**very, very calculated move**" to portray the judiciary as a venal institution in a Class 8 social science textbook with "**selective reference**" about "**corruption**" in it.
सुप्रीम कोर्ट ने गुरुवार को कहा कि कक्षा 8 की सामाजिक विज्ञान की पाठ्यपुस्तक में "**भ्रष्टाचार**" के "**चयनात्मक संदर्भ**" के जरिए न्यायपालिका को भ्रष्ट संस्था के रूप में दिखाने के पीछे एक "**गहरी साज़िश**" और "**बेहद सुनियोजित कदम**" है।
- The court ordered a "**blanket and complete**" **ban** on the book and the **immediate seizure and sealing** of each and every copy, both in **digital and physical** form.
अदालत ने किताब पर "**पूर्ण और समग्र प्रतिबंध**" लगाने तथा **डिजिटल और भौतिक** दोनों रूपों में हर एक प्रति को **तत्काल ज़ब्त कर सील** करने का आदेश दिया।



- The textbook was published by the **National Council of Education Research and Training (NCERT)**, an autonomous organisation under the **Ministry of Education**, in **February**.
यह पाठ्यपुस्तक फरवरी में शिक्षा मंत्रालय के अंतर्गत एक स्वायत्त संस्था राष्ट्रीय शैक्षिक अनुसंधान और प्रशिक्षण परिषद (NCERT) द्वारा प्रकाशित की गई थी।
- A three-judge Bench headed by **Chief Justice of India Surya Kant**, in a **suo motu** case hearing, said the “**reckless, irresponsible, motivated, contemptuous conduct and manner**” of the textual depiction was meant to instil a **bias** against the judiciary in the “**impressionable minds**” of young schoolchildren, and through them, to society at large and even future generations.
भारत के मुख्य न्यायाधीश सूर्य कांत की अध्यक्षता वाली तीन-न्यायाधीशों की पीठ ने स्वतः संज्ञान मामले की सुनवाई में कहा कि पाठ्य सामग्री का “लापरवाह, गैर-जिम्मेदार, प्रेरित और अवमाननापूर्ण आचरण” छोटे स्कूली बच्चों के “संवेदनशील मन” में न्यायपालिका के खिलाफ पूर्वाग्रह भरने और उसके जरिए समाज तथा भविष्य की पीढ़ियों तक असर डालने के लिए था।

Unconditional apology बिना शर्त माफ़ी

- The Bench said that “**heads must roll**” and initiated **contempt action**.
पीठ ने कहा कि “जिम्मेदारों पर कार्रवाई होनी चाहिए” और अवमानना की कार्रवाई शुरू की।
- “All of us are holding our heads in shame,” **Solicitor-General Tushar Mehta**, appearing for the Centre, said and offered the court an **unconditional and unqualified apology**.
केंद्र की ओर से पेश सॉलिसिटर-जनरल तुषार मेहता ने कहा, “हम सभी शर्म से सिर झुकाए हुए हैं,” और अदालत से बिना शर्त और बिना किसी योग्यता के माफ़ी मांगी।
- The court would not let the issue fade into oblivion after a word of **apology** from the government or the **NCERT**, **Chief Justice Kant** said.
मुख्य न्यायाधीश कांत ने कहा कि सरकार या **NCERT** की माफ़ी के बाद भी अदालत इस मुद्दे को भुलाने नहीं देगी।
- “This is a **well-orchestrated and planned move**. I would like to have a **deeper probe**. As the head of the judiciary, it is my duty to find out who is responsible. If there are more than one, **heads must roll**. I am not going to close this proceeding till I am satisfied,” the **Chief Justice** told the Union government.
मुख्य न्यायाधीश ने केंद्र सरकार से कहा, “यह एक अच्छी तरह से सुनियोजित कदम है। मैं गहन जांच चाहता हूँ। न्यायपालिका के प्रमुख के रूप में यह मेरा कर्तव्य है कि जिम्मेदार कौन है, पता करूँ। यदि एक से अधिक हैं तो कार्रवाई होगी। जब तक मैं संतुष्ट नहीं होता, इस कार्यवाही को बंद नहीं करूँगा।”
- Mr. Mehta said the people who worked on the textbook would never be assigned the task again by the **Education Ministry**.
श्री मेहता ने कहा कि जिन लोगों ने इस पाठ्यपुस्तक पर काम किया, उन्हें शिक्षा मंत्रालय द्वारा फिर कभी यह कार्य नहीं सौंपा जाएगा।
- If he had his way, Mr. Mehta added, they would not be employed by any other **Ministry** either.
यदि उनकी चली, तो श्री मेहता ने जोड़ा, उन्हें किसी अन्य मंत्रालय में भी नियुक्त नहीं किया जाएगा।
- Initiating contempt action, the court issued a **show cause notice** to both the **Secretary of the Department of School Education and Literacy, Ministry of Education**, and the **NCERT Director, Dinesh Prasad Saklani**, whom the court said had “**defended**” the “**offensive content**” even when the **Supreme Court Secretary General**, on the instruction of **Chief Justice Kant**, had sought an explanation.
अवमानना की कार्रवाई शुरू करते हुए अदालत ने स्कूल शिक्षा एवं साक्षरता विभाग, शिक्षा मंत्रालय के सचिव और **NCERT निदेशक दिनेश प्रसाद सकलानी** को कारण बताओ नोटिस जारी किया, जिनके बारे में अदालत ने कहा कि उन्होंने **मुख्य न्यायाधीश कांत** के निर्देश पर **सुप्रीम कोर्ट के सचिव जनरल** द्वारा स्पष्टीकरण मांगे जाने पर भी “**आपत्तिजनक सामग्री**” का “**बचाव**” किया।
- “They fired the gun and the judiciary is bleeding today,” **Chief Justice Kant** said, addressing the law officer.
कानून अधिकारी को संबोधित करते हुए **मुख्य न्यायाधीश कांत** ने कहा, “उन्होंने गोली चलाई और आज न्यायपालिका खून बहा रही है।”



‘Definitely deliberate’ ‘निश्चित रूप से जानबूझकर’

- The court said that, **prima facie**, an examination of the book’s contents and the response from the director, seemed like a **calculated move** to undermine the **institutional authority** and demean the **dignity of the judiciary**.
अदालत ने कहा कि **प्रथम दृष्टया**, पुस्तक की सामग्री और निदेशक की प्रतिक्रिया का परीक्षण **संस्थागत अधिकार** को कमजोर करने और **न्यायपालिका की गरिमा** को ठेस पहुंचाने का **सुनियोजित प्रयास** प्रतीत होता है।
- The Bench said, in its order, that the publication “**washed off with one stroke of the pen the illustrious history**” associated with the **Supreme Court** and the **High Courts** and their substantive contributions towards the preservation of **democratic values**.
पीठ ने अपने आदेश में कहा कि इस प्रकाशन ने “**एक ही झटके में**” **सुप्रीम कोर्ट** और **उच्च न्यायालयों** के गौरवशाली इतिहास तथा **लोकतांत्रिक मूल्यों** के संरक्षण में उनके महत्वपूर्ण योगदान को मिटा दिया।
- “The text fails to mention the **imperative role of the judiciary** in upholding **constitutional morality** and **basic structure** which is the lifeblood of the Indian citizenry.
“पाठ में **संवैधानिक नैतिकता** और **मूल संरचना** को बनाए रखने में **न्यायपालिका की अनिवार्य भूमिका** का उल्लेख नहीं है, जो भारतीय नागरिकता की जीवनरेखा है।
- The narrative of the book chooses not to delve into any of the **transformative measures or initiatives** to overhaul even the **legal aid** and streamline the **ease of access to justice** mechanism.
किताब की कथा **कानूनी सहायता** को सुदृढ़ करने और **न्याय तक पहुंच की प्रक्रिया** को सरल बनाने के लिए किए गए किसी भी **परिवर्तनकारी कदम या पहल** पर चर्चा नहीं करती।
- This silence is particularly **egregious** given the sheer volume of high ranking officers who have been **censured** by this very court in the past for **corrupt practices** and **fraudulent activities**,” the Bench noted.
पीठ ने कहा कि यह चुप्पी विशेष रूप से **गंभीर** है, क्योंकि अतीत में इसी अदालत ने **भ्रष्ट आचरण** और **धोखाधड़ी** के लिए बड़ी संख्या में उच्च पदस्थ अधिकारियों को **फटकार** लगाई है।
- Senior members of the Bar, including senior advocates **Kapil Sibal**, **A.M. Singhvi**, and **Supreme Court Bar Association president Vikas Singh**, agreed that the content was “**definitely deliberate**”.
बार के वरिष्ठ सदस्यों, जिनमें वरिष्ठ अधिवक्ता **कपिल सिब्बल**, **ए.एम. सिंहवी**, और **सुप्रीम कोर्ट बार एसोसिएशन के अध्यक्ष विकास सिंह** शामिल हैं, ने माना कि सामग्री “**निश्चित रूप से जानबूझकर**” थी।
- “The book will not remain confined to students only.
“यह पुस्तक केवल छात्रों तक सीमित नहीं रहेगी।
- Its contents are bound to travel from **teacher to pupil to parent** and to the **entire society**, including the **next generation**...
इसकी सामग्री **शिक्षक से छात्र, छात्र से अभिभावक** और **पूरे समाज**, जिसमें **अगली पीढ़ी** भी शामिल है, तक पहुंचेगी...
- It may have a **lasting impact** on **judicial independence**.
इसका **न्यायिक स्वतंत्रता** पर **दीर्घकालिक प्रभाव** पड़ सकता है।
- Such misconduct falls within **criminal contempt**.
ऐसा दुराचार **आपराधिक अवमानना** के दायरे में आता है।
- If this conduct proves to be deliberate, it will amount to **scandalising the institution** and bring it to **disrepute**,” the court observed.
यदि यह आचरण जानबूझकर साबित होता है, तो यह **संस्था को बदनाम करने** और उसे **अप्रतिष्ठा** में डालने के बराबर होगा,” अदालत ने कहा।
- The court clarified that its **suo motu** registration of the case should not be construed as a move to **stifle legitimate criticism** of public institutions, including the judiciary.
अदालत ने स्पष्ट किया कि मामले का **स्वतः संज्ञान** लेना, न्यायपालिका सहित सार्वजनिक संस्थानों की **वैध आलोचना को दबाने** का कदम नहीं माना जाना चाहिए।



Why bulldozers threaten due process

The Allahabad High Court examines whether demolitions carried out immediately after FIRs violate constitutional principles, stressing that punishment lies exclusively with the judiciary; it warns that such selective demolitions, carried out without notice or hearing, undermine due process, erode constitutional rights

G.S. Polity

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LETTER & SPIRIT

G.S. Bajpai

With five-pointed questions recently, the Allahabad High Court has laid bare bulldozer justice. Punitive demolitions transform executive discretion into punishment without due process. In a constitutional democracy, coercive state power is expected to follow a predictable sequence: allegation, investigation, adjudication, and only thereafter sanction. Yet, in recent years, Uttar Pradesh has witnessed a troubling administrative trend popularly described as 'bulldozer justice', in which properties linked to persons accused of crimes are demolished shortly after incidents of alleged wrongdoing.

Courts have repeatedly been called upon to examine whether demolitions carried out immediately after the registration of criminal cases conform to constitutional principles. In 2024, the Supreme Court intervened to delineate the boundaries of lawful action, issuing explicit directions against punitive demolitions. However, the recurrence of such practices indicates that the tension between executive discretion and constitutional restraint remains unresolved.

Present episode

The latest instance reached the Allahabad High Court when a family from Hamirpur district sought protection against the threatened demolition of their residence and commercial premises following the registration of charges against a relative. The petitioners themselves were not implicated, yet municipal notices were issued and some properties were sealed soon after the FIR.

The Division Bench noted that such sequences were becoming increasingly routine. It reaffirmed the foundational principle that punishment lies exclusively within the domain of the judiciary and



A bulldozer being used in Prayagraj in June 2022 to demolish an 'illegally constructed' residence. PTI

cannot be assumed by administrative authorities. To examine the legality of the action, the court framed five substantive questions, including whether such demolitions violated Supreme Court directions and infringing the guarantees of equality and life under Articles 14 and 21 of the Constitution.

A careful appreciation of the statutory framework is essential. Laws such as the Uttar Pradesh Municipal Corporation Act, 1959, and the Uttar Pradesh Urban Planning and Development Act, 1973, empower authorities to remove unauthorised constructions. These powers, however, are circumscribed. Demolition is permitted only through a structured process; authorities must first identify a violation, issue a written notice detailing the grounds, provide a reasonable opportunity to respond, consider objections, and then pass a reasoned order.

Most statutes also allow appeals and possibilities of regularisation, showing that demolition is intended as a regulatory measure of last resort rather than an instrument of instant action. Equally important is the limited purpose of these laws: municipal statutes regulate buildings and land use; they do not

determine criminal culpability. The registration of an FIR neither renders a structure illegal nor justifies accelerated enforcement.

The court's guidance

The Supreme Court addressed this precise concern in the *Re: Directions in the Matter of Demolition of Structures* (2024 INSC 866) case and categorically held that property cannot be demolished merely because its owner is accused of an offence. The court reinforced that criminal guilt must be established through adjudication alone. Municipal powers cannot be transformed into parallel instruments of punishment; permitting such use would undermine both the presumption of innocence and the integrity of the justice system.

State authorities often contend that demolitions are independent exercises under municipal law. While the existence of such power is not in dispute, constitutional analysis looks beyond form to substance.

Notices issued immediately after FIRs, targeting only those connected to the accused and executed without delay, strongly suggest punitive intent.

Administrative law describes this as a

colourable exercise of power – the use of a lawful instrument to achieve an impermissible objective. These practices erode the separation of powers by allowing the executive to impose consequences that only a court may authorise. The deprivation of a home or livelihood based on suspicion alone is incompatible with constitutional governance.

Larger implications

The Allahabad High Court's questions highlight enduring issues: Can the mere apprehension of demolition infringe fundamental rights? What standards should guide preventive judicial intervention? What mechanisms ensure accountability exists when municipal powers are misapplied?

These are not abstract concerns. Demolitions inflict immediate and often irreversible harm on families who may ultimately be found innocent. Beyond individual hardship, they corrode public confidence in impartial governance.

A necessary balance

No city can function without enforcing building regulations. Yet that authority must remain strictly within constitutional boundaries. Selective or exemplary demolitions convert regulatory power into punitive action and breach administrative neutrality.

The Constitution guarantees that no person shall be deprived of property except by procedure established by law, notice, hearing, reasoned decision, and judicial oversight. When demolition precedes adjudication, this sequence is inverted and due process defeated.

Bulldozers have a legitimate role in urban management, not in determining guilt. Punitive demolitions, however labelled, are legally unsustainable. Preserving this distinction is essential to upholding the rule of law.

G.S. Bajpai is the Vice Chancellor of National Law University. Contributions of Vibhuti Sharma, Academic Fellow, are acknowledged. Views are personal

THE GIST

The Allahabad High Court examined whether municipal action taken in close proximity to criminal proceedings reflects a pattern of administrative overreach and a colourable exercise of power.

Referring to safeguards under the Uttar Pradesh Municipal Corporation Act, 1959 and the Supreme Court ruling, the Bench underscored that demolition is a regulatory measure of last resort, not an instrument of exemplary action.

27F. Why bulldozers threaten due process

बुलडोज़र प्रक्रिया के विधिसम्मत अधिकार के लिए क्यों खतरा है

- The Allahabad High Court examines whether demolitions carried out immediately after FIRs violate constitutional principles, stressing that punishment lies exclusively with the judiciary; it warns that such selective demolitions, carried out without notice or hearing, undermine due process, erode constitutional rights
- इलाहाबाद उच्च न्यायालय यह जांच करता है कि क्या FIR के तुरंत बाद की गई ध्वंस कार्रवाई संवैधानिक सिद्धांतों का उल्लंघन करती है, यह जोर देते हुए कि दंड केवल न्यायपालिका के अधिकार क्षेत्र में है; यह चेतावनी देता है कि बिना नोटिस या सुनवाई के की गई ऐसी चयनात्मक ध्वंस कार्रवाई विधिसम्मत प्रक्रिया को कमजोर करती है और संवैधानिक अधिकारों का क्षरण करती है

Bulldozer Justice and Constitutional Principles

बुलडोज़र न्याय और संवैधानिक सिद्धांत

- With five-pointed questions recently, the Allahabad High Court has laid bare bulldozer justice.
हाल ही में पाँच-बिंदु वाले प्रश्नों के माध्यम से इलाहाबाद उच्च न्यायालय ने बुलडोज़र न्याय को उजागर किया है।
- Punitive demolitions transform executive discretion into punishment without due process.
दंडात्मक ध्वस्तीकरण कार्यपालिका के विवेक को बिना विधिक प्रक्रिया के दंड में बदल देता है।
- In a constitutional democracy, coercive state power must follow a predictable sequence: allegation, investigation, adjudication, and thereafter sanction.
संवैधानिक लोकतंत्र में राज्य की दमनात्मक शक्ति को आरोप, जांच, न्यायनिर्णय और उसके बाद दंड की पूर्वानुमेय प्रक्रिया का पालन करना चाहिए।
- In recent years, Uttar Pradesh has witnessed an administrative trend described as 'bulldozer justice'.
हाल के वर्षों में उत्तर प्रदेश में 'बुलडोज़र न्याय' नामक प्रशासनिक प्रवृत्ति देखी गई है।



- Properties linked to persons accused of crimes are demolished shortly after alleged wrongdoing.
अपराध के आरोपित व्यक्तियों से जुड़ी संपत्तियाँ कथित घटना के तुरंत बाद ध्वस्त की जा रही हैं।
- Courts have examined whether demolitions immediately after registration of criminal cases conform to constitutional principles.
न्यायालयों ने यह जांचा है कि अपराधिक मामलों के पंजीकरण के तुरंत बाद की गई ध्वस्तीकरण कार्रवाई संवैधानिक सिद्धांतों के अनुरूप है या नहीं।
- In **2024**, the **Supreme Court** intervened and issued explicit directions against punitive demolitions.
2024 में **सुप्रीम कोर्ट** ने हस्तक्षेप कर दंडात्मक ध्वस्तीकरण के विरुद्ध स्पष्ट निर्देश जारी किए।
- The recurrence of such practices shows tension between executive discretion and constitutional restraint.
ऐसी प्रथाओं की पुनरावृत्ति कार्यपालिका के विवेक और संवैधानिक संयम के बीच तनाव को दर्शाती है।

