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### THE HINDU NEWSPAPER

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PCS Special:

30 December 2025

1. Indian Navy's stitched sailing vessel INSV Kaundinya sets off for Oman  
भारतीय नौसेना का सिले हुए पाल वाला पोत INSV कौडिन्य ओमान के लिए रवाना

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# Indian Navy's stitched sailing vessel *INSV Kaundinya* sets off for Oman

PCS

**The Hindu Bureau**  
NEW DELHI

The *INSV Kaundinya*, the Indian Navy's indigenously built traditional stitched sailing vessel, sailed on her maiden overseas voyage from Porbandar, Gujarat, to Muscat in the Sultanate of Oman on Monday.

The Navy said that the historic expedition marks a significant milestone in India's endeavour to revive, understand and celebrate its ancient maritime heritage.

The vessel was formally flagged off by Vice-Admiral Krishna Swaminathan, Flag Officer Commanding-in-Chief, Western Naval Command, in the presence of Issa Saleh Al Shibani, Oman's Ambassador to India, along with senior officers of the Indian Navy and distinguished guests.

The Navy further in-



**Maiden Voyage:** *INSV Kaundinya*, the Indian Navy's stitched sailing vessel, embarks on its voyage to Muscat, Oman. PTI

formed that *INSV Kaundinya* has been constructed using traditional stitched shipbuilding techniques, employing natural materials and methods that date back centuries. Drawing inspiration from historical sources, the vessel reflects India's rich legacy of indigenous shipbuilding, seamanship and oceanic navigation. The voyage

retraces ancient maritime routes that once connected India's western coast with Oman, fostering trade, cultural exchange and sustained civilisational interactions across the Indian Ocean, it said.

The expedition is expected to further strengthen bilateral relations between India and Oman by reinforcing shared mari-

time heritage and deepening cultural ties. It also highlights the deep historical linkages between Gujarat and Oman, underscoring a legacy of cooperation that continues to this day, it said.

Commander Vikas Sheoran is the skipper of the vessel, while Commander Y. Hemant Kumar, is the Officer-in-Charge of the expedition. The crew comprises four officers and 13 naval sailors.

Prime Minister Narendra Modi sent his best wishes to the crew. "Wonderful to see that *INSV Kaundinya* is embarking on her maiden voyage from Porbandar to Muscat, Oman... My best wishes to the crew for a safe and memorable journey, as they retrace our historic links with the Gulf region and beyond," he said in a post on X.

## Indian Navy's stitched sailing vessel *INSV Kaundinya* sets off for Oman भारतीय नौसेना का सिले हुए पाल वाला पोत *INSV कौडिन्य* ओमान के लिए रवाना

- The *INSV Kaundinya*, the Indian Navy's indigenously built traditional stitched sailing vessel, sailed on her maiden overseas voyage from Porbandar, Gujarat, to Muscat in the Sultanate of Oman on Monday.
- The Navy further informed that *INSV Kaundinya* has been constructed using traditional stitched shipbuilding techniques, employing natural materials and methods that date back centuries.
- The voyage retraces ancient maritime routes that once connected India's western coast with Oman, fostering trade, cultural exchange and sustained civilisational interactions across the Indian Ocean, it said.
- It also highlights the deep historical linkages between Gujarat and Oman, underscoring a legacy of cooperation that continues to this day, it said.
- "Wonderful to see that *INSV Kaundinya* is embarking on her maiden voyage from Porbandar to Muscat, Oman... My best wishes to the crew for a safe and memorable journey, as they retrace our historic links with the Gulf region and beyond," he said in a post on X.



<b>GS Paper 1: Society</b>	
<b>TOPICS COVERED</b>	<b>30 December 2025</b>
<b>1. SC stays HC's suspension of ex-BJP MLA's sentence in the Unnao rape case</b>	<b>उन्नाव बलात्कार मामले में पूर्व भाजपा विधायक की सज़ा निलंबन पर HC के आदेश पर SC की रोक</b>

## SC stays HC's suspension of ex-BJP MLA's sentence in the Unnao rape case

SS I: Society

**Krishnadas Rajagopal**  
NEW DELHI

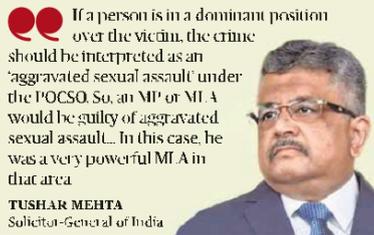
The Supreme Court on Monday stayed the operation of a Delhi High Court order suspending the prison sentence and granting bail to former MLA and expelled BJP leader Kuldeep Singh Sengar, who was convicted for the kidnap and rape of a minor, induced to come to his residence in 2017 on the false pretext of providing her with a job.

Appearing before a three-judge Bench headed by Chief Justice of India Surya Kant, the Central Bureau of Investigation (CBI), which probed the case, said, "We are answerable to the child who was only 15 years old when this gruesome crime happened to her."

During the hearing, the top court noted that the High Court had not agreed with the trial court's conviction of Sengar under Section 5(c) of the Protection of Children from Sexual Offences (POCSO) Act. Solicitor-General Tushar Mehta said the term 'public servant' used in Section 5(c) must be interpreted broadly to include any person in a 'dominant position' to the survivor.

**Who is 'public servant'**  
"If a person is in a dominant position over the victim, the crime should be interpreted as an 'aggravated sexual assault' under the POCSO Act. So, an MP or an MLA would be guilty of aggravated sexual assault... In this case, he was a very powerful MLA in that area," he argued.

Section 5(c) of the Act



**Order a temporary relief, fight will continue: survivor's lawyer**

**Alisha Dutta**  
NEW DELHI

The Supreme Court order should not be treated as a victory but as a temporary relief, Mehmood Pracha, the lawyer of the Unnao rape survivor, said on Monday. "She [the

survivor] kept asking me if she will be safe after Delhi High Court's order. Now, at least I can assure her the Supreme Court has granted her a temporary relief," she said.

**FULL REPORT ON**  
» PAGE 4

classified a rape committed by a 'public servant' on a child to be an aggravated form of sexual assault. The punishment in such cases would be a minimum of 20 years, extending up to the remainder of the convict's natural life.

However, the High Court had imported the meaning of 'public servant' from the erstwhile Indian Penal Code (IPC), which did not consider an MLA a 'public servant'. This logic had led the High Court to conclude on November 23 that Sengar was wrongly convicted under Section 5(c).

The top court, in its order, noted that it usually did not interfere with an order of bail. However, the

Unnao case revolved around a set of "unique facts and circumstances", including the fact that Sengar was also found guilty of the custodial death of the survivor's father.

It noted that Sengar has sought bail in the custodial death case, and the court concerned has already reserved the case to pass orders - indicating that, if granted bail, he would be released from custody.

"Keeping in mind these peculiar circumstances, we deem it appropriate to stay the operation of the November 23, 2025 order passed by the High Court," the Bench directed.

The court scheduled the case for hearing on January 20.

## SC stays HC's suspension of ex-BJP MLA's sentence in the Unnao rape case

उन्नाव बलात्कार मामले में पूर्व भाजपा विधायक की सज़ा निलंबन पर HC के आदेश पर SC की रोक

The Supreme Court on Monday stayed the operation of a Delhi High Court order suspending the prison sentence and granting bail to former MLA and expelled BJP leader Kuldeep Singh Sengar, who was convicted for the kidnap and rape of a minor, induced to come to his residence in 2017 on the false pretext of providing her with a job.

सुप्रीम कोर्ट ने सोमवार को दिल्ली उच्च न्यायालय के उस आदेश के क्रियान्वयन पर रोक लगा दी, जिसमें पूर्व विधायक और निष्कासित भाजपा नेता कुलदीप सिंह सेंगर की जेल की सज़ा निलंबित कर जमानत दी गई थी, जिन्हें नाबालिग के अपहरण और बलात्कार का दोषी ठहराया गया था, जिसे 2017 में नौकरी दिलाने के झूठे बहाने उसके निवास पर बुलाया गया था।

Appearing before a three-judge Bench headed by Chief Justice of India Surya Kant, the Central Bureau of Investigation (CBI), which probed the case, said, "We are answerable to the child who was only 15 years old when this gruesome crime happened to her."

भारत के मुख्य न्यायाधीश सूर्य कांत की अध्यक्षता वाली तीन-न्यायाधीशों की पीठ के समक्ष पेश होते हुए, मामले की जांच करने वाली केंद्रीय अन्वेषण ब्यूरो (CBI) ने कहा, "हम उस बच्ची के प्रति जवाबदेह हैं जो इस जघन्य अपराध के समय केवल 15 वर्ष की थी।"

During the hearing, the top court noted that the High Court had not agreed with the trial court's conviction of Sengar under Section 5(c) of the Protection of Children from Sexual Offences (POCSO) Act.

सुनवाई के दौरान, शीर्ष अदालत ने नोट किया कि उच्च न्यायालय ने बाल यौन शोषण से संरक्षण अधिनियम (POCSO) की धारा 5(c) के तहत सेंगर की दोषसिद्धि से सहमति नहीं जताई थी।

Solicitor-General Tushar Mehta said the term 'public servant' used in Section 5(c) must be interpreted broadly to include any person in a 'dominant

position' to the survivor.

सॉलिसिटर-जनरल तुषार मेहता ने कहा कि धारा 5(c) में प्रयुक्त 'लोक सेवक' शब्द की व्यापक व्याख्या की जानी चाहिए, जिसमें पीड़िता पर 'प्रभावशाली स्थिति' में मौजूद कोई भी व्यक्ति शामिल हो।

**Who is 'public servant'**  
**'लोक सेवक' कौन है**



- “If a person is in a **dominant position** over the victim, the crime should be interpreted as an **‘aggravated sexual assault’** under the **POCSO Act**. So, an **MP or an MLA** would be guilty of aggravated sexual assault... In this case, he was a very powerful MLA in that area,” he argued.  
“यदि कोई व्यक्ति पीड़िता पर **प्रभावशाली स्थिति** में है, तो अपराध को **POCSO अधिनियम** के तहत **‘गंभीर यौन हमला’** माना जाना चाहिए। इसलिए, एक **सांसद या विधायक** गंभीर यौन हमले का दोषी होगा... इस मामले में, वह उस क्षेत्र का अत्यंत शक्तिशाली विधायक था,” उन्होंने तर्क दिया।
- **Section 5(c)** of the Act classified a rape committed by a **‘public servant’** on a child to be an aggravated form of sexual assault. The **punishment in such cases would be a minimum of 20 years, extending up to the remainder of the convict’s natural life**.  
अधिनियम की **धारा 5(c)** के तहत किसी **‘लोक सेवक’** द्वारा बच्चे के साथ किया गया बलात्कार गंभीर यौन हमले की श्रेणी में आता है। ऐसे मामलों में सज़ा न्यूनतम **20 वर्ष** से लेकर दोषी के **शेष प्राकृतिक जीवन** तक हो सकती है।
- However, the **High Court** had imported the meaning of ‘public servant’ from the erstwhile **Indian Penal Code (IPC)**, which did not consider an **MLA a ‘public servant’**.  
हालांकि, **उच्च न्यायालय** ने ‘लोक सेवक’ की परिभाषा पुराने **भारतीय दंड संहिता (IPC)** से ली थी, जिसमें **विधायक** को ‘लोक सेवक’ नहीं माना गया था।
- This logic had led the **High Court** to conclude on **November 23** that Sengar was wrongly convicted under **Section 5(c)**.  
इसी तर्क के आधार पर **उच्च न्यायालय** ने **23 नवंबर** को यह निष्कर्ष निकाला कि सेंगर को **धारा 5(c)** के तहत गलत तरीके से दोषी ठहराया गया था।
- The top court, in its order, noted that it usually did not interfere with an order of bail. However, the **Unnao case** revolved around a set of **“unique facts and circumstances”**, including the fact that Sengar was also found guilty of the **custodial death** of the survivor’s father.  
शीर्ष अदालत ने अपने आदेश में कहा कि वह आमतौर पर जमानत के आदेश में हस्तक्षेप नहीं करती। हालांकि, **उन्नाव मामला “विशिष्ट तथ्यों और परिस्थितियों”** पर आधारित था, जिसमें यह तथ्य भी शामिल है कि सेंगर को पीड़िता के पिता की **हिरासत में मौत** के मामले में भी दोषी पाया गया था।
- It noted that Sengar has sought bail in the custodial death case, and the court concerned has already reserved the case to pass orders — indicating that, if granted bail, he would be released from custody.  
अदालत ने नोट किया कि सेंगर ने हिरासत में मौत के मामले में भी जमानत मांगी है, और संबंधित अदालत ने आदेश सुरक्षित रख लिया है — जिससे संकेत मिलता है कि यदि जमानत मिलती है तो वह हिरासत से रिहा हो जाएगा।
- “Keeping in mind these **peculiar circumstances**, we deem it appropriate to stay the operation of the **November 23, 2025** order passed by the High Court,” the Bench directed.  
“इन **विशेष परिस्थितियों** को ध्यान में रखते हुए, हम **23 नवंबर, 2025** को उच्च न्यायालय द्वारा पारित आदेश के क्रियान्वयन पर रोक लगाना उचित समझते हैं,” पीठ ने निर्देश दिया।
- The court scheduled the case for hearing on **January 20**.  
अदालत ने मामले की सुनवाई **20 जनवरी** को निर्धारित की।

## GS Paper II: Polity,

### TOPICS COVERED

30 December 2025

1. **Invalidate all forms of unilateral talaq**  
**एकतरफा तलाक के सभी रूपों को अमान्य करें**



# Invalidate all forms of unilateral talaq

GS II: Polity

On November 19, 2025, in *Benazeer Heena vs Union of India and Ors.*, a three-judge Bench of the Supreme Court of India comprising Justices Surya Kant, Ujjal Bhuyan and N. Kotiswar Singh, expressed strong reservations about *talaq-e-hasan*, a practice that allows a Muslim man to divorce his wife by pronouncing *talaq* once a month for three consecutive months during *tuhr*, the period of a woman's ritual purity between menstrual cycles. The divorce becomes irrevocable upon the third pronouncement, unless it is withdrawn earlier.

In Heena's case, the husband had communicated the *talaq-e-hasan* through his advocate without signing the document himself. The Court was visibly disturbed by the fact that advocates were granting divorces and remarked: "Tomorrow, what will happen if a client disowns the advocate?... Should a civilized society allow this kind of practice?"

## A contract between equals

The concern of the judges was entirely justified, for the *Koran* does not grant men a superior status that entitles them to unilaterally dissolve a marriage either directly or through their agents. This is because, unlike traditions that treat marriage as an indissoluble sacrament, Islam views it as a firm but dissoluble contract between two equals.

The *Koran* uses two legally perceptive terms for marriage – *uqdatan-nikah* (2:235, 2:237), which means the "bond of marriage", and *meesaaqan ghaleean* (4:21), a solemn covenant between a man and a woman that enables them to live together in intimate companionship.

From a contemporary standpoint, these terms parallel the modern prenuptial contract, and thus demand that both spouses be consenting adults acting freely and with full knowledge. The underlying premise is one of equality between



A. Faizur Rahman

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Only the *Koranic* process, which may be made gender-neutral, must be retained

two autonomous persons, which negates any hierarchical assumption that places the husband above the wife. For this reason, a unilateral termination of marriage by the husband is impermissible in Islam. Such an act would also contravene the cardinal principle of natural justice, *nemo iudex in causa sua* (that no person may sit in judgment over his own dispute) which Islam upholds.

## The Koranic procedure

To guard against deviations from its egalitarian approach, the *Koran* treats divorce extensively in chapters 2, 4, and 65 – *al-Baqara*, *al-Nisa*, and *al-Talaq* – and stipulates four distinct conciliatory measures before the pronouncement of the first *talaq*.

First, it recommends (in 4:34-35) private resolution (*'izu hunna*). If this fails, the next step is temporary physical separation (*uhjuru hunna*). Should discord continue, the husband is advised, as a third step, to communicate clearly to his wife (*izribu hunna*) the seriousness of the dispute and attempt to repair the relationship.

For instance, he may tell his wife that unresolved tensions could escalate into public gossip, potentially harming the family. If reconciliation still remains elusive, the *Koran*, as a fourth step, instructs that the issue be brought before two arbiters from the families of both spouses.

Only after all four steps fail is the first *talaq* permitted, followed by *iddah* (2:228-232; 65:1-4). Within *iddah* – three menstrual cycles per 2:228, 229 – no more than two *talaqs* may be issued. For post-menopausal or amenorrhoeic women, *iddah* lasts three months; for pregnant women, it extends until childbirth (65:4).

If reconciliation does not occur during *iddah*, the final irrevocable *talaq* may be issued after *iddah* ends (2:231). Once pronounced, the final

*talaq* terminates the marital relationship completely.

However, even after the lapse of *iddah*, the *Koran* permits reunion if the final *talaq* has not been invoked: "When you divorce women and they complete their term [*iddah*], do not prevent them from marrying their [former] husbands if they mutually agree on equitable terms" (2:232). In other words, after *iddah*, the couple may either re-contract the marriage on fresh terms or pursue permanent dissolution effected through the third and final *talaq*, declared before two witnesses (65:2).

This is the only *talaq* procedure authorised by the *Koran* and exemplified by the Prophet. It applies to both men and women, consistent with Islam's prohibition of gender-based discrimination. Accordingly, all other modes of divorce, including *talaq-e-bida*, *talaq-e-hasan*, *talaq-e-ahsan*, and *talaq-e-tafweed*, find no support in the *Koran* or the *hadith*.

They originate in *fatawa* traditions crafted by sectarian jurists who, shaped by entrenched patriarchy, rejected women's autonomy and legal personhood. Their stance is starkly reflected in their validation of *talaq-e-hasan*, which permits a husband to dissolve a marriage through an appointed agent (*vakeel*) under the concept of *tawkeel* (agency) – a notion wholly unsupported by *Koranic* or Prophetic precedent and deeply demeaning to women

## An overview

The Supreme Court would thus be on firm constitutional and Islamic footing were it to strike down all unilateral divorce practices available exclusively to Muslim men, retaining only the *Koranic* process, which may be made gender-neutral.

