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MARCH 16



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Assam inks pact with Hmar, Kuki extremist groups

The Hindu Bureau

GUWAHATI

The Assam government on Sunday signed a memorandum of settlement with three Kuki extremist groups as well as a Hmar group.

The organisations involved are the Hmar People's Convention-Democratic (HPC-D), United Kukigam Defence Army (UKDA), Kuki Revolutionary Army (KRA), and the Kuki Liberation Organisation (KLO), which is also known as the Kuki Liberation Army. The members of all these groups had laid down their arms in 2012.

Assam Education Minister Ranoj Pegu, in whose presence the memorandum of settlement was inked, said the deal envisages the formation of a Hmar Welfare Development Council and a Kuki Welfare Development Council in the Hmar and Kuki-dominated areas of Assam, respectively.

"A Suspension of Operations was signed between the State government and these groups after they

gave up arms. Thereafter, several rounds of tripartite talks involving the Centre led to the memorandum of settlement," a senior officer of Assam's Home and Political Department said.

He said that the settlement process was accelerated in the past few months as an initiative of peace and tranquillity in the State and to fulfil the aspirations of both communities.

Rehabilitation steps

"Each development council will comprise a chairman, deputy chairman, chief executive member, executive members, and members nominated by the Assam government. Both councils will be headquartered in Guwahati, and their budgets will be prepared according to their requirements submitted to the Transformation and Development Department," the officer said.

Mr. Pegu said that the State government would take appropriate measures to rehabilitate the cadres of the armed groups in accordance with the existing procedure.



- **Key Terms and Explanations**

- **Memorandum of Settlement (MoS):** A formal tripartite agreement between the Union Government, a State Government, and an insurgent group to resolve conflicts, usually involving the surrender of arms in exchange for political or developmental concessions.

- **Suspension of Operations (SoO):** A "ceasefire" pact where armed groups agree to stop hostile activities and stay in designated camps, while the security forces halt operations against them.

- **Hmar People's Convention-Democratic (HPC-D):** An outfit representing the Hmar tribe, primarily seeking autonomy in the Hmar-inhabited areas of the Northeast.

- **Kuki Revolutionary Army (KRA) / UKDA / KLO:** Armed groups representing the Kuki-Zomi ethnic groups, historically demanding "Kukiland" or greater administrative autonomy.

- **Development Council:** A non-constitutional or statutory administrative body created to decentralize power and focus on the specific cultural and economic needs of an ethnic community without creating a separate state.

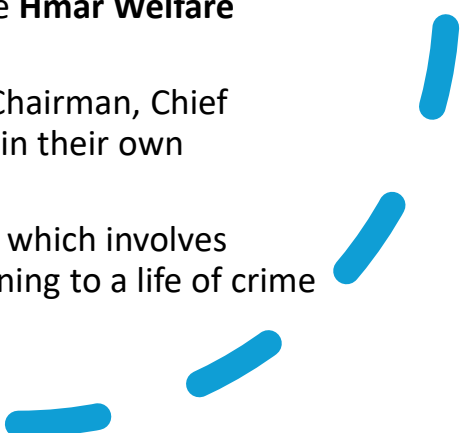
- **Main Arguments and Substantive Parts**

- The core thesis of the settlement is "**Peace through Developmental Autonomy.**" * **The Transition:** The groups had already laid down arms in 2012; this MoS represents the final political culmination of a 12-year-old peace process.

- **Institutional Framework:** The deal establishes two distinct bodies: the **Hmar Welfare Development Council** and the **Kuki Welfare Development Council**.

- **Administrative Structure:** Each council will have a tiered leadership (Chairman, Chief Executive Member, etc.), ensuring that the community has a direct hand in their own governance.

- **Rehabilitation:** A critical component is the "Rehabilitation of Cadres," which involves financial and vocational support to prevent former insurgents from returning to a life of crime or militancy.



- **Historical Evolution of the Issue**

- **Pre-Independence:** Colonial "Frontier" policies often isolated hill tribes from the plains, leading to a sense of distinct identity and "Exclusion."
- **1950s–1980s:** Post-independence, various ethnic groups in the Northeast felt their identities were threatened by "Assamization." This birthed several insurgent movements.
- **1990s–2000s:** Peak of Kuki-Hmar militancy characterized by ethnic clashes and demands for autonomous councils under the Sixth Schedule.
- **2012:** A turning point where the HPC-D, UKDA, KRA, and KLO entered into a Suspension of Operations (SoO) with the government.
- **Present (2024-25):** Transition from "Conflict Management" to "Conflict Resolution" via the signing of the final MoS and the creation of Welfare Councils.

- **Previous Years' Questions (PYQs)**

- **UPSC 2023 (GS3):** "The North-East region of India has been infested with insurgencies for a very long time. Analyze the major reasons for the survival of armed insurgency in this region."
- **UPSC 2018 (GS3):** "The China-Pakistan Economic Corridor (CPEC) is viewed as a cardinal subset of China's One Belt One Road. Give a brief description of CPEC and enumerate the reasons why India has distanced itself from the same." (Relevant context: Security of NE).
- **APSC 2020:** "Discuss the role of Autonomous District Councils in the socio-economic development of the tribal people of Assam."

THE ROAD TO RESOLUTION

PRE-INDEPENDENCE to 1980s



Colonial Policies



Isolated hill tribes

Exclusion and "Assamization":
Colonial frontier policies isolated hill tribes: post-independence tears of losing ethnic identity birthed insurgent movements.

2012: THE TURNING POINT (SoO)



HPC-D



KRA



UKDA

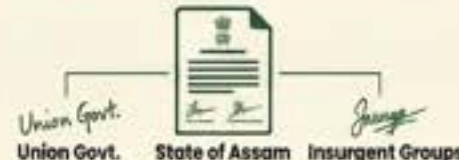


KLO



Suspension of Operations (SoO) pact:
Four major groups entered a pact, staying in designated camps and halting hostile activities.

2024-25: THE FINAL SETTLEMENT (MoS)



Tripartite Memorandum of Settlement:
Transitioning from 12-year peace process to formal tripartite agreement for socio-political mainstreaming.

NEW GOVERNANCE ARCHITECTURE



WELFARE VS. SIXTH SCHEDULE



Sixth Schedule Councils
(Legislative Powers)



Welfare Councils
(Socio-economic Focus)

THE PILLARS OF SUSTAINABLE PEACE

REHABILITATION OF CADRES
Providing financial and vocational support to former militants to prevent return to crime or insurgency.

SUBSIDIARITY & LOCAL KNOWLEDGE
Grounded in local needs; ensures "Identity Preservation" within the larger Assamese fabric.

ECONOMIC FORMALIZATION
Moving from "Underground Economy" to a formal economy driven by targeted development grants.

CHALLENGES & THE WAY FORWARD

- **Implementation & Fiscal Risks:** Success depends on time-bound rehabilitation and consistent fund flow to avoid "defunct" councils.
- **Insulating from Neighboring Volatility:** Ensuring ethnic instability in Manipur does not spill over and radicalize settling groups.
- **Digital Governance (DBT):** Using Direct Benefit Transfer and digital audits to ensure funds reach common tribesmen.

EXAM RELEVANCE (FOR ASPIRANTS)

- **GS Paper 2 & 3 Linkages:** Relevant for Decentralization, Internal Security, and "Act East Policy".
- **The "Carrot and Stick" Policy:** A classic example of using development (carrot) to end militancy (stick) while maintaining territorial integrity.

SPOTLIGHT

Ishita Mishra

Spring is Atiya's (name changed on request) favourite season. Back in Manipur, it arrives with pleasant weather, vibrant festivals, and fields bursting into colour. Since childhood, this time of the year for her has meant hours of gazing upon bright flowers and breathing in their fragrance. She hasn't experienced that for two years now, ever since she moved to Delhi.

On March 8, she walked to a garden in Malviya Nagar with a transgender friend hoping to find that spring comfort. What she encountered was just the opposite. She says a group of boys, between 13 and 16 years, began passing lewd remarks. "They began by calling me 'chinki' (a racial slur used on people with East Asian features), then went on to calling me a sex worker in Hindi," says Atiya.

The only reason Atiya says she understood these words was because they had been hurled at her several times in the past, in Delhi. When she objected, one of the boys threw a stone that struck her jaw, leaving her injured. Shocked and humiliated, she tried to run, but the boys chased her. She eventually fell to the ground, where one of them hit her with a belt, leaving bruises

on her neck.

For many people from the Northeast living in Delhi, the incident was painfully familiar. While violence against communities from the region makes occasional headlines, the deeper story of racism lies in the everyday hostility – on the streets, in buses, in rented apartments, and crowded markets.

Since the incident, Atiya has kept her face covered. She walks down roads quickly and avoids venturing out after sunset. Her parents have asked her to return home, but she has decided to stay in Delhi and fight back.

Everyday racism

The attack on Atiya came weeks after three female students from Arunachal Pradesh were subjected to verbal abuse by their neighbours in Delhi's Malviya Nagar in late February. The furore was sparked during AC repair work in a fourth floor flat where the two of the women lived as tenants, and one was visiting. Dust from drilling fell on the lower floor and the women faced racial slurs, abuses, and threats. Videos of the incident went viral on social media and resulted in the filing of an FIR and the arrest of the accused couple.

They were later given bail on health grounds, but the court noted that even if there was absence of physical violence, the act of the accused did not dilute the

'A stranger in my capital city'

For thousands of people from the Northeast who come to Delhi seeking education and opportunity, the National Capital Region is both a place of promise and an area shadowed by prejudice



Rampant racism: A woman who had migrated from Manipur was attacked in Delhi last week when she confronted a group of boys that allegedly hurled lewd remarks at her. SHASHI SHEKHAR KASHYAP

gravity of the words alleged to have been uttered.

Every year, students and job-seekers from eight States in the Northeast travel to Delhi. They say they come for opportunity – universities with wider choices, coaching centres, corporate offices, hospitals, the hospitality industry – and the promise of careers that are not available back home.

In areas like Mukherjee Nagar, Munirka, and Hu-

mayunpur – neighbourhoods with low rents and large populations of people from the Northeast – students and young professionals often speak about living under a constant gaze.

"When I first came to Delhi for college, people would stare at me on the metro like I was a tourist," says Wein Bhir, 22, a student of sociology in Lady Sri Ram College. "

Having studied in the

RSS-backed Vivekananda school in Arunachal, where she learnt Sanskrit and Hindi, Bhir says that she has to prove her patriotism repeatedly.

Another problem for women is stereotyping. Maya, from Shillong, works at a beauty salon in West Delhi. "Many of us are judged for our clothing or assumed to have loose morals. We are dubbed as party people while most of my northeastern friends hard-

ly go out to party. We don't have enough money to do that," she says.

Food apartheid

Sangeeta Keisan, 50, moved to Delhi from Manipur in 2005. Spokesperson for the Delhi Meitei Coordinating Committee (DMCC), a non-profit that works for the community's wellbeing, she says she studied here and even worked in a private bank for years. She says she has faced racism often.

"Now I am concerned about my teenage daughter who was born and brought up in Delhi. She complains of abuses hurled upon her on roads. Once she told me that someone called her 'momo' (a slur from dimsums, a Delhi streetfood staple). I consoled her saying that the momo is something Delhi loves." Keisan adds that Delhi is racist to anyone who does not look like north Indian.

There are other food problems. "When we go to see a room for rent, the first question is where we are from," says Neng Neiting, 30, from Manipur, who is training to be a teacher in Delhi University.

"The second question is whether we cook pork or akhuni (fermented soybean)," she says.

Lumland, a hairdresser at a multi-chain salon in Saket says that discrimination against the Northeast people is often rooted in a lack of awareness about the region.

"Despite being an integral part of the country, the Northeast remains geographically and culturally distant from the rest of India. School textbooks rarely cover our history, our heroes, languages, or traditions, which is why people in this part of the country grow up with limited knowledge of the region," he says.

A memory and struggle

For many Northeast residents in Delhi, the memory of Nido Taniam continues to shape their experience of the city. Taniam was 20 years old when he was mocked by a shopkeeper in Lajpat Nagar for his hairstyle and appearance, back in 2014. What began as verbal taunts quickly escalated into violence and he was assaulted to the extent that he couldn't survive the injuries.

His death sparked outrage across the Northeast. Protests erupted in cities. Parliament condemned the killing, and the government announced a series of measures aimed at addressing discrimination against people from the Northeast.

A committee headed by retired bureaucrat M.P. Bezbaruah was formed to examine the problems faced by northeastern citizens in major Indian cities. The committee later submitted recommendations that included stronger legal protections against racial discrimination and greater

awareness about the Northeast in school curricula.

The Delhi Police also set up a Special Cell (Northeastern States) to handle complaints from residents of the region. Robin Hibu, who is currently serving as the Special Commissioner of Police in Delhi, had set it up. The cell aims to provide quicker response in cases involving harassment or violence and to build trust between the police and northeastern communities. A helpline (1093) was introduced and Delhi started organising Northeast festivals every year.

He explains that after the cell was established and police personnel from the Northeast were recruited into it, people from that region began to feel a greater sense of security.

"Nido's death remains a symbol of the consequences of unchecked prejudice," says Phand Len Mang, 25, from Manipur, whose family has now shifted to Meghalaya. "Creating a committee is one thing," says Mang, the son of an army man serving in Assam Rifles, but "changing attitudes on the ground is much harder." He adds that friends too will make jokes about his facial features, not realising these are racist.

Mang's message is simple: "No one in my own Capital should ask me which country I belong to."