Present episode वर्तमान प्रकरण

- The latest instance reached the **Allahabad High Court** from a family in **Hamirpur district**.
नवीनतम मामला **हमीरपुर जिले** के एक परिवार द्वारा **इलाहाबाद उच्च न्यायालय** में लाया गया।
- They sought protection against threatened demolition after charges were registered against a relative.
उन्होंने एक रिश्तेदार के विरुद्ध आरोप दर्ज होने के बाद ध्वस्तीकरण की धमकी से संरक्षण की मांग की।
- The petitioners were not implicated, yet municipal notices were issued and properties sealed after the **FIR**.
याचिकाकर्ता स्वयं आरोपित नहीं थे, फिर भी **एफआईआर** के तुरंत बाद नगर निगम नोटिस जारी हुए और संपत्तियाँ सील कर दी गईं।
- The Division Bench observed that such sequences were becoming routine.
खंडपीठ ने कहा कि ऐसी घटनाएँ सामान्य होती जा रही हैं।
- Punishment lies exclusively within the domain of the judiciary.
दंड देना केवल न्यायपालिका के अधिकार क्षेत्र में आता है।
- Administrative authorities cannot assume this function.
प्रशासनिक प्राधिकरण यह कार्य नहीं कर सकते।
- The court framed five substantive questions to examine legality.
न्यायालय ने वैधता की जांच हेतु पाँच महत्वपूर्ण प्रश्न तय किए।
- It questioned whether demolitions violated Supreme Court directions and infringed **Articles 14 and 21**.
इसने पूछा कि क्या ध्वस्तीकरण **अनुच्छेद 14 और 21** के तहत समानता और जीवन की गारंटी का उल्लंघन करते हैं।
- A careful appreciation of the statutory framework is essential.
वैधानिक ढांचे की सावधानीपूर्वक समझ आवश्यक है।
- The **Uttar Pradesh Municipal Corporation Act, 1959** and the **Uttar Pradesh Urban Planning and Development Act, 1973** empower authorities to remove unauthorised constructions.
उत्तर प्रदेश नगर निगम अधिनियम, 1959 और **उत्तर प्रदेश शहरी नियोजन एवं विकास अधिनियम, 1973** अनधिकृत निर्माण हटाने का अधिकार देते हैं।
- These powers are circumscribed and require a structured process.
ये शक्तियाँ सीमित हैं और एक संरचित प्रक्रिया की मांग करती हैं।
- Authorities must identify violation, issue written notice, provide opportunity to respond, consider objections, and pass a reasoned order.
प्राधिकरण को उल्लंघन की पहचान, लिखित नोटिस, उत्तर देने का अवसर, आपत्तियों पर विचार और तर्कसंगत आदेश देना आवश्यक है।
- Statutes allow appeals and regularisation, showing demolition is a last resort regulatory measure.
कानून अपील और नियमितीकरण की अनुमति देते हैं, जिससे स्पष्ट है कि ध्वस्तीकरण अंतिम उपाय है।



- Municipal statutes regulate buildings and land use; they do not determine criminal culpability. नगर निगम कानून भवनों और भूमि उपयोग को नियंत्रित करते हैं; वे आपराधिक दोष निर्धारित नहीं करते।
- Registration of an **FIR** does not render a structure illegal or justify accelerated enforcement. **एफआईआर** का पंजीकरण किसी संरचना को अवैध नहीं बनाता और न ही त्वरित प्रवर्तन को उचित ठहराता है।

The court's guidance न्यायालय का मार्गदर्शन

- The **Supreme Court** addressed this concern in **Re: Directions in the Matter of Demolition of Structures (2024 INSC 866)**.
सुप्रीम कोर्ट ने इस चिंता को **Re: Directions in the Matter of Demolition of Structures (2024 INSC 866)** मामले में संबोधित किया।
- The court held that property cannot be demolished merely because its owner is accused of an offence.
न्यायालय ने कहा कि केवल आरोप के आधार पर किसी संपत्ति को ध्वस्त नहीं किया जा सकता।
- Criminal guilt must be established through adjudication alone.
आपराधिक दोष केवल न्यायिक निर्णय द्वारा स्थापित किया जा सकता है।
- Municipal powers cannot become parallel instruments of punishment.
नगरपालिका शक्तियाँ दंड के समानांतर साधन नहीं बन सकतीं।
- Permitting such use would undermine the presumption of innocence and integrity of the justice system.
ऐसी अनुमति निर्दोषता की धारणा और न्याय प्रणाली की अखंडता को कमजोर करेगी।
- State authorities often contend demolitions are independent exercises under municipal law.
राज्य प्राधिकारी तर्क देते हैं कि ध्वस्तीकरण नगरपालिका कानून के तहत स्वतंत्र कार्रवाई है।
- Constitutional analysis looks beyond form to substance.
संवैधानिक विश्लेषण केवल रूप नहीं बल्कि सार को देखता है।
- Notices issued immediately after **FIRs**, targeting those connected to the accused, suggest punitive intent.
एफआईआर के तुरंत बाद जारी नोटिस, आरोपित से जुड़े लोगों को लक्ष्य बनाते हुए, दंडात्मक मंशा दर्शाते हैं।
- Administrative law calls this a colourable exercise of power.
प्रशासनिक कानून इसे शक्ति का आडंबरपूर्ण प्रयोग कहता है।
- It is the use of lawful instruments to achieve an impermissible objective.
यह वैध साधन का उपयोग कर अवैध उद्देश्य प्राप्त करना है।
- Such practices erode separation of powers.
ऐसी प्रथाएँ शक्तियों के पृथक्करण को कमजोर करती हैं।
- They allow the executive to impose consequences that only a court may authorise.
ये कार्यपालिका को ऐसे परिणाम लागू करने देती हैं जिन्हें केवल न्यायालय अधिकृत कर सकता है।
- Depriving a home or livelihood based on suspicion alone is incompatible with constitutional governance.
केवल संदेह के आधार पर घर या आजीविका छीनना संवैधानिक शासन के अनुरूप नहीं है।

Larger implications वृहत्तर प्रभाव

- The **Allahabad High Court's** questions raise enduring issues.
इलाहाबाद उच्च न्यायालय के प्रश्न स्थायी मुद्दों को उजागर करते हैं।
- Can mere apprehension of demolition infringe fundamental rights?
क्या केवल ध्वस्तीकरण की आशंका भी मौलिक अधिकारों का उल्लंघन हो सकती है?
- What standards should guide preventive judicial intervention?
निवारक न्यायिक हस्तक्षेप के लिए कौन-से मानदंड मार्गदर्शक हों?
- What mechanisms ensure accountability when municipal powers are misapplied?
नगरपालिका शक्तियों के दुरुपयोग पर जवाबदेही कैसे सुनिश्चित होगी?
- Demolitions inflict immediate and often irreversible harm.
ध्वस्तीकरण तात्कालिक और प्रायः अपूरणीय क्षति पहुँचाते हैं।



- Families may ultimately be found innocent.
परिवार अंततः निर्दोष पाए जा सकते हैं।
- Beyond hardship, such actions erode public confidence in impartial governance.
व्यक्तिगत कष्ट से परे, ये कदम निष्पक्ष शासन में जनविश्वास को कमजोर करते हैं।

A necessary balance आवश्यक संतुलन

- Cities must enforce building regulations.
शहरों को भवन नियमों का पालन कराना आवश्यक है।
- That authority must remain within constitutional boundaries.
यह अधिकार संवैधानिक सीमाओं के भीतर रहना चाहिए।
- Selective demolitions convert regulatory power into punitive action.
चयनात्मक ध्वस्तीकरण नियामक शक्ति को दंडात्मक कार्रवाई में बदल देते हैं।
- They breach administrative neutrality.
वे प्रशासनिक निष्पक्षता का उल्लंघन करते हैं।
- The Constitution guarantees deprivation of property only by procedure established by law.
संविधान संपत्ति से वंचित करने की अनुमति केवल विधि द्वारा स्थापित प्रक्रिया से देता है।
- Notice, hearing, reasoned decision, and judicial oversight are essential.
नोटिस, सुनवाई, तर्कसंगत निर्णय और न्यायिक निगरानी अनिवार्य हैं।
- When demolition precedes adjudication, due process is defeated.
जब ध्वस्तीकरण न्यायनिर्णय से पहले होता है, तो विधिक प्रक्रिया पराजित हो जाती है।
- Bulldozers have a legitimate role in urban management, not in determining guilt.
बुलडोज़र का वैध उपयोग शहरी प्रबंधन में है, दोष निर्धारण में नहीं।
- Punitive demolitions are legally unsustainable.
दंडात्मक ध्वस्तीकरण विधिक रूप से अस्थिर हैं।
- Preserving this distinction is essential to uphold the **rule of law**.
इस भेद को बनाए रखना **कानून के शासन** को बनाए रखने के लिए आवश्यक है।

GS Paper II: Governance,

TOPICS COVERED

27 February 2026

27F	DGCA revises norms for refund of air tickets, extends cancellation window to 48 hours डीजीसीए ने हवाई टिकट रिफंड के नियमों में संशोधन किया, रद्द करने की अवधि 48 घंटे तक बढ़ाई
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DGCA revises norms for refund of air tickets, extends cancellation window to 48 hours

GS II: Governance
Jagriti Chandra
NEW DELHI

The Directorate General of Civil Aviation (DGCA) on Thursday revised air ticket refund norms, extending the window for cancellation and modification of a booking for free from 24 hours to 48 hours.

Passengers can get full refund if they cancel travel plans due to their own or a co-traveller's medical emergency.

"The airline shall provide a look-in option for a period of 48 hours after booking tickets. During this period, passenger can cancel or amend the ticket without any additional charges," said the DGCA's revised rules.

However, any change in the airfare in the interim

Relaxed refunds

The new DGCA rules give airlines sole responsibility for refunds even for bookings made through an agent or a third-party booking portal

- Free cancellation and modification window extended from 24 hours to 48 hours
- Full refund for cancellation due to medical emergency
- Free name correction within 24 hours



period will be applicable. The rules apply for tickets booked "directly through (the) airline website", only if the booking is made at least seven days before the departure for a domestic flight and 15 days for an international flight.

The regulator has also made airlines solely responsible for processing refunds, even when tickets are booked through travel

agents or third-party booking portals.

While the DGCA does not have the powers to oversee booking portals and the norms do not state that such portals must extend similar benefits to passengers, they are expected to mirror these provisions to retain customers and avoid losing the ticketing business to airlines.

The revised norms say

that if a ticket is booked through a travel agent or a portal, the "onus of refund shall lie with the airlines as agents are their appointed representatives".

This assumes significance in light of instances when airline cancellations left passengers' money stuck with travel agents or portals, most notably during the collapse of Go First and Jet Airways, with agents saying that they were unable to process refunds as advance payments for those tickets had already been remitted to the airlines.

Under the new norms, medical emergencies will entitle passengers to opt for either a cash refund or a refund coupon (credit shell). "In the event of ticket cancellations due to a

medical emergency, where the passenger or a family member listed on the same PNR gets admitted/hospitalised during the travel period, airlines may provide either a refund or a credit shell," the norms said. For other medical grounds cited for cancellation, refunds will be processed only after the airline's medicine specialist, or a DGCA-empaneled medicine expert, reviews the passenger's fitness-to-travel certificate and gives an opinion.

The rules have retained the provision for free name change within 24 hours.

These were announced after the regulator posted a draft proposal on October 31, 2025, and invited comments from industry stakeholders.



27F. DGCA revises norms for refund of air tickets, extends cancellation window to 48 hours

डीजीसीए ने हवाई टिकट रिफंड के नियमों में संशोधन किया, रद्द करने की अवधि 48 घंटे तक बढ़ाई

- The **Directorate General of Civil Aviation (DGCA)** on Thursday revised air ticket refund norms, extending the window for cancellation and modification of a booking for free from **24 hours to 48 hours**.
नागरिक उड्डयन महानिदेशालय (DGCA) ने गुरुवार को हवाई टिकट रिफंड नियमों में संशोधन करते हुए बुकिंग को निःशुल्क रद्द करने और संशोधित करने की अवधि **24 घंटे से बढ़ाकर 48 घंटे** कर दी।
- Passengers can get a full **refund** if they cancel travel plans due to their own or a co-traveller's **medical emergency**.
यदि यात्री अपनी या किसी सह-यात्री की **चिकित्सीय आपात स्थिति** के कारण यात्रा योजना रद्द करते हैं तो उन्हें **पूरा रिफंड** मिल सकता है।
- "The airline shall provide a **look-in option** for a period of **48 hours** after booking tickets. "एयरलाइन टिकट बुक करने के बाद **48 घंटे** की अवधि के लिए **लुक-इन विकल्प** प्रदान करेगी।
- During this period, passengers can cancel or amend the ticket without any **additional charges**," said the DGCA's revised rules.
इस अवधि के दौरान यात्री बिना किसी **अतिरिक्त शुल्क** के टिकट रद्द या संशोधित कर सकते हैं," डीजीसीए के संशोधित नियमों में कहा गया है।
- However, any change in the **airfare** in the interim period will be applicable.
हालांकि, इस अंतरिम अवधि में **किराये** में कोई भी परिवर्तन लागू होगा।
- The rules apply for tickets booked "directly through (the) **airline website**", only if the booking is made at least **seven days** before the departure for a **domestic • ight** and **15 days** for an **international ight**.
ये नियम केवल उन टिकटों पर लागू होंगे जो "सीधे **एयरलाइन की वेबसाइट** के माध्यम से" बुक किए गए हों, बशर्ते बुकिंग **घरेलू उड़ान** के लिए प्रस्थान से कम से कम **सात दिन** पहले और **अंतरराष्ट्रीय उड़ान** के लिए **15 दिन** पहले की गई हो।
- The regulator has also made airlines solely responsible for processing **refunds**, even when tickets are booked through **travel agents** or **third-party booking portals**.
नियामक ने टिकट **रिफंड** की प्रक्रिया के लिए एयरलाइनों को पूरी तरह जिम्मेदार ठहराया है, भले ही टिकट **ट्रैवल एजेंट** या **थर्ड-पार्टी बुकिंग पोर्टल** के माध्यम से बुक किए गए हों।
- While the DGCA does not have the powers to oversee booking portals and the norms do not state that such portals must extend similar benefits to passengers, they are expected to mirror these provisions to retain customers and avoid losing the ticketing business to airlines.
हालांकि डीजीसीए के पास बुकिंग पोर्टलों की निगरानी की शक्ति नहीं है और नियम यह नहीं कहते कि ऐसे पोर्टल यात्रियों को समान लाभ दें, फिर भी उनसे अपेक्षा की जाती है कि वे ग्राहकों को बनाए रखने और टिकटिंग व्यवसाय को एयरलाइनों के हाथों खोने से बचने के लिए इन प्रावधानों का पालन करें।
- The revised norms say that if a ticket is booked through a travel agent or a portal, the "**onus of refund** shall lie with the airlines as agents are their appointed representatives".
संशोधित नियमों में कहा गया है कि यदि टिकट किसी **ट्रैवल एजेंट** या **पोर्टल** के माध्यम से बुक किया गया है तो "**रिफंड की जिम्मेदारी**" एयरलाइनों की होगी क्योंकि एजेंट उनके नियुक्त प्रतिनिधि होते हैं।
- This assumes signi• -cance in light of instances when airline cancellations left passengers' money stuck with travel agents or portals, most notably during the collapse of **Go First** and **Jet Airways**, with agents saying that they were unable to process refunds as advance payments for those tickets had already been remitted to the airlines.
यह उन मामलों के मद्देनज़र महत्वपूर्ण हो जाता है जब एयरलाइन रद्द होने पर यात्रियों का पैसा **ट्रैवल एजेंटों** या **पोर्टलों** के पास फंस गया, विशेष रूप से **गो फर्स्ट** और **जेट एयरवेज़** के पतन के दौरान, जब एजेंटों ने कहा कि वे रिफंड प्रक्रिया पूरी नहीं कर सके क्योंकि उन टिकटों के अग्रिम भुगतान पहले ही एयरलाइनों को भेज दिए गए थे।
- Under the new norms, **medical emergencies** will entitle passengers to opt for either a **cash refund** or a **refund coupon (credit shell)**.
नए नियमों के तहत **चिकित्सीय आपात स्थितियों** में यात्रियों को **नकद रिफंड** या **रिफंड कूपन (क्रेडिट शेल)** में से किसी एक का विकल्प मिलेगा।



- “In the event of ticket cancellations due to a medical emergency, where the passenger or a family member listed on the same **PNR** gets admitted/hospitalised during the travel period, airlines may provide either a refund or a credit shell,” the norms said.
नियमों में कहा गया है, “यदि यात्रा अवधि के दौरान यात्री या उसी **पीएनआर** पर सूचीबद्ध कोई पारिवारिक सदस्य अस्पताल में भर्ती हो जाता है और चिकित्सीय कारण से टिकट रद्द होता है, तो एयरलाइन रिफंड या क्रेडिट शेल में से कोई एक प्रदान कर सकती है।”
- For other medical grounds cited for cancellation, refunds will be processed only after the airline’s **medicine specialist**, or a **DGCA-empowered medicine expert**, reviews the passenger’s fitness-to-travel certificate and gives an opinion.
अन्य चिकित्सीय आधारों पर रद्दीकरण के मामलों में रिफंड तभी प्रक्रिया में आएगा जब एयरलाइन के **चिकित्सक विशेषज्ञ** या **डीजीसीए** द्वारा **पैनल में शामिल चिकित्सा विशेषज्ञ** यात्री के यात्रा-योग्यता प्रमाणपत्र की समीक्षा कर अपनी राय देंगे।
- The rules have retained the provision for **free name change** within **24 hours**.
नियमों में **24 घंटे** के भीतर **नाम परिवर्तन** की निःशुल्क सुविधा को बरकरार रखा गया है।
- These were announced after the regulator posted a **draft proposal** on **October 31, 2025**, and invited comments from **industry stakeholders**.
इनकी घोषणा नियामक द्वारा **31 अक्टूबर 2025** को **मसौदा प्रस्ताव** जारी कर **उद्योग हितधारकों** से टिप्पणियां आमंत्रित करने के बाद की गई।

GS Paper II: International Relations	
TOPICS COVERED	27 February 2026
27F	India’s security interests are directly linked to stability in West Asia region, says Modi मोदी बोले: भारत की सुरक्षा हित पश्चिम एशिया क्षेत्र की स्थिरता से सीधे जुड़े हैं
27F	India slams Pak. at UN, says it is ‘living in la-la land’ भारत ने संयुक्त राष्ट्र में पाकिस्तान पर निशाना साधा, कहा वह ‘ला-ला लैंड’ में रह रहा है
27F	Taking sides पक्ष लेना
27F	What changed in Hong Kong after National Security Law? राष्ट्रीय सुरक्षा कानून के बाद हांगकांग में क्या बदला?
27F	Bangladesh to request Interpol red notice for arrest of British MP ब्रिटिश सांसद की गिरफ्तारी के लिए इंटरपोल रेड नोटिस का अनुरोध करेगा बांग्लादेश
27F	Epstein files expose the sex offender’s links to cash, women, power in Africa एपस्टीन फाइलें अफ्रीका में धन, महिलाओं और सत्ता से सेक्स अपराधी के संबंध उजागर करती हैं



India's security interests are directly linked to stability in West Asia region, says Modi

GS II: IR

Kallol Bhattacharjee
NEW DELHI

India's security interests are "directly linked" to peace and stability in the West Asian region and that is why India has consistently sought a resolution of West Asian regional tensions through peaceful means, Prime Minister Narendra Modi said in Israel on Thursday.