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## Invalidate all forms of unilateral talaq एकतरफा तलाक के सभी रूपों को अमान्य करें

- On November 19 2025 in *Benazeer Heena vs Union of India and Ors* a three judge Bench of the Supreme Court of India comprising Justices Surya Kant Ujjal Bhuyan and N Kotiswar Singh expressed strong reservations about *talaq e hasan*  
19 नवंबर 2025 को बेनज़ीर हीना बनाम भारत संघ एवं अन्य मामले में भारत के सर्वोच्च न्यायालय की तीन न्यायाधीशों की पीठ जिसमें न्यायमूर्ति सूर्य कांत उज्जल भुइयां और एन कोटिश्वर सिंह शामिल थे ने तलाक ए हसन को लेकर कड़ी आपत्तियां व्यक्त कीं
- Talaq e hasan* is a practice that allows a Muslim man to divorce his wife by pronouncing *talaq* once a month for three consecutive months during *tuhr* the period of a woman's ritual purity between menstrual cycles  
तलाक ए हसन वह प्रथा है जो एक मुस्लिम पुरुष को तुहर की अवस्था में यानी मासिक चक्रों के बीच महिला की धार्मिक शुद्धता की अवधि के दौरान तीन लगातार महीनों तक महीने में एक बार तलाक कहकर पत्नी को तलाक देने की अनुमति देती है
- The divorce becomes irrevocable upon the third pronouncement unless it is withdrawn earlier  
तीसरी घोषणा के बाद तलाक अपरिवर्तनीय हो जाता है जब तक कि उसे पहले वापस न ले लिया जाए
- In Heena's case the husband had communicated the *talaq e hasan* through his advocate without signing the document himself  
हीना के मामले में पति ने अपने वकील के माध्यम से तलाक ए हसन की सूचना दी थी बिना स्वयं दस्तावेज पर हस्ताक्षर किए
- The Court was visibly disturbed by the fact that advocates were granting divorces and remarked Tomorrow what will happen if a client disowns the advocate Should a



### civilized society allow this kind of practice

न्यायालय इस तथ्य से स्पष्ट रूप से विचलित था कि वकील तलाक दे रहे थे और टिप्पणी की यदि कल कोई मुक्किल वकील से पल्ला झाड़ ले तो क्या होगा क्या सभ्य समाज ऐसी प्रथा की अनुमति दे सकता है

### A contract between equals समान पक्षों के बीच एक अनुबंध

- The concern of the judges was **entirely justified** for the **Koran** does not grant men a **superior status** that entitles them to **unilaterally dissolve a marriage** either directly or through their agents  
न्यायाधीशों की चिंता **पूर्णतः उचित** थी क्योंकि **कुरान** पुरुषों को ऐसा कोई **श्रेष्ठ दर्जा** नहीं देता जिससे वे **एकतरफा विवाह विच्छेद** सीधे या एजेंटों के माध्यम से कर सकें
- This is because unlike traditions that treat marriage as an **indissoluble sacrament Islam** views it as a **firm but dissoluble contract between two equals**  
ऐसा इसलिए है क्योंकि जिन परंपराओं में विवाह को **अविच्छेद्य संस्कार** माना जाता है उनके विपरीत **इस्लाम** इसे **दो समान व्यक्तियों के बीच दृढ़ लेकिन विघटनीय अनुबंध** के रूप में देखता है
- The **Koran uses two legally perceptive terms for marriage uqdatan nikah bond of marriage and meesaaqan ghaleean a solemn covenant between a man and a woman that enables them to live together in intimate companionship**  
**कुरान** विवाह के लिए दो विधिक रूप से महत्वपूर्ण शब्दों का प्रयोग करता है **उक़दतन निकाह** अर्थात **विवाह का बंधन** और **मीसाक़न ग़लीज़ान** जो पुरुष और महिला के बीच एक **गंभीर अनुबंध** है जिससे वे **निकट साथी** के रूप में साथ रह सकें
- From a **contemporary standpoint** these terms parallel the **modern prenuptial contract** and thus demand that **both spouses be consenting adults acting freely and with full knowledge**  
**आधुनिक दृष्टिकोण** से ये शब्द **आधुनिक प्री नच्युअल अनुबंध** के समान हैं और इसलिए यह अपेक्षा करते हैं कि **दोनों पति पत्नी सहमति देने वाले वयस्क हों जो स्वतंत्र रूप से और पूर्ण जानकारी के साथ कार्य करें**
- The underlying premise is one of **equality between two autonomous persons** which **negates any hierarchical assumption** that places the **husband above the wife**  
इसका मूल आधार **दो स्वायत्त व्यक्तियों के बीच समानता** है जो किसी भी ऐसी **पदानुक्रमिक धारणा** को **नकारता है जो पति को पत्नी से ऊपर रखती है**
- For this reason a **unilateral termination of marriage by the husband is impermissible in Islam**  
इसी कारण **पति द्वारा विवाह का एकतरफा विच्छेद इस्लाम में अस्वीकार्य है**
- Such an act would also contravene the **cardinal principle of natural justice nemo iudex in causa sua meaning no person may sit in judgment over his own dispute** which Islam **upholds**  
ऐसा कार्य **प्राकृतिक न्याय के मूल सिद्धांत नेमो इयूडेक्स इन काउसा सुआ** का भी उल्लंघन करेगा जिसका अर्थ है कि **कोई व्यक्ति अपने ही विवाद में न्यायाधीश नहीं हो सकता और जिसे इस्लाम मान्यता देता है**

### The Koranic procedure कुरानिक प्रक्रिया

- To guard against deviations from its **egalitarian approach** the **Koran treats divorce extensively in chapters 2 4 and 65 al Baqara al Nisa and al Talaq** and stipulates **four distinct conciliatory measures** before the pronouncement of the **first talaq**  
अपने **समानतावादी दृष्टिकोण** से विचलन को रोकने के लिए **कुरान** ने **अध्याय 2 4 और 65 अल बकरा अल निसा और अल तलाक** में तलाक का विस्तृत वर्णन किया है और **पहले तलाक** की घोषणा से पहले **चार अलग अलग सुलह उपाय** निर्धारित किए हैं
- First it recommends private resolution izu hunna**  
पहले यह **निजी समाधान इज़ु हुन्ना** की सिफारिश करता है
- If this fails the next step is **temporary physical separation uhjuru hunna**  
यदि यह विफल हो जाए तो अगला कदम **अस्थायी शारीरिक अलगाव उहजुरु हुन्ना** है
- Should discord continue the husband is advised as a **third step** to **communicate clearly to his wife izribu hunna** the seriousness of the dispute and attempt to **repair the relationship**



यदि मतभेद जारी रहे तो तीसरे चरण के रूप में पति को पत्नी से स्पष्ट संवाद इज्जिबु हुन्ना करने और विवाद की गंभीरता बताकर रिश्ते को सुधारने का प्रयास करने की सलाह दी जाती है

- For instance he may tell his wife that **unresolved tensions** could escalate into **public gossip** potentially harming the **family**  
उदाहरण के लिए वह पत्नी को बता सकता है कि **अनसुलझे तनाव सार्वजनिक चर्चाओं** में बदल सकते हैं जो **परिवार** को नुकसान पहुंचा सकते हैं
- If reconciliation still remains elusive the **Koran** as a **fourth step** instructs that the **issue be brought before two arbiters from the families of both spouses**  
यदि फिर भी सुलह न हो तो **कुरान चौथे चरण** में निर्देश देता है कि मामला **दोनों पक्षों के परिवारों से दो मध्यस्थों** के सामने लाया जाए
- Only after all four steps fail is the first talaq permitted followed by iddah 2 228 to 232 65 1 to 4**  
**चारों चरणों के असफल होने** के बाद ही **पहले तलाक** की अनुमति दी जाती है जिसके बाद **इद्दत 2 228 से 232 65 1 से 4** होती है
- Within **iddah three menstrual cycles** per **2 228 229** no more than **two talaqs** may be issued  
**इद्दत** की अवधि में **तीन मासिक चक्र 2 228 229** के अनुसार **दो से अधिक तलाक** नहीं दिए जा सकते
- For **post menopausal or amenorrhoeic women** iddah lasts **three months** for **pregnant women** it extends until **childbirth 65 4**  
**रजोनिवृत्त या अमेनोर्रिक महिलाओं** के लिए इद्दत **तीन महीने** होती है जबकि **गर्भवती महिलाओं** के लिए यह **प्रसव तक** रहती है **65 4**
- If reconciliation does not occur during iddah the **final irrevocable talaq** may be issued **after iddah ends 2 231**  
यदि इद्दत के दौरान सुलह न हो तो **अंतिम अपरिवर्तनीय तलाक इद्दत समाप्त होने के बाद** दिया जा सकता है **2 231**
- Once pronounced the **final talaq** terminates the **marital relationship completely**  
एक बार घोषित होने पर **अंतिम तलाक वैवाहिक संबंध** को **पूर्णतः समाप्त** कर देता है
- However even after the lapse of iddah the **Koran permits reunion** if the **final talaq has not been invoked**  
हालांकि इद्दत समाप्त होने के बाद भी **कुरान पुनर्मिलन की अनुमति** देता है यदि **अंतिम तलाक** नहीं दिया गया हो
- When you divorce women and they complete their term **iddah** do not prevent them from marrying their **former husbands** if they mutually agree on **equitable terms 2 232**  
जब तुम स्त्रियों को तलाक दो और वे अपनी **इद्दत पूरी** कर लें तो उन्हें उनके **पूर्व पतियों** से विवाह करने से मत रोको यदि वे **न्यायसंगत शर्तों** पर सहमत हों **2 232**
- In other words after iddah the couple may either **re contract the marriage on fresh terms** or pursue **permanent dissolution** effected through the **third and final talaq** declared before **two witnesses 65 2**  
अर्थात् इद्दत के बाद दंपती या तो **नई शर्तों पर विवाह पुनः कर सकते हैं** या **स्थायी विघटन** का मार्ग अपना सकते हैं जो **तीसरे और अंतिम तलाक** द्वारा **दो गवाहों** के सामने घोषित होता है **65 2**
- This is the **only talaq procedure authorised by the Koran** and **exemplified by the Prophet** यही **एकमात्र तलाक प्रक्रिया** है जिसे **कुरान ने अधिकृत** किया है और जिसे **पैगंबर ने उदाहरणस्वरूप अपनाया**
- It applies to both men and women consistent with Islam's prohibition of gender based discrimination**  
यह **पुरुषों और महिलाओं दोनों** पर लागू होती है जो इस्लाम के **लैंगिक भेदभाव निषेध** के अनुरूप है
- Accordingly all other modes of divorce including talaq e bid'a talaq e hasan talaq e ahsan and talaq e tafweed find no support in the Koran or the hadith**  
इसलिए **तलाक ए बिदअ तलाक ए हसन तलाक ए अहसन और तलाक ए तफ़वीज़** सहित **अन्य सभी तलाक पद्धतियों** को **कुरान या हदीस** में कोई समर्थन नहीं मिलता
- They originate in fatawa traditions** crafted by **sectarian jurists** who shaped by **entrenched patriarchy rejected women's autonomy and legal personhood**  
ये **फ़तवा परंपराओं** से उत्पन्न हुई हैं जिन्हें **सांप्रदायिक विधिवेत्ताओं** ने गहरे **पितृसत्तात्मक दृष्टिकोण** से गढ़ा और जिन्होंने **महिलाओं की स्वायत्तता और कानूनी व्यक्तित्व** को नकारा
- Their stance is starkly reflected in their validation of **talaq e hasan** which permits a husband to dissolve a marriage through an **appointed agent vakeel** under the concept of **tawkeel**



### agency

उनका दृष्टिकोण तलाक ए हसन की मान्यता में स्पष्ट दिखता है जो तवकील एजेसी की अवधारणा के तहत पति को नियुक्त प्रतिनिधि वकील के माध्यम से विवाह समाप्त करने की अनुमति देता है

- A notion wholly unsupported by Koranic or Prophetic precedent and deeply demeaning to women  
यह अवधारणा कुरानिक या पैगंबरी परंपरा से पूर्णतः असमर्थित और महिलाओं के लिए अत्यंत अपमानजनक है

### An overview एक समग्र दृष्टि

- The Supreme Court would thus be on firm constitutional and Islamic footing were it to strike down all unilateral divorce practices available exclusively to Muslim men retaining only the Koranic process which may be made gender neutral  
अतः सुप्रीम कोर्ट यदि केवल मुस्लिम पुरुषों को उपलब्ध सभी एकतरफा तलाक प्रथाओं को निरस्त कर दे और केवल कुरानिक प्रक्रिया को बनाए रखे जिसे लैंगिक रूप से तटस्थ बनाया जा सकता है तो वह संवैधानिक और इस्लामी दोनों आधारों पर मजबूत स्थिति में होगा

<b>GS Paper II: Governance,</b>	
<b>TOPICS COVERED</b>	<b>30 December 2025</b>
<b>1. Model conduct</b> आदर्श आचरण	



GS II: Governance

## Model conduct

India must improve access to AI resources, and upskill its workforce

India has been regulating Artificial Intelligence (AI) use by expecting due diligence from platforms under the IT Act and Rules, regulating the financial sector, and with privacy and data protection Rules. It does not yet have a consumer safety regime that deals with the state's duty of care. China pitched such a regime with draft rules that it unveiled last week, which target emotionally interactive services, and propose to require companies to warn against excessive use and intervene when they detect signs of extreme emotional states. If these rules seem justified for targeting psychological dependence that general rules about unlawful content do not address, they may also be harsh because expecting providers to identify users' states can incentivise more intimate monitoring. India's posture is less intrusive, but also more incomplete, because it banks on existing laws. Thus, it regulates adjacent risks but has not articulated a duty of care *vis-à-vis* AI product safety, especially for psychological harms. MeitY has used the IT Rules to push platforms to curb deepfakes and fraud, and define and label "synthetically generated" content. Financial regulators have also adopted structural measures, with the RBI setting expectations to govern model risk in credit and developing its FREE-AI framework process and SEBI pushing for clear accountability on how regulated entities use AI tools. While some measures are preemptive, MeitY has been largely reactive.

India has a large ecosystem that adopts models but is far behind the U.S. and China in building frontier models of its own. In this context, it should beware the cons of 'regulate first, build later', especially since domestic capacity is lacking. A more practical way might be to consider how it can nurture a frontier model and govern the overall use of models, many of which will remain privately built and foreign for a while, inside Indian markets. On the first count, India can focus on improving access to computational resources, upskilling the workforce, increasing public procurement, and translating research to industry while sidestepping the pitfall of paralysis by consensus, which could increase dependency. On the second, India should consider regulating downstream use more assertively without choking upstream capability. It can do this by adding obligations on companies that are deploying products in high-risk contexts, and regulating how they monitor and respond to a model's behaviour, to existing privacy and consumer protection rules, for example, by expecting companies to submit incident reports, rather than requiring them to monitor users' emotions. This way, India can write rules for how Indians use models without assuming that the global technology trajectory will rearrange itself to match its preferences.

- It can do this by adding **obligations** on companies that are deploying products in **high risk contexts** and regulating how they **monitor and respond** to a model's behaviour to existing **privacy and consumer protection rules**

## Model conduct आदर्श आचरण

- India must **improve access to AI resources**, and **upskill its workforce**

भारत को **AI संसाधनों तक पहुंच में सुधार** करना चाहिए और अपने **कार्यबल का कौशल उन्नयन** करना चाहिए

- MeitY** has used the **IT Rules** to push platforms to curb **deepfakes and fraud** and define and label **synthetically generated content**

**MeitY** ने **आईटी नियमों** का उपयोग कर प्लेटफॉर्म को **डीपफेक और धोखाधड़ी** रोकने तथा **सिंथेटिक रूप से उत्पन्न सामग्री** को परिभाषित और लेबल करने के लिए प्रेरित किया है

- Financial regulators** have also adopted **structural measures** with the **RBI** setting expectations to govern **model risk in credit** and developing its **FREE AI framework process** and **SEBI** pushing for **clear accountability** on how regulated entities use **AI tools**

- In this context it should beware the cons of **regulate first build later** especially since **domestic capacity is lacking**

इस संदर्भ में भारत को **पहले विनियमन बाद में निर्माण** के नुकसान से सावधान रहना चाहिए विशेषकर जब **घरेलू क्षमता** की कमी है

- A more **practical way** might be to consider how it can **nurture a frontier model** and govern the **overall use of models** many of which will remain **privately built and foreign** for a while **inside Indian markets**

एक अधिक **व्यावहारिक तरीका** यह हो सकता है कि भारत यह सोचे कि वह कैसे **फ्रंटियर मॉडल को प्रोत्साहित** कर सकता है और **मॉडलों के समग्र उपयोग** को नियंत्रित कर सकता है जिनमें से कई कुछ समय तक **निजी और विदेशी** बने रहेंगे और **भारतीय बाजारों** में उपयोग होंगे

- On the first count India can focus on improving access to **computational resources** **upskilling the workforce** **increasing public procurement** and **translating research to industry** while **sidestepping the pitfall of paralysis by consensus** which could **increase dependency**

पहले पहलू में भारत **कंप्यूटेशनल संसाधनों** की उपलब्धता बढ़ाने **कार्यबल के कौशल उन्नयन सार्वजनिक खरीद बढ़ाने** और **अनुसंधान को उद्योग में रूपांतरित करने** पर ध्यान दे सकता है साथ ही **सर्वसम्मति से उत्पन्न जड़ता** से बच सकता है जो **निर्भरता** बढ़ा सकती है

- On the second India should consider regulating **downstream use** more **assertively** without **choking upstream capability**

दूसरे पहलू में भारत को **अपस्ट्रीम क्षमता** को बाधित किए बिना **डाउनस्ट्रीम उपयोग** को अधिक **दृढ़ता से विनियमित** करने पर विचार करना चाहिए

### GS Paper II: International Relations

TOPICS COVERED

30 December 2025



## 1. Mindless bombing बिना सोचे-समझे बमबारी

GS II: IR

### Mindless bombing

Trump's military strikes and religious rhetoric will worsen situation in Nigeria

**I**n Christmas Day, Nigeria became the latest target of U.S. President Donald Trump's bombing spree. Mr. Trump had earlier claimed that Christians were facing "genocide" – an allegation Abuja has strongly rejected. The U.S. targeted two alleged Islamic State camps in Sokoto, a northwestern State. During last year's presidential campaign, he had repeatedly criticised what he called America's "forever wars". He styled himself as the 'President of peace', taking credit for ending several conflicts, including the combat between India and Pakistan. In reality, however, Mr. Trump is little different from his predecessors, who deployed America's military might at will against weaker nations. Since returning to office, Mr. Trump has bombed Yemen, Syria, Somalia and Iran. He is also overseeing an ongoing bombing campaign off the Venezuelan coast, targeting civilian boats for 'carrying drugs'. In Nigeria's case, Mr. Trump has fused military aggression with religion in an apparent bid to appeal to his Christian base. While he insists that his actions are aimed at protecting Nigeria's Christians, the realities are complex.

Nigeria's 237 million people are roughly divided between Muslims, who predominantly live in the north, and Christians, who are concentrated in the south. In recent years, there has been a surge in Islamist militancy, particularly in the north. Two major Islamist groups – Boko Haram and the Islamic State West Africa Province (ISWAP) – operate mostly in the northeast and northwest. The collapse of state institutions, porous borders and free flow of weapons have turned the Lake Chad region into a hotbed of jihadist activity. Boko Haram and ISWAP, along with the Islamic State Sahel Province, target both state apparatuses and local populations, regardless of their faith. In northern Nigeria, Muslims are the primary victims of Islamist violence. U.S. policies towards the region have also contributed to the spread of jihadist activity in West Africa and the Sahel. The NATO-led bombing that toppled Libya's Gaddafi regime in 2011 unleashed armed fighters and weapons across the region. What Africa needs is a coherent regional counter-terrorism strategy, focused on building state capacity at the local level and enhancing ground level cooperation against jihadist groups. The U.S. should play the role of a facilitator, not an arsonist. Such a strategy is conspicuously absent today. Worse, repeated coups and state collapses have created a vacuum which the jihadists are eager to exploit. Mr. Trump's episodic military strikes, along with religious rhetoric, risk worsening the ground situation, ultimately benefiting the very forces he claims to be fighting.