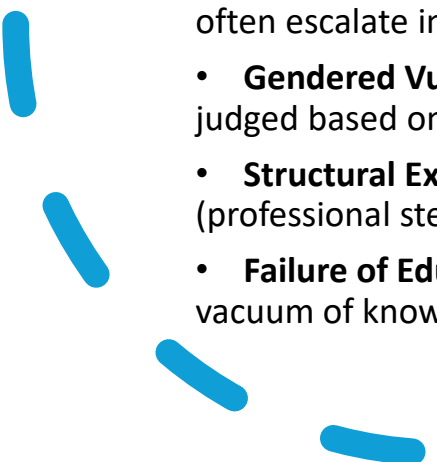
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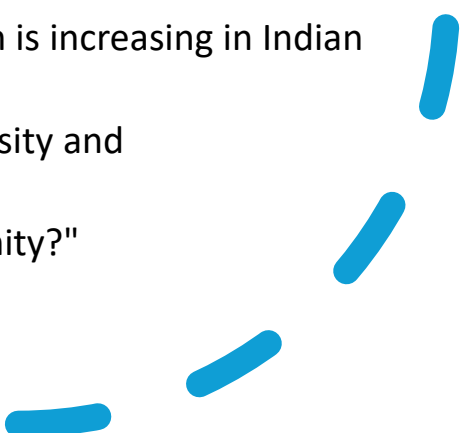


- **Key Terms and Explanations**

- **Racial Profiling:** The act of suspecting or targeting a person based on perceived characteristics of their race or ethnicity. In this context, it refers to the "outsider" status imposed on Northeast Indians due to East Asian features.
- **Food Apartheid:** A term used in the article to describe social exclusion based on dietary habits. For example, being denied housing because of the smell of traditional foods like *akhuni* (fermented soybean).
- **Xenophobia:** An irrational fear or hatred of that which is perceived to be foreign or strange. Here, it manifests as fellow citizens being treated as foreigners in their own capital.
- **The Bezbaruah Committee:** A high-level committee formed by the Ministry of Home Affairs in 2014 (after the Nido Taniam case) to look into the concerns of people from the Northeast living across India.
- **Special Police Unit for North Eastern Region (SPUNER):** A specialized wing of the Delhi Police (helpline 1093) dedicated to handling grievances and providing security to the Northeast community.

- **Main Arguments and Substantive Parts**

- **The Paradox of Opportunity:** For many, Delhi is a "place of promise" for education and jobs, yet it remains "shadowed by prejudice," creating a state of perpetual insecurity.
 - **Normalization of Verbal Abuse:** Terms like "chinki" or slurs related to character are not just "teasing" but are tools of dehumanization that often escalate into physical violence.
 - **Gendered Vulnerability:** Women from the Northeast face a double burden of racism and patriarchy. They are often hyper-sexualized or judged based on clothing, leading to targeted harassment.
 - **Structural Exclusion:** Discrimination is not limited to the streets; it extends to the housing market (refusal of rentals) and the workplace (professional stereotyping).
 - **Failure of Education:** A core argument is that the "mainland" curriculum largely ignores the history and culture of the Northeast, fostering a vacuum of knowledge filled by stereotypes.
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- **Historical Evolution of the Issue**
 - **Post-Independence Integration:** Early decades focused on political integration and counter-insurgency, often neglecting cultural integration between the Northeast and the rest of India.
 - **The 1990s-2000s Migration Wave:** Liberalization and the "Look East" (now Act East) policy increased the influx of students and professionals to metros like Delhi and Bangalore.
 - **2012 Exodus:** A pivotal moment where rumors of retaliatory violence led to a mass exodus of Northeast migrants from cities like Bangalore and Pune.
 - **2014 Nido Taniam Case:** The death of a student from Arunachal Pradesh in Delhi after a racial altercation led to a national outcry and the subsequent formation of the Bezbaruah Committee.
 - **2020 COVID-19 Pandemic:** A spike in racial attacks occurred as people from the region were wrongly blamed for the "Chinese virus" due to their features.
-
- **Previous Years' Questions (PYQs)**
 - **Mains 2023 (GS1):** "Explain why suicide among young women is increasing in Indian society." (Related to gendered vulnerability).
 - **Mains 2017 (GS1):** "Distinguish between religiousness/religiosity and communalism..." (Thematic link to 'Othering').
 - **Mains 2014 (GS1):** "How does regionalism threaten India's unity?"
- 

The "Other" in the Capital: A Comprehensive Analysis of Discrimination Against Northeast Indians in NCR

Key Concepts & Definitions



Food Apartheid

Social exclusion based on dietary habits, such as being denied housing due to the smell of traditional foods like *akhuni* (fermented soybean).



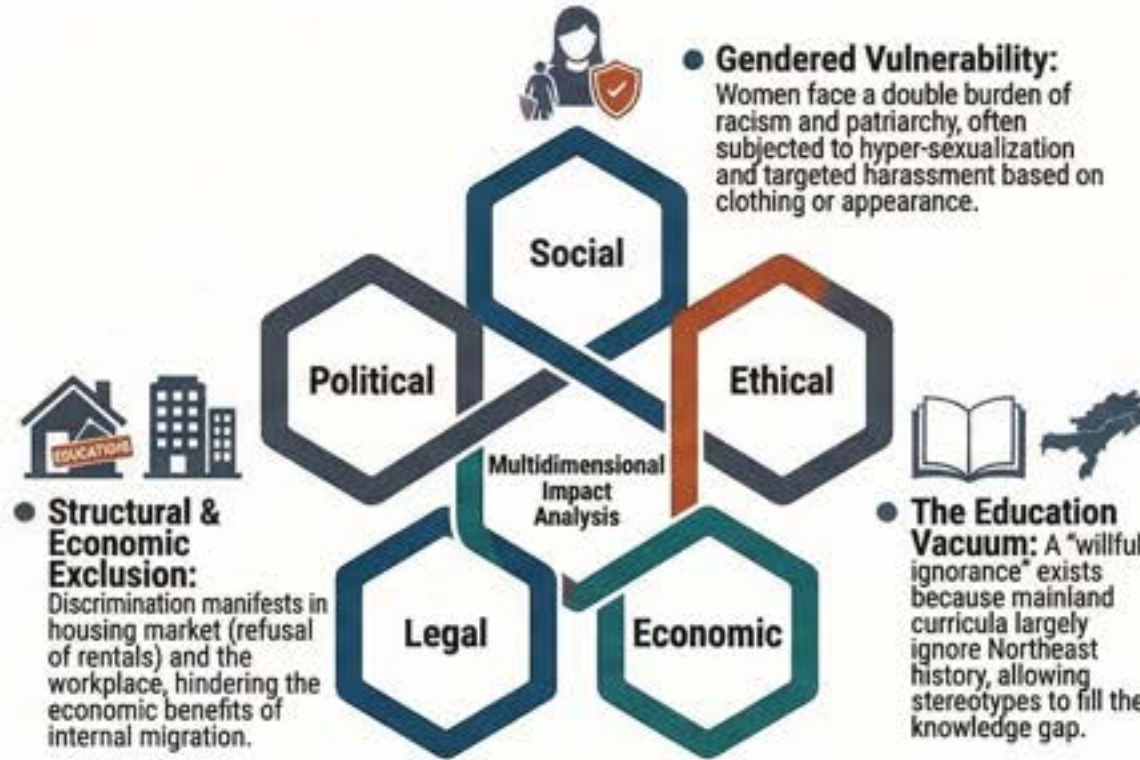
The "Othering" Logic

A sociological process where the dominant group defines its identity by excluding and dehumanizing those with different physical features or customs.



The "Momo" Metaphor

Highlights the irony where Northeast cultural elements (food) are consumed by the city, while the people themselves are rejected or reduced to slurs.



Institutional Responses & Way Forward



The Bezbaruah Committee

Recommended a standalone Anti-Racial Law and strengthening the SC/ST Act; however, implementation remains partial.



SPUNER (Special Police Unit)

A specialized Delhi Police wing (Helpline: 1092) dedicated to the security and grievances of the Northeast community.



Emotional Integration

True sustainability requires moving from mere "tolerance" to "acceptance" through mandatory educational reforms and cultural exchange.

UPSC Syllabus Linkage (AXIA IAS Academy Focus)

GS Paper 1: Social Issues

Relevant for topics on Social Empowerment, Regionalism, and the "Unity in Diversity" fabric of India.

GS Paper 4: Ethics

Focuses on values of empathy, tolerance, compassion, and the gap between constitutional and social morality.

“**Emotional Integration:** A key phrase for aspirants to use in Mains answers regarding national unity and internal migration.”

Historical Inflection Points



2012: The Great Exodus

Rumors of retaliatory violence led to a mass exodus of Northeast migrants from major Indian metros like Bangalore and Pune.



2014: The Nido Taniam Case

The tragic death of an Arunachal student in Delhi sparked national outcry and led to the formation of the Bezbaruah Committee.



2020: Pandemic Xenophobia

A spike in racial attacks occurred as people from the region were wrongly blamed for the COVID-19 virus due to their East Asian features.

Diversify agriculture and encourage farmers to grow pulses, SC tells govt.

Krishnadas Rajagopal
NEW DELHI

The Supreme Court has asked the Union government to revisit its existing policy framework and explore a better substitute under which farmers are incentivised to diversify from conventional crops such as wheat and paddy to pulses.

Besides a relook into policy and diversification of crops, the court asked the Centre to convene a meeting of different stakeholders to look into various issues. These include the absence of an incentivised minimum support



Supreme Court of India

price (MSP), sufficient enough to cover the expenditure that small or medium level farmers incur in producing pulses; guaranteed timely sale of pulse products; and fixation of the cost price of yellow

peas, which are currently being imported, so that it did not impact the home-grown pulses produced by farmers.

A Bench headed by Chief Justice of India Surya Kant said the Centre, through its Ministries of Agriculture, Commerce and Consumer Affairs, and with the aid of subject experts with ground knowledge, mould a framework which would make pulse cultivation worthwhile for farmers.

“There should be a campaign to diversify agriculture. Diversification of paddy is the biggest challenge in North India... Do we re-

quire such a quantity of paddy? We may need for export purposes, but land can also be diverted for pulses. Please ask your Ministries to constitute a committee of people ... somebody who has worked at the ground level, who knows the psyche and compelling circumstances that drive the farming community,” Chief Justice Kant addressed Additional Solicitor-General N. Venkataraman, appearing for the Centre.

The court was hearing a petition filed by Kisan Mahapanchayat, an NGO, seeking curbs on the import of yellow peas.



- **Key Terms and Explanations**

- **Crop Diversification:** The practice of shifting from a single-crop system (monoculture) to a variety of crops.
 - *Example:* A farmer in Punjab switching from paddy to moong dal or mustard.
- **Minimum Support Price (MSP):** A "floor price" set by the Government of India to protect farmers against excessive falls in price during bumper production years.
- **Pulses (Legumes):** Crops like chickpeas, lentils, and peas that are nitrogen-fixing, meaning they naturally enrich the soil.
- **Yellow Peas Import:** A specific trade issue where cheap imports often depress the prices of domestically grown pulses, disincentivizing local farmers.
- **Stakeholder Consultation:** A process where the government, farmers, NGOs (like Kisan Mahapanchayat), and agricultural experts collaborate to form policy.

- **Main Arguments and Substantive Parts**

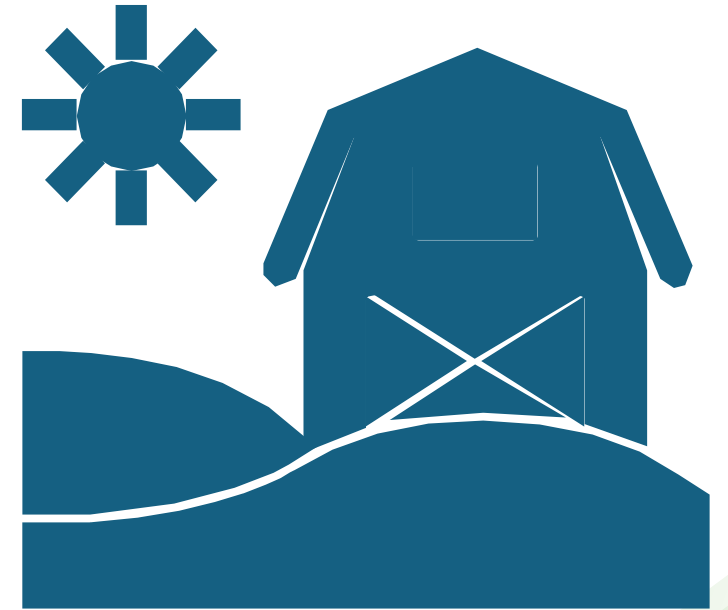
- The core thesis is that India's current agricultural policy over-prioritizes cereal production (paddy/wheat), leading to ecological and economic imbalances.
- **Incentive Deficit:** Farmers stick to paddy because of the "safety net" of guaranteed procurement and MSP. Pulses lack a similarly robust, guaranteed market.
- **Import Dependency vs. Domestic Growth:** India frequently imports yellow peas and other pulses. The argument is to redirect land from surplus paddy (which often exceeds buffer stock requirements) to pulses to achieve *Atmanirbharta* (self-reliance).
- **Ground-Level Realism:** Policy must be shaped by those who understand the "psyche" of the farmer—recognizing that farmers are rational economic actors who will only switch crops if the risk-to-reward ratio is favorable.