After holding talks with Prime Minister Benjamin Netanyahu in Jerusalem, Mr. Modi said the two sides have decided to work closely for the implementation of the India Middle East Economic Corridor (IMEC) and the I2U2 (India-Israel-UAE-USA) projects.

"Peace and stability in West Asia are directly linked to India's security interests. Therefore, from the very beginning, we have supported dialogue and a peaceful resolution of issues. This is the call of the Global South and of humanity as a whole," said Mr. Modi in his speech laying out India's position on the tense situation that is prevailing in the Gulf region because of growing tension between Iran and Israel-U.S. coalition.

Regarding India's position on terrorism, Mr. Modi said, "Terrorism has no place in the world. In any form, and in any manifestation, terrorism cannot be accepted."

In a special briefing for the media towards the end of the visit, Foreign Secretary Vikram Misri said the "ongoing" tension between Iran and the U.S. came up for discussion between the two Prime Ministers.

"The regional situation and these tensions did



At Holocaust memorial: Narendra Modi and Benjamin Netanyahu at the Hall of Remembrance in Jerusalem on Thursday. AFP

come up for discussion between the two Prime Ministers. The Prime Minister made his point stating India's firm belief in the value of dialogue and the value of pursuing peaceful solutions to all such issues and also reiterated his readiness to offer India's support if there is any way in which India's support is required towards a peaceful solution," he said.

The External Affairs Ministry said the two Prime Ministers discussed possibilities of close cooperation "across all domains".

The two sides sealed multiple MoUs including one on cooperation in the field of "geophysical exploration" that will enhance bilateral cooperation in "mineral exploration using advanced geophysical and AI technologies" and include "sustainable resource development".

'Will move ahead'

Mr. Modi further said India and Israel will move ahead with "renewed momentum" on IMEC and I2U2 projects that aim to increase cooperation on connectivity, digital public infrastructure and food

production. Mr. Misri, in response to a question from the Israeli media, clarified that the "regional situation does weigh on the progress of the initiative".

He, however, informed that "there are countries" that are taking steps in their "national capacities" for advancing the components of the IMEC project.

Mr. Misri's statement came in response to a question on how Israel's relation with Saudi Arabia, which is stuck because of a lack of progress on the issue of Palestinian statehood, could impact the IMEC project. Mr. Modi's visit to Israel concluded with the two sides bringing out a joint statement that described the bilateral relation as a "special strategic partnership".

The statement appreciated the advances made in the negotiation for a trade pact and said the two leaders have instructed the respective negotiating teams to prepare for an "early signing of a Free Trade Agreement".

Earlier, Mr. Modi visited the Yad Vashem Holocaust Museum in Jerusalem.

27F. India's security interests are directly linked to stability in West Asia region, says Modi

मोदी बोले: भारत की सुरक्षा हित पश्चिम एशिया क्षेत्र की स्थिरता से सीधे जुड़े हैं

• India's security interests are "directly linked" to peace and stability in the West Asian region and that is why India has consistently sought a resolution of West Asian regional tensions through peaceful means, Prime Minister **Narendra Modi** said in **Israel** on Thursday.

प्रधानमंत्री **नरेंद्र मोदी** ने गुरुवार को **इज़राइल** में कहा कि भारत के सुरक्षा हित पश्चिम एशिया क्षेत्र में शांति और स्थिरता से **"सीधे जुड़े"** हैं और इसी कारण भारत ने लगातार पश्चिम एशिया की क्षेत्रीय तनावों के समाधान के लिए **शांतिपूर्ण तरीकों** को अपनाया है।

• After holding talks with Prime Minister **Benjamin Netanyahu** in **Jerusalem**, Mr. Modi said the two sides have decided to work closely for the implementation of the **India Middle East Economic Corridor (IMEC)** and the **I2U2 (India-Israel-UAE-USA)** projects.

यरुशलम में प्रधानमंत्री **बेजायिन नेतन्याहू** के साथ बातचीत के बाद श्री मोदी ने कहा कि दोनों पक्षों ने **इंडिया मिडिल ईस्ट इकोनॉमिक कॉरिडोर (IMEC)** और **I2U2 (भारत-इज़राइल-यूएई-अमेरिका)** परियोजनाओं के कार्यान्वयन के लिए मिलकर काम करने का निर्णय लिया है।

• "Peace and stability in West Asia are directly linked to India's security interests. Therefore, from the very beginning, we have supported dialogue and a peaceful resolution of issues. This is the call of the **Global South** and of **humanity as a whole**," said Mr. Modi in his speech laying out India's position on the tense situation that is prevailing in the

Gulf region because of growing tension between the Iran and **Israel-U.S. coalition**.

श्री मोदी ने **खाड़ी क्षेत्र** में **ईरान** और **इज़राइल-अमेरिका गठबंधन** के बीच बढ़ते तनाव से उत्पन्न स्थिति पर भारत का रुख रखते हुए अपने भाषण में कहा, "पश्चिम एशिया में शांति और स्थिरता भारत की सुरक्षा हितों से सीधे जुड़ी हैं। इसलिए शुरू से ही हमने संवाद और मुद्दों के शांतिपूर्ण समाधान का समर्थन किया है। यह **ग्लोबल साउथ** और **समस्त मानवता** की पुकार है।"

- Regarding India's position on **terrorism**, Mr. Modi said, "Terrorism has no place in the world. In any form, and in any manifestation, terrorism cannot be accepted."

आतंकवाद पर भारत के रुख के बारे में श्री मोदी ने कहा, "आतंकवाद का दुनिया में कोई स्थान नहीं है। किसी भी रूप में और किसी भी स्वरूप में आतंकवाद स्वीकार्य नहीं है।"

- In a special briefing for the media towards the end of the visit, **Foreign Secretary Vikram Misri** said the "ongoing" tension between **Iran** and the **U.S.** came up for discussion between



the two Prime Ministers.

यात्रा के अंत में मीडिया के लिए विशेष ब्रीफिंग में **विदेश सचिव विक्रम मिश्री** ने कहा कि **ईरान और अमेरिका** के बीच जारी **“तनाव”** पर दोनों प्रधानमंत्रियों के बीच चर्चा हुई।

- “The regional situation and these tensions did come up for discussion between the two Prime Ministers. The Prime Minister made his point stating India’s firm belief in the value of **dialogue** and the value of pursuing **peaceful solutions** to all such issues and also reiterated his readiness to offer India’s support if there is any way in which India’s support is required towards a peaceful solution,” he said.
उन्होंने कहा, “क्षेत्रीय स्थिति और ये तनाव दोनों प्रधानमंत्रियों के बीच चर्चा में आए। प्रधानमंत्री ने **संवाद** के महत्व और ऐसे सभी मुद्दों के **शांतिपूर्ण समाधान** को आगे बढ़ाने में भारत के दृढ़ विश्वास को रेखांकित किया और यह भी दोहराया कि यदि शांतिपूर्ण समाधान के लिए भारत के समर्थन की आवश्यकता हुई तो भारत सहयोग के लिए तैयार है।”
- The **External Affairs Ministry** said the two Prime Ministers discussed possibilities of close cooperation **“across all domains”**.
विदेश मंत्रालय ने कहा कि दोनों प्रधानमंत्रियों ने **“सभी क्षेत्रों में”** घनिष्ठ सहयोग की संभावनाओं पर चर्चा की।
- The two sides sealed multiple **MoUs** including one on cooperation in the field of **“geophysical exploration”** that will enhance bilateral cooperation in **“mineral exploration using advanced geophysical and AI technologies”** and include **“sustainable resource development”**.
दोनों पक्षों ने कई **समझौता ज्ञापनों (MoUs)** पर मुहर लगाई, जिनमें **“भू-भौतिकीय अन्वेषण”** के क्षेत्र में सहयोग का एक समझौता भी शामिल है, जो **“उन्नत भू-भौतिकीय और एआई तकनीकों का उपयोग कर खनिज अन्वेषण”** में द्विपक्षीय सहयोग को बढ़ाएगा और **“सतत संसाधन विकास”** को शामिल करेगा।

‘Will move ahead’

‘आगे बढ़ेंगे’

- Mr. Modi further said India and Israel will move ahead with **“renewed momentum”** on **IMEC** and **I2U2** projects that aim to increase cooperation on **connectivity, digital public infrastructure** and **food production**.
श्री मोदी ने आगे कहा कि भारत और इज़राइल **IMEC** और **I2U2** परियोजनाओं पर **“नए जोश”** के साथ आगे बढ़ेंगे, जिनका उद्देश्य **कनेक्टिविटी, डिजिटल सार्वजनिक अवसंरचना और खाद्य उत्पादन** में सहयोग बढ़ाना है।
- Mr. Misri, in response to a question from the **Israeli media**, clarified that the **“regional situation does weigh on the progress of the initiative”**.
इज़राइली मीडिया के एक सवाल के जवाब में श्री मिश्री ने स्पष्ट किया कि **“क्षेत्रीय स्थिति पहल की प्रगति पर प्रभाव डालती है।”**
- He, however, informed that **“there are countries”** that are taking steps in their **“national capacities”** for advancing the components of the **IMEC** project.
हालांकि, उन्होंने बताया कि **“कुछ देश”** **IMEC** परियोजना के घटकों को आगे बढ़ाने के लिए अपनी **“राष्ट्रीय क्षमताओं”** में कदम उठा रहे हैं।
- Mr. Misri’s statement came in response to a question on how **Israel’s relation with Saudi Arabia**, which is stuck because of a lack of progress on the issue of **Palestinian statehood**, could impact the **IMEC** project.
श्री मिश्री का यह बयान इस सवाल के जवाब में आया कि **फिलिस्तीनी राज्यhood** के मुद्दे पर प्रगति न होने के कारण **सऊदी अरब के साथ इज़राइल के संबंधों** में ठहराव **IMEC** परियोजना को कैसे प्रभावित कर सकता है।
- Mr. Modi’s visit to Israel concluded with the two sides bringing out a **joint statement** that described the bilateral relation as a **“special strategic partnership”**.
श्री मोदी की इज़राइल यात्रा दोनों पक्षों द्वारा जारी **संयुक्त बयान** के साथ संपन्न हुई, जिसमें द्विपक्षीय संबंधों को **“विशेष रणनीतिक साझेदारी”** बताया गया।
- The statement appreciated the advances made in the negotiation for a **trade pact** and said the two leaders have instructed the respective negotiating teams to prepare for an **“early signing of a Free Trade Agreement”**.
बयान में **व्यापार समझौते** की वार्ता में हुई प्रगति की सराहना की गई और कहा गया कि दोनों नेताओं ने संबंधित वार्ता टीमों को **“मुक्त व्यापार समझौते के शीघ्र हस्ताक्षर”** की तैयारी करने का निर्देश दिया है।



- Earlier, Mr. Modi visited the **Yad Vashem Holocaust Museum** in **Jerusalem**.
इससे पहले, श्री मोदी ने यरुशलम में याद वशेम होलोकॉस्ट संग्रहालय का दौरा किया।

India slams Pak. at UN, says it is 'living in la-la land'

GS II: IR
Press Trust of India
UNITED NATIONS/GENEVA

India has hit back at Pakistan at the UN after Islamabad raised the issue of Jammu and Kashmir at the high-level segment of the 61st Regular Session of the UN Human Rights Council, saying that the country lives in "la-la land".

"India is compelled to exercise its **Right of Reply** in response to references made to it during the high-level segment by Pakistan and the OIC [Organisation of Islamic Cooperation]. We categorically reject these allegations," Anupama Singh, First Secretary in the Permanent Mission of India to the UN in Geneva, said on Wednesday.

"If the **Chenab Rail Bridge**, the world's highest bridge inaugurated in Jammu and Kashmir last year is fake, then Pakistan must be hallucinating or living in the la-la land," Ms. Singh said. "Or maybe, Pakistan finds it unbelievable that the developmental budget of Jammu and Kashmir is more than double the recent bailout package they sought from the IMF," she added.

27F. India slams Pak. at UN, says it is 'living in la-la land' भारत ने संयुक्त राष्ट्र में पाकिस्तान पर निशाना साधा, कहा वह 'ला-ला लैंड' में रह रहा है

• India has hit back at **Pakistan** at the **UN** after **Islamabad** raised the issue of **Jammu and Kashmir** at the high-level segment of the **61st Regular Session of the UN Human Rights Council**, saying that the country lives in "la-la land".

भारत ने संयुक्त राष्ट्र में पाकिस्तान को कड़ा जवाब दिया, जब इस्लामाबाद ने संयुक्त राष्ट्र मानवाधिकार परिषद के 61वें नियमित सत्र के उच्च-स्तरीय खंड में जम्मू और कश्मीर का मुद्दा उठाया, और कहा कि वह देश "ला-ला लैंड" में रहता है।

• "India is compelled to exercise its **Right of Reply** in response to references made to it during the high-level segment by **Pakistan** and the **OIC [Organisation of Islamic Cooperation]**.

"भारत को पाकिस्तान और ओआईसी [इस्लामिक सहयोग संगठन] द्वारा उच्च-स्तरीय खंड में किए गए उल्लेखों के जवाब में अपने उत्तर देने के अधिकार का प्रयोग करने के लिए बाध्य होना पड़ा है।

• "We categorically **reject these allegations**," **Anupama Singh, First Secretary** in the **Permanent Mission of India to the UN in Geneva**, said on Wednesday.

हम इन आरोपों को पूरी तरह से खारिज करते हैं," जेनेवा में संयुक्त राष्ट्र में भारत के स्थायी मिशन की प्रथम सचिव अनुपमा सिंह ने बुधवार को कहा।

• "If the **Chenab Rail Bridge**, the **world's highest bridge** inaugurated in **Jammu and Kashmir** last year is fake, then **Pakistan** must be hallucinating or living in the **la-la land**," Ms. Singh said.

"यदि चिनाब रेल ब्रिज, जो पिछले वर्ष जम्मू और कश्मीर में उद्घाटित हुआ और दुनिया का सबसे ऊँचा पुल है, नकली है, तो पाकिस्तान या तो भ्रम में है या ला-ला लैंड में रह रहा है," सुश्री सिंह ने कहा।

• "Or maybe, **Pakistan** finds it unbelievable that the **developmental budget of Jammu and Kashmir** is more than **double** the recent **bailout package** they sought from the **IMF**," she added.

"या फिर शायद पाकिस्तान को यह अविश्वसनीय लगता है कि जम्मू और कश्मीर का विकास बजट उस आईएमएफ से मांगे गए हालिया बेलआउट पैकेज से दोगुने से भी अधिक है," उन्होंने जोड़ा।



THE MOJ
GS II: IR

Taking sides

India's relations with Israel should not be at the cost of ties with the Arab world

Prime Minister Narendra Modi's 24-hour visit to Jerusalem was a significant bilateral outreach to Israel, but a missed opportunity on Palestine, with complex consequences for India's ties with West Asia. Israeli Prime Minister Benjamin Netanyahu had announced the visit in December and confirmed the dates on Sunday, indicating Israel's keen interest in hosting Mr. Modi. From Mr. Modi's landing, to every engagement up to his departure, Mr. Netanyahu personally escorted Mr. Modi everywhere. After bilateral talks on Thursday, the two leaders agreed to upgrade ties to a "Special Strategic Partnership", and signed a critical technologies partnership among more than 15 MoUs in AI, agriculture, culture and education. They also agreed to facilitate the employment of 50,000 Indian workers in Israel over the next five years. The engagement, and Mr. Netanyahu's deep praise for Mr. Modi and the India relationship was even more intense than during Mr. Modi's 2017 visit. This possibly accrues from the timing of the visit, as Israel faces growing isolation over high casualties in Gaza and Mr. Netanyahu's West Bank settlement plans. In the past week, Israel's West Bank proposals have been condemned by dozens of countries, which includes Germany, France, and the U.K. that have been measured so far. Mr. Netanyahu heads into an election later this year, which will be seen as a referendum on his record, in terms of alleged corruption in his government as well as for accountability for security lapses in 2023 and the civilian toll of Israel's response. Mr. Modi's visit would bolster him politically. In his speech at the Knesset, Mr. Modi referred only obliquely to Palestinian sovereignty, saying that the U.S.-led Gaza Peace Initiative, which commits to a two-state solution, "holds the promise of a just and durable peace... including by addressing the Palestine Issue". The Prime Minister said that India shared the pain and grief of every life lost in the October 2023 terror attack by Hamas but made no mention of the high toll - more than 72,000 killed - in the strikes on Gaza by Israel since then.

It is hoped that Mr. Modi will clarify India's position on the conflict, as he did after his last visit, by following it up with a visit to Palestine. His decision to travel amidst the threat of U.S. attacks on Iran carried the possible risk of taking sides in the event of a conflict. Beyond the bilateral, the outcomes of his visit will be judged globally by its impact on the larger West Asian neighbourhood. First, his announcement that India-Israel-UAE and India-Israel-UAE-U.S. "I2U2" would develop new momentum, as would the India-Middle East-Europe Economic Corridor (IMEC), indicates New Delhi believes that regional initiatives are still viable despite the polarised atmosphere and recent deep fault-lines. Second, a decision to "stand with Israel, firmly..." could come at the cost of India's relations with other West Asian powers, which expect India to remain steadfast to its historically calibrated regional balance, and to principles of peace, morality and compassion in the Israel-Palestine conflict.

amid allegations of corruption and accountability issues for **2023 security lapses** and civilian toll.

श्री नेतन्याहू इस वर्ष के अंत में चुनाव का सामना करेंगे, जहाँ **2023 की सुरक्षा चूक** और नागरिक हताहतों सहित भ्रष्टाचार के आरोप मुद्दा हैं।

- Mr. Modi's visit would bolster him politically. श्री मोदी की यात्रा उन्हें राजनीतिक रूप से मजबूत कर सकती है।
- In his speech at the **Knesset**, Mr. Modi referred obliquely to **Palestinian sovereignty** and supported the **U.S.-led Gaza Peace Initiative** committing to a **two-state solution**.

27F. Taking sides पक्ष लेना

• **India's relations with Israel should not be at the cost of ties with the Arab world**

भारत के इज़राइल के साथ संबंध अरब दुनिया के साथ संबंधों की कीमत पर नहीं होने चाहिए

• Prime Minister **Narendra Modi's 24-hour visit to Jerusalem** was a significant bilateral outreach to **Israel**, but a missed opportunity on **Palestine**, with complex consequences for India's ties with **West Asia**.

प्रधानमंत्री नरेंद्र मोदी की 24 घंटे की यरुशलम यात्रा इज़राइल के साथ महत्वपूर्ण द्विपक्षीय संपर्क थी, लेकिन फ़िलिस्तीन पर एक चूका हुआ अवसर भी थी, जिसके पश्चिम एशिया के साथ भारत के संबंधों पर जटिल प्रभाव पड़ सकते हैं।

• Israeli Prime Minister **Benjamin Netanyahu** had announced the visit in **December** and confirmed the dates on Sunday, indicating Israel's keen interest.