### Mindless bombing बिना सोचे-समझे बमबारी

• Trump's military strikes and religious rhetoric will worsen situation in Nigeria

ट्रंप की सैन्य कार्रवाइयाँ और धार्मिक बयानबाज़ी नाइजीरिया की स्थिति को और बिगाड़ेंगी

On Christmas Day Nigeria and U S Military Action  
क्रिसमस दिवस नाइजीरिया और अमेरिकी सैन्य कार्रवाई

• On Christmas Day Nigeria became the latest target of U S President Donald Trump's bombing spree

क्रिसमस दिवस पर नाइजीरिया अमेरिकी राष्ट्रपति डोनाल्ड ट्रंप की बमबारी श्रृंखला का नवीनतम लक्ष्य बना

• Mr Trump had earlier claimed that Christians were facing genocide an allegation Abuja has strongly rejected

श्री ट्रंप ने पहले दावा किया था कि ईसाई नरसंहार का सामना कर रहे हैं एक आरोप जिससे अबुजा ने सख्ती से खारिज किया है

• The U S targeted two alleged Islamic State camps in Sokoto a northwestern State

अमेरिका ने उत्तर पश्चिमी राज्य सोकोतो में इस्लामिक स्टेट के कथित दो ठिकानों को निशाना बनाया

• During last year's presidential campaign he had repeatedly criticised what he called America's forever wars

पिछले वर्ष के राष्ट्रपति चुनाव अभियान के दौरान उन्होंने बार बार अमेरिका की तथाकथित अंतहीन युद्धों की आलोचना की थी

• He styled himself as the President of peace taking credit for ending several conflicts including the combat between India and Pakistan

उन्होंने स्वयं को शांति का राष्ट्रपति बताया और भारत और पाकिस्तान के बीच संघर्ष सहित कई टकराव समाप्त करने का श्रेय लिया

• In reality however Mr Trump is little different from his predecessors who deployed America's military might at will against weaker nations

वास्तव में हालांकि श्री ट्रंप अपने पूर्ववर्तियों से बहुत अलग नहीं हैं जिन्होंने कमजोर देशों के खिलाफ अमेरिका की सैन्य शक्ति का मनमाने ढंग से उपयोग किया

• Since returning to office Mr Trump has bombed Yemen Syria Somalia and Iran

पद पर लौटने के बाद श्री ट्रंप ने यमन सीरिया सोमालिया और ईरान पर बमबारी की है

• He is also overseeing an ongoing bombing campaign off the Venezuelan coast targeting civilian boats for carrying drugs

वह वेनेजुएला तट के पास चल रहे बमबारी अभियान की भी निगरानी कर रहे हैं

जिसमें नागरिक नौकाओं को नशीले पदार्थ ले जाने के आरोप में निशाना बनाया जा रहा है

• In Nigeria's case Mr Trump has fused military aggression with religion in an apparent bid to appeal to his Christian base

नाइजीरिया के मामले में श्री ट्रंप ने अपने ईसाई समर्थक आधार को आकर्षित करने के लिए सैन्य आक्रामकता को धर्म के साथ जोड़ा है

• While he insists that his actions are aimed at protecting Nigeria's Christians the realities are complex

हालांकि वह कहते हैं कि उनकी कार्रवाई नाइजीरिया के ईसाइयों की रक्षा के लिए है लेकिन वास्तविकताएं जटिल हैं



- **Nigeria's population and internal divide**  
नाइजीरिया की जनसंख्या और आंतरिक विभाजन
- **Nigeria's 237 million people are roughly divided between Muslims predominantly in the north and Christians concentrated in the south**  
नाइजीरिया की 237 मिलियन जनसंख्या लगभग मुसलमानों और ईसाइयों में विभाजित है जहां मुसलमान मुख्यतः उत्तर में और ईसाई दक्षिण में रहते हैं
- In recent years there has been a surge in **Islamist militancy** particularly in the **north**  
हाल के वर्षों में विशेष रूप से उत्तर में **इस्लामवादी उग्रवाद** में वृद्धि हुई है
- Two major Islamist groups **Boko Haram and Islamic State West Africa Province ISWAP** operate mostly in the **northeast and northwest**  
दो प्रमुख इस्लामवादी समूह **बोको हराम** और **इस्लामिक स्टेट वेस्ट अफ्रीका प्रांत ISWAP** मुख्यतः पूर्वोत्तर और उत्तर पश्चिम में सक्रिय हैं
- The **collapse of state institutions porous borders and free flow of weapons** have turned the **Lake Chad region** into a hotbed of **jihadi activity**  
राज्य संस्थानों के पतन ढीली सीमाओं और हथियारों की मुक्त आवाजाही ने **लेक चाड क्षेत्र** को **जिहादी गतिविधियों** का केंद्र बना दिया है
- **Boko Haram and ISWAP along with the Islamic State Sahel Province** target both **state apparatuses and local populations** regardless of their **faith**  
**बोको हराम** और **ISWAP** के साथ **इस्लामिक स्टेट सहेल प्रांत** भी राज्य तंत्र और स्थानीय आबादी दोनों को उनके धर्म की परवाह किए बिना निशाना बनाते हैं
- **In northern Nigeria** Muslims are the **primary victims** of Islamist violence  
उत्तरी नाइजीरिया में इस्लामवादी हिंसा के **मुख्य शिकार मुसलमान** हैं
- **External factors and U S role**  
बाहरी कारक और अमेरिकी भूमिका
- **U S policies** towards the region have also contributed to the spread of **jihadi activity** in **West Africa and the Sahel**  
क्षेत्र के प्रति **अमेरिकी नीतियों** ने भी **पश्चिम अफ्रीका और सहेल** में **जिहादी गतिविधियों** के प्रसार में योगदान दिया है
- The **NATO led bombing that toppled Libya's Gaddafi regime in 2011** unleashed **armed fighters and weapons across the region**  
2011 में **नाटो नेतृत्व वाली बमबारी** जिसने **लीबिया के गद्दाफी शासन** को गिराया उसने पूरे क्षेत्र में सशस्त्र लड़ाकों और हथियारों को फैलाया

### What Africa needs अफ्रीका को क्या चाहिए

- What Africa needs is a **coherent regional counterterrorism strategy** focused on **building state capacity** at the **local level** and enhancing **ground level cooperation** against **jihadi groups**  
अफ्रीका को एक **सुसंगत क्षेत्रीय आतंकवाद विरोधी रणनीति** की आवश्यकता है जो **स्थानीय स्तर पर राज्य क्षमता निर्माण** और **जमीनी सहयोग** को मजबूत करे
- The **U S** should play the role of a **facilitator not an arsonist**  
**अमेरिका** को **आग लगाने वाले** के बजाय **सुविधाकर्ता** की भूमिका निभानी चाहिए
- Such a strategy is **conspicuously absent** today  
ऐसी रणनीति आज **स्पष्ट रूप से अनुपस्थित** है
- Worse repeated **coups and state collapses** have created a **vacuum** which the **jihadi** are **eager to exploit**  
इससे भी बुरा यह है कि बार बार हुए **तख्तापलट और राज्य विफलताओं** ने एक **शून्य** पैदा कर दिया है जिसे **जिहादी** भुनाने को तैयार हैं
- Mr Trump's **episodic military strikes** along with **religious rhetoric** risk **worsening the ground situation** ultimately **benefiting** the very forces he claims to be **fighting**  
श्री टंप के **आकस्मिक सैन्य हमले** और **धार्मिक बयानबाजी** जमीनी हालात को **और खराब** करने का जोखिम रखते हैं जिससे अंततः वही ताकतें **लाभान्वित** हो सकती हैं जिनसे वह **लड़ने का दावा** करते हैं



<b>GS Paper III: Economy,</b>	
<b>TOPICS COVERED</b>	<b>30_12_2025</b>
1.	<b>Manufacturing, capital goods led IIP growth to a 25-month high of 6.7% in Nov.</b> विनिर्माण, पूंजीगत वस्तुओं ने IIP वृद्धि को नवंबर में 25 महीने के उच्च स्तर 6.7% तक पहुंचाया
2.	<b>The quiet foundations for India's next growth phase</b> भारत के अगले विकास चरण की शांत नींव
3.	<b>A puzzling industrial credit-growth disconnect in FY17-FY19</b> FY17-FY19 में औद्योगिक ऋण-वृद्धि का एक उलझनभरा विच्छेद
4.	<b>What is the India-New Zealand Free Trade Agreement?</b> भारत-न्यूज़ीलैंड मुक्त व्यापार समझौता क्या है?

## Manufacturing, capital goods lead IIP growth to 25-month high of 6.7% in Nov.

**GS III: Economy**  
**The Hindu Bureau**  
NEW DELHI

The Index of Industrial Production (IIP) growth reached a 25-month high of 6.7% in November, driven by broad-based gains led by manufacturing and capital goods sectors, data released by the Union Statistics and Programme Implementation Ministry on Monday showed.

Within the IIP, the manufacturing output growth accelerated to a 25-month high of 8%. This was on a relatively high base of 5% in November 2024. "While the year-on-year IIP growth surged to a 25-month high of 6.7% in November 2025 from 0.5% in October 2025, this upsw-



ing largely reflects the shift in the festive calendar, restocking after the festive season sales, as well as some normalisation in activity across mining and electricity segments following the excess unseasonal rains in the previous month," Aditi Nayar, chief

economist, ICRA Ltd., said. Ms. Nayar said that despite the demand boost following GST rate rationalisation in September, IIP growth averaged 3.6% during the October-November period, lower than the 4.3% expansion seen in the July-September quarter.

The infrastructure and construction sectors grew at 12.1% in November, the fastest since October 2023.

Buoyed by strong performances in manufacturing and construction sectors, the capital goods sector recorded an 11-month-high growth of 10.4% in November.

Mining output growth accelerated to a three-month high of 5.4% in November. The electricity sector was the only one to contract, declining by 1.5% in November, down from a growth of 4.4% in November last year.

Consumer durables and consumer non-durables sectors rebounded in November, growing 10.3% and 7.3%, respectively.

**Manufacturing, capital goods led IIP growth to a 25-month high of 6.7% in Nov.**  
विनिर्माण, पूंजीगत वस्तुओं ने IIP वृद्धि को नवंबर में 25 महीने के उच्च स्तर 6.7% तक पहुंचाया

- The **Index of Industrial Production (IIP)** growth reached a **25-month high of 6.7%** in **November**, driven by broad-based gains led by **manufacturing** and **capital goods** sectors, data released by the **Union Statistics and Programme Implementation Ministry** on **Monday** showed.
- Ms. Nayar said that despite the demand boost following **GST rate rationalisation** in **September**, **IIP growth** averaged **3.6%** during the **October-November** period, lower than the **4.3% expansion** seen in the **July-September** quarter.  
सुश्री नायर ने कहा कि सितंबर में GST दरों के युक्तिकरण के बाद मांग में बढ़ोतरी के बावजूद, अक्टूबर-



TELEGRAM CHANNEL: <https://t.me/patrioticIAS>  
YOUTUBE CHANNEL: <https://www.youtube.com/@PatrioticIAS>  
CONTACT: 9971932488



नवंबर अवधि के दौरान IIP वृद्धि औसतन 3.6% रही, जो जुलाई-सितंबर तिमाही में देखी गई 4.3% की वृद्धि से कम है।

- The **infrastructure and construction sectors** grew at **12.1%** in **November**, the fastest since **October 2023**.
- **Consumer durables and consumer non-durables sectors** rebounded in **November**, growing **10.3%** and **7.3%**, respectively.

उपभोक्ता टिकाऊ वस्तु और उपभोक्ता गैर-टिकाऊ वस्तु क्षेत्रों में नवंबर में सुधार देखा गया, जहां इनकी वृद्धि क्रमशः 10.3% और 7.3% रही।

PATRIOTIC IAS



# The quiet foundations for India's next growth phase

SS III: Economy

**A**s 2025 draws to a close, the loud headlines are easy to spot, but what is easier to miss is the quieter work of governance, the steady week after week clearing of bottlenecks – the cumulative push is what I mean by **Reform Express 2025**.

India crossed about \$4.1 trillion in nominal GDP and overtook Japan as the world's fourth largest economy. Standard and Poor's upgraded India's sovereign rating to BBB after 18 years, signalling that the macro story has acquired durability, not just speed. In an uncertain world where political churn has become the norm, India's stable leadership makes reforms credible, and credible reforms convert private caution into private investment.

I have seen, across negotiating tables, from the GATT and WTO system to multilateral forums, that rules are only as good as the incentives they create. When procedures are opaque, discretion expands, and then even well-intentioned policy ends up discouraging enterprise. When procedures are clean and time-bound, competition thrives, investment plans get executed, and jobs follow.

India's total exports hit \$825.25 billion during 2024-25, representing an annual growth of over 6%. To support this volume of trade, the government introduced several digital tools such as The Trade Connect ePlatform, a single digital window for exporters, and the Trade Intelligence and Analytics (TIA) portal for providing real-time market data.

## The trade agreements

The India-United Kingdom Comprehensive Economic and Trade Agreement signed in July 2025 created a stronger platform for Indian exporters, with wide duty-free access and clearer pathways for services and skilled mobility. In December 2025, India signed a Comprehensive Economic Partnership Agreement with Oman, strengthening a strategic economic corridor for goods, services, and investment. India also concluded negotiations for a free trade agreement with New Zealand, expanding India's reach into high value markets and setting a template for disciplined, commercially meaningful agreements.

India's startup sector expanded to include over two lakh government-recognised startups, which helped create more than 21 lakh jobs. The Open Network for Digital Commerce (ONDC) processed over 326 million orders, averaging more than 5.9 lakh daily transactions. Additionally, the Government e-Marketplace (GeM) saw its cumulative transaction value cross ₹16.41 lakh crore, with 11 lakh micro and small enterprises receiving orders worth over ₹7.35 lakh crore.

India also improved its position in the Global Innovation Index, rising to 38th place among 139



**Hardeep S. Puri**

is Union Minister for Petroleum and Natural Gas, Government of India

economies. Efforts to simplify business operations resulted in the reduction of over 47,000 compliances and the decriminalisation of 4,458 legal provisions. By late November, the National Single Window System processed more than 8.29 lakh approvals. Infrastructure planning also saw changes as the PM GatiShakti National Master Plan opened to the private sector, and the Project Monitoring Group portal has onboarded over 3,000 projects valued at more than ₹76 lakh crore.

## Better legislation

Embracing trust-based governance, Parliament passed the Repealing and Amending Bill 2025, clearing out 71 obsolete Acts that had outlived their purpose. Ease of doing business also moved closer to the entrepreneur through district-level reform frameworks, including the District Business Reform Action Plan 2025, which seeks to make local administrations more responsive, predictable, and accountable.

A modern labour regime matters for scale, for manufacturing, and for a services economy that wants to formalise jobs while expanding social security coverage. With the four labour codes coming into effect from November 21, 2025, 29 central labour laws have been consolidated into a simpler framework covering wages, industrial relations, social security and workplace safety.

The Securities Markets Code Bill was introduced to modernise securities law and strengthen the Securities and Exchange Board of India's investigative and enforcement capacity, with proposals for specialised market courts, stronger information sharing with regulators, and time-bound grievance redress. At a moment when retail participation has expanded and India is drawing larger global portfolio interest, regulatory clarity becomes part of national competitiveness, helping savings flow into productive investment.

Logistics is where reform becomes visible in costs, and 2025 saw a push to modernise the maritime backbone of trade. Nearly 95% of India's trade by volume and about 70% by value moves through maritime routes, so port and shipping efficiency is a competitiveness issue. The Indian Ports Act, 2025 replaced a colonial-era framework and introduced modern governance tools, including state-level dispute resolution, a statutory coordination council, and stronger norms on safety, disaster readiness and environmental preparedness. The Merchant Shipping Act, 2025 and the Carriage of Goods by Sea Act, 2025 further modernised shipping law, updating rules, liabilities and dispute frameworks to reflect contemporary commerce.

The Cabinet approved a package of ₹69,725 crore to strengthen shipbuilding, including a Maritime Development Fund of ₹25,000 crore

and components for financial assistance and development, points to a larger ambition: build industrial depth, reduce dependence, and keep freight value within India over time. This is industrial policy in the classic sense, creating an ecosystem where private capital can enter with a clearer risk framework, and where jobs are created not only in ports but across shipyards, components, engineering, and services.

## A focus on energy

Energy reforms, too, were designed for long cycle investment. The Oilfields (Regulation and Development) Amendment Act, 2025 and the new Petroleum and Natural Gas Rules 2025 sought to reduce investor risk by emphasising stability of terms during the life of a lease, moving toward a single petroleum lease across the project life cycle, and putting clearer timelines on approvals. The Open Acreage Licensing Policy continued widening the exploration map, with Round X offering 25 blocks across about 0.2 million square kilometres, predominantly offshore, including deepwater and ultra deepwater opportunities. Alongside this, the National Deep Water Exploration Mission signalled a strategic focus on domestic resources, technology, and capability in complex exploration.

Reform Express 2025 also carried a strategic energy and technology dimension. Budget 2025 set out a Nuclear Energy Mission with an outlay of ₹20,000 crore to accelerate small modular reactors and other advanced designs, aligned with the national objective of reaching 100 GW of nuclear capacity by 2047, and a target of five indigenously designed operational small modular reactors by 2033. The Sustainable Harnessing and Advancement of Nuclear Energy for Transforming India (SHANTI) Bill is a huge leap for modernising India's civil nuclear framework and opening a pathway for carefully regulated private participation. Nuclear energy adds firm, low carbon power to the grid, and strengthens India's ability to build advanced manufacturing, data infrastructure, and energy intensive industry with greater confidence.

Put together, these reforms show a pattern: clean up the statute book, decriminalise the trivial, modernise labour compliance, strengthen market governance, digitise trade processes, fix logistics, and de-risk long cycle energy investment.

Prime Minister Narendra Modi has consistently argued that the state's job is to reduce the burden on entrepreneurs so that productivity can compound. That is the strategic meaning of Reform Express 2025. The seeds of the next phase of double-digit growth are sown in this quiet, cumulative work, and India is doing it with a steadiness that many economies have lost.