- **Historical Evolution of the Issue**

- **Pre-Independence:** India faced frequent famines; agriculture was largely subsistence-based with a wide variety of local millets and pulses.
- **The Green Revolution (1960s-70s):** Introduced High-Yielding Varieties (HYV) of wheat and rice. This was a necessity for food security but triggered the shift toward monoculture in North India.
- **Post-1990s:** The "Rice-Wheat System" became entrenched due to subsidized electricity, water, and assured procurement in states like Punjab and Haryana.
- **Present Day:** Facing a "Triple Whammy"—plummeting groundwater levels, soil degradation, and a pulse deficit that impacts national nutritional security.

- **Previous Years' Questions (PYQs)**

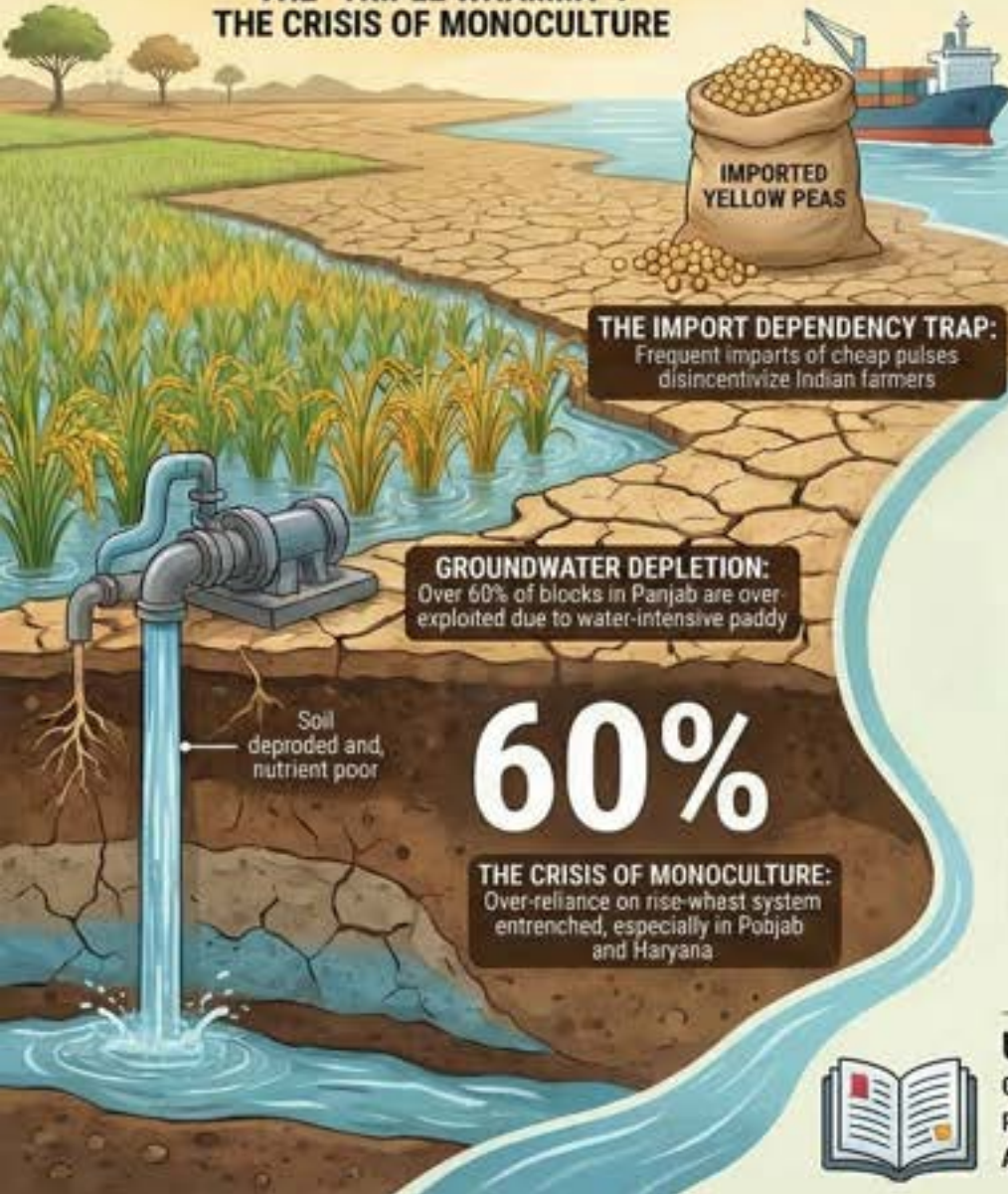
- **UPSC Mains (2018):** "What are the reformative steps taken by the Government to make food grain distribution system more effective?"
- **UPSC Mains (2020):** "How far is integrated farming system helpful in sustaining agricultural production?"
- **UPSC Prelims (2020):** Question on which crops are pulses (Kharif/Rabi) and India's position in global pulse production.



THE PULSE REVOLUTION:

Transforming Indian Agriculture through Crop Diversification

THE "TRIPLE WHAMMY": THE CRISIS OF MONOCULTURE



THE ROADMAP TO ATMANIRBHARTA (SELF-RELIANCE)

PRICE & PROCUREMENT ASSURANCE
Extending Price Support Scheme (PSS) effectively to all pulses as a safety net similar to wheat

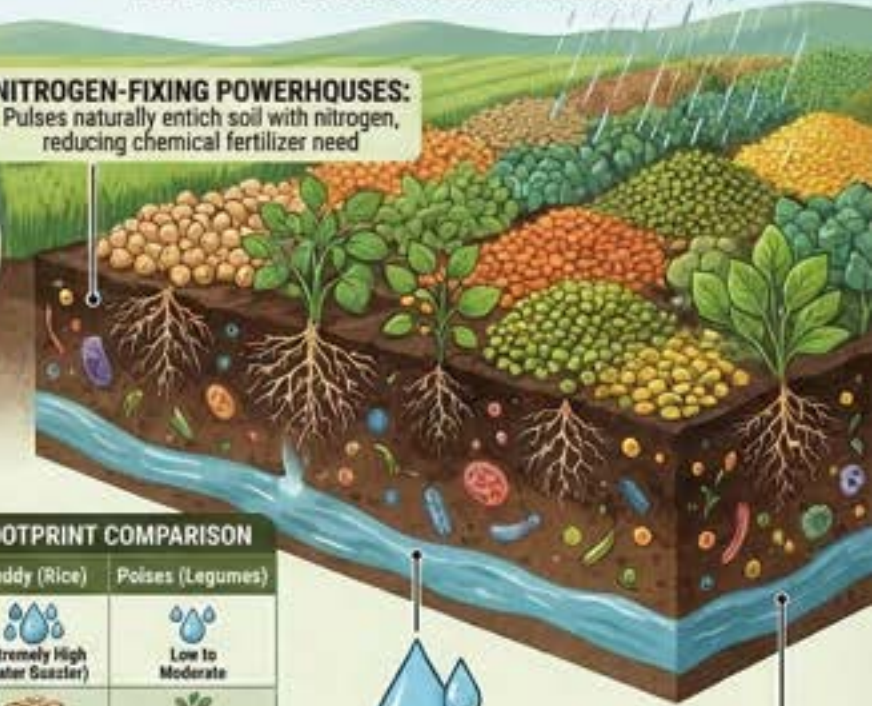
GROUND-LEVEL EXPERT COMMITTEES
Involving local experts to understand the economic psyche and risks of farmers, moving away from top-down bureaucracy



3. VALUE ADDITION & FPOs
Promoting Farmer Producer Organizations (FPOs) to set up local dal mills, keeping profits within the community

NITROGEN-FIXING POWERHOUSES:
Pulses naturally enrich soil with nitrogen, reducing chemical fertilizer need

WHY PULSES? THE SOLUTION FOR SUSTAINABILITY



RESOURCE FOOTPRINT COMPARISON		
Parameter	Paddy (Rice)	Pulses (Legumes)
Water Requirement	Extremely High (Water Guzzler)	Low to Moderate
Soil Impact	Nutrient Depletion	Nitrogen Fixation (Restorative)
Market Support	High (Issued Procurement/MSP)	Low (Inconsistent Interventions)
Climate Resilience	Hardy but Water Dependent	Susceptible to Pests/Diseases

WATER-EFFICIENCY VS. PADDY:
Pulses consume significantly less water, ideal for India's depleting tables



NUTRITIONAL & ECONOMIC JUSTICE: Essential protein for vegetarian population and a path to remunerative prices for small-scale farmers



UPSC EXAM LINKAGES: EDUCATIONAL FOCUS

GS PAPER 3 RELEVANCE: Essential for topics on Direct/Indirect farm subsidies, MSP, PDS, and environmental conservation
PHILOSOPHICAL SHIFT: Moving from "Reductionist Agriculture" (calories only) to "Holistic Agriculture" (nutrition, soil, and water)
ARTICLE 48 COMPLIANCE: Aligns with Directive Principles of State Policy to organize agriculture on modern and scientific lines

Pure electoral rolls are bedrock of any democracy, says CEC Gyanesh Kumar

Debayan Tewari
CHENNAI

Chief Election Commissioner Gyanesh Kumar on Sunday hailed the special intensive revision (SIR) of electoral rolls as a "massive democratic exercise", and said that "pure electoral rolls" were the "bedrock of any democracy".

The Election Commission announced the schedule for the Assembly election in Assam, Kerala, Tamil Nadu, West Bengal, and the Union Territory of Puducherry on Sunday. Barring West Bengal, all others vote in one phase.

The CEC's statement comes amid an ongoing uproar in West Bengal, which is voting on April 23 and 29, over the SIR of electoral rolls, and the Opposition submitting notices in both Houses of Parlia-



Gyanesh Kumar and Election Commissioner Vivek Joshi during the announcement of the elections on Sunday. *ix.100811W*

ment seeking to move a motion to remove Mr. Kumar, alleging partisan attitude.

Mr. Kumar, however, did not respond to questions on the Opposition's notice.

"Pure electoral rolls are the bedrock of any democracy. With this objective the special intensive revi-

sion (SIR) is being conducted as per Article 326 of the Constitution to ensure that no eligible elector is left out while no ineligible person is included in the electoral roll," Mr. Kumar said.

The CEC thanked officials who were involved in the SIR process.

"I congratulate all the booth-level officers, assis-

tant electoral registration officers, electoral registration officers, district election officers and all election officials who were involved in this work for ensuring its smooth conduct and completion," he said.

Mr. Kumar said the elections reflected the country's "diversity". "As all of you are aware, these five States and Union Territories represent distinct geographical and cultural landscapes of India. These elections represent not only a democratic exercise but also the cultural richness of India, and truly reflect the unity in diversity of our nation," he said.

He said the elections must be free of violence or inducement, and warned that the commission would take strong action against any violation.

- **Key Terms and Explanations**

- **Electoral Roll:** A formal list of all persons in a particular constituency who are entitled to vote in an election. Think of it as the "gatekeeper" of the democratic process.
- **Special Intensive Revision (SIR):** A rigorous process where the ECI updates the voter list by conducting house-to-house visits to ensure new eligible voters are added and ineligible ones (deceased or shifted) are removed.
- **Chief Election Commissioner (CEC):** The head of the Election Commission of India, a constitutional body under **Article 324**, responsible for conducting free and fair elections.
- **Article 326:** The constitutional provision that grants **Universal Adult Suffrage**, stating that elections shall be on the basis of adult suffrage (every citizen above 18 has the right to vote).
- **Booth-Level Officer (BLO):** A local government/semi-government official who acts as the custodian of the electoral roll at the grassroots (polling station) level.
- **Inducement:** The illegal practice of offering money, liquor, or gifts to influence a voter's choice.

- **Main Arguments and Substantive Parts**

- **The "Bedrock" Thesis:** The core argument is that a clean, error-free electoral roll is the fundamental prerequisite for a legitimate democracy. If the roll is compromised, the mandate itself is questioned.
- **Inclusivity vs. Integrity:** The SIR process aims for a "zero-error" list where no eligible citizen is left out (Inclusivity) and no "ghost" or "duplicate" voter remains (Integrity).
- **Federal Diversity:** The conduct of elections across diverse states like Assam, West Bengal, and Kerala reflects India's "Unity in Diversity," where a single constitutional body manages varied geographical and cultural landscapes.
- **Accountability and Neutrality:** While the ECI asserts its commitment to fairness, the article highlights the friction with the political opposition, illustrating the constant struggle for perceived and actual institutional neutrality.

- **Historical Evolution of the Issue**

- **Pre-Independence:** Limited franchise based on property, education, and tax-paying status under the Government of India Act, 1919 and 1935.
- **1950-51:** The monumental task of preparing the first electoral roll for a newly independent India, shifting to Universal Adult Franchise—a "leap of faith" for a largely illiterate population.
- **1989 (61st Amendment):** Lowering of the voting age from 21 to 18, necessitating a massive expansion of electoral rolls.
- **1990s (The Seshan Era):** T.N. Seshan introduced **Voter ID cards (EPIC)** to curb impersonation and cleaned up rolls aggressively.
- **2000s-Present:** Digitization of rolls, the introduction of the National Voter Service Portal (NVSP), and the linking of Aadhaar (controversial but ongoing) to weed out duplicates.

- **Previous Years' Questions (PYQs)**

- **UPSC Prelims**

- **2017:** "Right to vote and to be elected in India is a..." (Answer: Constitutional Right/Legal Right).

- **2023:** Questions on the appointment process of the CEC and ECs.

- **UPSC Mains**

- **2020 (GS 2):** "In the light of recent controversy regarding the use of Electronic Voting Machines (EVM), what are the challenges before the Election Commission of India to ensure the trustworthiness of elections in India?"

- **2017 (GS 2):** "To enhance the quality of democracy in India the Election Commission of India has proposed electoral reforms in 2016. What are the suggested reforms and how far are they significant to make democracy successful?"