इज़राइली प्रधानमंत्री **बेजायिन नेतन्याहू** ने इस यात्रा की घोषणा दिसंबर में की थी और रविवार को तिथियों की पुष्टि की, जिससे इज़राइल की गहरी रुचि स्पष्ट हुई।

• Mr. Netanyahu personally escorted Mr. Modi throughout the visit.

श्री नेतन्याहू ने पूरी यात्रा के दौरान स्वयं श्री मोदी का साथ दिया।

• The two leaders upgraded ties to a "**Special Strategic Partnership**" and signed more than **15 MoUs** including a **critical technologies partnership** in **AI, agriculture, culture and education**.

दोनों नेताओं ने संबंधों को "**विशेष रणनीतिक साझेदारी**" तक उन्नत किया और **AI, कृषि, संस्कृति और शिक्षा सहित 15 से अधिक समझौता ज्ञापनों** पर हस्ताक्षर किए।

• They agreed to facilitate employment of **50,000 Indian workers** in Israel over the next **five years**.

उन्होंने अगले **पाँच वर्षों** में **50,000 भारतीय कामगारों** को इज़राइल में रोजगार दिलाने पर सहमति व्यक्त की।

• The engagement was even more intense than Mr. Modi's **2017 visit**.

यह संपर्क श्री मोदी की **2017 की यात्रा** से भी अधिक गहन था।

• The timing coincides with Israel facing isolation over high casualties in **Gaza** and **West Bank settlement plans**.

यह समय ऐसा है जब इज़राइल **गाज़ा** में उच्च हताहतों और **वेस्ट बैंक बस्ती योजनाओं** को लेकर अलगाव का सामना कर रहा है।

• Countries including **Germany, France and the U.K.** condemned Israel's West Bank proposals.

जर्मनी, फ़्रांस और यू.के. सहित कई देशों ने वेस्ट बैंक प्रस्तावों की निंदा की।

• Mr. Netanyahu heads into an election later this year



कनेस्सेट में अपने भाषण में श्री मोदी ने फ़िलिस्तीनी संप्रभुता का परोक्ष उल्लेख किया और अमेरिका-नेतृत्व वाली गाज़ा शांति पहल तथा दो-राष्ट्र समाधान का समर्थन किया।

- He shared grief over the **October 2023 Hamas terror attack** but did not mention the toll of more than **72,000 killed** in Gaza strikes by Israel. उन्होंने अक्टूबर 2023 के हमास आतंकी हमले पर शोक व्यक्त किया, लेकिन गाज़ा पर इज़राइल के हमलों में 72,000 से अधिक मौतों का उल्लेख नहीं किया।
- It is hoped he will clarify India's position by following up with a visit to **Palestine**. आशा है कि वे फ़िलिस्तीन की यात्रा कर भारत की स्थिति स्पष्ट करेंगे।
- Travelling amid threat of **U.S. attacks on Iran** carried risk of appearing to take sides. **ईरान पर अमेरिकी हमले की आशंका** के बीच यात्रा करना किसी पक्ष में दिखने का जोखिम लिए हुए था।
- The visit's outcomes will be judged by its impact on the wider **West Asian neighbourhood**. इस यात्रा के परिणामों का मूल्यांकन व्यापक **पश्चिम एशियाई क्षेत्र** पर इसके प्रभाव से होगा।
- Mr. Modi announced renewed momentum for **India-Israel-UAE, I2U2 (India-Israel-UAE-U.S.)**, and the **India-Middle East-Europe Economic Corridor (IMEC)**. श्री मोदी ने **भारत-इज़राइल-यूएई, I2U2 (भारत-इज़राइल-यूएई-अमेरिका)** और **इंडिया-मिडिल ईस्ट-यूरोप आर्थिक कॉरिडोर (IMEC)** को नई गति देने की घोषणा की।
- New Delhi believes regional initiatives remain viable despite polarisation and fault-lines. नई दिल्ली का मानना है कि ध्रुवीकरण और विभाजन के बावजूद क्षेत्रीय पहलें अभी भी संभव हैं।
- However, a decision to "stand with Israel, firmly" could affect India's ties with other **West Asian powers**, which expect India to maintain its historical regional balance and principles of peace, morality and compassion in the **Israel-Palestine conflict**. हालाँकि, "इज़राइल के साथ दृढ़ता से खड़े होने" का निर्णय अन्य **पश्चिम एशियाई शक्तियों** के साथ भारत के संबंधों को प्रभावित कर सकता है, जो **इज़राइल-फ़िलिस्तीन संघर्ष** में भारत से संतुलित, शांतिपूर्ण और नैतिक रुख की अपेक्षा रखते हैं।

What changed in Hong Kong after National Security Law?

Is Hong Kong's distinct identity giving way to a party-approved Chinese identity?

GS II: IR

Gunjan Singh

The story so far:

Hong Kong has undergone significant changes since Xi Jinping came to power in 2013. Under Mr. Xi, the Chinese Communist Party (CCP) has increasingly focused on exerting its control over the city and integrating it more closely with mainland China. This process of assimilation has been systematic, raising questions about Beijing's commitment to the "one country, two systems" framework and Hong Kong's Basic Law. The most decisive shift came with the implementation of the Hong Kong National Security Law (NSL) in June 2020. The law has fundamentally altered Hong Kong's political, media, and judicial landscape.

When did the tussle between Hong Kong and Beijing intensify?

The major tussle between the CCP and Hong Kong began in 2014 when the city

witnessed major protests known as the Umbrella Movement. They were triggered by Beijing's proposal that Hong Kong residents could vote for their Chief Executive only from a list of candidates vetted by the CCP, with elections planned for 2017. However, after 79 days of demonstrations across the city, the protests were cleared by police.

Hong Kong was again rocked by violent protests in 2019 against a proposed extradition Bill that would have allowed suspects to be sent to mainland China for trial. As per critics, "people would be subject to arbitrary detention, unfair trial, and torture under China's judicial system". Although the bill was eventually withdrawn, protests continued over demands for more democracy. In response to the protests, Beijing described the unrest as "terrorism" and asserted that "restoring order was Hong Kong's most urgent task." The demonstrations were ultimately suppressed by law enforcement. The clampdown on both protests

clearly eradicated the political space promised to Hong Kong under the 'one country, two systems' framework. In addition, the lockdowns imposed during the COVID-19 pandemic further helped the CCP to control any form of dissent.

What does the NSL entail?

The NSL, passed by China in June 2020, "criminalises anything considered as secession, which is breaking away from China; subversion, which is undermining the power or authority of the central government; terrorism, which is using violence or intimidation against people; and collusion with foreign or external forces". Data show that around 260 people have been arrested under the NSL, with 76 convicted.

How has media freedom been affected?

The kidnapping of five Hong Kong book sellers by Beijing in 2015 heavily impacted its media freedom. In 2015, Lui Bo, Cheung Jiping, Gui Minhui, Lam

Wing-kee, and Lee Bo, associated with the publisher Mighty Current and its bookstore Causeway Bay Books, disappeared. Authorities cited the sale of banned books in mainland China as grounds for legal action. This incident showed the push for ending critical media space in Hong Kong.

Jimmy Lai, the founder of the newspaper *Apple Daily*, was prosecuted under the NSL in 2020. The clampdown on newspapers started immediately after the implementation of NSL, and Lai was found guilty of protesting in 2021, and his newspaper was shut down. Another newspaper, *Stand News*, was shut down in 2021, and its journalists were arrested on charges of "conspiracy to publish seditious materials".

What does this mean for Hong Kong's identity?

Hong Kong's identity has long been rooted in the 'one country, two systems' framework and the Basic Law, which promised to "preserve their unique political and economic systems". However, since Mr. Xi assumed power, there has been a consistent effort to dismantle this uniqueness and subsume it under China's identity. With no space left for critical voices with the implementation of the NSL, Mr. Xi has managed to completely subsume Hong Kong identity within the idea of Chinese identity, one approved by the party. Gunjan Singh is Associate Professor at OP Jindal Global University

THE GIST

Since Xi Jinping came to power, Beijing has systematically tightened control over Hong Kong, especially after the 2020 National Security Law, reshaping its political and media landscape.

Protests in 2014 and 2019 were suppressed, media freedom curtailed, and the "one country, two systems" framework significantly eroded.

27F. What changed in Hong Kong after National Security Law? राष्ट्रीय सुरक्षा कानून के बाद हांगकांग में क्या बदला?

- Is Hong Kong's distinct identity giving way to a party-approved Chinese identity क्या हांगकांग की विशिष्ट पहचान पार्टी-स्वीकृत चीनी पहचान को जगह दे रही है?

Hong Kong under Xi Jinping
शी जिनपिंग के अधीन हांगकांग



- Hong Kong has undergone significant changes since **Xi Jinping** came to power in **2013**.
हांगकांग में **2013** में **शी जिनपिंग** के सत्ता में आने के बाद से महत्वपूर्ण परिवर्तन हुए हैं।
- Under Mr. Xi, the **Chinese Communist Party (CCP)** has increasingly focused on exerting control over the city and integrating it more closely with mainland China.
श्री शी के नेतृत्व में **चीनी कम्युनिस्ट पार्टी (CCP)** ने शहर पर नियंत्रण बढ़ाने और उसे मुख्यभूमि चीन के साथ अधिक निकटता से एकीकृत करने पर ध्यान केंद्रित किया है।
- This process of assimilation has been systematic, raising questions about Beijing's commitment to the **"one country, two systems"** framework and **Hong Kong's Basic Law**.
यह समाकलन की प्रक्रिया व्यवस्थित रही है, जिससे बीजिंग की **"एक देश, दो प्रणाली"** ढांचे और **हांगकांग के बेसिक लॉ** के प्रति प्रतिबद्धता पर प्रश्न उठे हैं।
- The most decisive shift came with the implementation of the **Hong Kong National Security Law (NSL) in June 2020**.
सबसे निर्णायक बदलाव **जून 2020** में **हांगकांग राष्ट्रीय सुरक्षा कानून (NSL)** के लागू होने से आया।
- The law altered Hong Kong's political, media, and judicial landscape.
इस कानून ने हांगकांग के राजनीतिक, मीडिया और न्यायिक परिदृश्य को बदल दिया।

When did the tussle intensify? संघर्ष कब तेज हुआ?

- The major tussle began in **2014** with the **Umbrella Movement**.
मुख्य संघर्ष **2014** में **अम्ब्रेला मूवमेंट** के साथ शुरू हुआ।
- It was triggered by Beijing's proposal that residents could vote for Chief Executive only from candidates vetted by the **CCP**, with elections planned for **2017**.
यह बीजिंग के उस प्रस्ताव से शुरू हुआ जिसमें निवासियों को केवल **CCP** द्वारा अनुमोदित उम्मीदवारों में से मुख्य कार्यकारी चुनने की अनुमति थी, और चुनाव **2017** में प्रस्तावित थे।
- After **79 days** of demonstrations, the protests were cleared by police.
79 दिनों के प्रदर्शनों के बाद पुलिस ने विरोध समाप्त कर दिया।
- In **2019**, protests erupted against a proposed extradition Bill allowing suspects to be sent to mainland China for trial.
2019 में प्रत्यर्पण विधेयक के खिलाफ विरोध हुआ, जो संदिग्धों को मुख्यभूमि चीन भेजने की अनुमति देता।
- Critics said people could face arbitrary detention, unfair trial, and torture under China's judicial system.
आलोचकों ने कहा कि लोग चीन की न्याय प्रणाली के तहत मनमानी हिरासत, अनुचित मुकदमा और यातना झेल सकते हैं।
- Though the bill was withdrawn, protests continued demanding more democracy.
विधेयक वापस लेने के बावजूद अधिक लोकतंत्र की मांग जारी रही।
- Beijing termed the unrest "terrorism" and said restoring order was Hong Kong's urgent task.
बीजिंग ने अशांति को "आतंकवाद" कहा और व्यवस्था बहाल करना आवश्यक बताया।
- Demonstrations were suppressed by law enforcement.
प्रदर्शनों को कानून प्रवर्तन द्वारा दबा दिया गया।
- Clampdowns eradicated the political space promised under the **'one country, two systems'** framework.
कार्रवाई ने **'एक देश, दो प्रणाली'** के तहत वादा किए गए राजनीतिक स्थान को समाप्त कर दिया।
- COVID-19 lockdowns further helped the **CCP** control dissent.
COVID-19 लॉकडाउन ने असहमति को नियंत्रित करने में **CCP** की मदद की।

What does the NSL entail? NSL में क्या प्रावधान हैं?

- The **NSL** criminalises secession, subversion, terrorism, and collusion with foreign forces.
NSL अलगाववाद, सत्ता को कमजोर करना, आतंकवाद और विदेशी शक्तियों से मिलीभगत को अपराध घोषित करता है।
- Around **260 people** have been arrested, with **76 convicted**.
लगभग **260 लोगों** को गिरफ्तार किया गया, जिनमें से **76 दोषी ठहराए गए**।



How has media freedom been affected?

मीडिया स्वतंत्रता पर प्रभाव

- In **2015**, five Hong Kong booksellers disappeared, impacting media freedom. **2015** में पाँच पुस्तक विक्रेताओं के गायब होने से मीडिया स्वतंत्रता प्रभावित हुई।
- They were linked to **Mighty Current** and **Causeway Bay Books**. वे **माइटी करंट** और **काँज़वे बे बुक्स** से जुड़े थे।
- Authorities cited sale of banned books in mainland China. प्राधिकारियों ने मुख्यभूमि चीन में प्रतिबंधित पुस्तकों की बिक्री को आधार बताया।
- Jimmy Lai**, founder of **Apple Daily**, was prosecuted under the **NSL** in **2026**. **जिमी लाई**, **एप्पल डेली** के संस्थापक, को **2026** में **NSL** के तहत अभियोजित किया गया।
- He was found guilty of protesting in **2021**, and his newspaper was shut down. उन्हें **2021** में विरोध के लिए दोषी ठहराया गया और उनका समाचारपत्र बंद कर दिया गया।
- Stand News** was shut down in **2021**, journalists arrested for "conspiracy to publish seditious materials". **स्टैंड न्यूज़** को **2021** में बंद किया गया और पत्रकारों को "देशद्रोही सामग्री प्रकाशित करने की साजिश" के आरोप में गिरफ्तार किया गया।

What does this mean for identity?

पहचान पर प्रभाव

- Hong Kong's identity was rooted in the '**one country, two systems**' framework and the **Basic Law**. हांगकांग की पहचान '**एक देश, दो प्रणाली**' और **बेसिक लॉ** में निहित थी।
- These promised preservation of unique political and economic systems. इनमें विशिष्ट राजनीतिक और आर्थिक प्रणाली को बनाए रखने का वादा था।
- Since Mr. Xi assumed power, efforts have been made to subsume this uniqueness under China's identity. श्री शी के सत्ता में आने के बाद इस विशिष्टता को चीन की पहचान में समाहित करने के प्रयास हुए।
- With no space for critical voices under the **NSL**, Hong Kong identity has been subsumed within a party-approved Chinese identity. **NSL** के तहत आलोचनात्मक आवाजों के लिए स्थान न रहने से हांगकांग की पहचान को पार्टी-स्वीकृत चीनी पहचान में समाहित कर दिया गया है।

DHAKA

Bangladesh to request Interpol red notice for arrest of British MP



GS II: IR AP
A court in Dhaka on Thursday ordered authorities to request that Interpol issue a red notice for the arrest of a British lawmaker on charges of corruption in a private real estate project. Tulip Siddiq, a former British Minister and an MP from Hampstead and Highgate in London, faces charges of corruption in Bangladesh. PTI

27F. Bangladesh to request Interpol red notice for arrest of British MP

ब्रिटिश सांसद की गिरफ्तारी के लिए इंटरपोल रेड नोटिस का अनुरोध करेगा बांग्लादेश

- A court in **Dhaka** on Thursday ordered authorities to request that **Interpol** issue a **red notice** for the arrest of a **British lawmaker** on charges of **corruption** in a **private real estate project**. गुरुवार को **ढाका** की एक अदालत ने अधिकारियों को निर्देश दिया कि वे **निजी रियल एस्टेट परियोजना** में **भ्रष्टाचार** के आरोपों पर एक **ब्रिटिश सांसद** की गिरफ्तारी के लिए **इंटरपोल से रेड नोटिस** जारी करने का अनुरोध करें।
- Tulip Siddiq**, a former **British Minister** and an MP from **Hampstead and Highgate** in **London**, faces charges of **corruption** in **Bangladesh**. **तुलिप सिद्दीक**, जो पूर्व **ब्रिटिश मंत्री** हैं और **लंदन** के **हैम्पस्टेड और हाईगेट** से सांसद हैं, **बांग्लादेश** में **भ्रष्टाचार** के आरोपों का सामना कर रही हैं।



Epstein files expose the sex offender's links to cash, women, power in Africa

Emails, scheduled meetings, investment projects, and loans attest to the disgraced New York financier's close relationship with Karim Wade, son of former Senegalese President Abdoulaye Wade; the files also reveal Epstein's connection to Nina Keita, niece of Ivorian President Alassane Ouattara

GS II: IR
Agence France Presse
PARIS

Jeffrey Epstein built close ties with powerful figures in Senegal and Ivory Coast, files released by the U.S. government last month show, detailing the late sex offender's influence network across Africa.

Emails, scheduled meetings, investment projects, and loans reviewed by AFP attest to the disgraced New York financier's close relationship with Karim Wade, son of former Senegalese President Abdoulaye Wade.

They also reveal his ties to Nina Keita, niece of Ivorian President Alassane Ouattara.

Mr. Wade and Epstein met in 2010 through Emirati businessman Sultan Ahmed bin Sulayem, who recently resigned as CEO of port giant DP World after mounting pressure over his close friendship with Epstein. The pair quickly struck up a rapport.

"Thanks for coming. I think there are many things to consider... I feel confident that we will have fun," Epstein wrote to Mr. Wade on November 15, 2010 after their first meeting in Paris.

"Have a safe trip back to your paradise Island," Mr. Wade replied.

While Mr. Wade's exchanges show no link to Epstein-related sex trafficking crimes, they do reveal



Seeking justice: Brother of Virginia Giuffre, a survivor of Jeffrey Epstein's trafficking ring, speaks during a press conference with other survivors in Washington DC on Tuesday. REUTERS

conversations on potential business ventures in various sectors, such as finance and energy.

Nicknamed the "Minister of Heaven and Earth" for the multiple portfolios he held including international cooperation, energy, and air transport, Mr. Wade was a powerful figure in Senegal until April 2012, when his father's bid for a third term sparked deadly riots.

Epstein saw him as "one of the most important players in Africa" and invited him to meet close contacts such as Ehud Barak, then Israel's Defence Minister.

He also put him in touch with Chinese businessman

Desmond Shum to discuss "offshore banking."

The U.S. Department of Justice documents show Mr. Shum and Mr. Wade met in Beijing on May 9, 2011. That same month, Mr. Wade planned an African tour through Senegal, Mali, and Gabon for Epstein.

'You will not suffer' Epstein and Mr. Wade's relationship became even more apparent after the latter's fortunes reversed when his father left office in 2012.