In a quiet and cumulative way, 'Reform Express 2025' is sowing the seeds of the next phase of India's double-digit growth

## The quiet foundations for India's next growth phase भारत के अगले विकास चरण की शांत नींव

- As **2025 draws to a close** the loud headlines are easy to spot but what is easier to miss is the quieter work of **governance** the steady week after week clearing of **bottlenecks** the cumulative push is what I mean by **Reform Express 2025**  
जैसे जैसे **2025** समाप्ति की ओर बढ़ रहा है बड़े शीर्षक आसानी से दिख जाते हैं लेकिन जो अक्सर छूट जाता है वह है **शासन** का शांत कार्य हर सप्ताह **बाधाओं** को दूर करने की निरंतर प्रक्रिया यही समग्र प्रयास **रिफॉर्म एक्सप्रेस 2025** है
- India crossed about 4.1 trillion dollars in nominal GDP** and **overtook Japan as the world's fourth largest economy**  
भारत ने लगभग **4.1 ट्रिलियन डॉलर नाममात्र GDP** को पार किया और **जापान** को पीछे छोड़ते हुए दुनिया की **चौथी सबसे बड़ी अर्थव्यवस्था** बन गया
- Standard and Poor's upgraded India's sovereign rating to BBB after 18 years** signalling that the macro story has acquired **durability** not just speed  
**स्टैंडर्ड एंड पूअर्स** ने **18 वर्षों** बाद भारत की **साँवरेन रेटिंग को BBB** तक उन्नत किया जो दर्शाता है कि व्यापक आर्थिक कहानी ने केवल गति नहीं बल्कि **स्थायित्व** भी प्राप्त किया है
- In an **uncertain world** where **political churn** has become the norm India's **stable leadership** makes reforms **credible** and credible reforms convert **private caution into private investment**



एक अनिश्चित विश्व में जहां राजनीतिक उथल पुथल सामान्य हो गई है भारत का स्थिर नेतृत्व सुधारों को विश्वसनीय बनाता है और विश्वसनीय सुधार निजी सतर्कता को निजी निवेश में बदल देते हैं

- I have seen across negotiating tables from the **GATT and WTO system** to **multilateral forums** that rules are only as good as the **incentives they create**  
मैंने **GATT और WTO प्रणाली** से लेकर **बहुपक्षीय मंचों** तक वार्ता के दौरान देखा है कि नियम उतने ही प्रभावी होते हैं जितने **प्रोत्साहन वे पैदा करते हैं**
- When **procedures are opaque** discretion expands and then even **well intentioned policy** ends up discouraging **enterprise**  
जब **प्रक्रियाएं अपारदर्शी** होती हैं तो विवेकाधिकार बढ़ता है और तब **अच्छी नीयत वाली नीति भी उद्यमिता** को हतोत्साहित कर देती है
- When procedures are **clean and time bound** competition thrives **investment plans get executed** and **jobs follow**  
जब प्रक्रियाएं **स्वच्छ और समयबद्ध** होती हैं तो प्रतिस्पर्धा फलती फूलती है निवेश योजनाएं लागू होती हैं और रोजगार पैदा होते हैं
- India's **total exports hit 825.25 billion dollars during 2024-25** representing an **annual growth of over 6 percent**  
भारत के **कुल निर्यात 2024 25 के दौरान 825.25 अरब डॉलर तक पहुंचे** जो **6 प्रतिशत से अधिक वार्षिक वृद्धि** दर्शाते हैं
- To support this volume of trade the government introduced several **digital tools** such as the **Trade Connect ePlatform a single digital window for exporters** and the **Trade Intelligence and Analytics TIA portal for providing real time market data**  
इस व्यापार मात्रा को समर्थन देने के लिए सरकार ने कई **डिजिटल टूल** पेश किए जैसे **ट्रेड कनेक्ट ई प्लेटफॉर्म** जो निर्यातकों के लिए एकल डिजिटल विंडो है और **ट्रेड इंटेलिजेंस एंड एनालिटिक्स TIA पोर्टल** जो रीयल टाइम बाजार डेटा प्रदान करता है

#### The trade agreements व्यापार समझौते

- The **India United Kingdom Comprehensive Economic and Trade Agreement** signed in **July 2025** created a stronger platform for Indian exporters with wide **duty free access** and clearer pathways for **services and skilled mobility**  
भारत यूनाइटेड किंगडम व्यापक आर्थिक और व्यापार समझौता जो **जुलाई 2025** में हस्ताक्षरित हुआ भारतीय निर्यातकों के लिए **शुल्क मुक्त पहुंच** और सेवाओं व कुशल गतिशीलता के लिए स्पष्ट मार्ग प्रदान करता है
- In **December 2025** India signed a **Comprehensive Economic Partnership Agreement with Oman** strengthening a **strategic economic corridor for goods services and investment**  
**दिसंबर 2025** में भारत ने ओमान के साथ व्यापक आर्थिक भागीदारी समझौता किया जिससे **वस्तुओं सेवाओं और निवेश** के लिए एक रणनीतिक आर्थिक गलियारा मजबूत हुआ
- India also concluded negotiations for a **free trade agreement with New Zealand** expanding India's reach into **high value markets** and setting a template for **disciplined commercially meaningful agreements**  
भारत ने **न्यूजीलैंड** के साथ **मुक्त व्यापार समझौते** की वार्ता भी पूरी की जिससे **उच्च मूल्य बाजारों** तक पहुंच बढ़ी और **अनुशासित व व्यावसायिक रूप से सार्थक समझौतों** का खाका तैयार हुआ
- India's **startup sector expanded** to include over **two lakh government recognised startups** which helped create more than **21 lakh jobs**  
भारत का **स्टार्टअप क्षेत्र** बढ़कर **दो लाख से अधिक सरकारी मान्यता प्राप्त स्टार्टअप्स** तक पहुंचा जिसने **21 लाख से अधिक रोजगार** सृजित किए
- The **Open Network for Digital Commerce ONDC** processed over **326 million orders** averaging more than **5.9 lakh daily transactions**  
**ओपन नेटवर्क फॉर डिजिटल कॉमर्स ONDC** ने **326 मिलियन से अधिक ऑर्डर** संसाधित किए जिनका औसत **5.9 लाख से अधिक दैनिक लेनदेन** रहा
- Additionally the **Government e Marketplace GeM** saw its **cumulative transaction value cross 16.41 lakh crore rupees** with **11 lakh micro and small enterprises** receiving orders worth over **7.35 lakh crore rupees**



इसके अतिरिक्त गवर्नमेंट ई मार्केटप्लेस GeM का संचयी लेनदेन मूल्य 16.41 लाख करोड़ रुपये से अधिक हो गया जिसमें 11 लाख सूक्ष्म और लघु उद्यमों को 7.35 लाख करोड़ रुपये से अधिक के ऑर्डर मिले

- India also improved its position in the **Global Innovation Index rising to 38th place among 139 economies**  
भारत ने ग्लोबल इनोवेशन इंडेक्स में भी सुधार किया और 139 अर्थव्यवस्थाओं में 38वें स्थान पर पहुंच गया
- **Efforts to simplify business operations resulted in the reduction of over 47,000 compliances and the decriminalisation of 4,458 legal provisions**  
व्यवसाय संचालन को सरल बनाने के प्रयासों से 47,000 से अधिक अनुपालनों में कमी और 4,458 कानूनी प्रावधानों का अपराधमुक्तिकरण हुआ
- By late November the **National Single Window System** processed more than **8.29 lakh approvals**  
नवंबर के अंत तक नेशनल सिंगल विंडो सिस्टम ने 8.29 लाख से अधिक स्वीकृतियां संसाधित कीं
- **Infrastructure planning** also saw changes as the **PM GatiShakti National Master Plan** opened to the **private sector** and the **Project Monitoring Group portal** onboarded over **3,000 projects** valued at more than **76 lakh crore rupees**  
इंफ्रास्ट्रक्चर योजना में भी बदलाव आया क्योंकि पीएम गतिशक्ति राष्ट्रीय मास्टर प्लान को निजी क्षेत्र के लिए खोला गया और प्रोजेक्ट मॉनिटरिंग ग्रुप पोर्टल पर 3,000 से अधिक परियोजनाएं शामिल हुईं जिनका मूल्य 76 लाख करोड़ रुपये से अधिक है

### Better legislation बेहतर विधायी व्यवस्था

- **Embracing trust based governance** Parliament passed the **Repealing and Amending Bill 2025** clearing out **71 obsolete Acts** that had outlived their purpose  
विश्वास आधारित शासन को अपनाते हुए संसद ने रिपीलिंग एंड अमेन्डिंग बिल 2025 पारित किया जिससे 71 अप्रचलित कानून हटाए गए जो अपना उद्देश्य खो चुके थे
- **Ease of doing business** also moved closer to the entrepreneur through **district level reform frameworks** including the **District Business Reform Action Plan 2025** which seeks to make **local administrations more responsive predictable and accountable**  
ईज ऑफ डूइंग बिजनेस भी जिला स्तर के सुधार ढांचे के माध्यम से उद्यमियों के और करीब आया जिसमें डिस्ट्रिक्ट बिजनेस रिफॉर्म एक्शन प्लान 2025 शामिल है जिसका उद्देश्य स्थानीय प्रशासन को अधिक संवेदनशील पूर्वानुमेय और जवाबदेह बनाना है
- A **modern labour regime** matters for **scale manufacturing and services economy** that wants to **formalise jobs** while expanding **social security coverage**  
एक आधुनिक श्रम व्यवस्था विस्तार विनिर्माण और सेवा अर्थव्यवस्था के लिए महत्वपूर्ण है जो नौकरियों को औपचारिक बनाते हुए सामाजिक सुरक्षा कवरेज का विस्तार करना चाहती है
- With the **four labour codes** coming into effect from **November 21 2025 29 central labour laws** have been consolidated into a **simpler framework** covering **wages industrial relations social security and workplace safety**  
21 नवंबर 2025 से चार श्रम संहिताओं के लागू होने के साथ 29 केंद्रीय श्रम कानूनों को एक सरल ढांचे में समेकित किया गया है जो वेतन औद्योगिक संबंध सामाजिक सुरक्षा और कार्यस्थल सुरक्षा को कवर करता है
- The **Securities Markets Code Bill** was introduced to **modernise securities law and strengthen SEBI's investigative and enforcement capacity** with proposals for **specialised market courts stronger information sharing with regulators and time bound grievance redress**  
सिक्योरिटीज मार्केट्स कोड बिल को प्रतिभूति कानून के आधुनिकीकरण और SEBI की जांच एवं प्रवर्तन क्षमता को मजबूत करने के लिए पेश किया गया जिसमें विशेषीकृत बाजार अदालतें नियामकों के साथ मजबूत सूचना साझाकरण और समयबद्ध शिकायत निवारण के प्रस्ताव शामिल हैं
- At a moment when **retail participation** has expanded and India is drawing larger **global portfolio interest regulatory clarity** becomes part of **national competitiveness** helping **savings flow into productive investment**  
ऐसे समय में जब रिटेल भागीदारी बढ़ी है और भारत अधिक वैश्विक पोर्टफोलियो निवेश आकर्षित कर रहा है नियामक स्पष्टता राष्ट्रीय प्रतिस्पर्धात्मकता का हिस्सा बन जाती है जो बचत को उत्पादक निवेश में प्रवाहित करने में मदद करती है
- **Logistics** is where reform becomes visible in **costs** and **2025** saw a push to modernise the **maritime backbone of trade**



लॉजिस्टिक्स वह क्षेत्र है जहां सुधार लागत में स्पष्ट दिखते हैं और 2025 में व्यापार की समुद्री रीढ़ को आधुनिक बनाने पर जोर दिया गया

- Nearly **95 percent of India's trade by volume** and about **70 percent by value** moves through **maritime routes** so **port and shipping efficiency** is a **competitiveness issue**  
भारत के व्यापार का लगभग 95 प्रतिशत मात्रा के आधार पर और लगभग 70 प्रतिशत मूल्य के आधार पर समुद्री मार्गों से होता है इसलिए बंदरगाह और शिपिंग दक्षता एक प्रतिस्पर्धात्मक मुद्दा है
- The **Indian Ports Act 2025** replaced a **colonial era framework** and introduced **modern governance tools** including **state level dispute resolution a statutory coordination council** and **stronger norms on safety disaster readiness and environmental preparedness**  
इंडियन पोर्ट्स एक्ट 2025 ने औपनिवेशिक काल के ढांचे को प्रतिस्थापित किया और आधुनिक शासन उपकरण पेश किए जिनमें राज्य स्तर विवाद समाधान वैधानिक समन्वय परिषद और सुरक्षा आपदा तैयारी तथा पर्यावरणीय तत्परता के मजबूत मानक शामिल हैं
- The **Merchant Shipping Act 2025** and the **Carriage of Goods by Sea Act 2025** further **modernised shipping law** updating **rules liabilities and dispute frameworks** to reflect **contemporary commerce**  
मर्चेंट शिपिंग एक्ट 2025 और कैरिज ऑफ गुड्स बाय सी एक्ट 2025 ने शिपिंग कानून को और आधुनिक बनाया और नियम दायित्व तथा विवाद ढांचे को आधुनिक वाणिज्य के अनुरूप अद्यतन किया
- The **Cabinet approved a package of ₹69,725 crore** to **strengthen shipbuilding** including a **Maritime Development Fund of ₹25,000 crore** and **components for financial assistance and development** pointing to a **larger ambition**  
कैबिनेट ने जहाज निर्माण को मजबूत करने के लिए ₹69,725 करोड़ के पैकेज को मंजूरी दी जिसमें ₹25,000 करोड़ का समुद्री विकास कोष और वित्तीय सहायता व विकास के घटक शामिल हैं जो एक बड़े लक्ष्य की ओर संकेत करते हैं
- Build **industrial depth** reduce **dependence** and keep **freight value within India** over time  
औद्योगिक गहराई बनाना निर्भरता कम करना और समय के साथ माल ढुलाई मूल्य को भारत के भीतर बनाए रखना
- This is **industrial policy** in the **classic sense** creating an **ecosystem** where **private capital can enter with a clearer risk framework** and where **jobs are created** not only in **ports** but across **shipyards components engineering and services**  
यह शास्त्रीय अर्थों में औद्योगिक नीति है जो ऐसा इकोसिस्टम बनाती है जहां निजी पूंजी एक स्पष्ट जोखिम ढांचे के साथ प्रवेश कर सके और जहां रोजगार केवल बंदरगाहों में ही नहीं बल्कि शिपयार्ड घटक इंजीनियरिंग और सेवाओं में भी सृजित हों

#### A focus on energy

##### ऊर्जा पर विशेष ध्यान

- Energy reforms too were designed for **long cycle investment**  
ऊर्जा सुधार भी दीर्घकालिक निवेश को ध्यान में रखकर तैयार किए गए थे
- The **Oilfields Regulation and Development Amendment Act 2025** and the new **Petroleum and Natural Gas Rules 2025** sought to **reduce investor risk** by emphasising **stability of terms** during the life of a lease moving toward a **single petroleum lease** across the project **life cycle** and putting **clearer timelines** on approvals  
ऑयलफील्ड्स रेगुलेशन एंड डेवलपमेंट संशोधन अधिनियम 2025 और नए पेट्रोलियम और प्राकृतिक गैस नियम 2025 ने पट्टे की अवधि के दौरान शर्तों की स्थिरता पर जोर देकर निवेशक जोखिम कम करने का प्रयास किया परियोजना के पूरे जीवनचक्र में एकल पेट्रोलियम पट्टे की दिशा में बढ़ते हुए और अनुमोदनों के लिए स्पष्ट समयसीमा तय की
- The **Open Acreage Licensing Policy** continued widening the **exploration map** with **Round X** offering **25 blocks** across about **0.2 million square kilometres** predominantly **offshore** including **deepwater and ultra deepwater opportunities**  
ओपन एकरेज लाइसेंसिंग नीति ने अन्वेषण मानचित्र का विस्तार जारी रखा जहां राउंड X में लगभग 0.2 मिलियन वर्ग किलोमीटर में फैले 25 ब्लॉक पेश किए गए जो मुख्य रूप से ऑफशोर थे जिनमें डीपवॉटर और अल्ट्रा डीपवॉटर अवसर शामिल थे
- Alongside this the **National Deep Water Exploration Mission** signalled a **strategic focus** on **domestic resources technology and capability** in **complex exploration**



इसके साथ ही नेशनल डीप वॉटर एक्सप्लोरेशन मिशन ने जटिल अन्वेषण में घरेलू संसाधनों तकनीक और क्षमता पर रणनीतिक ध्यान का संकेत दिया

- **Reform Express 2025** also carried a **strategic energy and technology dimension**  
रिफॉर्म एक्सप्रेस 2025 में रणनीतिक ऊर्जा और प्रौद्योगिकी आयाम भी शामिल था
- **Budget 2025 set out a Nuclear Energy Mission with an outlay of ₹20,000 crore to accelerate small modular reactors and other advanced designs aligned with the national objective of reaching 100 GW nuclear capacity by 2047** and a target of **five indigenously designed operational small modular reactors by 2033**  
बजट 2025 ने ₹20,000 करोड़ के परिव्यय के साथ परमाणु ऊर्जा मिशन की रूपरेखा दी ताकि स्मॉल मॉड्यूलर रिएक्टर और अन्य उन्नत डिज़ाइन तेज किए जा सकें जो 2047 तक 100 गीगावॉट परमाणु क्षमता के राष्ट्रीय लक्ष्य और 2033 तक स्वदेशी रूप से डिज़ाइन किए गए पांच परिचालन स्मॉल मॉड्यूलर रिएक्टरों के लक्ष्य के अनुरूप हैं
- The **Sustainable Harnessing and Advancement of Nuclear Energy for Transforming India SHANTI Bill** is a **huge leap** for modernising India's **civil nuclear framework** and opening a **pathway for carefully regulated private participation**  
सस्टेनेबल हार्नेसिंग एंड एडवांसमेंट ऑफ न्यूक्लियर एनर्जी फॉर ट्रांसफॉर्मिंग इंडिया SHANTI बिल भारत के नागरिक परमाणु ढांचे के आधुनिकीकरण और सावधानीपूर्वक विनियमित निजी भागीदारी के लिए रास्ता खोलने की दिशा में एक बड़ी छलांग है
- **Nuclear energy adds firm low carbon power** to the grid and strengthens India's ability to build **advanced manufacturing data infrastructure and energy intensive industry** with greater **confidence**  
परमाणु ऊर्जा ग्रिड में स्थिर कम कार्बन बिजली जोड़ती है और उन्नत विनिर्माण डेटा अवसंरचना और ऊर्जा गहन उद्योग विकसित करने की भारत की क्षमता को अधिक आत्मविश्वास के साथ मजबूत करती है
- Put together these reforms show a **pattern**  
इन सभी सुधारों को मिलाकर एक पैटर्न दिखाई देता है
- Clean up the **statute book** decriminalise the **trivial** modernise **labour compliance** strengthen **market governance** digitise **trade processes** fix **logistics** and **de risk long cycle energy investment**  
कानून पुस्तिका को साफ करना तुच्छ अपराधों का अपराधमुक्तिकरण श्रम अनुपालन का आधुनिकीकरण बाजार शासन को मजबूत करना व्यापार प्रक्रियाओं का डिजिटलीकरण लॉजिस्टिक्स को सुधारना और दीर्घकालिक ऊर्जा निवेश के जोखिम को कम करना
- **Prime Minister Narendra Modi** has consistently argued that the **state's job** is to **reduce the burden on entrepreneurs** so that **productivity can compound**  
प्रधानमंत्री नरेंद्र मोदी ने लगातार कहा है कि राज्य का काम उद्यमियों पर बोझ कम करना है ताकि उत्पादकता चक्रवृद्धि हो सके
- That is the **strategic meaning of Reform Express 2025**  
यही रिफॉर्म एक्सप्रेस 2025 का रणनीतिक अर्थ है
- The **seeds of the next phase of double digit growth** are sown in this **quiet cumulative work** and India is doing it with a **steadiness** that many economies have lost  
अगले चरण की दो अंकीय वृद्धि के बीज इसी शांत और संचयी कार्य में बोए गए हैं और भारत इसे उस स्थिरता के साथ कर रहा है जिसे कई अर्थव्यवस्थाएं खो चुकी हैं



# A puzzling industrial credit-growth disconnect in FY17-FY19

The divergence provides some credence to the claim that industrial GDP is overestimated in the current NAS series

GS III: Economy

## DATA POINT

Vikash Vaibhav

The Indian banking sector plays a critical role in industrial growth. It channelises household savings to provide funds to firms at affordable rates. A review of the growth of credit to industries shows four facts and a puzzling observation.

Fact 1: The share of industrial credit in total bank credit has declined from 42% in 2013 to 23% in 2024 (Chart 1). Such a decline is unprecedented in half a century. Credit to the services sector has benefited at the expense of industrial credit. This is largely driven by personal loans, which surpassed industrial credit share recently.

Fact 2: The nominal growth of industrial credit has been abysmal in the last decade. During 2014-24, the compound annual growth rate was 4.1% (Chart 2A). Growth was 16% during 1974-90, 14% during 1990-04, and 23% in 2004-14. This pattern holds if we exclude the post-COVID-19 pandemic years. Growth was 4.1% for 2014-19.