Guardians of the Ballot: Ensuring Electoral Integrity through Pure Electoral Rolls



Constitutional Pillars

- Article 324: ECI Superintendence & Control
- Article 326: Universal Adult Suffrage (18+ Right to Vote)



One Person, One Vote, One Value

Rooted in B.R. Ambedkar's vision, this principle ensures every eligible individual has exactly one entry on the roll to maintain political equality.



The "Bedrock" Thesis of Democracy
A clean, error-free electoral roll is the fundamental prerequisite for a legitimate democratic mandate; without integrity here, the entire process is questioned.



Pre-1950: Limited Franchise
Voting restricted based on property, education, tax status (Govt of India Acts 1919, 1935).



1950-1989: The Universal Leap
India shifted to Universal Adult Franchise in 1950; 61st Amendment (1989) lowered voting age from 21 to 18.



1990s-Present: Technology & Transparency
"Seshan Era" introduced Voter IDs (EPIC), followed by modern digitization, National Voter Service Portal (NVSP), and Aadhaar linking.

SIR Process (Special Intensive Revision)



Grassroots Verification (The BLO)

BLOs conduct house-to-house visits to add new eligible voters and remove deceased or shifted individuals.



Balancing Inclusivity and Integrity

Goal of SIR is "zero-error," ensuring no eligible citizen is left out while removing all fraudulent entries.



Modern Tech Integration

Field verification supported by GIS mapping of polling stations and real-time data entry via mobile applications.



Challenges & The Way Forward



Gaps & Risks

Implementation Gaps & Demographic Flux: High internal migration and reliance on overburdened officials (BLOs) create risks for roll accuracy.

Political Polarization: Allegations of "voter deletion" often create a trust deficit between political parties and the Election Commission.



Future Path

Transition to Continuous Update Model: Future focus shifting from periodic intensive revisions to year-round digital synchronization with birth and death registries.



UPSC Prep Roadmap (GS Paper 2 & 4)

- **GS Paper 2: Constitutional Bodies:** Focus on appointment, powers, responsibilities of ECI, and Representation of the People Acts (1950 & 1951).
- **GS Paper 4: Ethics & Integrity:** Analyze impartiality of public officials and ethical implications of ensuring every citizen's right to representation.
- **PYQ Focus:** Prepare for questions regarding ECI as a "bulwark" of democracy and significance of electoral reforms.



Veena exponent Jayanthi Kumaresh to receive Sangita Kalanidhi award at Music Academy's 100th Conference

The Hindu Bureau

CHENNAI

The 100th Conference and Concerts of the The Music Academy, Chennai, beginning in December this year, will be marked by the conferment of the Sangita Kalanidhi award on renowned veena player Jayanthi Kumaresh. Bharatanatyam dancer Narendra G. will receive the Nritya Kalanidhi award.

"The executive committee, at its meeting on March 15, decided to confer the award on her and other awards on various musicians," said N. Murali, President of the academy, on Sunday.

Ms. Kumaresh, a member of the musically rich Lalgudi G. Jayaraman family, learnt from her mother,



Jayanthi Kumaresh, an exponent of the Saraswati veena, performs in Chennai; and Bharatanatyam dancer Narendra G., who will receive the Nritya Kalanidhi award. B. VELANKANNI RAJ, SPECIAL ARRANGEMENT

Rajalakshmi. She later trained under her aunt Padmavathi Ananthagopalan and then maestro S. Balachander. She also received guidance from her uncle Lalgudi G. Jayaraman, Sangita Kalanidhi T.K. Brinda, composer Thanjavur Sankara Iyer, and T.R. Subramanian.

A postgraduate in English, Ms. Kumaresh is one of the foremost exponents of the Saraswati veena and has collaborated with the late tabla maestro Zakir Hussain. She has contributed in large measure to the present increase in the popularity of the instrument.



"It is a great honour that I have been selected for the award in the 100th Conference and Concerts of the Academy, whose logo features Saraswati with a veena. It is an honour not just for me, but for the veena, the national instrument," Ms. Jayanthi told *The Hindu*.

She said a veena artiste had been selected for the award after a gap of 34 years, and it was a matter of pride that it had happened in the centenary year of her guru, the late S. Balachander.

The Sangita Kala Acharya awards will go to vocalist Sugandha Kalamegam and mridangam player Thrissur C. Narendran. The recipients of the TTK Awards are nagaswaram player Injikudi Subramaniam and violinist T.K.V.B. Ramanujacharyulu.

The Musicologist Award will go to D. Balasubramanian, Adjunct Professor of Music and Co-chair of Global South Asian Studies at Wesleyan University. Bharatanatyam dancer A. Jannardhanan will receive the

Nritya Kala Acharya award, a newly instituted award this year. S. Rajeswari will receive the Dance Musician Award (vocal), and T.K. Padmanabhan the Dance Musician Award (instrumental), the other two new dance awards.

Mr. Murali said the Sangita Kalanidhi-designate would preside over the academic sessions of the Annual Conference and Concerts of the Academy to be held between December 15, 2026 and January 1, 2027. She will receive the award along with the other awardees on January 1, the day of Sadas.

Mr. Narendra will receive the Nritya Kalanidhi award at the inauguration of the 20th Annual Dance Festival of the Academy on January 3, 2027.

• **Key Terms and Explanations**

- **Sangita Kalanidhi:** Considered the highest accolade in the world of Carnatic music. It is awarded annually by the Music Academy, Chennai. The recipient typically presides over the year's academic sessions.
- **Nritya Kalanidhi:** A prestigious award specifically for excellence in classical dance (primarily Bharatanatyam), mirroring the stature of the Sangita Kalanidhi in the music domain.
- **Saraswati Veena:** A large plucked string instrument used in Carnatic classical music. It is often referred to as India's "national instrument" due to its ancient Vedic roots and association with the Goddess of Learning.
- **Sadas:** The convocation or the concluding academic session of the Music Academy's annual conference where the awards are formally conferred.
- **Mridangam:** The primary rhythmic accompaniment in Carnatic music; a double-headed drum made of wood and parchment.

• **Main Arguments and Substantive Parts**

- The core focus of this event is the recognition of **Jayanthi Kumaresh** (Veena) and **Narendra G.** (Dance).
- **Instrumental Recognition:** The selection of a Veena artiste after a 34-year hiatus underscores a "renaissance" for instrumental Carnatic music, which is often overshadowed by vocal performances.
- **Institutional Legacy:** The 100th Conference marks a centenary of organized preservation of South Indian classical arts.
- **Guru-Shishya Continuity:** The award coinciding with the centenary of the recipient's guru (S. Balachander) highlights the deep-rooted importance of lineage (*Parampara*) in Indian arts.
- **Expansion of Awards:** The institution of new awards for "Dance Musicians" (vocal and instrumental) signifies an evolving recognition of the ecosystem that supports a lead dancer.



- **Historical Evolution of the Issue**

- **Ancient & Medieval:** Evolution of the *Veena* from the Vedic *Vana* to the modern *Saraswati Veena* refined in the Thanjavur court.
- **Early 20th Century:** The "Anti-Nautch" movement threatened classical dance. The Music Academy (est. 1928) played a pivotal role in the "Classical Renaissance," rebranding *Sadir* as *Bharatanatyam*.
- **Post-Independence:** State patronage via Sangeet Natak Akademi and private patronage via "Sabhas" (like the Music Academy) replaced royal courts.
- **Modern Era:** Digital globalization of Carnatic music and the inclusion of diverse instruments and global collaborations (e.g., Jayanthi Kumaresh with Zakir Hussain).

- **Previous Years' UPSC Questions**

- **GS1 (2018):** "Safeguarding the Indian Art Heritage is the need of the moment. Discuss."
- **GS1 (2012):** "Discuss the Tandava dance as recorded in the early Indian inscriptions."
- **Prelims (2014):** Questions on the differences between Hindustani and Carnatic music.



India's Living Traditions: The 100th Music Academy Conference & The Kalanidhi Awards

PRESTIGIOUS ACCOLADES & KEY TERMS

Sangita Kalanidhi
Highest accolade in Carnatic music, awarded annually by Music Academy, Chennai; recipient presides over academic sessions.

Nritya Kalanidhi
Prestigious award for excellence in classical dance (primarily Bharatanatyam), mirroring Sangita Kalanidhi's stature.

Sadas & Mridangam



Sadas is the concluding convocation where awards are conferred,
Mridangem is the primary rhythmic drum accompaniment.

Mridangam

100TH CONFERENCE HIGHLIGHTS: THE 2024 SPOTLIGHT

Jayanthi Kumaresh: Instrumental Renaissance
Selection of Veena artiste after 34 year hiatus marks shift back toward instrumental recognition.



Celebrating Narendra G. & Dance Ecosystem
Recognition of Narendra G. (Dance) and awards for 'Dance Musicians' shift focus from 'stars' to collaborative ecosystem.

Centenary of Guru-Shishya Parampara
Award coincides with centenary of recipient's guru, S. Balachander, emphasizing lineage importance.

Saraswati Veena: India's National Instrument

Labels: Peg Box/ Yail Head, Fretboard, Strings, Resonator (Kudam), Gourd, Strings

HISTORICAL EVOLUTION & UPSC RELEVANCE

Historical & Philosophical Evolution

- From Vedic Vana to Thanjavur Court**
Veena evolved from Vedic roots to modern refined form in medieval Thanjavur courts.
- The 20th Century Classical Renaissance**
Music Academy (est. 1928) helped rebrand 'Sadir' as 'Bharatanatyam' to protect from 'Anti-Nautch' movement.
- Nada Brahma & Rasa Theory**
Philosophy of achieving bliss (Ananda) through sound (Nada Brahma), instruments as extensions of soul.

UPSC CORNER: INTEGRATION & RELEVANCE

<p>Constitutional Basis: Article SIA(1) Preservation of rich heritage is a fundamental duty.</p>	<p>GS Paper 1: Indian Culture Crucial for Art Forma, Literature, Architecture from ancient to modern times.</p>
<p>GS Paper 4: Ethics & Mentorship Highlights value of dedication, discipline, Guru-Shishye relationship.</p>	<p>Soft Power & Cultural Diplomacy Indian classical arts as tool for international relations and 'Global Carnatic' scene.</p>

Challenges and Way Forward

- Material Scarcity & Access**
Challenges include scarcity of justdrift wood for Veena, need for inclusive patronage.
- Digital Archiving & Educational Integration**
Documenting rare compositions, integrating classical music into NEP 2026 vocational stream.

UPSC's new rule: SC nod must for delay in choosing State DGPs

Attorney-General says that there is no provision for UPSC to condone such inordinate delay and proceed as if no irregularity had occurred

S. Vijay Kumar
CHENNAI

The Union Public Service Commission (UPSC) has revised the rules for the empanelment of State Director-General of Police and Head of Police Force.

The State governments will now have to get the consent of the Supreme Court for any delay in submitting the list of DGP-rank officers to the UPSC for empanelment.

While disposing of an interlocutory application moved by the Union Home Ministry, the Supreme Court had ruled that States should send their proposals in anticipation of the vacancies to the UPSC well in time – at least three months prior to the date of retirement of the incumbent on the post of DGP.

It also ordered that “none of the States shall ever conceive of the idea of appointing any person on the post of Director-General of Police on acting basis for there is no concept of acting Director-General of Police as per the decision in Prakash Singh's case”.

With many States delaying the process of sending



The UPSC has revised the rules for the empanelment of State Director-General of Police and Head of Police Force. GETTY IMAGES

proposals for shortlisting the names of three DGPs to the top post for various reasons and some appointing Acting DGPs, the UPSC sought legal opinion in the matter.

The UPSC said “it is observed that many States have been submitting the proposals for convening the Empanelment Committee Meeting in violation of the Supreme Court directions”.

Attorney-General R. Venkataramani opined that the delay by the State government in forwarding names for empanelment was “excessive”.

“On examining the applicable rules and precedents, I find no provision empowering the UPSC to

condone such inordinate delay and then proceed as though no irregularity had occurred, ultimately recommending a panel of DGP,” he said.

The State government should have first come to Supreme Court in case of any difficulty. The more appropriate course, therefore, would be to require the State to seek leave or clarification from the Supreme Court, he noted.





Amending its earlier orders, the UPSC said the States shall seek leave or clarification from the Supreme Court for delayed submission except death, resignation or premature relieving of DGP in accordance with the top court judgment.



- **Key Terms and Explanations**

- **Director General of Police (DGP):** The highest-ranking police officer in an Indian State or Union Territory. They head the state police force and are responsible for law and order.
- **Union Public Service Commission (UPSC):** A constitutional body under Article 315-323. In this context, it acts as a neutral "Empanelment Committee" to shortlist candidates for the DGP post to prevent political favoritism.
- **Empanelment:** The process where the UPSC prepares a panel of three senior-most officers based on merit, length of service, and record, from which the State Government must choose one.
- **Acting DGP:** A temporary arrangement where a state appoints an officer as the "head of police force" without following the UPSC empanelment process. The Supreme Court has repeatedly termed this practice illegal.
- **Interlocutory Application:** A petition filed during the course of a pending litigation to seek an interim order or clarification.
- **Condonation of Delay:** A legal provision to overlook a failure to meet a deadline. The article clarifies that the UPSC no longer has the power to "ignore" or condone delays by states in sending names.