That autumn, Epstein proposed that his "friend" — under the Dakar authorities' scrutiny over his assets — use his house in Flo-

rida.

"You and your family are welcome to use my house in palm beach, staff is there, pool etc. you will not suffer," Epstein wrote.

"Txs a lot Brother for the advise," Mr. Wade replied a few weeks later to another email, in which Epstein urged him to "stay mentally strong".

Numerous files suggest Epstein became financially involved on Karim Wade's behalf after his arrest in 2013 and his 2015 sentencing to six years in prison for corruption.

Karim Wade's lawyer, Mohamed Seydou Diagne, sent two invoices in May 2014 and July 2015 of \$500,000 to one of Ep-

stein's companies. Contacted by AFP on Monday, Mr. Diagne said he "did not consider it useful to comment".

Other archives suggest that Epstein covered at least \$50,000 in fees for the U.S. lobbying firm Nelson Mullins, hired by Mr. Wade's entourage to secure his release.

Epstein regularly exchanged emails with Robert Crowe, a partner at the firm who kept him informed of their efforts in the U.S. and Senegal.

In a June 16, 2016 email thread where Epstein and Mr. Crowe discussed whether then Senegalese President Macky Sall would pardon Mr. Wade, Mr. Crowe writes: "He has told my friends high up at State that he was going to do it. They have been putting pressure on him!"

Karim Wade was released from prison eight days later, on June 24, and went into exile in Qatar, which he credited for efforts toward his release.

Jeffrey Epstein was told by Sultan Ahmed bin Sulayem and Nina Keita.

The Department of Justice (DOJ) documents show Nina Keita was close to both Epstein and Karim Wade and that she acted as a regular intermediary while Mr. Wade was in prison. Ms. Keita also helped put Epstein in contact with her uncle, President of Ivory Coast since May 2011, and his team.

"He thought you were a very interesting person... they were all very happy to have you here," she wrote on January 20, 2012, after the financier's visit to Abidjan.

She had booked him the "ministerial suite" of the luxury Hotel Ivoire for that trip.

Ahead of the visit, Epstein had said he hoped to see "very pretty girls there, as well as interesting places".

"You will!" Ms. Keita replied. Emails show Ms. Keita, a former model, at least once sent photos and the phone number of a young woman to Epstein.

He then met this woman at the Ritz hotel in Paris on August 31, 2011. "ask sadia to send pictures of her sister. i prefer under 25," Epstein wrote to Ms. Keita after the meeting.

Now the deputy general director of Ivorian petroleum stocks company GESTOCI, Ms. Keita also appears in a February-2019 will in which Epstein requested that debts owed to him by a number of people be cancelled upon his death.

AFP received no response to its requests for comment from both Ms. Keita and the Ivorian presidency, or from Karim Wade, who was contacted through his entourage.

The mere mention of a person's name in the Epstein files does not in itself imply wrongdoing.

27F. Epstein files expose the sex offender's links to cash, women, power in Africa

एपस्टीन फाइलें अफ्रीका में धन, महिलाओं और सत्ता से सेक्स अपराधी के संबंध उजागर करती हैं

- Emails, scheduled meetings, investment projects, and loans attest to the disgraced New York financier's close relationship with Karim Wade, son of former Senegalese President Abdoulaye Wade; the files also reveal Epstein's connection to Nina Keita, niece of Ivorian President Alassane Ouattara.

ईमेल, निर्धारित बैठकें, निवेश परियोजनाएँ और ऋण यह प्रमाणित करते हैं कि बदनाम न्यूयॉर्क के वित्तीय कारोबारी का पूर्व सेनेगाली राष्ट्रपति अब्दुलाये वाडे के पुत्र करीम वाडे के साथ करीबी संबंध था; फाइलें आइवोरियन राष्ट्रपति अलासाने औतारा की भतीजी नीना केइता से एपस्टीन के संबंध भी उजागर करती हैं।

- Jeffrey Epstein built close ties with powerful figures in Senegal and Ivory Coast, files released by the U.S. government last month show, detailing the late sex offender's influence network across Africa.

पिछले महीने अमेरिकी सरकार द्वारा जारी फाइलों से पता चलता है कि जेफ्री एपस्टीन ने सेनेगल और आइवरी कोस्ट में शक्तिशाली व्यक्तियों के साथ घनिष्ठ संबंध बनाए थे, जो पूरे अफ्रीका में दिवंगत सेक्स अपराधी के प्रभाव नेटवर्क का विवरण देती हैं।

- Emails, scheduled meetings, investment projects, and loans reviewed by AFP attest to the disgraced New York financier's close relationship with Karim Wade, son of former



Senegalese President Abdoulaye Wade.

एफपी द्वारा समीक्षा किए गए ईमेल, निर्धारित बैठकें, निवेश परियोजनाएँ और ऋण इस बात की पुष्टि करते हैं कि बदनाम न्यूयॉर्क के वित्तीय कारोबारी का पूर्व सेनेगाली राष्ट्रपति अब्दुलाये वाडे के पुत्र करीम वाडे के साथ करीबी संबंध था।

- They also reveal his ties to Nina Keita, niece of Ivorian President Alassane Ouattara. वे आइवोरियन राष्ट्रपति अलासाने औत्तारा की भतीजी नीना केइता से उसके संबंध भी उजागर करते हैं।
- Mr. Wade and Epstein met in 2010 through Emirati businessman Sultan Ahmed bin Sulayem, who recently resigned as CEO of port giant DP World after mounting pressure over his close friendship with Epstein. श्री वाडे और एपस्टीन की मुलाकात 2010 में अमीराती व्यवसायी सुल्तान अहमद बिन सुलेयम के माध्यम से हुई, जिन्होंने एपस्टीन के साथ अपनी करीबी दोस्ती को लेकर बढ़ते दबाव के बाद हाल ही में बंदरगाह दिग्गज डीपी वर्ल्ड के सीईओ पद से इस्तीफा दिया।
- The pair quickly struck up a rapport. दोनों के बीच जल्दी ही तालमेल बन गया।
- “Thanks for coming. I think there are many things to consider... I feel confident that we will have fun,” Epstein wrote to Mr. Wade on November 15, 2010 after their first meeting in Paris. “आने के लिए धन्यवाद। मुझे लगता है कि विचार करने के लिए कई बातें हैं... मुझे विश्वास है कि हम आनंद लेंगे,” एपस्टीन ने पेरिस में पहली मुलाकात के बाद 15 नवंबर 2010 को श्री वाडे को लिखा।
- “Have a safe trip back to your paradise Island,” Mr. Wade replied. “अपने स्वर्ग द्वीप की सुरक्षित यात्रा करें,” श्री वाडे ने उत्तर दिया।
- While Mr. Wade’s exchanges show no link to Epstein-related sex trafficking crimes, they do reveal conversations on potential business ventures in various sectors, such as finance and energy. हालाँकि श्री वाडे के संवाद एपस्टीन से जुड़े सेक्स तस्करी अपराधों से कोई संबंध नहीं दिखाते, लेकिन वे वित्त और ऊर्जा जैसे विभिन्न क्षेत्रों में संभावित व्यावसायिक उपक्रमों पर बातचीत अवश्य उजागर करते हैं।
- Nicknamed the “Minister of Heaven and Earth” for the multiple portfolios he held including international cooperation, energy, and air transport, Mr. Wade was a powerful figure in Senegal until April 2012, when his father’s bid for a third term sparked deadly riots. अंतरराष्ट्रीय सहयोग, ऊर्जा और हवाई परिवहन सहित कई विभाग संभालने के कारण “स्वर्ग और पृथ्वी का मंत्री” कहे जाने वाले श्री वाडे अप्रैल 2012 तक सेनेगल में एक शक्तिशाली व्यक्ति थे, जब उनके पिता के तीसरे कार्यकाल की कोशिश ने घातक दंगे भड़का दिए।
- Epstein saw him as “one of the most important players in Africa” and invited him to meet close contacts such as Ehud Barak, then Israel’s Defence Minister. एपस्टीन ने उन्हें “अफ्रीका के सबसे महत्वपूर्ण खिलाड़ियों में से एक” माना और इज़राइल के तत्कालीन रक्षा मंत्री एहुद बराक जैसे करीबी संपर्कों से मिलने के लिए आमंत्रित किया।
- He also put him in touch with Chinese businessman Desmond Shum to discuss “offshore banking.” उन्होंने “ऑफशोर बैंकिंग” पर चर्चा के लिए उन्हें चीनी व्यवसायी डेसमंड शुम से भी मिलवाया।
- The U.S. Department of Justice documents show Mr. Shum and Mr. Wade met in Beijing on May 9, 2011. अमेरिकी न्याय विभाग के दस्तावेज़ दिखाते हैं कि श्री शुम और श्री वाडे की मुलाकात 9 मई 2011 को बीजिंग में हुई।
- That same month, Mr. Wade planned an African tour through Senegal, Mali, and Gabon for Epstein. उसी महीने श्री वाडे ने एपस्टीन के लिए सेनेगल, माली और गैबॉन का अफ्रीकी दौरा योजनाबद्ध किया।

‘You will not suffer’

‘आपको कष्ट नहीं होगा’

- Epstein and Mr. Wade’s relationship became even more apparent after the latter’s fortunes reversed when his father left office in 2012. 2012 में उनके पिता के पद छोड़ने के बाद श्री वाडे की किस्मत पलटने पर एपस्टीन और श्री वाडे का संबंध और भी स्पष्ट हो गया।
- That autumn, Epstein proposed that his “friend” — under the Dakar authorities’ scrutiny over his assets — use his house in Florida.



उस शरद ऋतु में एपस्टीन ने अपने “मित्र” को — जिनकी संपत्तियाँ डकार अधिकारियों की जांच में थीं — फ्लोरिडा स्थित अपना घर उपयोग करने का प्रस्ताव दिया।

- “You and your family are welcome to use my house in palm beach, staff is there, pool etc. you will not suffer,” Epstein wrote.
“आप और आपका परिवार पाम बीच में मेरे घर का उपयोग कर सकते हैं, स्टाफ है, पूल आदि हैं, आपको कष्ट नहीं होगा,” एपस्टीन ने लिखा।
- “Txs a lot Brother for the advise,” Mr. Wade replied a few weeks later to another email, in which Epstein urged him to “stay mentally strong”.
“सलाह के लिए बहुत धन्यवाद भाई,” श्री वाडे ने कुछ सप्ताह बाद एक अन्य ईमेल के जवाब में लिखा, जिसमें एपस्टीन ने उन्हें “मानसिक रूप से मजबूत रहने” को कहा था।
- Numerous files suggest Epstein became financially involved on Karim Wade’s behalf after his arrest in 2013 and his 2015 sentencing to six years in prison for corruption.
कई फाइलें संकेत देती हैं कि 2013 में गिरफ्तारी और 2015 में भ्रष्टाचार के लिए छह साल की सजा के बाद एपस्टीन करीम वाडे की ओर से आर्थिक रूप से शामिल हो गया।
- Karim Wade’s lawyer, Mohamed Seydou Diagne, sent two invoices in May 2014 and July 2015 of \$500,000 to one of Epstein’s companies.
करीम वाडे के वकील मोहम्मद सेदू दियाग्ने ने मई 2014 और जुलाई 2015 में एपस्टीन की एक कंपनी को 5,00,000 डॉलर के दो बिल भेजे।
- Contacted by AFP on Monday, Mr. Diagne said he “did not consider it useful to comment”.
सोमवार को एएफपी द्वारा संपर्क किए जाने पर श्री दियाग्ने ने कहा कि वह “टिप्पणी करना उपयोगी नहीं समझते”।
- Other archives suggest that Epstein covered at least \$50,000 in fees for the U.S. lobbying firm Nelson Mullins, hired by Mr. Wade’s entourage to secure his release.
अन्य अभिलेख बताते हैं कि एपस्टीन ने अमेरिकी लॉबिंग फर्म नेल्सन मुलिनस की कम से कम 50,000 डॉलर की फीस चुकाई, जिसे श्री वाडे के सहयोगियों ने उनकी रिहाई सुनिश्चित करने के लिए नियुक्त किया था।
- Epstein regularly exchanged emails with Robert Crowe, a partner at the firm who kept him informed of their efforts in the U.S. and Senegal.
एपस्टीन फर्म के साझेदार रॉबर्ट क्रो के साथ नियमित रूप से ईमेल का आदान-प्रदान करता था, जो उसे अमेरिका और सेनेगल में उनके प्रयासों की जानकारी देते रहते थे।
- In a June 16, 2016 email thread where Epstein and Mr. Crowe discussed whether then Senegalese President Macky Sall would pardon Mr. Wade, Mr. Crowe writes: “He has told my friends high up at State that he was going to do it. They have been putting pressure on him!”
16 जून 2016 की एक ईमेल श्रृंखला में, जहाँ एपस्टीन और श्री क्रो ने चर्चा की कि तत्कालीन सेनेगाली राष्ट्रपति मैकी साल श्री वाडे को माफी देंगे या नहीं, श्री क्रो लिखते हैं: “उन्होंने स्टेट डिपार्टमेंट में मेरे उच्च पदस्थ मित्रों से कहा है कि वह ऐसा करेंगे। वे उन पर दबाव डाल रहे हैं!”
- Karim Wade was released from prison eight days later, on June 24, and went into exile in Qatar, which he credited for efforts toward his release.
आठ दिन बाद 24 जून को करीम वाडे को जेल से रिहा कर दिया गया और वे कतर चले गए, जिसे उन्होंने अपनी रिहाई के प्रयासों का श्रेय दिया।
- Jeffrey Epstein was told by Sultan Ahmed bin Sulayem and Nina Keita.
जेफ्री एपस्टीन को यह जानकारी सुलतान अहमद बिन सुलेयम और नीना केइता द्वारा दी गई।
- The Department of Justice (DOJ) documents show Nina Keita was close to both Epstein and Karim Wade and that she acted as a regular intermediary while Mr. Wade was in prison.
न्याय विभाग (डीओजे) के दस्तावेज़ दिखाते हैं कि नीना केइता एपस्टीन और करीम वाडे दोनों के करीबी थीं और श्री वाडे के जेल में रहने के दौरान उन्होंने नियमित मध्यस्थ की भूमिका निभाई।
- Ms. Keita also helped put Epstein in contact with her uncle, President of Ivory Coast since May 2011, and his team.
सुश्री केइता ने मई 2011 से आइवरी कोस्ट के राष्ट्रपति रहे अपने चाचा और उनकी टीम से एपस्टीन का संपर्क भी कराया।
- “He thought you were a very interesting person!... they were all very happy to have you here,” she wrote on January 20, 2012, after the financier’s visit to Abidjan.
“उन्होंने आपको बहुत दिलचस्प व्यक्ति माना!... वे सभी आपको यहाँ पाकर बहुत खुश थे,” उन्होंने 20 जनवरी 2012 को वित्तीय कारोबारी की अबिदजान यात्रा के बाद लिखा।
- She had booked him the “ministerial suite” of the luxury Hotel Ivoire for that trip.
उस यात्रा के लिए उन्होंने लक्ज़री होटल आइवोआर का “मंत्रालयी सुइट” बुक किया था।



- Ahead of the visit, Epstein had said he hoped to see “very pretty girls there, as well as interesting places”.
यात्रा से पहले एपस्टीन ने कहा था कि वह “बहुत सुंदर लड़कियाँ और दिलचस्प जगहें” देखने की उम्मीद करता है।
- “You will!” Ms. Keita replied.
“आप देखेंगे!” सुश्री केइता ने उत्तर दिया।
- Emails show Ms. Keita, a former model, at least once sent photos and the phone number of a young woman to Epstein.
ईमेल से पता चलता है कि पूर्व मॉडल सुश्री केइता ने कम से कम एक बार एक युवा महिला की तस्वीरें और फोन नंबर एपस्टीन को भेजे।
- He then met this woman at the Ritz hotel in Paris on August 31, 2011.
इसके बाद उन्होंने 31 अगस्त 2011 को पेरिस के रिट्ज़ होटल में उस महिला से मुलाकात की।
- “ask sadia to send pictures of her sister. i prefer under 25,” Epstein wrote to Ms. Keita after the meeting.
“सादिया से कहो कि वह अपनी बहन की तस्वीरें भेजे। मुझे 25 से कम उम्र पसंद है,” मुलाकात के बाद एपस्टीन ने सुश्री केइता को लिखा।
- Now the deputy general director of Ivorian petroleum stocks company GESTOCI, Ms. Keita also appears in a February-2019 will in which Epstein requested that debts owed to him by a number of people be cancelled upon his death.
अब आइवोरियन पेट्रोलियम स्टॉक्स कंपनी जेस्टोसी की उप महाप्रबंधक, सुश्री केइता फरवरी 2019 की उस वसीयत में भी शामिल हैं जिसमें एपस्टीन ने अपनी मृत्यु के बाद कई लोगों द्वारा उस पर बकाया ऋण माफ करने का अनुरोध किया था।
- AFP received no response to its requests for comment from both Ms. Keita and the Ivorian presidency, or from Karim Wade, who was contacted through his entourage.
एएफपी को सुश्री केइता, आइवोरियन राष्ट्रपति कार्यालय या करीम वाडे — जिनसे उनके सहयोगियों के माध्यम से संपर्क किया गया — से टिप्पणी के लिए कोई उत्तर नहीं मिला।
- The mere mention of a person’s name in the Epstein files does not in itself imply wrongdoing.
एपस्टीन फाइलों में किसी व्यक्ति के नाम का मात्र उल्लेख अपने आप में किसी गलत कार्य का संकेत नहीं देता।

GS Paper III: Economy,	
TOPICS COVERED	27 February 2026
27F	The shift of critical minerals to India’s strategic centre
27F	महत्वपूर्ण खनिजों का भारत की रणनीतिक धुरी की ओर स्थानांतरण
27F	New GDP data set to capture economy more accurately नई GDP डेटा श्रृंखला अर्थव्यवस्था को अधिक सटीक रूप से दर्शाएगी



The shift of critical minerals to India's strategic centre

GS III: Economy

MCQ

Three years ago, and at the start of India's G-20 presidency, critical minerals barely featured as a strategic topic in policy thinking. As recently as August 2023, several critical minerals, including lithium, were still classified as atomic minerals, effectively barring private exploration and mining. But the latest Union Budget shows that something critical has shifted in India's thinking.

The government has now signalled that critical minerals have moved to the mainstream, and must become a core pillar of India's industrial, energy, and geopolitical strategy. The emphasis on 'critical minerals' in the Budget speech is revealing. The focus is no longer on whether India needs a critical minerals policy but on whether India can now execute while building expertise at scale, speed and depth.

Clear policy drive

There is clear policy momentum. India now has a list of 30 critical minerals and has eased mineral exploration for junior miners while also rationalising the royalty rates. In January 2025, the government launched the National Critical Mineral Mission (NCMM) with a budgetary outlay of ₹16,300 crore. Today, India is among a small group of countries with a comprehensive and ambitious policy framework for critical minerals.