Fact 3: This observation holds if we disaggregate the growth rates based on regions. The three most industrialised regions - western, southern, and northern (Chart 2B) - saw lesser growth than the India average. The higher than average growth for the central and northeastern regions (Chart 2C) is likely on account of their lower industrial credit share. This pattern holds when we look across industry groups. None of the broad industry groups saw credit growth in double digits in 2014-24 (Chart 4). Compared to this, 2004-14 saw the credit growth of each industry group in double digits.

Fact 4: The bank credit as a proportion of India's GDP, a measure of financial deepening, increased impressively during the late 1990s (about 20%) and the early 2010s (over 50%). Since then it has hovered between the 50%-55%

range. A higher credit/GDP ratio is not unheard of: Japan (about 1.2), China (about 1.9), South Africa (about 0.9) and Brazil (about 0.75). This stagnancy, when seen with the declining share of industrial credit does not paint an optimistic picture.

The puzzle: Chart 3 illustrates a consistent co-movement between industrial GDP growth and the growth of the formal manufacturing sector (GVA-ASI). However, these two metrics diverged during the three-year period between 2016-17 and 2018-19. While industrial credit slowed and GVA-ASI showed an expected downturn, industrial GDP remained puzzlingly constant. This decoupling represents a significant anomaly.

The historical relationship between industrial credit and industrial growth has been remarkably consistent. Over the last four decades (1981-2024), the correlation between industrial credit and ASI-GVA growth stood at 0.45. In more recent decades, this bond has only tightened: rising to 0.56 between 2000 and 2024, and 0.63 since 2004. Most notably, in the pre-pandemic window (2004-2020), the correlation reached a striking 0.82. So, under normal economic conditions, bank credit and industrial output move almost in lock-step. It is against this backdrop of long-term stability that the 2016-2019 decoupling becomes so significant. This pattern provides some credence to an overestimation of industrial GDP in the current NAS series (2011-12), as has been argued by some economists. The team working on the new revision may take note of this, especially in light of the IMF downgrading India's GDP estimates to 'C' status. The causes of the decline in industrial credit growth in the last decade require a deeper probe.

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## Notable divergence

The data for the charts were sourced from Basic Statistical returns published by the Reserve Bank of India and EPWRF (Banking sector statistics)

CHART 1: Sectoral credit deployment as a share of total credit since 1973. Figures in %

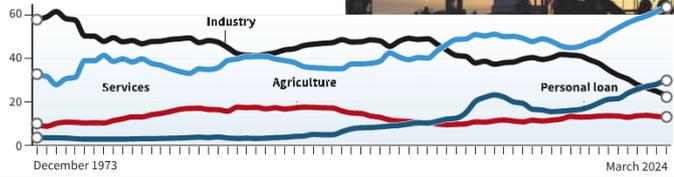


CHART 2: Industrial Credit growth (CAGR): all-India and six banking regions

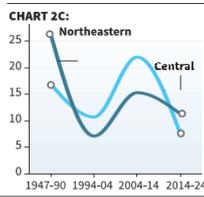
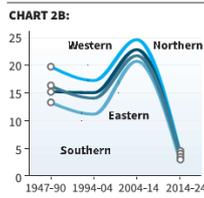
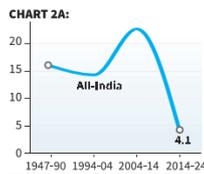


CHART 3: Annual growth (Nominal): industrial credit, ASI-GVA, and Industrial GDP



CHART 4: Bank Credit growth (CAGR) across industry groups

	2004-14	2014-24
1. Mining and quarrying	18.2	3.5
2. Food manufacturing and processing	20.9	6.9
3. Beverages and tobacco	17.6	5.5
4. Textiles	17.9	3
5. Paper, products and printing	18.1	4.3
6. Wood and wood products*	16.3	6.9
7. Leather and leather products	12.4	3
8. Gems and jewellery*	24.7	1.2
10. Chemical and products	15.9	5.3
11. Petroleum, coal products and nuclear fuel	26.9	3.4
12. Manufacturing of cement and cement products	22.8	1.8
13. Basic metals and metal products	25.9	0.6
14. Engineering	19.2	3.7
15. Vehicles, vehicle parts and transport equipment	18.8	3.4
16. Other industries	11.4	6.9
17. Electricity, gas and water	29	5.8
18. Construction	32.5	4
9+19. Rubber and plastic products	17.8	8.3

\*CAGR computed for 2009-14 when written under column 2004-14

## A puzzling industrial credit-growth disconnect in FY17-FY19

### FY17-FY19 में औद्योगिक ऋण-वृद्धि का एक उलझनभरा विच्छेद

- The **divergence** provides some **credence** to the claim that **industrial GDP** is **overestimated** in the current **NAS serie}**  
 यह **विचलन** इस दावे को कुछ **विश्वसनीयता** देता है कि वर्तमान **NAS serie}** में **औद्योगिक GDP** को **अधिक** आंका गया है

### Industrial credit slowdown and the puzzle

#### औद्योगिक ऋण में गिरावट और पहली

- The **Indian banking sector** plays a **critical role** in **industrial growth**  
**भारतीय बैंकिंग क्षेत्र** औद्योगिक विकास में **महत्वपूर्ण भूमिका** निभाता है
- It **channelises household savings** to provide funds to firms at **affordable rates**  
 यह **घरेलू बचत** को उद्योगों तक **किफायती दरों** पर पहुंचाता है
- A review of the **growth of credit to industries** shows **four facts** and a **puzzling observation**  
**उद्योगों को ऋण वृद्धि** की समीक्षा **चार तथ्यों** और एक **चौकाने वाली पहली** को दर्शाती है



Fact 1  
तथ्य 1

- The **share of industrial credit in total bank credit declined from 42 percent in 2013 to 23 percent in 2024**  
कुल बैंक ऋण में औद्योगिक ऋण का हिस्सा 2013 में 42 प्रतिशत से घटकर 2024 में 23 प्रतिशत रह गया
- Such a decline is **unprecedented in half a century**  
ऐसी गिरावट पिछले पचास वर्षों में अभूतपूर्व है
- **Credit to services sector** benefited at the expense of **industrial credit**  
सेवा क्षेत्र को ऋण का लाभ औद्योगिक ऋण की कीमत पर हुआ
- This is largely driven by **personal loans** which recently **surpassed industrial credit share**  
यह मुख्यतः **व्यक्तिगत ऋणों** के कारण हुआ जो हाल ही में **औद्योगिक ऋण हिस्सेदारी से आगे निकल गए**

Fact 2  
तथ्य 2

- The **nominal growth of industrial credit has been abysmal in the last decade**  
पिछले दशक में औद्योगिक ऋण की नाममात्र वृद्धि बेहद कमजोर रही है
- During 2014–24 the **compound annual growth rate was 4.1 percent**  
2014 से 2024 के दौरान **चक्रवृद्धि वार्षिक वृद्धि दर 4.1 प्रतिशत** रही
- Growth was **16 percent during 1974–90** **14 percent during 1990–04** and **23 percent during 2004–14**  
1974–90 में वृद्धि **16 प्रतिशत** 1990–04 में **14 प्रतिशत** और 2004–14 में **23 प्रतिशत** थी
- This pattern holds even if we **exclude post COVID 19 years**  
यह पैटर्न **कोविड 19 के बाद के वर्षों** को हटाने पर भी बना रहता है
- Growth was **4.1 percent during 2014–19**  
2014–19 के दौरान वृद्धि **4.1 प्रतिशत** रही

Fact 3  
तथ्य 3

- This holds when growth rates are **disaggregated by regions**  
यह प्रवृत्ति तब भी दिखती है जब वृद्धि दरों को **क्षेत्रवार** विभाजित किया जाए
- The **western southern and northern regions** saw **lower growth than India average**  
**पश्चिमी दक्षिणी और उत्तरी क्षेत्र** राष्ट्रीय औसत से **कम वृद्धि** दर्ज करते हैं
- The **higher growth in central and northeastern regions** is likely due to **lower industrial credit share**  
**केंद्रीय और पूर्वोत्तर क्षेत्रों** में अधिक वृद्धि संभवतः **कम औद्योगिक ऋण हिस्सेदारी** के कारण है
- This pattern holds across **industry groups**  
यह प्रवृत्ति **उद्योग समूहों** में भी दिखाई देती है
- None of the **broad industry groups** saw **double digit credit growth during 2014–24**  
2014–24 के दौरान किसी भी **मुख्य उद्योग समूह** में **दो अंकों की ऋण वृद्धि** नहीं हुई
- In contrast **2004–14** saw **double digit credit growth** across all industry groups  
इसके विपरीत **2004–14** में सभी उद्योग समूहों में **दो अंकों की ऋण वृद्धि** थी

Fact 4  
तथ्य 4

- **Bank credit as a proportion of GDP** a measure of **financial deepening** rose sharply in the **late 1990s and early 2010s**  
**GDP के अनुपात में बैंक ऋण** जो **वित्तीय गहराई** का संकेतक है **1990 के दशक के अंत और 2010 के शुरुआती वर्षों** में तेज़ी से बढ़ा
- **Since then it has stagnated between 50 and 55 percent**  
तब से यह **50 से 55 प्रतिशत** के बीच **स्थिर** बना हुआ है



- Higher credit GDP ratios are common in Japan, China, South Africa, and Brazil  
जापान चीन दक्षिण अफ्रीका और ब्राज़ील में ऊंचा ऋण GDP अनुपात सामान्य है
- This stagnation combined with declining industrial credit share does not present an optimistic picture  
स्थिरता और औद्योगिक ऋण हिस्सेदारी में गिरावट मिलकर कोई आशावादी तस्वीर नहीं दिखाते

### The puzzle पहेली

- There is a consistent co movement between industrial GDP growth and formal manufacturing growth GVA ASI  
औद्योगिक GDP वृद्धि और औपचारिक विनिर्माण GVA ASI के बीच सामान्यतः समानांतर गति देखी जाती है
- However between 2016–17 and 2018–19 these two diverged  
लेकिन 2016–17 से 2018–19 के बीच दोनों में असंगति दिखी
- While industrial credit slowed and GVA ASI declined industrial GDP remained constant  
जहां औद्योगिक ऋण धीमा पड़ा और GVA ASI घटा वहीं औद्योगिक GDP स्थिर बना रहा
- This decoupling represents a significant anomaly  
यह वियोजन एक महत्वपूर्ण विसंगति को दर्शाता है
- Over four decades 1981–2024 the correlation between industrial credit and ASI GVA growth was 0.45  
1981–2024 के चार दशकों में औद्योगिक ऋण और ASI GVA वृद्धि के बीच सहसंबंध 0.45 रहा
- It rose to 0.56 between 2000–24 and 0.63 since 2004  
यह 2000–24 में 0.56 और 2004 के बाद 0.63 तक बढ़ गया
- During the pre pandemic period 2004–20 the correlation reached 0.82  
महामारी पूर्व अवधि 2004–20 में सहसंबंध 0.82 तक पहुंच गया
- Under normal economic conditions bank credit and industrial output move almost in lockstep  
सामान्य आर्थिक परिस्थितियों में बैंक ऋण और औद्योगिक उत्पादन लगभग एक साथ चलते हैं
- Against this backdrop the 2016–19 decoupling becomes especially significant  
इसी पृष्ठभूमि में 2016–19 का वियोजन विशेष रूप से महत्वपूर्ण बन जाता है
- This lends support to arguments of overestimation of industrial GDP in the current NAS 2011–12 series  
यह वर्तमान NAS 2011–12 श्रृंखला में औद्योगिक GDP के अधिक आकलन के तर्क को बल देता है
- The team working on the new revision may take note especially as the IMF downgraded India's GDP estimates to C status  
नई संशोधन श्रृंखला पर काम कर रही टीम को इस पर ध्यान देना चाहिए खासकर जब IMF ने भारत के GDP अनुमानों को C श्रेणी में रखा है
- The causes of decline in industrial credit growth over the last decade require a deeper probe  
पिछले दशक में औद्योगिक ऋण वृद्धि में गिरावट के कारणों की गहन जांच की आवश्यकता है



# What is the India-New Zealand Free Trade Agreement?

What zero-duty access will India get, and how much FDI is New Zealand committing to by 2030? Which sectors in New Zealand have criticised the deal? Why is India accelerating FTAs with countries? How will labour-intensive sectors like textiles, leather, gems, and processed foods benefit?

**GS III: Economy**

Saeed Pande

## The story so far:

**T**he recent India-New Zealand Free Trade Agreement (FTA) was concluded in December, under which New Zealand will levy zero duty on 100% of India's exports and bring in \$20 billion in Foreign Direct Investment (FDI) by 2030.

## What are the key bargains?

India will receive zero-duty market access for all its exports to New Zealand. In return, India will relax tariffs on 95% of imports from New Zealand, with 57% of these products becoming duty-free from day one.

New Zealand has committed to investing \$20 billion in India over the next 15 years, with firm clawback mechanisms in case the investment doesn't meet the stipulated timeline. The FDI is aimed at promoting skill mobility and services, creating employment and growth opportunities across 118 sectors. For the first time, New Zealand has agreed to facilitate trade in Ayurveda, yoga, and traditional medicine services with India.

The deal also makes provisions for the support and mobility of Indian skilled workers. Youth, students, and professionals will find it easier to live and work in New Zealand.

The FTA creates opportunities for India to become a key supplier of skilled workforce in services such as IT professionals, Engineers, Yoga instructors, Indian chefs, Music teachers, as well as in sectors including healthcare, education, and construction.

Student mobility, work permits of up to 20 hours per week while studying, and extended post-study work visas are some of the opportunities for Indian youth to get global exposure.

The agreement also builds on MSMEs and employment opportunities through labour-intensive sectors, including textiles and apparel, leather and footwear, gems and jewellery, engineering goods, and processed food items.

## Which sectors has India kept outside the agreement?

India has refused to give market access to major items crucial to New Zealand, such as dairy and agricultural products, including milk, cheese, cream, butter, yogurt, onions, sugar, edible oils, spices, and rubber, in order to protect Indian farmers and small and medium industries.

New Zealand will develop focused action plans to develop and improve productivity, quality, and sectoral capabilities for fruit growers in India, particularly for exotic fruits like kiwifruit, apples, and honey. This cooperation will ensure the establishment of centres of excellence, improved planting material, capacity building for growers, technical support for orchard management, post-harvest practices, supply chains, and food safety.

## Why is the FTA important?

More than a breakthrough, the India-New Zealand FTA is a framework for deeper cooperation in the future. It is India's conscious move to increase its global economic footprint. Trade diversification demands a deep and deliberate transformation of the country's productive sector and integration into



**Strong ties:** Prime Minister of New Zealand, Christopher Luxon and Prime Minister Narendra Modi on March 17. SHIV KUMAR PUSHKAR

global value chains.

The India-New Zealand FTA is hailed for being the fastest concluded, completed in a record time of nine months after being announced in March 2025. It enhances market access and tariff preferences for Indian exports to New Zealand, while proving to be a gateway to Oceania and Pacific Island markets. Standing at \$49,380, New Zealand is among the higher-income economies in Oceania.

The Indian diaspora in New Zealand constitutes 5% of its population, which amounts to 3,00,000 persons. This creates a promising exchange and opens opportunities for soft power politics between the two nations.

Currently, India's bilateral merchandise trade with New Zealand stands at \$1.3 billion. The deal aims to double this figure over the next five years.

India has instated strict safeguards to protect its sensitive sectors, like agriculture and dairy, from one of the world's largest dairy exporters.

This is also one of the first FTAs negotiated and concluded entirely by a women-led and women-driven team, from the chief negotiating officer to the ambassador to New Zealand.

## Why is India accelerating new FTAs?

By engaging with the Pacific, West Asia, and Africa as trade partners, India is leveraging its position and promoting realignments through bilateral engagements and FTAs.

FTAs provide a platform to pursue unique and region-specific commitments, creating room for WTO-plus commitments, especially in areas like services, digital trade, and investment. Diversification of trade partners means that India doesn't have to be dependent on traditional markets such as the EU, the U.S., and China.

FTAs are aligned with India's development goals and policies, such as Make in India, and securing India's sensitive sectors through technology transfers and production-induced incentive schemes that can help in aligning Indian manufacturing with the global value chains.

India is currently determined to materialise FTAs with several countries, including Russia, Oman, the U.K., and New Zealand, in spite of its not-so-successful past FTA engagements. This points to India's attempt at securing strategic and geopolitical alliances via economic and trade liberalisation.

This is India's third FTA this year, after agreements with the U.K. and Oman. It is a part of a broad strategy that India is determined to take forward after the U.S. imposed steep tariffs. A large chunk of India's trade is U.S.-dependent. The bilateral trade between India and the U.S. stands at \$132 billion, and changes in the tariffs by the U.S. really hurt India's trade.

India's exports to the U.S. declined sharply in September and October, dropping to 12% and 8.5%, respectively. The Indo-U.S. free trade deal is in slow progress, and 50% of the tariffs still remain unchanged. This has resulted in a departure from the U.S. and into an urgent need for diversification of India's trade policies and strategic alliances in order to attract greener trade pastures.

One of the main reasons for the stalling of the Indo-U.S. bilateral talks is India's steadfast policy of not opening up its farming and dairy sector to concessions in the FTA. India is thus making a substantial move from short-term economic partnerships to long-term trade alliances.

The India-New Zealand deal builds a structure that is more investor-friendly. India is willing to let go of its protectionist image by lowering trade barriers, promoting ease of business, and opening its markets. India's FTAs today go well beyond tariff reduction; they are more of a framework for future cooperation and economic alignment.

## What criticisms does the agreement face?

This is New Zealand's first FTA that excludes dairy and agriculture from its purview, due to which it is heavily criticised in New Zealand by coalition partners of the current government. The Foreign Minister of New Zealand said that the deal is 'neither free nor fair' as it bypasses the dairy and agriculture sector, the country's largest industry, and added that they will vote against the bill when it comes to the floor in the New Zealand Parliament in 2026. India, on the other hand, assumes an easy passage to legislation.

In India, FTAs are criticised for widening trade deficits and generating asymmetric gains, as it has led to imports from partner countries growing faster than our exports. Although the safeguards established by the current India-New Zealand FTA claim to cover these risks and protect and promote India's sensitive sectors through manufacturing collaboration. The success of which will have to be determined as the implementation unfolds over the years.

## What is the way forward?

Even though the India-New Zealand FTA is considered historic, it is important to learn from the trade agreements in the past, as many resulted in low yields.

India needs to invest in domestic competitiveness, meet global market standards and quality requirements, ensure strong rules of origin, define anti-dumping provisions, strengthen its sensitive sector and MSMEs and formulate them in line with global markets.

India also needs to invest in research and development for increasing quality and competitiveness of its products if it has to thrive in the global market.