- **Main Arguments and Substantive Parts**

- The core thesis is the **enforcement of procedural discipline** to ensure police autonomy.
 - **Mandatory Supreme Court "Nod":** States can no longer bypass the UPSC timeline by citing administrative delays. If a state fails to send names three months before a vacancy, it must explain itself to the Supreme Court (SC), not the UPSC.
 - **Pre-emptive Planning:** States are legally obligated to start the succession process at least three months before the incumbent DGP retires.
 - **Zero Tolerance for "Acting" Appointments:** The ruling reinforces that the concept of an "Acting DGP" is non-existent in law. This prevents states from keeping "favored" officers in power indefinitely without UPSC scrutiny.
 - **UPSC's Limited Jurisdiction:** The UPSC has clarified it is a selection body, not a judicial one; it cannot "forgive" a state's violation of the SC's timeline.
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- **Historical Evolution of the Issue**
 - **Pre-Independence:** Police were a tool of the colonial crown (Police Act, 1861), emphasizing "Rule by Law" rather than "Rule of Law."
 - **1977-81 (National Police Commission):** Recommended that the DGP be appointed through a selection process to ensure functional autonomy.
 - **2006 (Prakash Singh vs. Union of India):** The watershed moment where the SC issued seven directives, including a minimum tenure of two years for DGPs and a transparent selection process via UPSC.
 - **Post-2006 Resistance:** Many states passed their own Police Acts or amended rules to circumvent the UPSC empanelment, leading to the frequent use of "Acting DGPs."
 - **Current Phase:** The Judiciary is now closing the "delay" loophole that states used to justify ad-hoc appointments.
-
- **Previous Years' Questions (PYQs)**
 - **UPSC Mains (2016, GS 2):** "The Indian Constitution has provisions for holding joint sessions of the two houses of the Parliament. Enumerate the occasions..." (Related to procedural rules).
 - **UPSC Mains (2017, GS 2):** "The local self-government system in India has not proved to be an effective instrument of governance... Critically examine." (Theme: Reform vs. Implementation).
 - **UPSC Prelims (2021):** Question on the "Prakash Singh Case" and police reforms.


UNDERSTANDING THE PLAYERS & TERMS



DIRECTOR GENERAL OF POLICE (DGP)
The highest-ranking officer heading the state police force, responsible for maintaining law and order and leading administrative oversight.

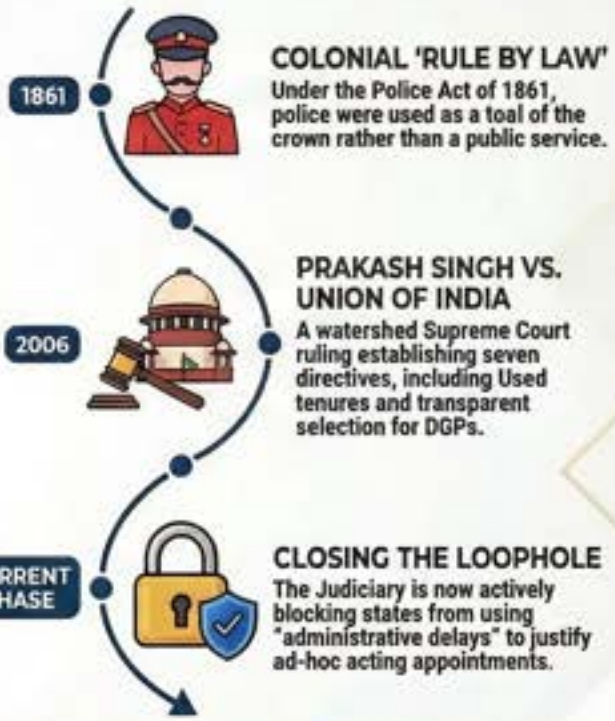


UPSC (EMANELMENT COMMITTEE)
Under Articles 315-323, the UPSC acts as a neutral body to shortlist three senior-most officers based on merit and service record.



THE 'ACTING DGP' LOOPHOLE
An illegal temporary arrangement used by states to appoint favored officers without following the formal UPSC selection process.

EVOLUTION OF POLICE AUTONOMY




THE NEW PROCEDURAL MANDATE (THE 'NO-DELAY' RULE)



THE UPSC CSE CONNECTION

GS PAPER 2 (GOVERNANCE & CONSTITUTION)



Relevant for topics on Constitutional bodies (UPSC), Executive powers, and the separation of powers.

GS PAPER 4 (ETHICS & ACCOUNTABILITY)



Covers administrative ethics and the "Nolan Principles" of objectivity and accountability in public life.

ARTICLE 142: "COMPLETE JUSTICE"



The Supreme Court uses this power to issue directions that hold the force of law to ensure procedural discipline.

CHALLENGES AND THE WAY FORWARD

ASPECT	CURRENT CHALLENGE	PROPOSED WAY FORWARD
FEDERALISM	States view UPSC interference as an attack on state domain (Entry 2, List II).	Codify guidelines into a formal "Police Services Act" via Parliament.
TRANSPARENCY	Allegations of bias in empanelment.	UPSC to release a standardized "points-based" system for selection.
LEGAL LOAD	States may use "clarification" applications to stall.	Empower State Security Commissions to work alongside UPSC to reduce delays.

Ice patches on melting glaciers greater threat than thought: ISRO scientists

Researchers have found that the presence of exposed ice patches on the Srikanta Glacier immediately before the flood in Uttarakhand on August 5, 2025, was a signal of ongoing deglaciation and a direct indicator in the landscape of the likelihood of such floods.

Suma Menon

A new study by scientists from the Indian Space Research Organisation (ISRO), published in *NAT* Natural Hazards, examines the August 5, 2025 flash flood that destroyed Dhawal village in Uttarakhand and killed six people. It sheds light on how warming temperatures affect glaciers, especially exposed ice patches on retreating glaciers, and highlights the need to monitor glaciers using satellite images to provide early warnings of possible disasters.

The study, titled 'Ice-patch collapse and early warning implications from a Himalayan flash flood: emerging cryo-hydrological hazards under deglaciation', concludes that the collapse of an ice patch on the glacier above Dhawal is linked to deglaciation in the Himalaya.

The authors say the findings could help improve understanding of climate risk and disaster preparedness. The study shows that the flash flood was triggered by the collapse of an ice patch in the retreat area of the Srikanta glacier.

Nivation is defined as the erosion of the ground beneath and around a snow bank, primarily as a result of alternate freezing and thawing. This can form a nivation hollow, which gradually becomes deeper when snow repeatedly accumulates in the same place.

History of extreme events

The study area lies in the upper Bhagirathi river basin in Uttarakhand district of Uttarakhand. It covers the ridge-to-valley system from the Srikanta glacier to Dhawal village, located at a height of 2,600-2,500 m along the Bhagirathi river. The village lies downstream of the glacier-fed Kila Gad stream, which originates from the Srikanta glacier, flows through Dhawal, and then joins the Bhagirathi river. The Kila Gad divides Dhawal into right- and left-hand bank settlements, increasing its risk of flash floods.

The region has a documented history of extreme events, including the large landslides that brought down massive floods. The researchers used satellite observations, high-resolution topographic analysis, and river records to reconstruct the sequence of events linking unstable glacier ice to the sudden flood.

The findings exposed the range of recognised glacier-related hazards in the Himalaya and identify exposed ice patches as an under-recognised risk from glacier melt.

The Dhawal event also shows how instability in the cryosphere can create hazards downstream in high-altitude regions.

The study calls for closer monitoring of glaciers and argues that the focus should



A village in Uttarakhand is being swept away after heavy rain triggered by a landslide of Dhawal, Uttarakhand district, Uttarakhand in August 2025. (i)

extend beyond glacial lake outburst floods to GLOFs to include meltwater, often embedded invisibilities in the cryosphere. The exposure of ice patches in the Srikanta glacier before the flood represents a transitional state in the snow-ice regime. "Pre-event imagery during the ablation period revealed exposed ice patches on steep north-to-northeast-facing slopes, indicating thinning residual snow and thin cover consistent with ongoing deglaciation," the authors wrote in the paper.

Such exposure indicates thinning residual snow and ice, which is ice that lies between snow and fully formed glacial ice. It usually occurs when warmer conditions reduce the insulating snow layer that stabilises the ice beneath.

Ice patches covered by firn and residual snow are relatively resistant to short-term temperature changes whereas exposed ice is more likely to melt or lower. Because exposed ice responds more quickly to temperature changes or heavy rainfall, it can melt, fragment or collapse more easily, releasing ice, meltwater, and debris that can trigger flash floods.

Therefore, the study finds that the presence of exposed ice patches on the Srikanta Glacier immediately before the flood of August 5 was a signal of ongoing deglaciation and a direct indicator in the landscape that increased the likelihood of such floods.

Satellite observations

Srikanta Glacier is a small-to-medium sized valley glacier with a height of 8,120 m, around 3.4 km upstream of

Nivation is defined as the erosion of the ground beneath and around a snow bank, primarily as a result of alternate freezing and thawing. This can form a nivation hollow, which gradually becomes deeper when snow repeatedly accumulates in the same place.

Dhawal. The glacier has steep accumulation and ablation zones, seasonal snow cover, and extensive nivation areas. Reinterpenetrating and expedition reports describe unstable ice surfaces, steep slopes, meltwater ponds, and persistent nivation zones beneath the ridge below the Srikanta peak, the paper said.

A key implication of the study is that it shows the value of pre-event satellite observations for early warning. Satellite images showed exposed ice patches persisting in the nivation zone during the ablation period, when the glacier loses ice and snow. This indicated that the seasonal snow and firn cover had thinned.

Studies from other cold regions, including the Canadian Arctic and Greenland, also show that the collapse of ice patches can trigger hazards as glaciers lose more ice and snow due to regional warming.

Identifying nivation hollows

Although rarely reported from the Himalaya, events such as the February 2021 Chamoli rock-ice avalanche demonstrate the growing prominence of cryospheric hazards in Asia's high

THE GIST

• A key implication of the study is that it shows the value of pre-event satellite observations for early warning.

• Satellite images showed exposed ice patches persisting in the nivation zone during the ablation period, when the glacier loses ice and snow. This indicated that the seasonal snow and firn cover had thinned.

• Studies also show that the collapse of ice patches can trigger hazards as glaciers lose more ice and snow due to regional warming.

• The study calls for closer monitoring of glaciers and argues that the focus should extend beyond glacial lake outburst floods to include meltwater, often embedded invisibilities in the cryosphere.

regions, the study said. In steep mountain hollows, such instability can suddenly release ice, meltwater, and debris, triggering downstream mass movement and related cryo-hydrological hazards.

The Dhawal flash flood illustrates how cryospheric instability can trigger geomorphic changes and create hazards downstream in high-altitude Himalayan regions. The study finds that the rapid disintegration of an exposed ice patch in the nivation zone of the Srikanta glacier was the main cause of the event.

The researchers' perspective, from the exposure of the ice patch during the ablation period to its disappearance and the resulting downstream impacts, shows how earth-river-vegetation data can help identify and reconstruct such extreme events in remote mountain terrain.

"A broader implication of this analysis is the identification of nivation hollows as geomorphologically sensitive zones for cryospheric instability," the authors concluded.

"Persistent snow and ice retention on north to northeast-facing slopes below the Srikanta ridge created conditions conducive to ice patch exposure and subsequent failure during the ablation season. Similar settings are widespread across the Himalaya, suggesting that systematic identification and monitoring of such areas should form part of regional hazard assessment and disaster risk reduction strategies in the context of ongoing deglaciation."

Suma Menon is an independent journalist, researcher and author. She has a PhD from the University of Leeds. sumam@protonmail.com

- **Key Terms and Explanations**

- **Cryosphere:** The portions of Earth's surface where water is in solid form (ice, snow, permafrost). In the Himalayas, this is the "Third Pole."
- **Ablation Period:** The time of year when a glacier loses more ice and snow (through melting, evaporation, or calving) than it gains.
- **Nivation:** A process where localized erosion occurs beneath and around a snowbank due to alternate freezing and thawing.
 - *Example:* Imagine a small dip in a mountain slope where snow sits; as it melts and refreezes, it eats away at the rock until a permanent "hollow" forms.
- **Firn:** Partially compacted granular snow that is at an intermediate stage between snow and glacial ice. It's the "buffer" that usually protects deeper ice.
- **Exposed Ice Patches:** When the protective layer of seasonal snow/firn thins out, the underlying glacial ice is exposed. This ice is much more sensitive to temperature spikes.
- **Deglaciation:** The disappearance of ice from an area, a direct consequence of global warming.

- **Main Arguments and Substantive Parts**

- The core thesis is that **minor cryospheric instabilities are as dangerous as major glacial lakes.**
- **The Srikanta Glacier Case:** Researchers linked the August 5, 2025, Dharali flash flood to the collapse of an ice patch in a nivation hollow.
- **Indicator of Deglaciation:** The exposure of these ice patches is a "warning light." It shows that the protective "insulation" of snow has vanished, leaving the glacier vulnerable to rapid disintegration.
- **Mechanism of Failure:** Exposed ice responds faster to heavy rain or heat. It fragments and collapses, releasing a "cocktail" of meltwater, ice, and debris downstream.
- **Limitations of Current Monitoring:** Traditionally, authorities look for large glacial lakes. This study argues that we are ignoring smaller, steep slopes where ice patches are failing.

- **Historical Evolution of the Issue**
 - **Pre-Independence:** Himalayan studies were primarily for cartography and climbing. Disasters were seen as "Acts of God."
 - **Post-1960s:** Increased focus on the Indus-Ganga-Brahmaputra river systems for hydroelectricity and irrigation.
 - **The 2013 Kedarnath Tragedy:** A massive turning point that forced India to look at the "Himalayan Tsunami" and the vulnerability of the Char Dham region.
 - **2021 Chamoli Disaster:** Shifted focus to rock-ice avalanches and the impact of infrastructure on fragile slopes.
 - **2024-2025 (Present):** Integration of high-resolution satellite imagery (ISRO) to identify micro-level changes like nivation hollows, moving from "reactive" to "predictive" science.
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- **Previous Years' Questions (PYQs)**
 - **Mains (2017, GS3):** "The frequency of landslides in the Himalayas is on the rise. Discuss the reasons."
 - **Mains (2021, GS3):** "Describe the various causes and the effects of landslides. Mention the components of the Important National Landslide Susceptibility Mapping Strategy of India."
 - **Prelims (2020):** Question regarding the location of glaciers (e.g., Siachen, Nubra Valley).