Yet, ambition alone will not deliver mineral security. Execution will. It takes years – often decades – to discover and mine minerals, but extraction is not the only bottleneck. China controls up to 90% of global mineral processing capacity for several critical minerals. However, analysis by the Council on Energy, Environment and Water (CEEW) suggests that India already has the capabilities to process a few minerals to high purity levels.

For instance, Indian industries already produce high-purity copper, graphite, rare earth oxides, tin and titanium – often exceeding 99.9% purity. However, existing production is largely geared towards conventional uses and limited volumes. Meeting the requirements of clean tech and defence will require further technological



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The Union Budget has highlighted India's new 'mineral resolve'

upgrading, deeper refining, and capacity expansion. Skills from established sectors such as chemicals, pharmaceuticals and textiles could be leveraged to process raw minerals to higher purity and scale.

Priority areas

In this context, Budget 2026 begins the harder work of implementation. To sustain this momentum, India must double down on three priorities: First, create demand avenues for processed minerals. The Budget rightly removes import duties on capital goods used in the processing of critical minerals. Given high capex requirements, this improves the competitiveness of upcoming refineries. However, the biggest constraint investors face is not just cost but also the lack of assured domestic demand for processed minerals. While government initiatives support domestic manufacturing of batteries, solar modules, wind turbines, and electric vehicles, delays in backward integration continue to create uncertainty for midstream processors. Boosting the deployment of locally-made electric vehicles, batteries, solar, and wind would have powerful third-order effects, strengthening processing, mining, and exploration ecosystems. Demand creation remains the most decisive industrial policy lever.

Second, adopt an Artificial Intelligence (AI)-first approach to mineral exploration. The NCMM targets 1,200 exploration projects by FY2031. The Budget strengthens project viability by making exploration expenditure for nine critical minerals eligible for tax deductions. Interestingly, four of these minerals (beryllium, tantalum, lithium and niobium) were on the restricted atomic minerals list just three years ago. To truly de-risk exploration, leveraging technology will be critical. India should mandate an AI-first approach to mineral exploration, backed by coherence across the IndiaAI Mission, the National Geospatial Policy, and Mission Anveshan. Today, Mission Anveshan focuses on hydrocarbon discovery using seismic AI tools. Extending such capabilities to the National

Geoscience Data Repository could significantly improve prospectivity analysis and aid new site discoveries.

Third, leverage geopolitical disruption to build technological sovereignty. In 2025, the weaponisation of rare earth magnets and battery supply chains exposed the fragility of global industrial and clean energy policies. The government's response – announcing rare earth corridors across coastal States and reducing import duties on monazite sands – is timely. States should now leverage existing infrastructure and manpower to serve global demand, creating jobs and boosting regional growth.

International partnerships are key

But beyond local action, India should accelerate institutional and industrial partnerships with Australia, the European countries, Japan, the United Kingdom and the United States. Many of them possess advanced minerals processing or complex component manufacturing capabilities but remain cautious about technology transfer. These firms should be nudged and encouraged to set up their facilities in India to service global markets. While the ₹7,280 crore scheme for sintered rare earth permanent magnets is a start, regulatory certainty, water-tight legal frameworks, market access and research collaboration will be equally important. Strengthening links between centres of excellence in India to their global counterparts – such as through the UK-India Critical Minerals Supply Chain Observatory – should be prioritised, including under the recently concluded India-European Union Free Trade Agreement.

In a turbulent world, 2026 can be a year of accelerated ambition if approached with speed, confidence and caution. India's leadership in critical minerals hinges on coordinated action supported by inter-ministerial coordination, proactive state leadership, and global partnerships.

The views expressed are personal

27F. The shift of critical minerals to India's strategic centre महत्वपूर्ण खनिजों का भारत की रणनीतिक धुरी की ओर स्थानांतरण

- Three years ago, at the start of **India's G-20 presidency**, critical minerals barely featured as a strategic topic in policy thinking.
तीन वर्ष पहले, **भारत की G20 अध्यक्षता** की शुरुआत में, नीति निर्माण में **महत्वपूर्ण खनिज** शायद ही एक रणनीतिक विषय के रूप में शामिल थे।
- As recently as **August 2023**, several critical minerals including **lithium** were classified as atomic minerals, barring private exploration and mining.
अगस्त 2023 तक, **लिथियम** सहित कई महत्वपूर्ण खनिजों को परमाणु खनिज के रूप में वर्गीकृत किया गया था, जिससे निजी अन्वेषण और खनन पर रोक थी।
- The latest **Union Budget** shows that something critical has shifted in India's thinking.
नवीनतम **केंद्रीय बजट** दर्शाता है कि भारत की सोच में महत्वपूर्ण बदलाव आया है।
- The government has signalled that critical minerals must become a core pillar of India's industrial, energy, and geopolitical strategy.
सरकार ने संकेत दिया है कि महत्वपूर्ण खनिज भारत की औद्योगिक, ऊर्जा और भू-राजनीतिक रणनीति का मुख्य स्तंभ बनेंगे।
- The emphasis on 'critical minerals' in the Budget speech is revealing.
बजट भाषण में 'महत्वपूर्ण खनिज' पर जोर उल्लेखनीय है।
- The focus is now on execution and building expertise at scale, speed and depth.
अब ध्यान क्रियान्वयन और बड़े पैमाने, गति तथा गहराई के साथ विशेषज्ञता विकसित करने पर है।

Clear policy drive स्पष्ट नीतिगत पहल

- India now has a list of **30 critical minerals** and has eased mineral exploration while rationalising royalty rates.



भारत के पास अब **30 महत्वपूर्ण खनिजों** की सूची है और खनिज अन्वेषण को आसान बनाया गया है तथा रॉयल्टी दरों का पुनर्संरचना किया गया है।

- In **January 2025**, the government launched the **National Critical Mineral Mission (NCMM)** with a budgetary outlay of **₹16,300 crore**.

जनवरी 2025 में सरकार ने **राष्ट्रीय महत्वपूर्ण खनिज मिशन (NCMM)** की शुरुआत **₹16,300 करोड़** के बजटीय प्रावधान के साथ की।

- India is among a small group of countries with a comprehensive policy framework for critical minerals.

भारत उन कुछ देशों में शामिल है जिनके पास महत्वपूर्ण खनिजों के लिए व्यापक नीतिगत ढांचा है।

- Ambition alone will not deliver mineral security; execution will.
केवल महत्वाकांक्षा से खनिज सुरक्षा नहीं मिलेगी; इसके लिए क्रियान्वयन आवश्यक है।
- It often takes years or decades to discover and mine minerals.
खनिजों की खोज और खनन में अक्सर वर्षों या दशकों का समय लगता है।
- China controls up to **90%** of global mineral processing capacity for several critical minerals.
कई महत्वपूर्ण खनिजों के वैश्विक प्रसंस्करण क्षमता का लगभग **90%** चीन नियंत्रित करता है।
- Analysis by the **Council on Energy, Environment and Water (CEEW)** suggests India has capabilities to process some minerals to high purity.

Council on Energy, Environment and Water (CEEW) के विश्लेषण से संकेत मिलता है कि भारत कुछ खनिजों को उच्च शुद्धता स्तर तक प्रसंस्कृत करने की क्षमता रखता है।

- Indian industries produce high-purity **copper, graphite, rare earth oxides, tin and titanium**, often exceeding **99.9% purity**.

भारतीय उद्योग उच्च शुद्धता वाले **तांबा, ग्रेफाइट, दुर्लभ मृदा ऑक्साइड, टिन और टाइटेनियम** का उत्पादन करते हैं, जो अक्सर **99.9% शुद्धता** से अधिक होता है।

- Existing production is largely geared towards conventional uses and limited volumes.
वर्तमान उत्पादन मुख्यतः पारंपरिक उपयोगों और सीमित मात्रा के लिए है।
- Meeting clean tech and defence requirements will require technological upgrading and capacity expansion.
स्वच्छ प्रौद्योगिकी और रक्षा आवश्यकताओं को पूरा करने के लिए तकनीकी उन्नयन और क्षमता विस्तार आवश्यक होगा।
- Skills from chemicals, pharmaceuticals and textiles sectors could be leveraged for higher purity processing.
रसायन, फार्मास्यूटिकल और वस्त्र क्षेत्रों की विशेषज्ञता का उपयोग उच्च शुद्धता प्रसंस्करण के लिए किया जा सकता है।

Priority areas प्राथमिक क्षेत्र

- In this context, **Budget 2026** begins the harder work of implementation.
इस संदर्भ में, **बजट 2026** क्रियान्वयन के कठिन कार्य की शुरुआत करता है।
- To sustain this momentum, India must double down on three priorities.
इस गति को बनाए रखने के लिए भारत को तीन प्राथमिकताओं पर विशेष ध्यान देना होगा।
- First, create demand avenues for processed minerals.
पहला, प्रसंस्कृत खनिजों के लिए मांग के नए अवसर पैदा करना।
- The Budget removes import duties on capital goods used in processing critical minerals.
बजट में महत्वपूर्ण खनिजों के प्रसंस्करण में उपयोग होने वाली पूंजीगत वस्तुओं पर आयात शुल्क हटाया गया है।
- Given high capex requirements, this improves competitiveness of upcoming refineries.
उच्च पूंजीगत व्यय की आवश्यकता को देखते हुए, इससे आगामी रिफाइनरियों की प्रतिस्पर्धात्मकता बढ़ती है।
- The biggest constraint is lack of assured domestic demand for processed minerals.
सबसे बड़ी बाधा प्रसंस्कृत खनिजों के लिए सुनिश्चित घरेलू मांग की कमी है।
- Government initiatives support domestic manufacturing of batteries, solar modules, wind turbines and electric vehicles.
सरकारी पहल बैटरी, सोलर मॉड्यूल, पवन टरबाइन और इलेक्ट्रिक वाहनों के घरेलू निर्माण को समर्थन देती हैं।
- Delays in backward integration create uncertainty for midstream processors.
पिछड़े एकीकरण में देरी मिडस्ट्रीम प्रसंस्करण इकाइयों के लिए अनिश्चितता पैदा करती है।



- Boosting deployment of locally-made electric vehicles, batteries, solar and wind would strengthen processing, mining and exploration ecosystems.
स्थानीय रूप से निर्मित इलेक्ट्रिक वाहन, बैटरी, सोलर और पवन ऊर्जा के उपयोग को बढ़ावा देने से प्रसंस्करण, खनन और अन्वेषण तंत्र मजबूत होगा।
- Demand creation remains the most decisive industrial policy lever.
मांग सृजन सबसे निर्णायक औद्योगिक नीति साधन बना हुआ है।
- Second, adopt an **Artificial Intelligence (AI)-first** approach to mineral exploration.
दूसरा, खनिज अन्वेषण के लिए **आर्टिफिशियल इंटेलिजेंस (AI)-प्रथम** दृष्टिकोण अपनाना।
- The **NCMM targets 1,200 exploration projects by FY2031.**
NCMM का लक्ष्य वित्त वर्ष 2031 तक 1,200 अन्वेषण परियोजनाएँ है।
- The Budget makes exploration expenditure for nine critical minerals eligible for tax deductions.
बजट नौ महत्वपूर्ण खनिजों के अन्वेषण व्यय को कर कटौती के लिए पात्र बनाता है।
- Four of these minerals — **beryllium, tantalum, lithium and niobium** — were on the restricted atomic minerals list three years ago.
इनमें से चार खनिज — **बेरिलियम, टैटलम, लिथियम और नायोबियम** — तीन वर्ष पहले प्रतिबंधित परमाणु खनिज सूची में थे।
- India should mandate an AI-first approach backed by **IndiaAI Mission, National Geospatial Policy, and Mission Anveshan.**
भारत को **IndiaAI Mission, National Geospatial Policy** और **Mission Anveshan** के समर्थन से AI-प्रथम दृष्टिकोण अनिवार्य करना चाहिए।
- Mission Anveshan focuses on hydrocarbon discovery using seismic AI tools.
मिशन अन्वेषण भूकंपीय AI उपकरणों के माध्यम से हाइड्रोकार्बन खोज पर केंद्रित है।
- Extending capabilities to the **National Geoscience Data Repository** could improve prospectivity analysis.
इन क्षमताओं को **National Geoscience Data Repository** तक विस्तारित करने से संभाव्यता विश्लेषण में सुधार होगा।
- Third, leverage geopolitical disruption to build technological sovereignty.
तीसरा, तकनीकी संप्रभुता के निर्माण के लिए भू-राजनीतिक व्यवधान का लाभ उठाना।
- In **2025**, weaponisation of rare earth magnets and battery supply chains exposed global fragility.
2025 में दुर्लभ मृदा मैग्नेट और बैटरी आपूर्ति शृंखलाओं के हथियारीकरण ने वैश्विक कमजोरियों को उजागर किया।
- The government announced rare earth corridors across coastal States and reduced import duties on monazite sands.
सरकार ने तटीय राज्यों में दुर्लभ मृदा गलियारे घोषित किए और मोनाजाइट रेत पर आयात शुल्क कम किया।
- States should leverage infrastructure and manpower to serve global demand and boost regional growth.
राज्यों को वैश्विक मांग को पूरा करने और क्षेत्रीय विकास को बढ़ावा देने हेतु अवसंरचना और मानव संसाधन का उपयोग करना चाहिए।

International partnerships are key अंतरराष्ट्रीय साझेदारियाँ महत्वपूर्ण हैं

- India should accelerate partnerships with **Australia, European countries, Japan, the United Kingdom and the United States.**
भारत को **ऑस्ट्रेलिया, यूरोपीय देशों, जापान, यूनाइटेड किंगडम और संयुक्त राज्य अमेरिका** के साथ साझेदारी तेज करनी चाहिए।
- Many possess advanced mineral processing and manufacturing capabilities but remain cautious about technology transfer.
इनमें से कई देशों के पास उन्नत खनिज प्रसंस्करण और विनिर्माण क्षमताएँ हैं, पर वे तकनीक हस्तांतरण में सतर्क हैं।
- These firms should be encouraged to set up facilities in India to serve global markets.
इन कंपनियों को वैश्विक बाजारों की सेवा हेतु भारत में अपनी इकाइयाँ स्थापित करने के लिए प्रोत्साहित किया जाना चाहिए।



- The **₹7,280 crore** scheme for sintered rare earth permanent magnets is a start. सिंटर किए गए दुर्लभ मृदा स्थायी मैग्नेट के लिए **₹7,280 करोड़** की योजना एक शुरुआत है।
- Regulatory certainty, legal frameworks, market access and research collaboration are equally important. नियामकीय स्थिरता, कानूनी ढांचा, बाजार पहुँच और अनुसंधान सहयोग भी उतने ही महत्वपूर्ण हैं।
- Strengthening links between Indian centres of excellence and global counterparts should be prioritised. भारतीय उत्कृष्टता केंद्रों और उनके वैश्विक समकक्षों के बीच संबंधों को मजबूत करना प्राथमिकता होनी चाहिए।
- This includes cooperation under the **India-European Union Free Trade Agreement** and the **UK-India Critical Minerals Supply Chain Observatory**. इसमें **भारत-यूरोपीय संघ मुक्त व्यापार समझौता** और **UK-India Critical Minerals Supply Chain Observatory** के तहत सहयोग शामिल है।
- In a turbulent world, **2026** can be a year of accelerated ambition if approached with speed, confidence and caution. अशांत विश्व में, यदि गति, आत्मविश्वास और सावधानी के साथ आगे बढ़ा जाए तो **2026** तीव्र महत्वाकांक्षा का वर्ष बन सकता है।
- India's leadership in critical minerals hinges on coordinated action supported by inter-ministerial coordination, proactive state leadership and global partnerships. महत्वपूर्ण खनिजों में भारत का नेतृत्व अंतर-मंत्रालयी समन्वय, सक्रिय राज्य नेतृत्व और वैश्विक साझेदारियों से समर्थित समन्वित कार्यवाही पर निर्भर करेगा।

New GDP data set to capture economy more accurately

The new series of national accounts to be released on Friday is the culmination of a wide consultative process, spanning multiple sub-committees, and incorporating many changes

ISS III: Economy

NEWS ANALYSIS

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NEW DELHI

The new series of national accounts data to be released on Friday will incorporate several methodological and statistical upgrades that will make India's Gross Domestic Product (GDP) and Gross Value Added (GVA) data more accurate and granular, an analysis of the various changes being implemented shows.

Over the last week, the Ministry of Statistics and Programme Implementation has made public the reports of various sub-committees tasked with looking at specific ways to upgrade the national accounts data. These upgrades include better methodologies, and the inclusion of new data sets, such as the Goods and Services Tax (GST) data.

The most visible of the changes in the national accounts data is that the base year will be updated from 2011-12 to 2022-23, making both the GDP and GVA data more accurate representations of the current economy, while also improving comparisons over time periods. The Sub-Committee on Methodological Improvements proposed several sector-wise improvements that have been implemented.

For instance, for the non-financial private corporate sector, the current-

New avatar

The upgrades include better methodologies, and the inclusion of new data sets, such as the GST data



- Most visible change in national accounts data is the base year's update from 2011-12 to 2022-23
- Activity-wise revenue share for a company used to calculate the value added in each business activity
- New series to also include value of the housing services provided by governments to their employees

ly-used 2011-12 series of data deals with companies that operate across sectors by allocating that entire company's GVA to the sector in which the bulk of its activity is. In the new series, the activity-wise revenue share for a company is being used to calculate the value added in each business activity. This will help capture all the activity in each sector.

Another improvement, to do with the general government sector, is that the new series will also include the value of the housing services provided by governments to their employees. This will mean that the value of services provided is more accurately captured when measuring the output of the general government. Further, the coverage of autonomous institutes and local bodies has also been enhanced.

For households, the new series will use the Annual Survey of Unincorporated Sector Enterprises (ASUSE) and Periodic Labour Force Survey (PLFS)

on an annual basis instead of extrapolating data as was done in the 2011-12 series. This will mean that the household sector, which has a significant contribution to the economy, is directly estimated each year.

Another major component of the economy – private final consumption expenditure, or basically consumption spending by the people – will also be measured in a more granular manner through the enhanced use of Household Consumer Expenditure Surveys and direct estimation based on production and other data sources.

New data sources

The new series of national accounts data will also include new data sources and will use existing sources better. For example, GST data was so far being used in the quarterly accounts of GDP and GVA, and only for some sectors in the annual data.

In the new series, GST data will be used to better estimate the regional out-

put of private corporations, and will also be used to more accurately determine the contribution of the value added by private companies to the GDP of the country. The GST data will also be used to identify active private companies to improve the accuracy of estimating the value added by non-reporting companies. This will ensure that output and value added data more accurately captures what is happening on the ground.

The Sub-Committee on Incorporation for New Data Sources, Rates and Ratios also noted that States have enhanced their reporting of data from local bodies and state autonomous bodies, which will increase the amount of data that can be directly estimated rather than imputed.

The new series will use the Statistical Table Related to Banks in India (STRBI) published by the Reserve Bank of India to estimate the activity of both public sector banks as well as private sector banks. Further, the earlier proxy-based approach to estimate the activity of private Non-Banking Financial Companies (NBFCs) is being replaced by the use of actual financial data of NBFCs from the Ministry of Corporate Affairs.