*Saeed Pande is a freelance writer with a focus on politics, current affairs, international relations, and geopolitics*



## What is the India-New Zealand Free Trade Agreement? भारत-न्यूज़ीलैंड मुक्त व्यापार समझौता क्या है?

### India New Zealand Free Trade Agreement

#### भारत न्यूज़ीलैंड मुक्त व्यापार समझौता

- The recent **India New Zealand Free Trade Agreement FTA** was concluded in **December** under which **New Zealand will levy zero duty on 100% of India's exports** and bring in **\$20 billion Foreign Direct Investment FDI by 2030**
- **India will receive zero duty market access for all its exports to New Zealand**  
भारत को न्यूज़ीलैंड के लिए अपने सभी निर्यातों पर शून्य शुल्क वाला बाज़ार प्रवेश मिलेगा
- **In return India will relax tariffs on 95% of imports from New Zealand with 57% products becoming duty free from day one**  
इसके बदले भारत न्यूज़ीलैंड से होने वाले 95% आयात पर शुल्क में ढील देगा जिनमें से 57% उत्पाद पहले दिन से ही शुल्क मुक्त होंगे
- **New Zealand has committed to investing \$20 billion in India over the next 15 years with firm clawback mechanisms** if the investment does not meet the stipulated timeline  
न्यूज़ीलैंड ने अगले 15 वर्षों में भारत में 20 अरब डॉलर निवेश का वचन दिया है और यदि निवेश तय समयसीमा में पूरा नहीं होता तो सख्त क्लॉबैक प्रावधान होंगे
- The **FDI is aimed at promoting skill mobility and services creating employment and growth opportunities across 118 sectors**  
यह FDI कौशल गतिशीलता और सेवाओं को बढ़ावा देने के लिए है जिससे 118 क्षेत्रों में रोज़गार और विकास के अवसर बनेंगे
- **For the first time New Zealand agreed to facilitate trade in Ayurveda yoga and traditional medicine services with India**  
पहली बार न्यूज़ीलैंड ने भारत के साथ आयुर्वेद योग और पारंपरिक चिकित्सा सेवाओं में व्यापार को सुगम बनाने पर सहमति दी है
- The deal makes provisions for **support and mobility of Indian skilled workers**  
यह समझौता भारतीय कुशल कामगारों के समर्थन और गतिशीलता के प्रावधान करता है
- **Youth students and professionals** will find it easier to **live and work in New Zealand**  
युवा छात्रों और पेशेवरों के लिए न्यूज़ीलैंड में रहना और काम करना आसान होगा
- The FTA creates opportunities for India to become a **key supplier of skilled workforce in services such as IT professionals Engineers Yoga instructors Indian chefs Music teachers and sectors like healthcare education and construction**  
यह FTA भारत को आईटी पेशेवर इंजीनियर योग प्रशिक्षक भारतीय शेफ संगीत शिक्षक तथा स्वास्थ्य शिक्षा और निर्माण जैसे क्षेत्रों में कुशल कार्यबल का प्रमुख आपूर्तिकर्ता बनने के अवसर देता है
- **Student mobility work permits up to 20 hours per week during study and extended post study work visas provide global exposure to Indian youth**  
छात्र गतिशीलता पढ़ाई के दौरान प्रति सप्ताह 20 घंटे तक कार्य परमिट और विस्तारित पोस्ट स्टडी वर्क वीज़ा भारतीय युवाओं को वैश्विक अनुभव प्रदान करेंगे
- The agreement strengthens **MSMEs and employment through labour intensive sectors including textiles and apparel leather and footwear gems and jewellery engineering goods and processed food items**  
यह समझौता वस्त्र परिधान चमड़ा फुटवियर रत्न आभूषण इंजीनियरिंग वस्तुएँ और प्रसंस्कृत खाद्य पदार्थ जैसे श्रम प्रधान क्षेत्रों के माध्यम से MSMEs और रोज़गार को बढ़ावा देता है

### Which sectors has India kept outside the agreement

भारत ने किन क्षेत्रों को समझौते से बाहर रखा है



- India has refused market access to **major New Zealand items** such as **dairy and agricultural products** including **milk cheese cream butter yogurt onions sugar edible oils spices and rubber** to protect **Indian farmers and MSMEs**
- It is **India's conscious move to increase its global economic footprint**  
यह भारत का वैश्विक आर्थिक प्रभाव बढ़ाने का एक सचेत कदम है
- **Trade diversification** demands a **deep and deliberate transformation of the country's productive sector** and **integration into global value chains**  
व्यापार विविधीकरण के लिए देश के उत्पादन क्षेत्र में गहन और सुनियोजित परिवर्तन तथा वैश्विक मूल्य शृंखलाओं में एकीकरण आवश्यक है
- The **India New Zealand FTA** is hailed for being the **fastest concluded** completed in a **record time of nine months** after being announced in **March 2025**
- The **Indian diaspora in New Zealand constitutes 5% of its population** amounting to **3,00,000 persons**  
न्यूज़ीलैंड में भारतीय प्रवासी आबादी का 5% हैं जो लगभग 3,00,000 लोग हैं
- This creates a **promising exchange** and opens opportunities for **soft power politics** between the two nations  
यह आशाजनक आदान प्रदान पैदा करता है और दोनों देशों के बीच सॉफ्ट पावर राजनीति के अवसर खोलता है
- **Currently India's bilateral merchandise trade with New Zealand stands at \$1.3 billion**  
वर्तमान में भारत और न्यूज़ीलैंड के बीच द्विपक्षीय वस्तु व्यापार 1.3 अरब डॉलर है
- The deal aims to **double this figure over the next five years**  
इस समझौते का लक्ष्य अगले पाँच वर्षों में इस आंकड़े को दोगुना करना है
- India has instated **strict safeguards** to protect **sensitive sectors like agriculture and dairy** from **one of the world's largest dairy exporters**  
भारत ने कृषि और डेयरी जैसे संवेदनशील क्षेत्रों को दुनिया के सबसे बड़े डेयरी निर्यातकों में से एक से बचाने के लिए कड़े सुरक्षा उपाय अपनाए हैं
- This is also one of the **first FTAs negotiated and concluded entirely by a women led and women driven team**  
यह उन पहले FTAs में से एक है जिसे पूरी तरह महिला नेतृत्व और महिला संचालित टीम ने बातचीत कर संपन्न किया
- From the **chief negotiating officer to the ambassador to New Zealand** the process was **women driven**  
मुख्य वार्ताकार अधिकारी से लेकर न्यूज़ीलैंड में राजदूत तक पूरी प्रक्रिया महिला नेतृत्व में रही

#### Why is India accelerating new FTAs

भारत नए FTAs को तेज़ी से क्यों आगे बढ़ा रहा है

- By engaging with the **Pacific West Asia and Africa** as trade partners India is **leveraging its position** and promoting **realignments through bilateral engagements and FTAs**  
प्रशांत पश्चिम एशिया और अफ्रीका को व्यापार साझेदार बनाकर भारत अपनी स्थिति का लाभ उठा रहा है और द्विपक्षीय समझौतों व FTAs के माध्यम से पुनर्संरक्षण को बढ़ावा दे रहा है
- FTAs provide a platform to pursue **unique and region specific commitments** creating room for **WTO plus commitments**  
FTAs क्षेत्र विशेष और अनूठी प्रतिबद्धताओं के लिए मंच प्रदान करते हैं जिससे WTO प्लस प्रतिबद्धताओं की गुंजाइश बनती है
- Especially in areas like **services digital trade and investment**
- **India's exports to the U S declined sharply** in **September and October** falling to **12% and 8.5%**  
सितंबर और अक्टूबर में अमेरिका को भारत का निर्यात तेज़ी से घटकर 12% और 8.5% रह गया
- The **Indo U.S. FTA** is in **slow progress** and **50% of tariffs remain unchanged**  
भारत अमेरिका FTA की प्रगति धीमी है और 50% टैरिफ अब भी अपरिवर्तित हैं
- This has resulted in a **departure from the U S** and an **urgent need for trade diversification**  
इससे अमेरिका पर निर्भरता से हटने और व्यापार विविधीकरण की तात्कालिक आवश्यकता उत्पन्न हुई
- One main reason for stalling **Indo U S talks** is India's **refusal to open farming and dairy sectors**



भारत अमेरिका वार्ता रुकने का एक मुख्य कारण भारत की कृषि और डेयरी क्षेत्र खोलने से इनकार की नीति है

- India is thus moving from **short term economic partnerships to long term trade alliances**  
इस प्रकार भारत अल्पकालिक आर्थिक साझेदारियों से दीर्घकालिक व्यापार गठबंधनों की ओर बढ़ रहा है
- The **India New Zealand deal** builds a **more investor friendly structure**  
भारत न्यूज़ीलैंड समझौता एक अधिक निवेशक अनुकूल ढांचा तैयार करता है
- India is willing to **let go of its protectionist image by lowering trade barriers promoting ease of business and opening markets**  
भारत व्यापार बाधाएँ घटाकर व्यापार सुगमता बढ़ाकर और बाज़ार खोलकर अपनी संरक्षणवादी छवि छोड़ने को तैयार है
- India's FTAs today go **beyond tariff reduction** and serve as a **framework for future cooperation and economic alignment**  
आज के भारत के FTAs केवल टैरिफ कटौती तक सीमित नहीं हैं बल्कि भविष्य के सहयोग और आर्थिक संरेखण का ढांचा हैं

What criticisms does the agreement face

समझौते को किन आलोचनाओं का सामना करना पड़ रहा है

- This is **New Zealand's first FTA** that **excludes dairy and agriculture** from its purview due to which it is **heavily criticised in New Zealand** by coalition partners of the current government
- In India **FTAs are criticised for widening trade deficits and generating asymmetric gains**
- Even though the **India New Zealand FTA is considered historic** it is important to **learn from past trade agreements** as many resulted in **low yields**  
हालाँकि **भारत न्यूज़ीलैंड FTA** को ऐतिहासिक माना जा रहा है फिर भी पिछले व्यापार समझौतों से सीख लेना आवश्यक है क्योंकि कई कम लाभकारी रहे हैं
- India needs to **invest in domestic competitiveness meet global market standards and quality requirements**  
भारत को घरेलू प्रतिस्पर्धात्मकता में निवेश करना होगा और वैश्विक बाज़ार मानकों व गुणवत्ता आवश्यकताओं को पूरा करना होगा
- **Ensure strong rules of origin define anti dumping provisions strengthen sensitive sectors and MSMEs and formulate them in line with global markets**  
मज़बूत मूल देश नियम सुनिश्चित करने होंगे एंटी डंपिंग प्रावधानों को परिभाषित करना होगा संवेदनशील क्षेत्रों और **MSMEs** को सशक्त करना होगा तथा उन्हें वैश्विक बाज़ारों के अनुरूप ढालना होगा
- India also needs to **invest in research and development for increasing quality and competitiveness of its products**

<b>GS Paper III: S&amp;T,</b>	
<b>TOPICS COVERED</b>	<b>30 12 2025</b>
1.	<b>Union govt. gearing up to host mega AI summit in February</b> केंद्र सरकार फरवरी में मेगा एआई शिखर सम्मेलन की मेज़बानी की तैयारी में
2.	<b>A twist in the tale: are scientists wrong about dark energy?</b> कहानी में एक मोड़: क्या वैज्ञानिक डार्क एनर्जी को लेकर गलत हैं?
3.	<b>QUIZ</b>



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# Union govt. gearing up to host mega AI summit in February

GS III: S&T

Aroon Deep

NEW DELHI

The Union government is proceeding with the AI Impact Summit's organisation at a scale comparable to the G-20 Summit in 2023, according to estimated participation numbers and the number of "pre-summit" events under way and planned. This event is set to see participation from 15 to 20 heads of state. Around 1,00,000 participants were expected for the main event in February, IT Secretary S. Krishnan said at a news briefing on Monday.

While Mr. Krishnan did not refer to the G-20, he outlined that the annual AI summits – a multilateral set-up which began from Bletchley Park in the U.K. in 2023 to Seoul the following year and Paris in 2025 (where India was handed the reins for 2026) – have seen increasing participation. Officials have been keen to position India better on the world stage on AI-related issues, with a bevy of pre-summit events in India and abroad.

"In the initial summit, we had about 27 countries which participated, including India, and eventually 28 countries signed the declaration in Bletchley Park.



Nearly 20 heads of state will participate in the event.

By the time we came to France, there were more than 100 countries participating in various forms," Mr. Krishnan said.

The event will also have top researchers and business leaders from AI firms, including Anthropic and Google Deepmind, with tentative confirmations from other leading players.

"And we expect that number to get better in February, because there's been a greater and greater interest as we go along," Mr. Krishnan said. Several new countries that are part of the Global South would join this edition, he added.

The event is set to deliberate upon multiple themes, including AI and its impact on work, trust and safety protocols for AI models, and using AI in specific industries.

## Union govt. gearing up to host mega AI summit in February

केंद्र सरकार फरवरी में मेगा एआई शिखर सम्मेलन की मेज़बानी की तैयारी में

The Union government is proceeding with the AI Impact Summit's organisation at a scale comparable to the G-20 Summit in 2023, according to estimated participation numbers and the number of "pre-summit" events under way and planned.

अनुमानित भागीदारी संख्या और चल रहे व नियोजित "प्री-समित" कार्यक्रमों की संख्या के अनुसार, केंद्र सरकार एआई इम्पैक्ट समिट का आयोजन 2023 के जी-20 शिखर सम्मेलन के समान पैमाने पर कर रही है।

This event is set to see participation from 15 to 20 heads of state.

इस कार्यक्रम में 15 से 20 राष्ट्राध्यक्षों की भागीदारी होने वाली है।

Around 1,00,000 participants were expected for the main event in February, IT Secretary S. Krishnan said at a news briefing on Monday.

आईटी सचिव एस. कृष्णन ने सोमवार को एक समाचार ब्रीफिंग में कहा कि फरवरी में होने वाले मुख्य कार्यक्रम में लगभग 1,00,000 प्रतिभागियों के शामिल होने की उम्मीद है।

While Mr. Krishnan did not refer to the G-20, he outlined that the annual AI summits — a multilateral set-up which began from Bletchley Park in the U.K. in 2023 to Seoul the following year and Paris in 2025 (where India was handed the reins for 2026) — have seen increasing participation.

हालाँकि श्री कृष्णन ने जी-20 का उल्लेख नहीं किया, लेकिन उन्होंने बताया कि वार्षिक एआई शिखर सम्मेलन — एक बहुपक्षीय व्यवस्था जो 2023 में यू.के. के ब्लेचली पार्क से शुरू होकर अगले वर्ष सियोल और 2025 में पेरिस तक पहुँची (जहाँ 2026 के लिए भारत को जिम्मेदारी सौंपी गई) — में भागीदारी लगातार बढ़ी है।

Officials have been keen to position India better on the world stage on AI-related issues, with a bevy of pre-summit events in India and abroad.

अधिकारी एआई से जुड़े मुद्दों पर वैश्विक मंच पर भारत की स्थिति को बेहतर करने के इच्छुक रहे हैं, जिसके तहत भारत और विदेशों में कई प्री-समित कार्यक्रम आयोजित किए गए हैं।

"In the initial summit, we had about 27 countries which participated, including India, and eventually 28

countries signed the declaration in Bletchley Park.

- Several new countries that are part of the Global South would join this edition, he added. उन्होंने जोड़ा कि ग्लोबल साउथ का हिस्सा रहे कई नए देश इस संस्करण में शामिल होंगे।



- The event is set to deliberate upon multiple themes, including AI and its impact on work, trust and safety protocols for AI models, and using AI in specific industries.  
यह कार्यक्रम कई विषयों पर विचार करेगा, जिनमें काम पर एआई का प्रभाव, एआई मॉडलों के लिए भरोसा और सुरक्षा प्रोटोकॉल, तथा विशिष्ट उद्योगों में एआई का उपयोग शामिल है।

## A twist in the tale: are scientists wrong about dark energy?

For proving that the expansion of the universe had speeded up, three scientists were awarded the 2011 physics Nobel Prize; a new study from Yonsei University has introduced a twist by suggesting that dark energy may actually be weakening, putting the brakes on the universe's acceleration

Prakash Chandra

All major discoveries in cosmology underline the maxim that the universe is not only stranger than we suppose but that it is stranger than we can suppose. The latest example of this is a study by researchers at the Yonsei University in South Korea that said the expansion of the universe is slowing down.

The study, published in *Notices of the Royal Astronomical Society* of November 6, is in sharp contrast to the standard model of the universe, called Lambda-Cold Dark Matter (ΛCDM), which speaks of an accelerating universe.

### Mysterious force

Accepted theory says the universe began about 13.8 billion years ago from a single, infinitely dense point that exploded cataclysmically in a 'Big Bang', leading to the formation of matter, energy, and space. As the explosion spread rapidly, it engendered subatomic particles such as protons, neutrons, and electrons before matter collapsed under gravity to form galaxies, stars and planets.

While the American astronomer Edwin Hubble confirmed that the universe was expanding in the 1920s, cosmologists conjectured that gravity must have also slowed down the expansion at some point.

This is why they were surprised when, in 1998, astronomers who were measuring the distances to faraway galaxies using the light from exploding stars called Type Ia supernovae concluded that 9 billion years after the universe began, its expansion actually gained momentum.

They figured the impetus came from a mysterious force known as 'dark energy', which makes up about 70% of the cosmos. In 1917, Albert Einstein had proposed that its effects can be represented in equations by the cosmological constant lambda A.

### Dramatic twist

For proving that the expansion of the universe had indeed speeded up, three scientists – Saul Perlmutter, Brian Schmidt, and Adam Riess – were awarded the 2011 physics Nobel Prize. The trio and the teams they led had calculated the distances to Type Ia supernovae by using their apparent brightness as "standard candles" and measuring the redshift, i.e. the stretching of light due to the expansion of the universe.

This helped them determine the speeds at which different parts of the universe were receding from the earth. Their data showed that the universe was accelerating as dark energy forced galaxies apart ever faster. An analogy astronomers often use to illustrate this is the way raisins in rising bread dough move away from each other. Thus, in the ΛCDM model of cosmology, gravity binds planets, stars, and galaxies together, while the anti-gravity properties of dark energy push galaxies further away from each other, driving the universe's expansion.

The Yonsei University study introduced a dramatic twist to this cosmic tale by suggesting that dark energy may actually be weakening, putting the brakes on the universe's acceleration.

"Our study shows that the universe has



The Hubble space telescope's view of the galaxy in 2018. The type Ia supernova SN 2018gv is visible near the left edge. ESA/HUBBLE & NASA, A. RIESS AND SHOES

already entered a phase of decelerated expansion at the present epoch and that dark energy evolves with time much more rapidly than previously thought," Yonsei University astronomy professor Young-Wook Lee, who led the study, said.

The findings tie in with similar data from the Dark Energy Spectroscopic Instrument (DESI) in the USA: that Type Ia supernovae may not be the universe's "standard candles" after all, since their luminosity could be affected by the age of their parent stars.

If dark energy density is not constant in time, it flips conventional cosmological wisdom on its head, forcing scientists to look afresh at a universe that may be decelerating, and perhaps eventually contracting before collapsing in on itself in a 'Big Crunch'.

### "Modify, not negate"

The study has already set off a fierce debate amongst cosmologists, with many doubting if there is enough evidence to revamp the ΛCDM any time soon, or if at all.

For instance, in an email to the author, University of Michigan cosmologist Dragan Huterer expressed doubts about dark energy evolving with time. "But this is really hard to evaluate as we do not have any compelling theoretical models for dark energy. So, from a theoretical point of view, it is not clear," Prof. Huterer added. "From the observational/experimental point of view, the statistical significance of the findings is strong, but not sufficiently strong to claim a discovery. We need to collect and analyse more data to be sure."

Brian Schmidt, distinguished professor of astronomy at the Australian National University and one of the three astrophysicists who won the Nobel Prize for their work on dark energy, is sceptical



The study result arises from a very particular way of slicing the data and from assumptions that aren't consistent with how supernova cosmology is done today

ADAM RIESS  
JOHNS HOPKINS UNIVERSITY

about the study's consequences for the ΛCDM.