The Hidden Triggers: Shifting Paradigms in Himalayan Cryospheric Hazards

Historical Evolution of Himalayan Monitoring



Pre-1960s: Cartography Era
Studies were limited to mapping and climbing; disasters were largely viewed as unpredictable "Acts of God."

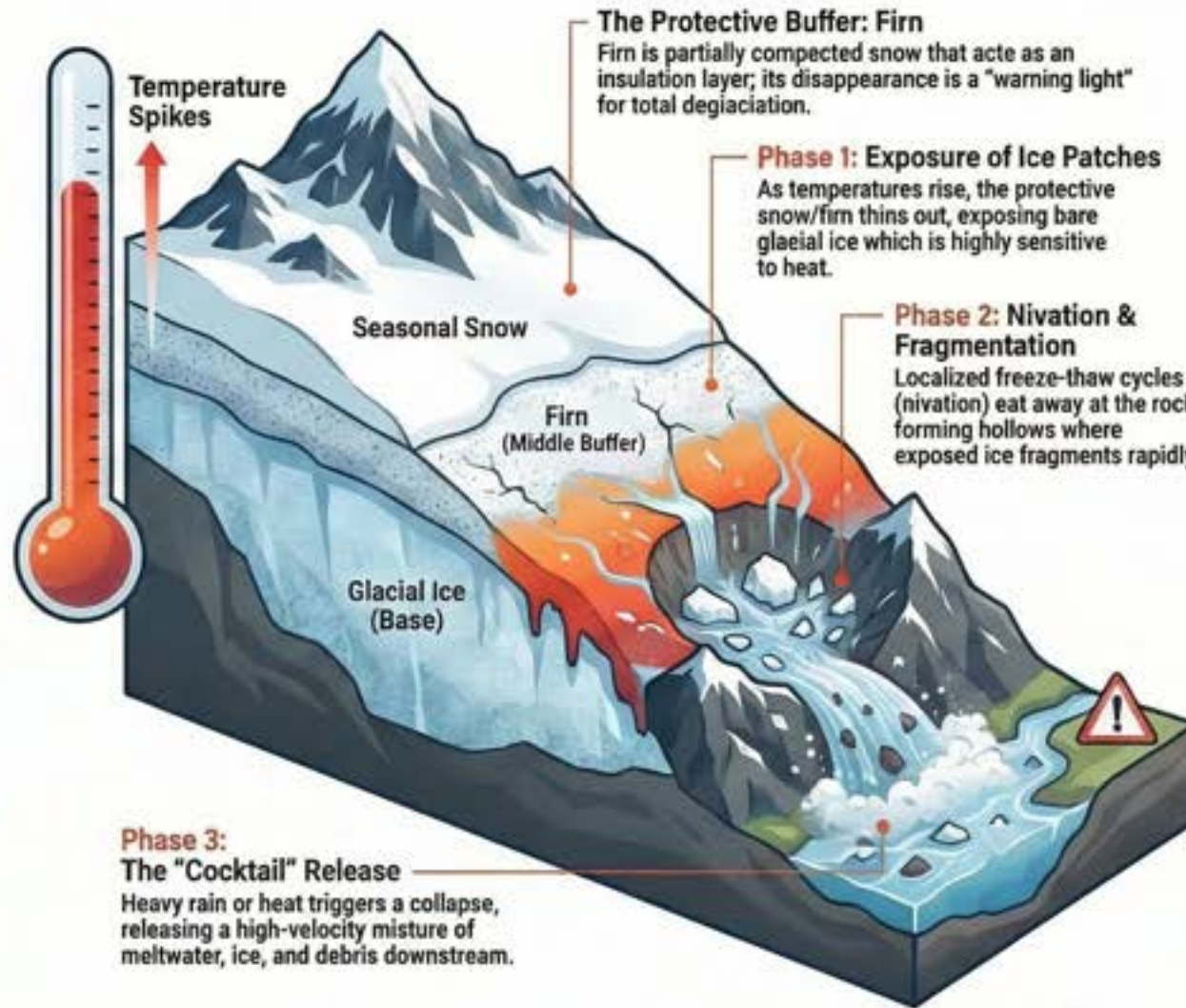


2013–2021: Turning Points
The Kodanath (2012) and Chamoli (2021) tragedies shifted focus to rock-ice avalanches and the impact of infrastructure on fragile slopes.



2024–Present: Predictive Science
Integration of ISRO's RIGAT and Cartosat satellites to identify micro-level changes like "nivation hollows" before they fail.

Anatomy of a "Hidden" Disaster



Strategic "Way Forward" for Disaster Risk Reduction (DRR)



Micro-Zonation
Mapping nivation hollows as "Geomorphologically Sensitive Zones" (GSZ) to restrict construction in high-risk downstream areas.



Hybrid Monitoring Systems
Combining high-resolution satellite data with "Citizen Science" by training local mountaineers to report unusual melting.



Climate-Resilient Infrastructure
Moving away from heavy blasting for road construction in vulnerable high-altitude zones to prevent slope instability.

UPSC CSE Relevance Corner

- GS Paper 1 & 3 Linkages**
Crucial for Geomorphology (GS1) and Disaster Management/S&T (GS3) regarding ISRO's role in disaster mitigation.
- Constitutional Mandate**
Aligns with Article 21 (right to a safe environment) and Article 48A (Protection of the environment).
- Case Study: Dharali Flood (2025)**
A primary example of how ice patch collapse in a nivation hollow (Srikanta Glacier) can cause sudden downstream devastation.

Why is the U.S. investigating India?

What allegations has the US made on excess capacity and forced labour? How do the two Section 301 investigations relate to the current US tariff regime? What issues are the US investigations examining and why do industry experts see them as a pathway to new tariffs?

EXPLAINER

T.C.A. Sharad Baghavan

The story so far:

Over the last week, the U.S. government has launched two investigations against India and several other countries in a bid to find some form of actions or policies that "are unreasonable or discriminatory and burden or restrict U.S. commerce". These investigations will likely take a few months, but could eventually result in the return of tariffs.

What is the current situation on tariffs?

The U.S. Supreme Court on February 20 ruled against the validity of U.S. President Donald Trump's use of the International Emergency Economic Powers Act (IEEPA) to levy reciprocal tariffs on America's trade partners. For India, these reciprocal tariffs had been 50% from August 2025 to February 6, 2026, after which Mr. Trump reduced them to 25%.

Following the court's decision, Mr. Trump imposed a 30% tariff on imports from all countries for a period of 150 days under Section 122 of the Trade Act of 1974. He threatened to increase this to 15%, but has not done so.

However, he said the U.S. would use other sections of the Trade Act to levy additional tariffs.

What was the first investigation?

On March 11, the office of the U.S. Trade Representative (USTR) said it had initiated investigations against 36 economies, including India, to see whether these economies were using excess manufacturing capacity to export to the U.S. in a manner that was hurting American businesses.

The order for investigation under Section 301(b) of the Trade Act included specific allegations against the economies



GETTY IMAGES

named - China, the European Union, Singapore, Switzerland, Norway, Indonesia, Malaysia, Cambodia, Thailand, Korea, Vietnam, Taiwan, Bangladesh, Mexico, Japan, and India.

In India's case, the U.S. said the country had a bilateral trade surplus with it of \$58 billion in 2025. Indian government data, however, shows that India had a merchandise trade surplus of \$42.2 billion with the U.S. over this period.

"India's global goods trade surplus sectors include textiles, health, construction goods, and automotive goods," the U.S. order said. "For example, evidence suggests the solar module sector is plagued by excess capacity, including that India's current module manufacturing is nearly triple annual domestic demand."

It added that India has created "significant excess capacity" in petrochemicals, steel, and other industries.

What is the second investigation about?

A day later, the USTR announced the launch of a fresh investigation, this time

on 60 countries, including India. The fresh investigation was to look into whether these countries had taken "sufficient steps" to prohibit the import of goods produced with forced labour and how the "failure to eradicate" these practices impacts U.S. workers and businesses.

This investigation, too, was under Section 301(b) of the Trade Act of 1974.

Why is Section 301(b) significant?

Section 301 of the Trade Act of 1974 is aimed at addressing unfair foreign practices affecting U.S. businesses. Notably, according to the website of the USTR, "Section 301 may be used to respond to unjustifiable, unreasonable, or discriminatory foreign government practices that burden or restrict U.S. commerce".

According to trade and industry experts, this "response" that has been allowed in the law is the pathway through which the Trump administration could once again levy tariffs on imports from other countries once the 150-day window for his current 10% expires.

"While its [the investigation's] impact on India's exports will be clear only after

the investigation concludes, it seems the move is aimed at imposing a new tariff once the 150 days for the 10% global tariff expires," Pankaj Chadha, chairman of the Engineering Exports Promotion Council of India, said.

How did the Indian government respond?

So far, it has not responded publicly. In contrast, the European Union has already spoken strongly about it.

"We will be seeking further clarity from the U.S. on how the opening of this section 301 investigation would interact with" the EU-U.S. agreement signed last year, European Commission spokesman Olof Gull said. "The commission would respond firmly and proportionately to any breach of the joint statement commitments," he added.

How have Indian industries responded?

Mr. Chadha said that this fresh development comes over and above the existing tariffs that the steel, aluminium, auto, and auto components sectors still have to pay. The U.S. has implemented a separate 50% tariff on the import of these goods, including from India, which continues even after the Supreme Court's order.

Similarly, the Confederation of Indian Textile Industry has said that the recent developments add further uncertainty to the textiles and apparel sector, which it said is already under significant stress due to the developments in West Asia and a lack of clarity over how the U.S. tariff situation will unfold.

Ravi Sam, the Vice Chairman of industry body Texprocil, however, said there is no need for panic as these investigations will be long, drawn-out processes and will not have any immediate impact. This sentiment was echoed by trade expert and former Director General of Foreign Trade Ajay Srivastava as well.

THE GIST

The U.S. has launched two investigations under Section 301 of the Trade Act of 1974 against India and other economies to examine practices that may be "unreasonable or discriminatory and burden or restrict U.S. commerce".

One probe examines whether countries, including India, are using excess manufacturing capacity to export to the U.S. in a manner that hurts American businesses, while another looks at whether countries have taken "sufficient steps" to prohibit imports of goods produced with forced labour.

- **Key Terms and Explanations**

- **Section 301 (Trade Act of 1974):** A legal tool that allows the U.S. President to take all appropriate action, including retaliation, to obtain the removal of any act, policy, or practice of a foreign government that violates an international trade agreement or is "unreasonable, discriminatory, or burdens U.S. commerce."

- **Excess Capacity:** When a country's industries can produce far more than their domestic market can consume, leading to a "glut." This often results in "dumping" goods into foreign markets at very low prices, which hurts local competitors.

- *Example:* If India produces 3x more solar modules than it uses, it must export the rest, potentially undercutting U.S. manufacturers.

- **Forced Labour:** Work or service exacted from any person under the menace of any penalty and for which the person has not offered themselves voluntarily. The U.S. uses this as a trade barrier under humanitarian and labor laws.

- **Reciprocal Tariffs:** A "tit-for-tat" tax strategy where Country A charges Country B the same tariff rate that Country B charges Country A on a specific product.

- **Trade Surplus:** When a country's exports exceed its imports. In 2025, India had a merchandise trade surplus of **\$42.2 billion** with the U.S.

- **Main Arguments and Substantive Parts**

- **The Core Thesis:** The U.S. is leveraging domestic trade laws (Section 301) to create a legal bridge for imposing new tariffs, effectively bypassing or extending beyond existing court-mandated tariff limits.

- **Investigation One (Excess Capacity):** The U.S. alleges that 16 economies, including India, are using excess manufacturing capacity—specifically in solar modules, steel, and petrochemicals—to "flood" the U.S. market.

- **Investigation Two (Forced Labour):** A broader probe involving 60 countries to determine if goods are being produced with forced labor and if governments are taking "sufficient steps" to prohibit such imports.

- **Counter-Arguments:** Industry experts (like those from Texprocil) argue that these investigations are "long and drawn-out" and do not pose an immediate threat, suggesting they may be more about political signaling than immediate economic shifts.

- **Historical Evolution of the Issue**
 - **Cold War Era:** Trade was secondary to geopolitical alignment; India's "License Raj" and protectionist stance kept trade volumes low.
 - **Post-1991 Liberalization:** Trade increased, but friction grew over Intellectual Property Rights (IPR) and agricultural subsidies.
 - **The GSP Tussle (2019):** The U.S. withdrew India's Generalized System of Preferences (GSP) benefits, citing a lack of equitable market access.
 - **2025-2026 Shift:** Under a more protectionist U.S. stance, tariffs were levied under the International Emergency Economic Powers Act (IEEPA), subsequently challenged in court, leading to the current reliance on Section 301.
-
- **Previous Years' Questions (PYQs)**
 - **UPSC 2023 (GS 2):** "The 'America First' policy and its impact on Indo-US relations."
 - **UPSC 2017 (GS 3):** "What are the key areas of reform if the WTO has to survive in the present context of Protectionism?"
 - **UPSC 2020 (GS 2):** "What introduces friction into the ties between India and the United States is that Washington is still unable to find for India a position in its global strategy."