Overall, the ASUSE data has been used more effectively to capture aspects that were earlier not being included accurately.

27F. New GDP data set to capture economy more accurately

नई GDP डेटा श्रृंखला
अर्थव्यवस्था को अधिक सटीक रूप से दर्शाएगी

- The new series of national accounts to be released on Friday is the culmination of a wide consultative process, spanning multiple sub-committees, and incorporating many changes.

शुक्रवार को जारी की जाने वाली राष्ट्रीय लेखा की नई श्रृंखला एक व्यापक परामर्श प्रक्रिया का परिणाम है, जिसमें कई उप-समितियाँ शामिल रहीं और अनेक बदलावों को समाहित किया गया है।

- The new series of national accounts data to be released on Friday will incorporate several methodological and statistical upgrades that will make India's **Gross Domestic Product (GDP)** and **Gross Value Added (GVA)** data more accurate and granular, an analysis of the various changes being implemented shows.

शुक्रवार को जारी होने वाली राष्ट्रीय लेखा आँकड़ों की नई श्रृंखला में कई पद्धतिगत और सांख्यिकीय सुधार शामिल होंगे, जिससे भारत के सकल घरेलू उत्पाद (GDP) और सकल मूल्य वर्धन (GVA) के



आँकड़े अधिक सटीक और सूक्ष्म हो जाएंगे, यह लागू किए जा रहे विभिन्न बदलावों के विश्लेषण से स्पष्ट होता है।

- Over the last week, the **Ministry of Statistics and Programme Implementation** has made public the reports of various sub-committees tasked with looking at specific ways to upgrade the national accounts data.
पिछले एक सप्ताह में **सांख्यिकी और कार्यक्रम कार्यान्वयन मंत्रालय** ने राष्ट्रीय लेखा आँकड़ों को उन्नत करने के विशेष तरीकों पर काम करने वाली विभिन्न उप-समितियों की रिपोर्ट सार्वजनिक की है।
- These upgrades include better methodologies, and the inclusion of new data sets, such as the **Goods and Services Tax (GST)** data.
इन सुधारों में बेहतर पद्धतियाँ और **वस्तु एवं सेवा कर (GST)** जैसे नए डेटा सेट को शामिल करना भी है।
- The most visible of the changes in the national accounts data is that the **base year** will be updated from **2011-12 to 2022-23**, making both the GDP and GVA data more accurate representations of the current economy, while also improving comparisons over time periods.
राष्ट्रीय लेखा आँकड़ों में सबसे स्पष्ट बदलाव यह है कि **आधार वर्ष** को **2011-12 से 2022-23** में बदला जाएगा, जिससे GDP और GVA दोनों वर्तमान अर्थव्यवस्था का अधिक सटीक चित्र प्रस्तुत करेंगे और समय-समय पर तुलना भी बेहतर होगी।
- The Sub-Committee on Methodological Improvements proposed several sector-wise improvements that have been implemented.
पद्धतिगत सुधारों पर बनी उप-समिति ने क्षेत्रवार कई सुधार प्रस्तावित किए, जिन्हें लागू कर दिया गया है।
- For instance, for the non-financial private corporate sector, the currently-used 2011-12 series of data deals with companies that operate across sectors by allocating that entire company's GVA to the sector in which the bulk of its activity is.
उदाहरण के लिए, गैर-वित्तीय निजी कॉर्पोरेट क्षेत्र में, वर्तमान 2011-12 श्रृंखला उन कंपनियों से संबंधित है जो कई क्षेत्रों में काम करती हैं और उनकी पूरी GVA को उस एक क्षेत्र में जोड़ देती है जहाँ उनकी गतिविधि सबसे अधिक होती है।
- In the new series, the activity-wise revenue share for a company is being used to calculate the value added in each business activity.
नई श्रृंखला में, किसी कंपनी की गतिविधि-वार राजस्व हिस्सेदारी का उपयोग प्रत्येक व्यावसायिक गतिविधि में जोड़े गए मूल्य की गणना के लिए किया जा रहा है।
- This will help capture all the activity in each sector.
इससे प्रत्येक क्षेत्र की सभी गतिविधियों को बेहतर ढंग से दर्ज किया जा सकेगा।
- Another improvement, to do with the general government sector, is that the new series will also include the value of the housing services provided by governments to their employees.
सामान्य सरकारी क्षेत्र से संबंधित एक अन्य सुधार यह है कि नई श्रृंखला में सरकारों द्वारा अपने कर्मचारियों को प्रदान की जाने वाली आवास सेवाओं के मूल्य को भी शामिल किया जाएगा।
- This will mean that the value of services provided is more accurately captured when measuring the output of the general government.
इसका अर्थ यह होगा कि सामान्य सरकार के उत्पादन को मापते समय प्रदान की गई सेवाओं का मूल्य अधिक सटीक रूप से दर्ज होगा।
- Further, the coverage of autonomous institutes and local bodies has also been enhanced.
इसके अलावा, स्वायत्त संस्थानों और स्थानीय निकायों की कवरेज भी बढ़ाई गई है।
- For households, the new series will use the **Annual Survey of Unincorporated Sector Enterprises (ASUSE)** and **Periodic Labour Force Survey (PLFS)** on an annual basis instead of extrapolating data as was done in the 2011-12 series.
घरेलू क्षेत्र के लिए, नई श्रृंखला में **असंगठित क्षेत्र उद्यमों का वार्षिक सर्वेक्षण (ASUSE)** और **आवधिक श्रम बल सर्वेक्षण (PLFS)** का वार्षिक आधार पर उपयोग किया जाएगा, न कि 2011-12 श्रृंखला की तरह आँकड़ों का अनुमान लगाया जाएगा।
- This will mean that the household sector, which has a significant contribution to the economy, is directly estimated each year.
इसका मतलब यह है कि अर्थव्यवस्था में महत्वपूर्ण योगदान देने वाले घरेलू क्षेत्र का हर वर्ष प्रत्यक्ष आकलन किया जाएगा।
- Another major component of the economy — private final consumption expenditure, or basically consumption spending by the people — will also be measured in a more granular manner through the enhanced use of **Household Consumer Expenditure Surveys** and direct estimation based on production and other data sources.
अर्थव्यवस्था का एक अन्य प्रमुख घटक — निजी अंतिम उपभोग व्यय, यानी लोगों द्वारा किया गया उपभोग खर्च



— को भी घरेलू उपभोक्ता व्यय सर्वेक्षणों के बेहतर उपयोग और उत्पादन व अन्य डेटा स्रोतों पर आधारित प्रत्यक्ष आकलन के माध्यम से अधिक सूक्ष्म तरीके से मापा जाएगा।

New data sources

नए डेटा स्रोत

- The new series of national accounts data will also include new data sources and will use existing sources better.
राष्ट्रीय लेखा आँकड़ों की नई श्रृंखला में नए डेटा स्रोत भी शामिल होंगे और मौजूदा स्रोतों का बेहतर उपयोग किया जाएगा।
- For example, **GST data** was so far being used in the quarterly accounts of GDP and GVA, and only for some sectors in the annual data.
उदाहरण के लिए, अब तक **GST डेटा** का उपयोग GDP और GVA के तिमाही खातों में किया जाता था और वार्षिक आँकड़ों में केवल कुछ क्षेत्रों के लिए ही होता था।
- In the new series, GST data will be used to better estimate the regional output of private corporations, and will also be used to more accurately determine the contribution of the value added by private companies to the GDP of the country.
नई श्रृंखला में, GST डेटा का उपयोग निजी कंपनियों के क्षेत्रीय उत्पादन का बेहतर अनुमान लगाने और देश के GDP में उनके द्वारा जोड़े गए मूल्य के योगदान को अधिक सटीक रूप से निर्धारित करने के लिए किया जाएगा।
- The GST data will also be used to identify active private companies to improve the accuracy of estimating the value added by non-reporting companies.
GST डेटा का उपयोग सक्रिय निजी कंपनियों की पहचान करने के लिए भी किया जाएगा, ताकि रिपोर्ट न करने वाली कंपनियों द्वारा जोड़े गए मूल्य के आकलन की सटीकता बढ़ सके।
- This will ensure that output and value added data more accurately captures what is happening on the ground.
इससे उत्पादन और मूल्य वर्धन के आँकड़े जमीनी स्तर पर हो रही गतिविधियों को अधिक सटीक रूप से दर्शा सकेंगे।
- The Sub-Committee on Incorporation for New Data Sources, Rates and Ratios also noted that States have enhanced their reporting of data from local bodies and state autonomous bodies, which will increase the amount of data that can be directly estimated rather than imputed.
नए डेटा स्रोतों, दरों और अनुपातों को शामिल करने वाली उप-समिति ने यह भी नोट किया कि राज्यों ने स्थानीय निकायों और राज्य स्वायत्त संस्थाओं से डेटा रिपोर्टिंग में सुधार किया है, जिससे अनुमान के बजाय प्रत्यक्ष रूप से आँके जाने वाले डेटा की मात्रा बढ़ेगी।
- The new series will use the **Statistical Table Related to Banks in India (STRBI)** published by the **Reserve Bank of India** to estimate the activity of both public sector banks as well as private sector banks.
नई श्रृंखला में **भारतीय रिज़र्व बैंक** द्वारा प्रकाशित **भारत में बैंकों से संबंधित सांख्यिकीय तालिका (STRBI)** का उपयोग सार्वजनिक और निजी दोनों क्षेत्र के बैंकों की गतिविधियों का आकलन करने के लिए किया जाएगा।
- Further, the earlier proxy-based approach to estimate the activity of private **Non-Banking Financial Companies (NBFCs)** is being replaced by the use of actual financial data of NBFCs from the **Ministry of Corporate Affairs**.
इसके अलावा, निजी **गैर-बैंकिंग वित्तीय कंपनियों (NBFCs)** की गतिविधियों का अनुमान लगाने की पहले की प्रॉक्सी-आधारित पद्धति को **कॉर्पोरेट कार्य मंत्रालय** से प्राप्त वास्तविक वित्तीय डेटा के उपयोग से बदला जा रहा है।
- Overall, the **ASUSE data** has been used more effectively to capture aspects that were earlier not being included accurately.
कुल मिलाकर, **ASUS डेटा** का अधिक प्रभावी ढंग से उपयोग किया गया है ताकि उन पहलुओं को भी दर्ज किया जा सके जिन्हें पहले सटीक रूप से शामिल नहीं किया जा रहा था।



Textile exporters seek restoration of RoDTEP

GS III: Economy
M. Soundariya Preetha
COIMBATORE

Textile exporters have expressed apprehension that exports will be hit with reduction of **Remission of Duties and Taxes on Exported Products (RoDTEP) scheme rates**.

Cotton textile exports in 2024-2025 stood at \$11.03 billion (almost ₹96,220 crore) and it accounts for 30% of India's textile and clothing exports.

Close to 58% of the exports of cotton textiles have been affected by the sudden reduction in RoDTEP rates, the Cotton Textiles Export Promotion Council said.

The RoDTEP committee

Close to 58% of cotton textile exports have been hit by the RoDTEP rate cut

is reviewing the rates and the unexpected reduction of rates has led to uncertainties, the Manmade and Technical Textiles Export Promotion Council said.

There is a rush to ship goods in March as the financial year will conclude and exporters will be affected.

The RoDTEP scheme is only remission of the taxes and duties already paid and exporters would have calculated the costs based on the earlier RoDTEP rates, the exporters said.

27F. Textile exporters seek restoration of RoDTEP

कपड़ा निर्यातक RoDTEP की बहाली की मांग कर रहे हैं

Textile exporters have expressed apprehension that exports will be hit with reduction of **Remission of Duties and Taxes on Exported Products (RoDTEP) scheme rates**.

कपड़ा निर्यातकों ने आशंका जताई है कि **निर्यातित उत्पादों पर शुल्क और करों की छूट (RoDTEP) योजना** की दरों में कमी से निर्यात प्रभावित होगा।

Cotton textile exports in **2024-2025** stood at **\$11.03 billion** (almost **₹96,220 crore**) and it accounts for **30%** of India's textile and clothing exports.

2024-2025 में कपास वस्त्रों का निर्यात **11.03 अरब डॉलर** (लगभग **₹96,220 करोड़**) रहा और यह भारत के वस्त्र और परिधान निर्यात का **30%** है।

Close to **58%** of the exports of cotton textiles have been affected by the sudden reduction in **RoDTEP rates**, the **Cotton Textiles Export Promotion Council** said.

कॉटन टेक्सटाइल्स एक्सपोर्ट प्रमोशन काउंसिल ने कहा कि कपास वस्त्रों के लगभग **58%** निर्यात पर **RoDTEP दरों** में

अचानक कटौती का असर पड़ा है।

- The **RoDTEP committee** is reviewing the rates and the unexpected reduction of rates has led to uncertainties, the **Manmade and Technical Textiles Export Promotion Council** said. **मैनमेड और टेक्निकल टेक्सटाइल्स एक्सपोर्ट प्रमोशन काउंसिल** ने कहा कि **RoDTEP समिति** दरों की समीक्षा कर रही है और दरों में अप्रत्याशित कमी से अनिश्चितता पैदा हुई है।
- There is a rush to ship goods in **March** as the **financial year** will conclude and exporters will be affected. **मार्च** में माल भेजने की होड़ है क्योंकि **वित्तीय वर्ष** समाप्त होने वाला है और निर्यातक प्रभावित होंगे।
- The **RoDTEP scheme** is only remission of the taxes and duties already paid and exporters would have calculated the costs based on the earlier **RoDTEP rates**, the exporters said. निर्यातकों ने कहा कि **RoDTEP योजना** केवल पहले से चुकाए गए करों और शुल्कों की वापसी है और निर्यातकों ने लागत की गणना पहले की **RoDTEP दरों** के आधार पर की होगी।

GS Paper III:

TOPICS COVERED

27 February 2026

27F	'Shingles can affect older adults the most' ‘शिंगल्स बुजुर्गों को सबसे अधिक प्रभावित कर सकता है’
27F	ARFID: when picky eating is more than being fussy about food ARFID: जब खाने में चुनिंदा होना केवल नकचढ़ापन नहीं होता
27F	Understanding bone strength reduction and the increase in fragility fractures हड्डियों की मजबूती में कमी और नाजुक फ्रैक्चर में वृद्धि को समझना



'Shingles can affect older adults the most'

GS III: S&T

The Hindu Bureau
CHENNAI

A new survey has highlighted the impact of shingles on older adults living with chronic health conditions in India, noting that **43% of those who have had the infection reported severe, day-disrupting pain, with over one in three reporting that it stopped them from working or attending social events.**

Shingles is caused by the reactivation of the **Varicella zoster virus**, the same virus that causes chickenpox. It typically begins as a rash on one side, with painful blisters erupting on the chest, abdomen or face. It can only be prevented through vaccination.

The global survey, com-

missioned by GSK, had 752 Indian adults aged 50 to 70 years and living with chronic health conditions such as cardiovascular disease, chronic kidney disease, and diabetes.

The age-related decline in immunity, as well as such chronic diseases which affect 7.5 crore older Indians, makes them more vulnerable to shingles, said Shalini Menon, GSK India's executive vice-president.

The survey showed that patients with chronic kidney disease and cardiovascular disease experienced the greatest disruption due to shingles, while those with diabetes and cardiovascular disease reported the highest emotional toll.

Shingles Action Week is marked from February 23 to March 1.

27F. 'Shingles can affect older adults the most'

'शिंगल्स बुजुर्गों को सबसे अधिक प्रभावित कर सकता है'

A new survey has highlighted the impact of **shingles** on **older adults** living with **chronic health conditions** in India, noting that **43%** of those who have had the infection reported **severe, day-disrupting pain**, with over **one in three** reporting that it stopped them from **working** or attending **social events**.

एक नए सर्वेक्षण में भारत में दीर्घकालिक बीमारियों के साथ रहने वाले बुजुर्गों पर शिंगल्स के प्रभाव को उजागर किया गया है, जिसमें बताया गया है कि संक्रमण झेल चुके लोगों में से 43% ने गंभीर, दिनचर्या बाधित करने वाले दर्द की शिकायत की, जबकि तीन में से एक से अधिक ने कहा कि इससे वे काम करने या सामाजिक कार्यक्रमों में शामिल होने से रुक गए।

Shingles is caused by the reactivation of the **Varicella zoster virus**, the same virus that causes **chickenpox**.

शिंगल्स वेरिसेला ज़ोस्टर वायरस के पुनः सक्रिय होने से होता है, यही वायरस चिकनपॉक्स का कारण बनता है।

It typically begins as a **rash on one side**, with **painful blisters** erupting on the **chest, abdomen** or **face**.

यह आमतौर पर एक तरफ़ दाने के रूप में शुरू होता है, जिसमें दर्दनाक फफोले छाती, पेट या चेहरे पर निकलते हैं।

- It can only be prevented through **vaccination**. इसे केवल टीकाकरण के माध्यम से ही रोका जा सकता है।
- The **global survey**, commissioned by **GSK**, had **752 Indian adults** aged **50 to 70 years** and living with **chronic health conditions** such as **cardiovascular disease**, **chronic kidney disease**, and **diabetes**. जीएसके द्वारा कराए गए वैश्विक सर्वेक्षण में 50 से 70 वर्ष आयु के 752 भारतीय वयस्क शामिल थे, जो हृदय रोग, दीर्घकालिक किडनी रोग और मधुमेह जैसी दीर्घकालिक बीमारियों के साथ रह रहे थे।
- The **age-related decline in immunity**, as well as such **chronic diseases** which affect **7.5 crore older Indians**, makes them more **vulnerable to shingles**, said **Shalini Menon**, **GSK India's executive vice-president**. उम्र के साथ प्रतिरक्षा में गिरावट, तथा ऐसी दीर्घकालिक बीमारियाँ जो 7.5 करोड़ बुजुर्ग भारतीयों को प्रभावित करती हैं, उन्हें शिंगल्स के प्रति अधिक संवेदनशील बनाती हैं, ऐसा जीएसके इंडिया की कार्यकारी उपाध्यक्ष शालिनी मेनन ने कहा।
- The survey showed that patients with **chronic kidney disease** and **cardiovascular disease** experienced the **greatest disruption** due to shingles, while those with **diabetes** and **cardiovascular disease** reported the **highest emotional toll**. सर्वेक्षण में पाया गया कि दीर्घकालिक किडनी रोग और हृदय रोग वाले मरीजों को शिंगल्स के कारण सबसे अधिक व्यवधान झेलना पड़ा, जबकि मधुमेह और हृदय रोग वाले लोगों ने सबसे अधिक भावनात्मक प्रभाव की सूचना दी।
- Shingles Action Week** is marked from **February 23 to March 1**. शिंगल्स एक्शन वीक 23 फरवरी से 1 मार्च तक मनाया जाता है।



ARFID: when picky eating is more than being fussy about food

Avoidant/Restrictive Food Intake Disorder is a real health issue: it is not stubbornness, attention-seeking or a passing problem; with the right support, people with ARFID can make a successful recovery from the disorder lead a healthy confident life, and maintain a good relationship with food

डॉ. लक्ष्मी
Lakshmi Venkatraman

Thirteen-year-old Sandhya, (name changed) was a very quiet child who studied well in school. At the age of 10, Sandhya had experienced a fever and severe bouts of vomiting, and she had to be admitted to hospital and needed to be given drips, as she had become dehydrated. Following this experience, she was frightened of vomiting and started avoiding certain foods. Gradually, the list of food she avoided started growing: within a year, she was only eating biscuits and milk.