"If validated, these findings would not negate the (standard) model of the cosmos, but would modify it," Prof. Schmidt wrote in an email. "Basically, instead of a constant [cosmological constant], we would have something that evolves over time."

He said he doesn't think that this would give rise to whole new subfields of astrophysics either.

"If true, it will give theorists a new set of clues to understand dark energy. I think it would be contained in the current theoretical cosmology community – and not (in) a new subfield."

### Where is the jury?

Prof. Huterer also said that "these developments would still continue in the realm of data-driven cosmology. And the fact that Type Ia supernovae have some new properties would inform the existing field of Type Ia supernovae astrophysics."

Adam Riess, professor of physics and astronomy at the Johns Hopkins University who shared the 2011 Nobel Prize, also said the Yonsei University study doesn't hold water.

"The study claims that Type Ia supernovae become systematically fainter

with redshift because their progenitors evolve with cosmic time," he said.

"We show this is not supported by the data. Modern supernovae analyses already model and marginalise host-related systematics, like stellar mass and star-formation history, and when these are included, there is no significant evidence for luminosity evolution."

According to Prof. Riess, "the study result arises from a very particular way of slicing the data and from assumptions that aren't consistent with how supernova cosmology is done today."

When the Dark Energy Survey 5 Year dataset sample is analysed with standard methods, he continued, "the allowed level of evolution is an order of magnitude smaller than what their model predicts. In short: their proposed effect isn't seen in real data, and current analyses already guard against it."

Wherein lies the rub then? According to Prof. Riess, the new study makes a leap from host galaxy age to supernova age that is not physically justified.

This is something scientists have already tested and corrected for with much larger datasets.

"Present studies already correct for their claimed effect (age) because they correct for galaxy mass, and galaxy mass and age are directly correlated," he said.

Taken together, the jury is out on the Yonsei University study. Cosmologists are currently looking to state-of-the-art instruments such as the Vera Rubin Observatory in Chile and NASA's

upcoming Nancy Grace Roman space telescope to throw light on dark energy's role in the fate of the universe – whether it will eventually slow down and end in a Big Crunch or continue to expand until it fades away into virtual nothingness.

(Prakash Chandra is a science writer. [prakashisat@gmail.com](mailto:prakashisat@gmail.com))



## A twist in the tale: are scientists wrong about dark energy? कहानी में एक मोड़: क्या वैज्ञानिक डार्क एनर्जी को लेकर गलत हैं?



- The latest example of this is a study by researchers at the **Yonsei University in South Korea** that said the **expansion of the universe is slowing down**

इसका नवीनतम उदाहरण दक्षिण कोरिया की योंसेई विश्वविद्यालय के शोधकर्ताओं द्वारा किया गया एक अध्ययन है जिसमें कहा गया है कि ब्रह्मांड का विस्तार धीमा हो रहा है

- The study published in **Notices of the Royal Astronomical Society** of **November 6** is in sharp contrast to the **standard model of the universe called Lambda Cold Dark Matter (LCDM) which speaks of an accelerating universe**

यह अध्ययन 6 नवंबर को नोटिसेज़ ऑफ़ द रॉयल एस्ट्रोनॉमिकल सोसाइटी में प्रकाशित हुआ जो ब्रह्मांड के मानक मॉडल लैम्ब्डा कोल्ड डार्क मैटर (LCDM) से बिल्कुल विपरीत है जो त्वरित रूप से फैलते ब्रह्मांड की बात करता है

### Mysterious force रहस्यमय बल

- Accepted theory says the universe began about **13.8 billion years ago** from a single infinitely dense point that exploded cataclysmically in a **Big Bang** leading to the formation of **matter energy and space**

स्वीकृत सिद्धांत के अनुसार ब्रह्मांड की शुरुआत लगभग 13.8 अरब वर्ष पहले एक अत्यंत सघन बिंदु से हुई जो बिग बैंग में विस्फोटित हुआ जिससे पदार्थ ऊर्जा और अंतरिक्ष का निर्माण हुआ

- As the explosion spread rapidly it engendered subatomic particles such as **protons neutrons and electrons** before matter collapsed under **gravity** to form **galaxies stars and planets**

जैसे जैसे यह विस्फोट तेजी से फैला इसने प्रोटॉन न्यूट्रॉन और इलेक्ट्रॉन जैसे उप परमाण्विक कणों को जन्म दिया इसके बाद गुरुत्वाकर्षण के कारण पदार्थ सिमटकर आकाशगंगाओं तारों और ग्रहों में बदल गया

- While the **American astronomer Edwin Hubble** confirmed that the universe was expanding in the **1920s** cosmologists conjectured that **gravity** must have also slowed down the expansion at some point

अमेरिकी खगोलशास्त्री एडविन हबल ने 1920 के दशक में पुष्टि की कि ब्रह्मांड का विस्तार हो रहा है लेकिन ब्रह्मांड वैज्ञानिकों ने अनुमान लगाया कि किसी समय गुरुत्वाकर्षण ने इस विस्तार को धीमा भी किया होगा

- This is why they were surprised when in **1998** astronomers who were **measuring the distances to faraway galaxies using the light from exploding stars called Type Ia supernovae** concluded that **9 billion years** after the universe began its expansion actually gained **momentum**

इसी कारण 1998 में खगोलविद आश्चर्यचकित हो गए जब टाइप Ia सुपरनोवा कहलाने वाले विस्फोटक तारों की रोशनी से दूरस्थ आकाशगंगाओं की दूरी मापते हुए उन्होंने निष्कर्ष निकाला कि ब्रह्मांड की शुरुआत के 9 अरब वर्ष बाद उसका विस्तार और तेज हो गया

- They figured the impetus came from a mysterious force known as **dark energy** which makes up about **70 percent of the cosmos**

उन्होंने माना कि यह प्रेरणा डार्क एनर्जी नामक एक रहस्यमय बल से आई है जो ब्रह्मांड का लगभग 70 प्रतिशत भाग बनाती है

- In **1917 Albert Einstein** had proposed that its effects can be represented in equations by the **cosmological constant lambda A**

- The trio and the teams they led had calculated the distances to **Type Ia supernovae** by using their apparent brightness as **standard candles** and measuring the **redshift meaning the stretching of light due to the expansion of the universe**

- Thus in the **LCDM model of cosmology** gravity binds **planets stars and galaxies** together while the anti gravity properties of **dark energy** push galaxies further away from each other driving the universe's expansion

- Our study shows that the universe has already entered a phase of **decelerated expansion** at the present epoch and that **dark energy evolves with time** much more rapidly than



previously thought said **Young Wook Lee** who led the study

अध्ययन का नेतृत्व करने वाले **यंग वूक ली** के अनुसार उनका अध्ययन दिखाता है कि वर्तमान काल में ब्रह्मांड **धीमे विस्तार** के चरण में प्रवेश कर चुका है और **डार्क एनर्जी समय के साथ** पहले की तुलना में कहीं अधिक तेजी से बदलती है

- The findings tie in with similar data from the **Dark Energy Spectroscopic Instrument (DESI)** in the USA that **Type Ia supernovae** may not be the universe's **standard candles** after all since their luminosity could be affected by the age of their parent stars  
ये निष्कर्ष अमेरिका के **डार्क एनर्जी स्पेक्ट्रोस्कोपिक इंस्ट्रुमेंट (DESI)** से प्राप्त समान आंकड़ों से मेल खाते हैं जिनके अनुसार **टाइप Ia सुपरनोवा** शायद वास्तव में ब्रह्मांड की **स्टैंडर्ड कैंडल** न हों क्योंकि उनकी चमक उनके मूल तारों की आयु से प्रभावित हो सकती है
- If **dark energy density** is not constant in time it flips conventional cosmological wisdom on its head forcing scientists to look afresh at a universe that may be **decelerating** and perhaps eventually **contracting** before collapsing in on itself in a **Big Crunch**
- For instance in an email to the author **University of Michigan cosmologist Dragan Huterer** expressed doubts about **dark energy evolving with time**
- Prof Huterer also said that these developments would still continue in the realm of **data driven cosmology**  
**प्रोफेसर हुटेरेर** ने यह भी कहा कि ये विकास **डेटा आधारित ब्रह्मांड विज्ञान** के क्षेत्र में ही बने रहेंगे
- And the fact that **Type Ia supernovae** have some **new properties** would inform the existing field of **Type Ia supernovae astrophysics**
- Wherein lies the rub then according to Prof Riess the new study makes a **leap from host galaxy age to supernova age** that is **not physically justified**
- Cosmologists are currently looking to **state of the art instruments** such as the **Vera Rubin Observatory in Chile** and **NASA's upcoming Nancy Grace Roman space telescope** to throw light on **dark energy's role in the fate of the universe**  
ब्रह्मांड वैज्ञानिक वर्तमान में **अत्याधुनिक उपकरणों** जैसे **चिली के वेरा रुबिन वेधशाला** और **नासा के आगामी नैन्सी ग्रेस रोमन अंतरिक्ष दूरबीन** की ओर देख रहे हैं ताकि **ब्रह्मांड के भविष्य में डार्क एनर्जी की भूमिका स्पष्ट हो सके**
- Whether it will eventually **slow down and end in a Big Crunch** or continue to expand until it **fades away into virtual nothingness**  
क्या यह अंततः **धीमा होकर बिग क्रंच** में समाप्त होगा या **लगातार फैलता रहेगा** और अंत में **लगभग शून्य में विलीन हो जाएगा**

smallest aldehyde, and it's widely used to preserve biological specimens and in some building materials. It has a strong, sharp archetypically chemical smell and can irritate the eyes and the throat, especially in poorly ventilated spaces. Name Y.

**Answers to December 25 quiz:**

- Worked on falling bodies, inertia of motion – **Ans: Galileo Galilei**
- Whose observations led to Kepler's laws – **Ans: Tycho Brahe**
- Philosopher who advanced analytic geometry – **Ans: René Descartes**
- Investigated mechanics of springs, etc. – **Ans: Robert Hooke**
- Physicist who worked out timekeeping with pendulums – **Ans: Christiaan Huygens**

Visual: **Pierre de Fermat**

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## QUIZ

### Worked on Falling Bodies and Inertia of Motion: Galileo Galilei

- Galileo Galilei was an **Italian physicist, mathematician, and astronomer**
- Born in **1564** in Pisa, Italy, and died in **1642**
- Widely regarded as the **father of modern experimental science**

### Work on Falling Bodies

- Galileo was the **first scientist** to systematically study the **motion of falling bodies**
- He disproved **Aristotle's belief** that heavier objects fall faster than lighter ones
- Through experiments, Galileo showed that
- All bodies fall with the same acceleration**



- Differences in fall speed are due to **air resistance**, not mass

### Inclined Plane Experiments

- Used **inclined planes** to slow down motion and measure time accurately
- Established that
- Distance covered is proportional to the **square of time**
- This work laid the foundation of **kinematics**

### Concept of Inertia of Motion

- Galileo introduced the **principle of inertia**
- He stated that
- A body in motion will **continue in motion**
- A body at rest will **remain at rest**
- Unless acted upon by an **external force**
- This idea later formed the basis of **Newton's First Law of Motion**

### Why Galileo's Work Was Revolutionary

- Shifted science from **philosophical speculation** to **experimental verification**
- Introduced
- Controlled experiments
- Mathematical description of motion
- Challenged centuries-old **Aristotelian physics**

### Key Dates and Contributions

- **1564** – Birth of Galileo Galilei
- **Late 16th century** – Experiments on falling bodies
- **Early 17th century** – Development of the idea of inertia
- **1638** – Publication of *Two New Sciences*, summarising his work on motion

### Legacy

- Galileo's work influenced the development of **classical mechanics**
- His ideas became foundational for later scientists, especially **Isaac Newton**
- Concepts of falling bodies and inertia remain central to **modern physics**

### Whose observations led to Kepler's Laws: Tycho Brahe

- **Tycho Brahe** was a **Danish astronomer** of the late **16th century**
- **Born in 1546 and died in 1601**
- Known for making the **most accurate astronomical observations** of the pre-telescope era
- **Conducted systematic and long-term observations of**
- Planets
- Stars
- Comets
- Achieved **unprecedented precision** using large, custom-made instruments
- His data were accurate to within **one arc-minute**, unmatched at that time

### Uraniborg Observatory



- Established the **observatory Uraniborg** on the island of **Hven**
- Became a leading centre for **astronomical research** in Europe
- Enabled continuous, well-documented observations

### Link Between Tycho Brahe and Kepler

- **Johannes Kepler** worked as an assistant to **Tycho Brahe**
- After Tycho's death in **1601**, Kepler gained access to his detailed planetary data
- Kepler used Tycho's **Mars observations** to derive the **three laws of planetary motion**

### Why Tycho's Observations Were Crucial

- Kepler's laws required **highly precise empirical data**
- Earlier observations were insufficient to reveal
- Elliptical orbits
- Changes in orbital speed
- **Tycho's data enabled a shift from**
- **Circular orbit assumptions**
- **To elliptical planetary motion**

### Philosopher who advanced Analytic Geometry: René Descartes

- **René Descartes** was a **French philosopher, mathematician, and scientist**
- Born in **1596** in France and died in **1650**
- Often called the **father of modern philosophy**
- **Famous for the statement "Cogito, ergo sum"** (I think, therefore I am)

### What is Analytic Geometry?

- **Analytic geometry** is a branch of mathematics that
- **Combines algebra and geometry**
- **Represents geometric shapes using numerical equations**
- It allows curves and lines to be studied through **coordinates and algebraic formulas**

### Descartes' Contribution to Analytic Geometry

- René Descartes introduced the idea of using
  - **Coordinates** to locate points in space
  - **Equations** to represent geometric figures
  - He developed the **Cartesian coordinate system**
  - Two perpendicular axes: **X-axis** and **Y-axis**
  - Each point represented by an ordered pair (**x, y**)
  - This innovation made it possible to
  - Translate geometry into algebra
  - Solve geometric problems numerically
- In **1637**, Descartes published **La Géométrie**
  - This work laid the **foundation of analytic geometry**

### Investigated mechanics of springs, etc.: Robert Hooke

- **Robert Hooke** was an **English scientist** and one of the most versatile thinkers of the **17th century**
  - Born in **1635** in England and died in **1703**
- Robert Hooke is best known for formulating **Hooke's Law**
  - He investigated how **springs and elastic materials** behave when stretched or compressed



- His experiments showed that
- The **extension of a spring is directly proportional to the applied force**
- This holds true **within the elastic limit** of the material

### Hooke's Law

- Stated mathematically as
- $F \propto x$
- Where
- $F$  = applied force
- $x$  = extension or compression
- This relationship became a **fundamental principle of classical mechanics**

### Physicist who worked out timekeeping with pendulums: Christiaan Huygens

- **Christiaan Huygens** was a **Dutch physicist, mathematician, and astronomer**
- Born in **1629** in the Netherlands and died in **1695**
- Christiaan Huygens was the **first scientist to successfully apply the pendulum** to accurate timekeeping
- He recognised that a **regularly swinging pendulum** could be used to measure **equal intervals of time**
- In **1656**, Huygens invented the **first practical pendulum clock**
- Before pendulum clocks
- Mechanical clocks were **highly inaccurate**
- The pendulum greatly improved
- **Precision**
- **Regularity of time measurement**
- Accuracy improved from errors of minutes per day to **seconds per day**

<b>GS Paper III: Environment,</b>	
<b>TOPICS COVERED</b>	<b>30_12_2025</b>
<b>1.</b>	<b>SC pauses Aravalli ruling, moots new panel</b> <b>सुप्रीम कोर्ट ने अरावली पर फैसला रोक़ा, नए पैनल का प्रस्ताव</b>



# SC pauses Aravalli ruling, moots new panel

Court keeps in abeyance November 20 decision upholding govt. definition of mountain system

The definition meant only 1,048 Aravalli hills in Rajasthan would meet the elevation threshold

Activists fear unbridled mining in the hill ranges, which serve as a barrier against the Thar desert

**ES II: Environment**

Krishnadas Rajagopal  
NEW DELHI

The Supreme Court on Monday kept in abeyance its November 20 judgment upholding a government expert panel definition restricting the world's oldest surviving mountain system, the Aravalli Range, to hills sporting an elevation of 100 metres or above, and hill clusters, slopes, and hillocks located within 500 metres of each other.

A three-judge Bench, headed by Chief Justice of India Surya Kant, took *suo motu* cognisance of the widely publicised public apprehension over the restrictive definition, especially that only 1,048 Aravalli hills out of a total 12,081 in Rajasthan alone would meet the 100-metre elevation threshold and, consequently, the lower ranges would be "stripped off" the environmental protection due to them. The court agreed that if true, it would be a "significant regulatory lacuna" in safeguarding the Aravallis.

### High-powered panel

The Bench proposed the constitution of a high-powered committee to analyse whether "sustainable mining" or "regulated mining" within the newly demarcated Aravalli areas, notwithstanding regulatory oversight, would result



Independent expert opinions [on the Aravallis] must be obtained and considered after consulting with all the stakeholders. There is a need to resolve ambiguities and provide definitive guidance

SURYA KANT  
Chief Justice of India

in any adverse ecological consequences.

"Independent expert opinions must be obtained and considered after consulting with all the stakeholders. There is a need to resolve ambiguities and provide definitive guidance," Chief Justice Kant said. The committee would assess the areas no longer covered by the definition, specifically whether such exclusion risks their eventual degradation, thereby

compromising the overall ecological integrity of the Aravalli Range.

The restrictive definition upheld by the top court in November had sparked a public furore across the four Aravalli States of Rajasthan, Uttar Pradesh, Haryana, and Delhi, with environmentalists and activists voicing concerns that the shrinking of protection would open the doors for unbridled mining in the hill

ranges, which act as a green barrier against the eastward expansion of the Thar desert, and worsen pollution in cities such as Delhi.

### Critical issues

The proposed panel would also hold a multi-temporal evaluation of the short-term and long-term environmental impacts resulting from the implementation of the recommended definition and its associated directions.

The Bench said several critical issues needed further clarification, including "whether the restrictive demarcation has inversely broadened the scope of 'non-Aravalli' areas, thereby facilitating the continuation of unregulated mining and other disruptive activities in terrains ecologically contiguous but technically excluded by this definition".

The court indicated that the definition of the Aravalli range must be arrived at only after exhaustive scientific and geological estimations, and precise measurements of all the hills and hillocks.

The definition of the Aravallis, the court underscored, must be more nuanced and measured to maintain the "ecological integrity of the entire range".

The government, represented by Solicitor-General Tushar Mehta, said the court's acceptance of a committee of the Ministry of Environment, Forest and Climate Change has led to "misconceptions and misrepresentations" about the court and the government in the public domain.

Mr. Mehta flagged that the judgment had directed the preparation of a "Man-

agement Plan for Sustainable Mining" by the Environment Ministry through the Indian Council of Forestry Research and Education, which would have had to get the nod of the top court.

### 'Structural paradox'

A definition restricting the Aravalli Range to clusters within 500 m of each other may introduce a "structural paradox" wherein the geographical scope of protected territory would be significantly narrowed, the court said. The court explained whether clusters with larger gaps but contiguous to the Aravalli terrain would be then opened to unregulated mining and other "disruptive activities", thereby causing and spreading extensive damage even to the protected areas.

The court listed the *suo motu* case on January 21.