Decoding U.S.-India Trade Friction: The Section 301 Challenge



The Trade Snapshot

Section 301: The Legal "Sledgehammer"
A U.S. legal tool to retaliate against practices deemed "unreasonable, discriminatory, or a burden to U.S. commerce".

Excess Capacity "Ghut"
U.S. alleges India produces 3x more solar modules than its domestic market can consume, leading to "dumping".

The Two Prongs of Investigation & The "Legal Bridge" Strategy

Investigation 1: Excess Manufacturing Capacity

Targets 16 economies (including India) to prevent U.S. market "flooding".

Investigation 2: Forced Labour Probes

A global probe (60 countries) to determine if goods are produced under duress & if governments prohibit imports.



The U.S. uses Section 301 investigations to "wait out" court-mandated tariff limits, creating a pathway for new, permanent tariffs.

The Philosophical & Strategic Clash

Fair Trade vs. Special Treatment

U.S. demands equal tariff rates.

India argues for "Special and Differential Treatment" (SDT) to protect its developing economy.

Sovereignty vs. International Norms

U.S. prioritizes domestic law (Trade Act)

WTO norms when "national interest" is at stake, risking retaliatory measures.

Impact & Way Forward

Multidimensional Impacts

Socially: Threatens Indian labor in textiles/solar.

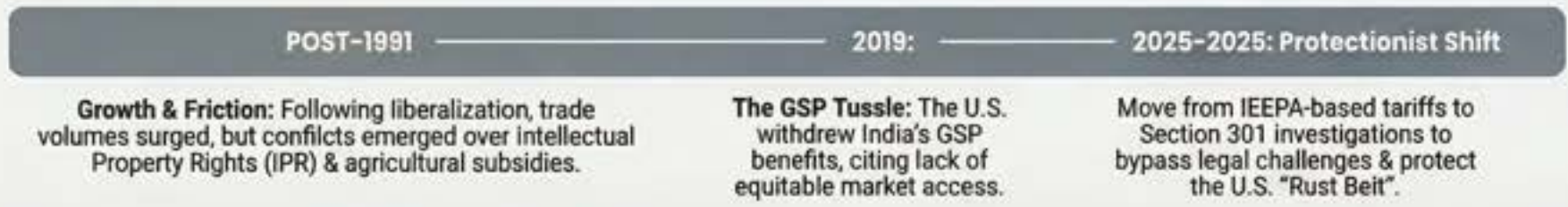
Internationally: Strains the "Strategic Partnership" between Quad members.

The Way Forward

Bilateralism & Diversification

Strengthening India-U.S. Trade Policy Forum (TPF) & accelerating FTAs with the UK and EU to reduce over-reliance on the U.S. market.

Historical Evolution of Trade Friction



UPSC CSE Relevance (GS Paper 2 & 3)

- GS Paper 2: International Relations:** Critical for topics involving "Bilateral agreements affecting India's interests" & "America First" policy impacts.
- GS Paper 3: Indian Economy:** Relates to "Effects of liberalization on the economy" & challenges to "export-led growth".



What makes some locations on Google Maps look blurry or difficult to navigate?

Several countries resist being clearly mapped on Google Maps because they fear that detailed satellite imagery could lead to the targeting of critical infrastructure or planning for potential attacks. Better quality satellite and mapping data make navigation easier and safer for users.

Infants transported

The experience of using Google Maps is different in various locations. While you may get hints by non-driving instructions and even level views with the top of your finger in several countries, other locations may look blurry and are difficult to navigate by road. A user's Google Maps experience is often linked to regulations in particular countries that control the use of satellite imaging and geographic surveys. This covers a set of questions about security and transparency.

Which countries resist being mapped, and why?

Several countries that have hostile relations with their neighbors or military groups resist road being clearly mapped on Google's navigation system. They fear that making detailed satellite imagery of their land easily available to users could lead to the targeting of critical infrastructure or planning for potential attacks.

Countries like India, Israel, and North Korea have, over time, changed their view of mapping, and these changes date back to a couple of decades earlier.

For instance, in 2007, the BBC reported that India had asked Google to lower the level of detail in some Google Earth images, for security reasons. Nearly a decade later, in 2016, India resisted Google's requests to give geotagged photographs for its Street View offering. Since then, only certain areas in the country in 2022. But, in late 2025, Google announced that it was launching its Maps service with Google AI, allowing people to get personalized travel advice and ask questions. The company noted that it had data for about 20 million places in India.

India is another country that poses a quandary to Google Maps users. Since

rights over multiple parts of Israel and you are likely to be met by extremely blurry images and not all areas maintain accuracy, or blurred and some difficult to see. Some of the visible issues, like roads, however, users can avoid as it clearly see the surrounding suburbs of Israel's military units, such as the detailed view of the various Israeli military camp markers.

Israel's reluctance to Google Maps was previously due to a U.S. law known as the E.O. 13526, which restricted the clarity of satellite images that show Israel and areas surrounding it. Enacted in 2001, it stipulated a resolution limit of two meters in Ground Sampling Distance (GSD), which measures how close one pixel translates to actual distance on the ground. In other words, a higher GSD value yields a less detailed and more blurry map, because less data is captured.

In July 2020, however, the U.S. Commerce Department published a Federal Register notice acknowledging that satellite imagery of Israel was available through other sources at a better resolution.

"The Department has therefore changed the existing resolution limit of 3.0m-GSD to 1.5m-GSD for U.S. licensed satellite imagery of Israel," noted the notice. In essence, this meant more detailed data for satellite imagery, and a clearer look at Israel on the map.

Jonathan Spector, who was the head of special programs at Israel's Defense Ministry, was quoted by Reuters that month as saying that it was "always preferable to be seen than not, rather than previously."

Despite the change in regulations, multiple locations in Israel are still blurred on Google Maps, though not necessarily in other mapping applications.

Several other countries have blurred out specific areas or particular landmarks

on Google Maps, largely for security reasons, such as Istanbul in France. On the other hand, some policies of central command and authorities are difficult to enforce in detail on Google Maps, with reasons for this including their climate.

South Korea, meanwhile, has pushed back against Google's requests for better map data. In a recorded statement from last year, the company noted that international satellite-based "great information" upon entering the country, "claiming that the direction feature of Google Maps was not available in Korea. Therefore, instead use a local offering like Naver, which is restricted to showing South Korea and parts of their neighboring countries. However, Google claimed that it was only requesting "basic" data, or a "national basic map" on a scale of 1:5000."

Finally, after years of delays and negotiations, Google claimed its victory in late February. It was announced that the internet giant would be allowed to request high-resolution map data to serve its local markets.

Google's Vice President Jim Turner said the company looked forward to bringing a "fully functioning Google Maps to Korea" per media comments. However, Korea's government hopes to Google to full its security conditions, such as sharing sensitive facilities, and not fully revealing the longitude and latitude coordinates for South Korean territory, reported Reuters. This raising of conditions was a condition that the Trump administration had reportedly pushed for, per media outlets.

How does greater mapping freedom affect Google and its users?

Google has explained that it uses satellites, including photogrammetry, to create its satellite view of Maps, or a process where it puts together satellite imagery captured from external providers. These include state agencies, geological

survey organizations and commercial imagery providers, according to a Google document from 2020.

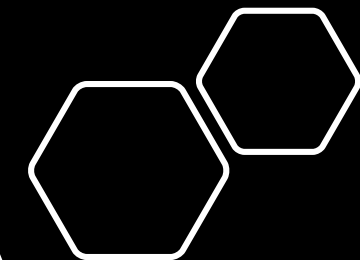
From the company's perspective, better quality data of people, frequently named places, such as South Korea make navigation easier and safer for those using Google Maps in such locations. However, satellite data also plays a crucial role in surveillance and activism. Images of Gaza taken from multiple platforms were used to raise international awareness about Israel's widespread bombing of civilian homes, even as the country insisted that it was targeting Hamas with precision.

Wanting access to high-quality, verifiable satellite imagery is also helpful when detecting falsified images. Like the case of a satellite image published by Tehran Times, which claimed to show a destroyed U.S. base in Qatar. During the U.S. map this month, however, researchers have identified this as an AI-generated image.

When Google Maps can obtain better satellite mapping data, there is a double benefit for its business as well. One key area and international hubs are mapped out in detail, this can ease the way for Google to provide digital services to people in those regions. While some key cities and international hubs are mapped out in detail, this can ease the way for Google to provide digital services to people in those regions. While some key cities and international hubs are mapped out in detail, this can ease the way for Google to provide digital services to people in those regions.

However, some South Korean experts have raised national concerns, noting that Google's enhanced access to Korea's map data could make it harder for local companies like Naver to compete and hold their own against an international giant.

As Google continues to tough the navigational needs of billions of users with the security requests of their governments, the integrity of satellite imagery on Maps is not just a technical challenge, but an urgent geopolitical issue.


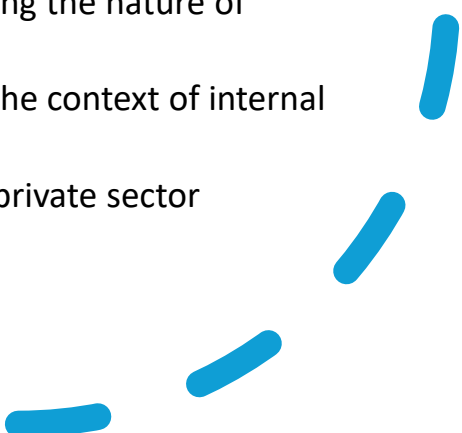


- **Key Terms and Explanations**

- **Ground Sampling Distance (GSD):** In satellite imagery, GSD is the distance between the centers of two adjacent pixels measured on the ground. A smaller GSD (e.g., 0.4 m) means higher resolution and more detail, while a larger GSD (e.g., 2.0 m) results in a blurrier image.
- **Photogrammetry:** The science of making measurements from photographs. Google uses this to turn 2D satellite and aerial imagery into 3D renderings of terrain and buildings.
- **Geospatial Data:** Data that has a geographic component to it, meaning that the records in a dataset have location information tied to them (coordinates, zip codes, etc.).
- **Kyl-Bingaman Amendment (1997):** a U.S. law that restricted U.S. satellite imagery providers from collecting or disseminating imagery of Israel at a resolution higher than what was available from commercial foreign sources. It was intended to protect Israeli security.
- **Sovereignty in Cyberspace:** The idea that a nation-state has the right to control the data, hardware, and information flow within its borders, including how its physical geography is represented digitally.

- **Main Arguments and Substantive Parts**

- The core thesis revolves around the **conflict between the "right to know/navigate" and the "need for national security."**
- **Security vs. Transparency:** Nations like India, Israel, and South Korea argue that high-resolution mapping of "sensitive areas" (military bases, nuclear plants, government offices) provides a "ready-made reconnaissance" tool for terrorists or hostile neighbors.
- **The Power of Resolution:** The article highlights how the U.S. government effectively controlled the "visibility" of an entire nation (Israel) for decades through domestic law, illustrating how technological superiority translates into geopolitical leverage.
- **Economic vs. Security Interests:** Tech giants argue that precise mapping is essential for modern economic infrastructure, including autonomous vehicles (Waymo) and efficient logistics. However, local players (like Naver in Korea) often benefit from these restrictions, creating a "security-based protectionism."

- 
- **Historical Evolution of the Issue**
 - **Cold War Era:** Satellite imagery was the exclusive domain of superpowers (USA/USSR) for espionage.
 - **Late 1990s:** The commercialization of satellite imagery began. The Kyl-Bingaman Amendment (1997) set a precedent for legal "blurring."
 - **2000s (The Google Earth Shock):** In 2005/2007, India and other nations raised alarms as high-resolution images of sensitive sites became available to anyone with an internet connection.
 - **2010s (The Street View Resistance):** India and South Korea restricted Street View for years due to fears that ground-level photos could be used to plan "fedayeen" style urban attacks.
 - **2020–Present:** Regulations are easing (e.g., U.S. lifting Israel restrictions in 2020; India's New Geospatial Policy 2021) as satellite technology becomes ubiquitous and "blurring" becomes less effective due to the rise of non-U.S. commercial satellite firms.
-
- **Previous Years' Questions (PYQs)**
 - **UPSC 2021 (GS3):** "Discuss how emerging technologies are changing the nature of internal security."
 - **UPSC 2018 (GS3):** "What is the role of information technology in the context of internal security?"
 - **UPSC 2022 (GS3):** Questions regarding the New Space Policy and private sector participation.
- 

Digital Mapping & National Security: The Geospatial Double-Edged Sword

1. Foundations of Geospatial Tech

Ground Sampling Distance (GSD)



Large GSD



Small GSD

The distance between pixel centers on the ground; smaller GSD (e.g., 0.4m) equals higher resolution and sharper detail.

Photogrammetry



The science of turning 20 satellite/serial imagery into detailed 3D renderings of terrain and buildings used by platforms like Google Earth.



Sovereignty in Cyberspace

A nation's right to control data, hardware, and the digital representation of its physical geography within its borders.

4. The Way Forward for India



Dynamic Whitelisting

Moving from blanket bans on imagery to obscuring only the most critical, high-value strategic assets.