Mealtimes became difficult and she would become distressed, crying and would leave the table if she was forced to try new foods. Her parents started worrying. Relatives told them that parents have to be strict at mealtimes. Her parents felt guilty, believing they were doing something wrong. Sandhya started to lose weight, she was feeling tired and she could not focus in school. She made excuses to not attend birthday parties of her friends. Eventually, she was taken to see a doctor who recognised ARFID.

What is ARFID?

Many Indian families have the experience of children being choosy with food. Parents try very hard to make the children eat, and often hear others reassure them that this is a 'passing phase' and that the child will 'grow out of it'. ARFID (Avoidant/Restrictive Food Intake Disorder), however, is a mental health disorder which may look similar to picky eating in the beginning, but it can become serious, if not treated, due to the consequences of restrictive eating. ARFID can affect both children and adults.

ARFID is a type of eating disorder that is being increasingly recognised in the global arena as a growing but treatable disorder. It is not the same as merely being picky about food: there is a significant weight reduction, leading to physical complications such as growth restrictions in children, and problems in functioning at school, work, etc.

Mealtimes become difficult including at family functions, eating out and lunches in school. The restrictive eating is not part of religious fasting, food insecurity or underlying medical issues and it is not caused by body image issues or the fear of weight gain.

What causes ARFID?

While the exact cause of this disorder is unknown, research suggests it may be the result of an aversion to certain texture of foods, along with fear of a harmful effect



Dietary struggles: Psychological therapies, particularly cognitive behavioural approaches, help individuals slowly and safely try new foods, manage anxiety, and build positive eating experiences. GETTY IMAGES

of the food on the body, alongside genetic (family history of eating disorders), social, cultural and environmental influences or traumatic experiences such as food insecurity, choking, force feeding, etc. It is not caused by bad parenting.

As awareness about this disorder is gradually increasing in India, there are reports of many cases of ARFID. Young children and adolescents have been seen to restrict their eating for fear of choking, and others have an onset of ARFID following a viral illness with vomiting, with the fear of subsequent vomiting making them avoid certain foods including solids, leading to weight loss, complications and psychosocial functioning impairment.

How is it treated?

The good news is that ARFID is treatable with appropriate professional support. While it does take time, individuals can get better with a gradual expansion in the range of foods they eat, improving their nutrition. A team of mental health professionals, doctors and nutritionists/dietitians have to work together to help the individual become

The restrictive eating is not part of religious fasting, food insecurity or underlying medical issues and it is not caused by body image issues or the fear of weight gain

better and then sustain the improvement.

Psychological therapies, particularly cognitive behavioural approaches, help individuals slowly and safely try new foods, manage anxiety, and build positive eating experiences. Families can play an important role in helping the individual with ARFID. The family should remain calm and supportive. It is important not to force the individual to eat or punish the person for not eating. New foods should be gradually introduced without pressure. Regular mealtime routines that are positive and low in stress can make a difference to the recovery. Families can help provide modelling around food for the affected individual as well.

In the case of Sandhya, the doctor educated the child and her parents and referred her to a psychiatrist. She was

given a formal diagnosis, and a referral was made to a psychologist who worked with her to help her with her anxiety, including relaxation and breathing exercises. Her parents were trained to provide a supportive environment at mealtimes. They were trained to praise the effort Sandhya put in, rather than praising her only when she ate food.

Whilst the progress was slow, Sandhya slowly started to put on weight and started trying new food, and grew confident that she could eat without vomiting. She became more energetic and her performance at school also became better.

It is essential to remember that ARFID is a real health problem. It is not stubbornness, attention-seeking or a passing problem. With the right support, people with ARFID can make a successful recovery from the disorder and lead a healthy confident life, and maintain a good relationship with food.

(Dr. Lakshmi Venkatraman is assistant director of psychosocial rehabilitation services at the Schizophrenia Research Foundation, Chennai. lakmesridhar@scarfjindia.org)

THE GIST

ARFID is a type of eating disorder. It is not the same as merely being picky about food: there is a significant weight reduction, leading to physical complications such as growth restrictions in children, and problems in functioning at school, work, etc.

It can affect both children and adults. Research suggests it may be the result of an aversion to certain texture of foods, along with fear of a harmful effect of the food on the body, genetic, social, cultural and environmental influences or traumatic experiences

A team of mental health professionals, doctors and nutritionists/dietitians have to work together to help the individual become better and then sustain the improvement

27F. ARFID: Avoidant/Restrictive Food Intake Disorder

ARFID: जब खाने में चुनिंदा होना केवल नकचढ़ापन नहीं होता

- **ARFID (Avoidant/Restrictive Food Intake Disorder)**, however, is a mental health disorder that may look like picky eating at first but can become serious if untreated. लेकिन **ARFID (Avoidant/Restrictive Food Intake Disorder)** एक मानसिक स्वास्थ्य विकार है जो शुरू में साधारण चयनात्मक खाने जैसा दिख सकता है, परंतु उपचार न मिलने पर गंभीर हो सकता है।
- **ARFID can affect both children and adults.** ARFID बच्चों और वयस्कों दोनों को प्रभावित कर सकता है।
- **It is increasingly recognised globally as a growing but treatable disorder.** इसे वैश्विक स्तर पर बढ़ते लेकिन उपचार योग्य विकार के रूप में पहचाना जा रहा है।
- The exact cause is unknown, but research suggests aversion to certain food textures and fear of harmful effects of food may play a role. सटीक कारण अज्ञात है, परंतु शोध बताता है कि भोजन की कुछ बनावट से अरुचि और उसके हानिकारक प्रभाव का भय भूमिका निभा सकता है।
- **Genetic factors such as family history of eating disorders, along with social, cultural, environmental influences or traumatic experiences like food insecurity, choking, force feeding may contribute.**



आनुवंशिक कारक जैसे खाने के विकार का पारिवारिक इतिहास, सामाजिक, सांस्कृतिक, पर्यावरणीय प्रभाव या आघातजन्य अनुभव जैसे खाद्य असुरक्षा, घुटन, जबरन खिलाना भी योगदान दे सकते हैं।

- It is not caused by bad parenting.
यह खराब पालन-पोषण के कारण नहीं होता।
- Awareness about ARFID is increasing in India and many cases are being reported.
भारत में **ARFID** के प्रति जागरूकता बढ़ रही है और कई मामले सामने आ रहे हैं।
- **Some children restrict eating due to fear of choking, while others develop ARFID after viral illness with vomiting.**
कुछ बच्चे घुटन के डर से भोजन सीमित करते हैं, जबकि कुछ में उल्टी के साथ वायरल बीमारी के बाद **ARFID** विकसित होता है।
- **Fear of vomiting leads them to avoid certain foods including solids, resulting in weight loss, complications and psychosocial functioning impairment.**
उल्टी का भय उन्हें ठोस भोजन सहित कुछ खाद्य पदार्थों से बचने पर मजबूर करता है, जिससे वजन घटता है, जटिलताएँ उत्पन्न होती हैं और मनो-सामाजिक कार्यक्षमता प्रभावित होती है।

How is it treated?

इसका उपचार कैसे किया जाता है?

- The good news is that **ARFID** is treatable with appropriate professional support.
अच्छी खबर यह है कि **ARFID** का उपचार उचित पेशेवर सहायता से संभव है।
- While it does take time, individuals can get better with a gradual expansion in the range of foods they eat, improving their nutrition.
हालाँकि इसमें समय लगता है, लेकिन व्यक्ति धीरे-धीरे अपने भोजन की विविधता बढ़ाकर और पोषण सुधारकर बेहतर हो सकते हैं।
- **A team of mental health professionals, doctors and nutritionists/dietitians have to work together to help the individual recover and sustain improvement.**
मानसिक स्वास्थ्य विशेषज्ञ, डॉक्टर और पोषण विशेषज्ञ/आहार विशेषज्ञों की टीम को मिलकर व्यक्ति की मदद करनी होती है ताकि सुधार स्थायी हो सके।
- **Psychological therapies**, particularly **cognitive behavioural approaches**, help individuals slowly and safely try new foods, manage anxiety, and build positive eating experiences.
मनोवैज्ञानिक उपचार, विशेषकर **संज्ञानात्मक व्यवहारात्मक पद्धतियाँ**, व्यक्ति को धीरे-धीरे और सुरक्षित रूप से नए भोजन आजमाने, चिंता नियंत्रित करने और सकारात्मक भोजन अनुभव बनाने में मदद करती हैं।
- Families can play an important role in helping the individual with **ARFID**.
परिवार **ARFID** से प्रभावित व्यक्ति की सहायता में महत्वपूर्ण भूमिका निभा सकता है।
- The family should remain calm and supportive.
परिवार को शांत और सहयोगी रहना चाहिए।



Understanding bone strength reduction and the increase in fragility fractures

GS III: S&T

Pavan Chebbi

The common causes of fractures include accidents, sports activities and falls, but fractures can also occur without any cause, or from just slight bone damage. The medical term for this condition, a fracture that occurs without any external cause, is a pathological fracture. Fractures that are caused due to bone fragility or due to low energy trauma – equivalent to a fall from standing height or less – are called fragility fractures.

The World Health Organization notes that owing to the global population growth and ageing, the annual incidence of total fractures worldwide is expected to continue to increase, driven by fragility fractures. This apart, people between the ages of 18 and 49 experience spontaneous bone fractures, which include spine and pelvis fractures that take place without major injuries. Why does this susceptibility develop in young and middle-aged adults, and what are the risk factors?

Bone strength reduction occurs in adults due to multiple biological factors. Bone exists as a living tissue



Bone strength reduction occurs in adults due to multiple biological factors. GETTY IMAGES

that undergoes continuous cycles of its components breaking down and getting rebuilt. The body needs essential nutrients, a proper hormonal system, sunlight and physical activity to sustain its bone health. Additionally, the body needs to maintain its equilibrium because any disruption that leads to decreased bone density can raise the risk of fractures.

Osteoporosis is a metabolic disease that results in diminished bone mineral density and structural alterations of the bones. While this is generally a condition seen in older adults, idiopathic osteoporosis causes

bone fragility in younger adults who lack any identifiable medical condition.

Apart from osteoporosis, high doses of corticosteroids and anti-seizure drugs may result in severe bone tissue loss when used for extended periods of time. Chronic conditions such as metabolic disorders, ongoing infections, and the cancer treatment processes may also lead to bone structure damage.

Common sites of fragility fractures include bones that bear weight or are necessary in routine everyday tasks, such as:

Spine and hip: Fractures at the spine and hip are regarded as critical injuries because they disrupt a person's ability to move and live independently.

Wrist and upper arm: These frequently break during minor stumbles or simple reaching movements.

Knee and foot fractures: Knee and foot fractures are common in individuals with weak muscles and in those who are overweight.

Modern risk factors
The strength of our bones is affected by different factors: both genetic and lifestyle. While factors that lead to

changes in bone density include both natural ageing processes and hormonal shifts that occur because of menopause and genetic predisposition, the rate of bone loss can increase significantly due to lifestyle choices as well. Smoking, drinking in excess, and having an abnormally low body weight weakens the strength of the bones. Inadequate nutrition and lack of exercise further reduce bone strength because the body does not see the need for dense and strong bones due to limited activity.

The first step to safeguarding people who might suffer bone injuries is through early detection. The three-pillar approach to bone health requires people to: consume enough calcium to fulfill their dietary requirements; get adequate direct sunlight because this helps produce essential vitamin D and ensure strength training to compel bones to undergo thickening, as the body needs to bear physical weight.

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27F. Understanding bone strength reduction and the increase in fragility fractures

हड्डियों की मजबूती में कमी और नाजुक फ्रैक्चर में वृद्धि को समझना

- The common causes of fractures include accidents, sports activities and falls, but fractures can also occur without any cause, or from just slight bone damage. हड्डी के फ्रैक्चर के सामान्य कारणों में दुर्घटनाएँ, खेल गतिविधियाँ और गिरना शामिल हैं, लेकिन फ्रैक्चर बिना किसी स्पष्ट कारण या हल्की हड्डी क्षति से भी हो सकते हैं।
- The medical term for a fracture that occurs without any external cause is a pathological fracture. बिना किसी बाहरी कारण के होने वाले फ्रैक्चर को चिकित्सीय रूप से पैथोलॉजिकल फ्रैक्चर कहा जाता है।
- Fractures caused due to bone fragility or low energy trauma — equivalent to a fall from standing height or less — are called fragility fractures. हड्डियों की कमजोरी या कम ऊर्जा वाले आघात — जैसे खड़े होने की ऊँचाई से या उससे कम गिरना — से होने वाले फ्रैक्चर को फ्रैजिलिटी फ्रैक्चर कहा जाता है।
- The World Health Organization notes that due to global population growth and ageing, the annual incidence of total fractures worldwide is expected to increase, driven by fragility fractures. विश्व स्वास्थ्य संगठन के अनुसार वैश्विक जनसंख्या वृद्धि और वृद्धावस्था के कारण विश्वभर में कुल फ्रैक्चर की वार्षिक दर में वृद्धि होने की संभावना है, जिसका प्रमुख कारण फ्रैजिलिटी फ्रैक्चर हैं।



- **Bone is a living tissue that continuously breaks down and rebuilds itself.**
हड्डी एक जीवित ऊतक है जो निरंतर टूटने और पुनर्निर्माण की प्रक्रिया से गुजरता है।
- **The body requires essential nutrients, a proper hormonal system, sunlight and physical activity to maintain bone health.**
हड्डियों के स्वास्थ्य के लिए शरीर को आवश्यक पोषक तत्व, संतुलित हार्मोन तंत्र, धूप और शारीरिक गतिविधि की आवश्यकता होती है।
- **Maintaining equilibrium is important because decreased bone density increases fracture risk.**
संतुलन बनाए रखना आवश्यक है क्योंकि हड्डियों के घनत्व में कमी से फ्रैक्चर का जोखिम बढ़ता है।
- **Osteoporosis is a metabolic disease that reduces bone mineral density and alters bone structure.**
ऑस्टियोपोरोसिस एक चयापचय रोग है जो हड्डियों के खनिज घनत्व को कम करता है और संरचनात्मक परिवर्तन लाता है।
- **Although commonly seen in older adults, idiopathic osteoporosis causes bone fragility in younger adults without identifiable medical conditions.**
हालाँकि यह प्रायः वृद्धों में देखा जाता है, लेकिन **इडियोपैथिक ऑस्टियोपोरोसिस** युवा वयस्कों में बिना किसी स्पष्ट चिकित्सीय कारण के हड्डियों की कमजोरी उत्पन्न करता है।
- **High doses of corticosteroids and anti-seizure drugs used for long periods can cause severe bone tissue loss.**
लंबे समय तक उच्च मात्रा में **कॉर्टिकोस्टेरोइड्स** और **एंटी-सीज़र दवाओं** का उपयोग गंभीर हड्डी ऊतक हानि का कारण बन सकता है।
- **Chronic conditions such as metabolic disorders, ongoing infections and cancer treatment processes may also damage bone structure.**
दीर्घकालिक रोग जैसे चयापचय विकार, लगातार संक्रमण और कैंसर उपचार प्रक्रियाएँ भी हड्डियों की संरचना को नुकसान पहुँचा सकती हैं।

Common sites of fragility fractures फ्रैजिलिटी फ्रैक्चर के सामान्य स्थान

- Common sites of **fragility fractures** include bones that bear weight or are necessary in routine everyday tasks.
फ्रैजिलिटी फ्रैक्चर प्रायः उन हड्डियों में होते हैं जो शरीर का भार उठाती हैं या दैनिक कार्यों के लिए आवश्यक होती हैं।
- **Spine and hip:** Fractures at the spine and hip are regarded as critical injuries because they disrupt a person's ability to move and live independently.
रीढ़ और कूल्हा: रीढ़ और कूल्हे के फ्रैक्चर को गंभीर चोट माना जाता है क्योंकि ये व्यक्ति की चलने-फिरने और स्वतंत्र रूप से जीवन जीने की क्षमता को प्रभावित करते हैं।
- **Wrist and upper arm:** These frequently break during minor stumbles or simple reaching movements.
कलाई और ऊपरी भुजा: ये हल्के ठोकर लगने या साधारण हाथ बढ़ाने की गतिविधियों में भी टूट सकती हैं।
- **Knee and foot fractures:** These are common in individuals with weak muscles and in those who are overweight.
घुटना और पैर के फ्रैक्चर: ये कमजोर मांसपेशियों वाले और अधिक वजन वाले व्यक्तियों में अधिक सामान्य हैं।

Modern risk factors आधुनिक जोखिम कारक

- The strength of our bones is affected by both **genetic and lifestyle factors.**
हमारी हड्डियों की मजबूती पर **आनुवंशिक और जीवनशैली संबंधी कारकों** का प्रभाव पड़ता है।
- Changes in bone density occur due to natural ageing processes, hormonal shifts such as **menopause**, and genetic predisposition.
हड्डियों के घनत्व में परिवर्तन प्राकृतिक वृद्धावस्था, **रजोनिवृत्ति** जैसे हार्मोनल बदलाव और आनुवंशिक प्रवृत्ति के कारण होते हैं।
- The rate of bone loss can increase significantly due to lifestyle choices.
जीवनशैली के कारण हड्डियों के क्षय की दर काफी बढ़ सकती है।



- **Smoking**, excessive drinking, and abnormally low body weight weaken bone strength.
धूम्रपान, अत्यधिक शराब सेवन और असामान्य रूप से कम शारीरिक वजन हड्डियों को कमजोर करते हैं।
- Inadequate nutrition and lack of exercise further reduce bone strength because limited activity reduces the body's need for dense and strong bones.
अपर्याप्त पोषण और व्यायाम की कमी हड्डियों को और कमजोर करती है क्योंकि सीमित गतिविधि के कारण शरीर को मजबूत और घनी हड्डियों की आवश्यकता कम महसूस होती है।
- The first step in safeguarding people from bone injuries is **early detection**.
हड्डी की चोटों से बचाव का पहला कदम **प्रारंभिक पहचान** है।
- The **three-pillar approach** to bone health requires people to consume enough **calcium**, get adequate **direct sunlight** to produce essential **vitamin D**, and ensure **strength training** so bones thicken under physical weight.
हड्डियों के स्वास्थ्य के लिए **तीन-स्तंभ दृष्टिकोण** में पर्याप्त **कैल्शियम** का सेवन, आवश्यक **विटामिन D** के लिए पर्याप्त **सीधी धूप**, और **शक्ति प्रशिक्षण** शामिल है ताकि शारीरिक भार वहन करने से हड्डियाँ मोटी और मजबूत बनें।

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