## SC pauses Aravalli ruling, moots new panel

### सुप्रीम कोर्ट ने अरावली पर फैसला रोका, नए पैनल का प्रस्ताव

- Court keeps in abeyance **November 20 decision** upholding govt. definition of mountain system  
अदालत ने **20 नवंबर के फैसले** को स्थगित रखा, जिसमें पर्वत प्रणाली की सरकारी परिभाषा को बरकरार रखा गया था
- The **definition meant only 1,048 Aravalli hills in Rajasthan would meet the elevation threshold**  
इस परिभाषा के अनुसार **राजस्थान** में केवल **1,048 अरावली पहाड़ियां** ऊंचाई की सीमा को पूरा करतीं
- Activists fear unbridled **mining** in the hill ranges, **which serve as a barrier against the Thar desert**  
कार्यकर्ताओं को पहाड़ी क्षेत्रों में बेलगाम **खनन** का डर है, जो **थार मरुस्थल** के खिलाफ अवरोध का काम करते हैं
- The **Supreme Court** on Monday kept in abeyance its **November 20 judgment** upholding a government expert panel definition restricting the **world's oldest surviving mountain system, the Aravalli Range, to hills sporting an elevation of 100 metres or above, and hill clusters, slopes, and hillocks located within 500 metres** of each other.  
**सुप्रीम कोर्ट** ने सोमवार को अपने **20 नवंबर के निर्णय** को स्थगित रखा, जिसमें सरकारी विशेषज्ञ पैनल की उस परिभाषा को बरकरार रखा गया था जो दुनिया की सबसे पुरानी पर्वत श्रृंखला **अरावली रेंज** को **100 मीटर या उससे अधिक** ऊंचाई वाली पहाड़ियों तथा **500 मीटर** के भीतर स्थित पहाड़ी समूहों, ढलानों और टीलों तक सीमित करती थी
- Especially that **only 1,048 Aravalli hills out of a total 12,081 in Rajasthan alone would meet the 100-metre elevation threshold.**  
विशेष रूप से इस बात का कि केवल **राजस्थान** में कुल **12,081** में से मात्र **1,048 अरावली पहाड़ियां** ही **100 मीटर की ऊंचाई सीमा** को पूरा करती हैं
- **Consequently, the lower ranges would be "stripped off" the environmental protection due to them.**
- The **committee would assess the areas no longer covered by the definition.**  
समिति उन क्षेत्रों का आकलन करेगी जो अब इस परिभाषा के अंतर्गत नहीं आते
- Specifically, **whether such exclusion risks their eventual degradation.**  
विशेष रूप से यह कि ऐसा बहिष्करण अंततः उनके क्षरण का जोखिम पैदा करता है या नहीं



- Thereby ranges, which act as a **green barrier** against the eastward expansion of the **Thar desert**, and worsen pollution in cities such as **Delhi**.  
जिससे वे पर्वत श्रेणियां, जो **थार मरुस्थल** के पूर्व की ओर विस्तार के खिलाफ **हरित अवरोध** का काम करती हैं, कमजोर पड़ें और **दिल्ली** जैसे शहरों में प्रदूषण बढ़े

### Critical issues महत्वपूर्ण मुद्दे

- The proposed panel would also hold a **multi-temporal evaluation** of the **short-term and long-term environmental impacts**.  
प्रस्तावित पैनल **अल्पकालिक और दीर्घकालिक पर्यावरणीय प्रभावों** का **बहु-कालिक मूल्यांकन** भी करेगा
- The Bench said several **critical issues** needed further clarification.  
पीठ ने कहा कि कई **महत्वपूर्ण मुद्दों** पर और स्पष्टता की आवश्यकता है
- Including whether the restrictive demarcation has inversely broadened the scope of “**non-Aravalli**” areas.  
जिसमें यह भी शामिल है कि क्या इस प्रतिबंधात्मक सीमांकन ने “**गैर-अरावली**” क्षेत्रों का दायरा उलट रूप से बढ़ा दिया है

### ‘Structural paradox’ ‘संरचनात्मक विरोधाभास’

- A definition restricting the Aravalli Range to clusters within **500 m** may introduce a “**structural paradox**”.  
अरावली को **500 मीटर** के भीतर के समूहों तक सीमित करने वाली परिभाषा एक “**संरचनात्मक विरोधाभास**” पैदा कर सकती है
- The restrictive definition had sparked a **public furore** across **Rajasthan, Uttar Pradesh, Haryana, and Delhi**.  
इस प्रतिबंधात्मक परिभाषा ने **राजस्थान, उत्तर प्रदेश, हरियाणा और दिल्ली** में **जनाक्रोश** पैदा कर दिया था
- **Environmentalists feared shrinking protection would open doors for unbridled mining in the hill ranges**.  
पर्यावरणविदों को आशंका है कि संरक्षण के सिमटने से पहाड़ी क्षेत्रों में **बेलगाम खनन** के दरवाजे खुल जाएंगे
- **ranges, which act as a green barrier against the eastward expansion of the Thar desert, and worsen pollution in cities such as Delhi**.  
अरावली श्रेणियां, जो **थार मरुस्थल** के पूर्व की ओर विस्तार के खिलाफ **हरित अवरोध** का काम करती हैं, और **दिल्ली** जैसे शहरों में प्रदूषण को बढ़ाती हैं।

### Critical issues महत्वपूर्ण मुद्दे

- The court indicated that the definition of the **Aravalli range** must be arrived at only after **exhaustive scientific and geological estimations**, and precise measurements of all the hills and hillocks.  
अदालत ने संकेत दिया कि **अरावली श्रेणी** की परिभाषा केवल व्यापक **वैज्ञानिक और भूवैज्ञानिक आकलन** तथा सभी पहाड़ियों और टीलों के सटीक मापन के बाद ही तय की जानी चाहिए।
- The definition of the **Aravallis**, the court underscored, must be more **nuanced and measured to maintain the “ecological integrity of the entire range”**.  
अदालत ने रेखांकित किया कि **अरावली** की परिभाषा अधिक **सूक्ष्म और संतुलित** होनी चाहिए ताकि “**पूरी श्रेणी की पारिस्थितिक अखंडता**” बनी रहे।
- The government, represented by **Solicitor-General Tushar Mehta**, said the court’s acceptance of the recommendations of a committee of the **Ministry of Environment, Forest and Climate Change** has led to “**misconceptions and misrepresentations**” about the court and the government in the public domain.  
सरकार की ओर से **सॉलिसिटर-जनरल तुषार मेहता** ने कहा कि **पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय** की समिति की सिफारिशों को अदालत द्वारा स्वीकार किए जाने से सार्वजनिक क्षेत्र में अदालत और सरकार के बारे में “**गलतफहमियां और गलत प्रस्तुतियां**” पैदा हुई हैं।



- Mr. Mehta agreed that the judgment had directed the preparation of a “**Management Plan for Sustainable Mining**” by the **Environment Ministry** through the **Indian Council of Forestry Research and Education**, which would have had to get the nod of the top court.  
श्री मेहता ने इंगित किया कि निर्णय में पर्यावरण मंत्रालय को भारतीय वानिकी अनुसंधान और शिक्षा परिषद के माध्यम से “सतत खनन के लिए प्रबंधन योजना” तैयार करने का निर्देश दिया गया था, जिसे शीर्ष अदालत की मंजूरी लेनी होती।

### ‘Structural paradox’ ‘संरचनात्मक विरोधाभास’

- A definition restricting the **Aravalli Range** to clusters within **500 m** of each other may introduce a “**structural paradox**” wherein the geographical scope of protected territory would be significantly narrowed, the court said.  
अदालत ने कहा कि अरावली रेंज को एक-दूसरे से **500 मीटर** के भीतर स्थित समूहों तक सीमित करने वाली परिभाषा एक “संरचनात्मक विरोधाभास” पैदा कर सकती है, जिससे संरक्षित क्षेत्र का भौगोलिक दायरा काफी संकुचित हो जाएगा।
- The court explained whether clusters with larger gaps but contiguous to the **Aravalli terrain** would be then opened to **unregulated mining** and other “**disruptive activities**”, thereby causing and spreading extensive damage even to the protected areas.  
अदालत ने बताया कि क्या बड़े अंतराल वाले लेकिन अरावली भू-भाग से सटे समूहों को तब अनियंत्रित खनन और अन्य “विघटनकारी गतिविधियों” के लिए खोल दिया जाएगा, जिससे संरक्षित क्षेत्रों तक भी व्यापक क्षति फैल सकती है।

<b>GS Paper III: IS</b>	
<b>TOPICS COVERED</b>	<b>30 12 2025</b>
<b>1.</b>	<b>DAC gives its nod for defence purchases worth ₹79,000 cr. डीएसी ने ₹79,000 करोड़ के रक्षा खरीद प्रस्तावों को मंजूरी दी</b>



# DAC gives its nod for defence purchases worth ₹79,000 cr.

Committee accorded approval for the Army's proposal for radars and guided rocket ammunition, Navy's request for tugs and high frequency radio, and Air Force's proposal for missiles, simulators

**GS III: Internal Security**

**The Hindu Bureau**  
NEW DELHI

**T**he Defence Acquisition Council (DAC), chaired by Defence Minister Rajnath Singh, on Monday accorded Acceptance of Necessity (AoN) for capital acquisition proposals amounting to about ₹79,000 crore from the Army, Navy, and Air Force.

According to the Ministry of Defence, the DAC approved the procurement of Loiter Munition Systems for Artillery Regiments, Low Level Light Weight Radars, Long Range Guided Rocket Ammunition for the Pinaka Multiple Launch Rocket System (MRLS), and Integrated Drone Detection and Interdiction System (IDD&IS) Mk-II for the Indian Army.

The Loiter Munition Systems will enable precision strikes against tactical targets, while the Low Level Light Weight Radars will enhance detection and tracking of small, low-flying unmanned aerial systems. The Long Range Guided Rockets will significantly improve the range and accuracy of the Pinaka MRLS, enabling effective engagement of high-value targets.



**Joint synergy:** The ₹79,000-crore package is aimed at boosting the operational capabilities of the three Services. FILE PHOTO

The IDD&IS Mk-II, with enhanced range, will strengthen the protection of vital assets in tactical battle areas and the hinterland, the Defence Ministry said.

For the Indian Navy, the AoN was accorded for the procurement of Bollard Pull (BP) Tugs, High Frequency Software Defined Radio (HF SDR) Manpack systems, and the leasing of High Altitude Long Endurance (HALE) Remotely Piloted Aircraft Systems (RPAS).

The BP Tugs will assist naval ships and submarines during berthing, unberthing and manoeuvring in confined harbour wa-

ters. The HF SDR Manpack will enhance long-range secure communications during boarding and landing operations, while the HALE RPAS will provide persistent intelligence, surveillance and reconnaissance, and strengthen maritime domain awareness across the Indian Ocean Region.

For the Indian Air Force, the DAC approved the AoN for procurement of the Automatic Take-off and Landing Recording System, Astra Mk-II beyond-visual-range air-to-air missiles, Full Mission Simulators, and SPICE-1000 long-range guidance

## DRDO tests Pinaka rocket

**NEW DELHI**

The Defence Research and Development Organisation (DRDO) on Monday successfully conducted the maiden flight test of the Pinaka Long Range Guided Rocket (LRGR-120) at the Integrated Test Range (ITR), Chandipur.

The Defence Ministry said that the test marked a major milestone in India's indigenous rocket artillery programme.

The Automatic Take-off and Landing Recording System will enhance aerospace safety by enabling high-definition, all-weather automatic recording of take-off and landing phases. Astra Mk-II missiles, with enhanced range, will boost the capability of IAF fighter aircraft to engage adversary targets from extended distances.

The Full Mission Simulator for the Light Combat Aircraft Tejas will strengthen pilot training in a cost-effective and safe environment, while SPICE-1000 kits will enhance the IAF's long-range precision strike capability.

## DAC gives its nod for defence purchases worth ₹79,000 cr. डीएसी ने ₹79,000 करोड़ के रक्षा खरीद प्रस्तावों को मंजूरी दी

- Committee accorded approval for the **Army's proposal for radars and guided rocket ammunition, Navy's request for tugs and high frequency radio, and Air Force's proposal for missiles, simulators**  
समिति ने सेना के रडार और गाइडेड रॉकेट गोला-बारूद के प्रस्ताव, नौसेना के टग और हाई फ्रीक्वेंसी रेडियो के अनुरोध, तथा वायुसेना के मिसाइल और सिम्युलेटर के प्रस्ताव को मंजूरी दी
- The **Defence Acquisition Council (DAC)**, chaired by **Defence Minister Rajnath Singh**, on **Monday** accorded **Acceptance of Necessity (AoN)** for capital acquisition proposals amounting to about **₹79,000 crore** from the **Army, Navy, and Air Force**.  
रक्षा अधिग्रहण परिषद (DAC), जिसकी अध्यक्षता रक्षा मंत्री राजनाथ सिंह कर रहे थे, ने सोमवार को सेना,



नौसेना और वायुसेना से जुड़े लगभग ₹79,000 करोड़ के पूंजीगत अधिग्रहण प्रस्तावों को आवश्यकता की स्वीकृति (AoN) प्रदान की।

- According to the **Ministry of Defence**, the DAC approved the procurement of **Loiter Munition Systems for Artillery Regiments, Low Level Light Weight Radars, Long Range Guided Rocket Ammunition** for the **Pinaka Multiple Launch Rocket System (MRLS)**, and **Integrated Drone Detection and Interdiction System (IDD&IS) Mk-II** for the **Indian Army**.  
रक्षा मंत्रालय के अनुसार, DAC ने भारतीय सेना के लिए आर्टिलरी रेजिमेंट्स हेतु लोइटर म्यूनिशन सिस्टम, लो लेवल लाइट वेट रडार, पिनाका मल्टीपल लॉन्च रॉकेट सिस्टम (MRLS) के लिए लॉन्ग रेंज गाइडेड रॉकेट गोला-बारूद, तथा इंटीग्रेटेड ड्रोन डिटेक्शन एंड इंटरडिक्शन सिस्टम (IDD&IS) Mk-II की खरीद को मंजूरी दी।
- The **Loiter Munition Systems** will enable **precision strikes** against **tactical targets**, while the **Low Level Light Weight Radars** will enhance **detection** and **tracking** of small, low-flying **unmanned aerial systems**.  
लोइटर म्यूनिशन सिस्टम रणनीतिक लक्ष्यों के विरुद्ध सटीक हमले संभव बनाएंगे, जबकि लो लेवल लाइट वेट रडार छोटे, कम ऊँचाई पर उड़ने वाले मानवरहित हवाई प्रणालियों की पता लगाने और ट्रैकिंग क्षमता बढ़ाएंगे।
- The **Long Range Guided Rockets** will significantly improve the **range** and **accuracy** of the **Pinaka MRLS**, enabling effective engagement of **high-value targets**.  
लॉन्ग रेंज गाइडेड रॉकेट्स पिनाका MRLS की मारक क्षमता और सटीकता को काफी बढ़ाएंगे, जिससे उच्च-मूल्य लक्ष्यों पर प्रभावी कार्रवाई संभव होगी।
- The **IDD&IS Mk-II**, with **enhanced range**, will strengthen the **protection of vital assets** in **tactical battle areas** and the **hinterland**, the **Defence Ministry** said.  
रक्षा मंत्रालय ने कहा कि बढ़ी हुई रेंज वाला **IDD IS Mk-II**, रणनीतिक युद्ध क्षेत्रों और आंतरिक इलाकों में महत्वपूर्ण परिसंपत्तियों की सुरक्षा को मज़बूत करेगा।
- For the **Indian Navy**, the **AoN** was accorded for the procurement of **Bollard Pull (BP) Tugs, High Frequency Software Defined Radio (HF SDR) Manpack systems**, and the leasing of **High Altitude Long Endurance (HALE) Remotely Piloted Aircraft Systems (RPAS)**.  
भारतीय नौसेना के लिए **बोलाड पुल (BP) टग्स**, **हाई फ्रीक्वेंसी सॉफ्टवेयर डिफ़ाइंड रेडियो (HF SDR) मैनपैक सिस्टम**, तथा **हाई एल्टीट्यूड लॉन्ग एंड्योरेंस (HALE) रिमोटली पायलटेड एयरक्राफ्ट सिस्टम (RPAS)** को लीज़ पर लेने के लिए **AoN** दी गई।
- The **BP Tugs** will assist **naval ships** and **submarines** during **berthing, unberthing** and **manoeuvring in confined harbour waters**.  
**BP टग्स** सीमित बंदरगाह जलक्षेत्र में नौसैनिक जहाज़ों और पनडुब्बियों की बर्थिंग, अनबर्थिंग और मैनुव्रिंग में सहायता करेंगे।
- The **HF SDR Manpack** will enhance **long-range secure communications** during **boarding and landing operations**, while the **HALE RPAS** will provide **persistent intelligence, surveillance** and **reconnaissance**, and strengthen **maritime domain awareness** across the **Indian Ocean Region**.  
**HF SDR मैनपैक बोर्डिंग और लैंडिंग अभियानों के दौरान लंबी दूरी की सुरक्षित संचार व्यवस्था** को सुदृढ़ करेगा, जबकि **HALE RPAS** निरंतर **खुफिया, निगरानी** और **टोही** प्रदान करेगा तथा **हिंद महासागर क्षेत्र** में **समुद्री डोमेन जागरूकता** को मज़बूत करेगा।
- For the **Indian Air Force**, the DAC approved the **AoN** for procurement of the **Automatic Take-off and Landing Recording System, Astra Mk-II beyond-visual-range air-to-air missiles, Full Mission Simulators, and SPICE-1000 long-range guidance kits**.  
भारतीय वायुसेना के लिए DAC ने **ऑटोमैटिक टेक-ऑफ़ और लैंडिंग रिकॉर्डिंग सिस्टम, अस्ट्र Mk-II बियॉन्ड-विज़ुअल-रेंज एयर-टू-एयर मिसाइलें, फुल मिशन सिमुलेटर, और SPICE-1000 लॉन्ग-रेंज गाइडेड रॉकेट्स** की खरीद हेतु **AoN** को मंजूरी दी।
- The **Automatic Take-off and Landing Recording System** will enhance **aerospace safety** by enabling **high-definition, all-weather** automatic recording of **take-off and landing phases**.  
**ऑटोमैटिक टेक-ऑफ़ और लैंडिंग रिकॉर्डिंग सिस्टम उच्च-परिभाषा, सभी मौसमों में टेक-ऑफ़ और लैंडिंग चरणों की स्वचालित रिकॉर्डिंग** सक्षम बनाकर **एयरोस्पेस सुरक्षा** को बेहतर करेगा।
- **Astra Mk-II missiles**, with **enhanced range**, will boost the capability of **IAF fighter aircraft** to engage **adversary targets** from **extended distances**.



अस्त्र Mk-II मिसाइलें, बढ़ी हुई रेंज के साथ, IAF लड़ाकू विमानों की दुश्मन लक्ष्यों को लंबी दूरी से भेदने की क्षमता को बढ़ाएंगी।

- The **Full Mission Simulator for the Light Combat Aircraft Tejas** will strengthen **pilot training in a cost-effective and safe environment**, while **SPICE-1000 kits** will enhance the **IAF's long-range precision strike capability**.

लाइट कॉम्बैट एयरक्राफ्ट तेजस के लिए फुल मिशन सिम्युलेटर पायलट प्रशिक्षण को लागत-प्रभावी और सुरक्षित वातावरण में मज़बूत करेगा, जबकि SPICE-1000 किट्स IAF की लंबी दूरी की सटीक प्रहार क्षमता को बढ़ाएंगी।

PATRIOTIC IAS