Data Localization

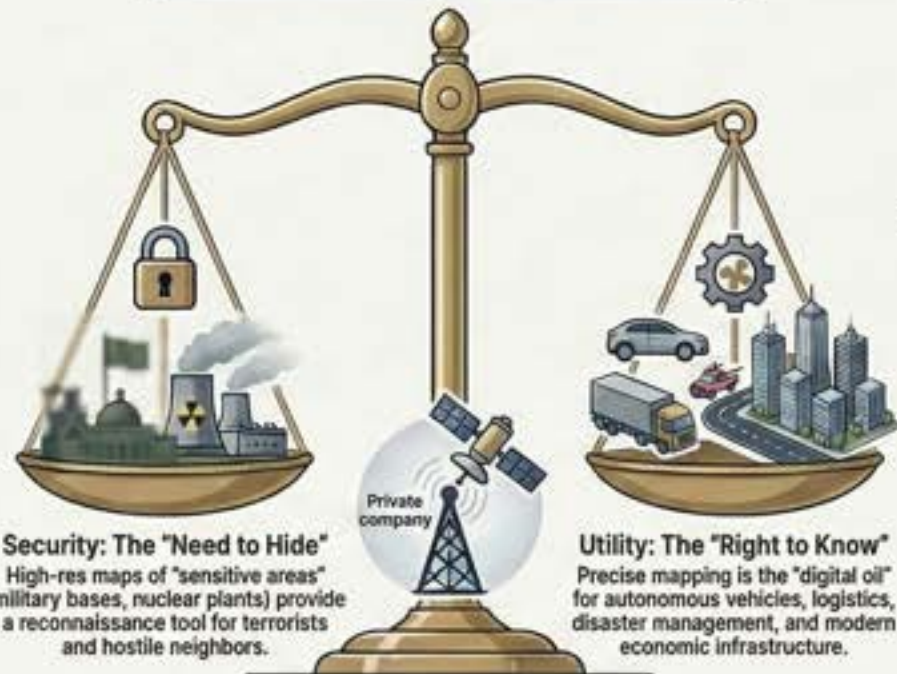
Ensuring that sensitive, high-resolution domestic data is stored on local servers rather than foreign clouds.



Technological Superiority

Acknowledging that "Security through Obscurity" is dead; India must focus on robust cyber-defense and superior tech.

The "Double-Edged Sword" Debate



Security: The "Need to Hide"

High-res maps of "sensitive areas" (military bases, nuclear plants) provide a reconnaissance tool for terrorists and hostile neighbors.

Utility: The "Right to Know"

Precise mapping is the "digital oil" for autonomous vehicles, logistics, disaster management, and modern economic infrastructure.

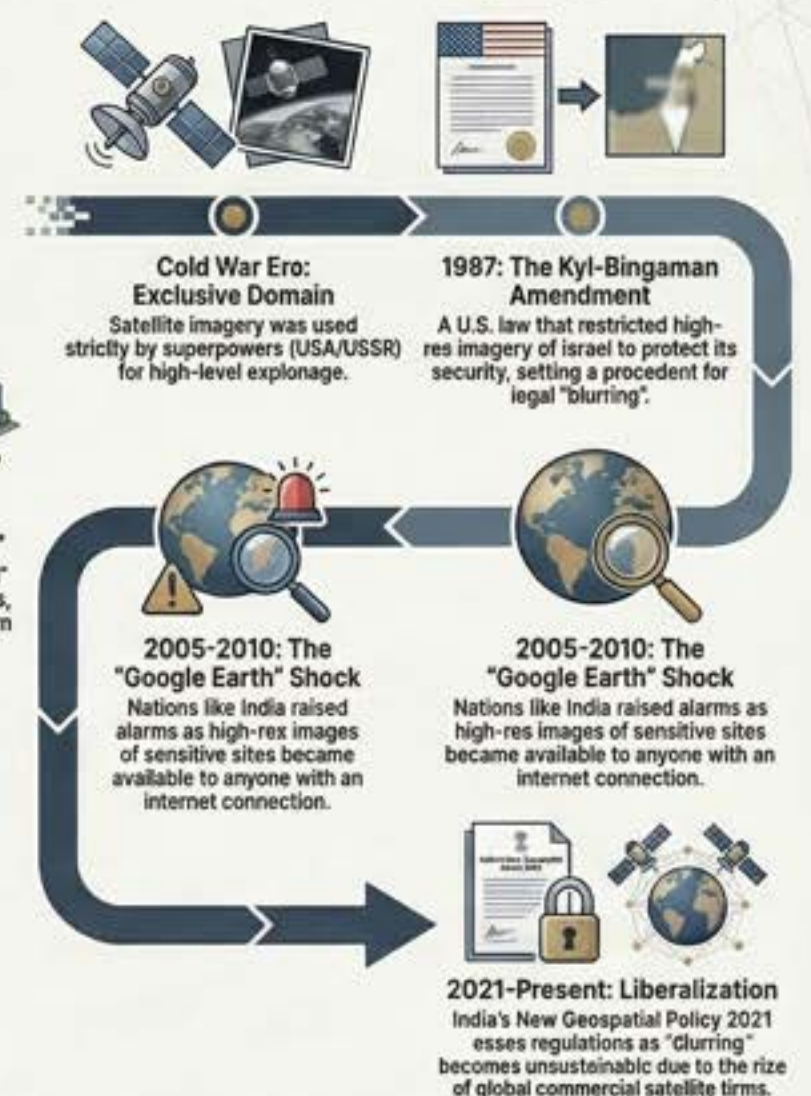
The "God's Eye" Ethics

Private companies often hold better data on a country than the country's own citizens can access, raising questions of consent and power.

UPSC Syllabus Connection

Paper	Relevant Theme
GS Paper 2	Governance & Effect of global policies on India's interests
GS Paper 3	Science & Tech (Space/IT), Internal Security, & Disaster Management
GS Paper 4	Ethics: Security vs. Privacy and Transparency

3. Historical Evolution: From Espionage to Ubiquity



• POLICY

Behind Karnataka liquor tax tweak from price to alcohol content



Akram M
Bengaluru, March 15

COME APRIL, Karnataka will be the first state in the country to transition to an Alcohol-in-Beverage (AIB) based excise duty.

In the Budget presented on March 6, Chief Minister Siddaramaiah said that "the government administered price fixation will be completely deregulated" under the new policy. Distillers will decide the slabs under which their products will fall, with the government hoping that the change will help shore up more revenue.

The government describes AIB as "globally recognised as the gold standard for alcohol taxation, as it directly targets the alcohol content which is the primary source of negative externalities." This means that the percentage of alcohol in a liquor brand will determine the duty levied on it, effectively ending the existing taxation system.

Revamping excise duty policy

• NUMBER OF SLABS TO CHANGE

• Currently, a product gets slotted under one of 16 tax slabs based on the selling price determined by the distiller.

• These slabs will be gradually phased out, with alcohol percentage determining the duty levied.

In Karnataka, alcoholic products currently fall under 16 slabs. A product gets slotted under a particular slab based on the Declared Price, which is the selling price determined by the distiller. The Additional Excise Duty levied by the government was dependent on the per-litre price of the product, which resulted in products in the premium liquor segment being priced on the higher side.

Over the next four years, the government plans to abolish the slab system of excise duty collection completely. For FY 2026-27, the government will merge multiple slabs and reduce their number from 16 to eight, officials said. A notification regarding the same is likely to be published over the coming week.

Gradually, the government wants to do away with these slabs altogether. "We cannot do it in a go because it will have an adverse effect. We will do it in phases," Excise Minister RB Thimmapur told *The Indian Express*.

"Currently, the duty levied for a bulk litre of say, McDowell's (which is at the lower end) and Blue Label (which is at the higher end) is different and is based on the Declared Price. Both have 42% alcohol. Under the new system, both drinks will attract the same percentage of additional excise duty irrespective of the declared price," he added.

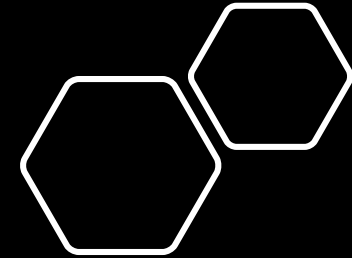
Impact on excise revenue

Karnataka draws considerable income from the state excise duty levied on alcohol. For FY 2026-27, the Budget targets Rs 45,000 crore in revenue collection. While it is unclear yet how the transition will impact revenue, officials predict that the transition will affect the revenue structure once the AIB-based excise duty is fully implemented.

"Around 60% of the excise revenue is from the first few slabs in the existing system," an official noted, highlighting that duty from cheaper liquor contributed to the lion's share of the income generated. On the other hand, the premium liquor segment did not generate higher revenue and saw its sales affected by the high prices.

"With the AIB duty structure, we are anticipating the premium sector to add more to the revenue by virtue of increased sales," he said, indicating that premium liquor prices could see a downward revision.

How merging different price slabs will affect liquor prices will be clear once the new slab structure is notified, the official added.





- **Key Terms and Explanations**

- **Alcohol-in-Beverage (AIB):** A taxation model where the duty is levied based on the absolute volume of alcohol present in a drink, rather than its market price.

- *Example:* Under AIB, a 750ml bottle of premium Scotch and a 750ml bottle of budget whiskey would pay the same tax if they both contain 42.8% alcohol.

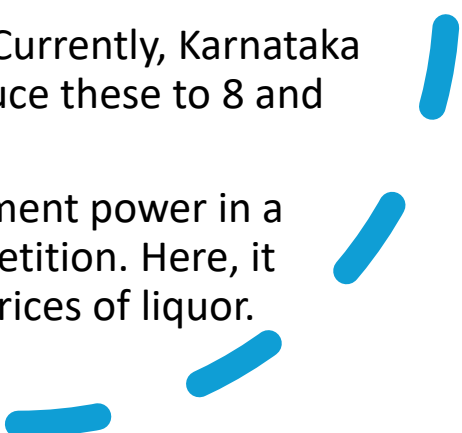
- **Excise Duty:** An indirect tax levied on the manufacture of goods within the country. In India, "Alcohol for Human Consumption" is a state subject under the Seventh Schedule.

- **Declared Price:** The selling price of the liquor as determined by the distiller or manufacturer before taxes are added.

- **Negative Externalities:** The unintended social and health costs of a product that are not reflected in its market price (e.g., healthcare costs for liver disease, road accidents, or domestic violence).

- **Tax Slabs:** Different categories or "rungs" of taxation. Currently, Karnataka uses 16 slabs based on price; the new policy aims to reduce these to 8 and eventually phase them out.

- **Deregulation:** The reduction or elimination of government power in a particular industry, usually enacted to create more competition. Here, it refers to the government stepping back from fixing the prices of liquor.



Main Arguments and Substantive Parts

The core thesis is that **taxing alcohol content is more efficient and socially responsible than taxing luxury.**

The Price-to-Content Pivot: The current system penalizes "premium" brands because they are expensive, not necessarily because they have more alcohol. This has led to a stagnation in the premium segment.

Revenue Optimization: Officials argue that while 60% of revenue comes from low-end slabs, the high taxes on premium liquor actually hurt total collection by depressing sales in that segment. AIB could lower premium prices, boosting volume and revenue.

Health and Policy Alignment: By targeting the "alcohol" itself, the government claims to be addressing the primary source of social harm (externalities) rather than just taxing wealth.

Phased Implementation: The transition will be gradual (reducing 16 slabs to 8 first) to prevent a "price shock" that could destabilize the market or encourage illicit liquor.

- **Historical Evolution of the Issue**
- **Pre-Independence:** Excise was a major revenue tool for the British. The 1935 Government of India Act paved the way for provincial control over "intoxicating liquors."
- **Post-Independence (Constitutional Framework): Article 47** (Directive Principles) urges states to endeavor to bring about prohibition. However, **Entry 51 of the State List** gives states the power to tax alcohol.
- **The Era of Control:** For decades, most states followed a "high-tax, high-control" model, using liquor as a "cash cow" to fund welfare schemes.
- **GST Implementation (2017):** Alcohol for human consumption was kept **outside GST**. This increased the pressure on states to maximize excise duty as it is one of their few remaining independent revenue streams.
- **The Karnataka Shift (2026):** Moving to AIB marks the transition from a "Value-based" to a "Volume/Potency-based" international standard.

- **Previous Years' Questions (PYQs)**

- **UPSC Mains:**

- "The states in India have very limited power to generate their own revenue after the implementation of GST." Discuss. (GS-2/3, 2017/2018 context)
- "To what extent can the state balance its revenue needs with the Directive Principles of State Policy regarding the prohibition of liquor?" (Ethics/GS-2)

- **UPSC Prelims:**

- Which of the following items is/are outside the purview of GST? (1. Petrol, 2. Alcohol, 3. Tobacco...)
- The "Seventh Schedule" of the Indian Constitution contains... (Context: State List vs Union List).



The Shift in Karnataka's Excise Policy: From Price to Potency (Ad Valorem vs. AIB)

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UNDERSTANDING THE CORE SHIFT



WHAT IS ALCOHOL-IN-BEVERAGE (AIB)?

A taxation model where duty is levied on the absolute volume of alcohol (ABV) in a drink, rather than its market price.

THE "SAME POTENCY, SAME TAX" RULE



Under AIB, a 750ml bottle of premium Scotch and a budget whiskey pay the same tax if they both contain 42.8% alcohol.

Price-to-Content Pivot

TAXATION BASIS:
PRICE vs. POTENCY



MULTIDIMENSIONAL ANALYSIS (PROS, CONS & RISKS)



REVENUE OPTIMIZATION VS. SOCIAL EQUITY

While AIB boosts revenue from premium sales, it may make "budget" liquor more expensive, potentially impacting lower-income households.



NEGATIVE EXTERNALITIES

The policy addresses the "Sin Tax" logic by charging for the social and health costs associated with alcohol consumption.



THE "HOOSH" RISK

High taxes on low-cost liquor could drive consumers toward dangerous, illicit "moonshine" (Hoosh) if not managed carefully.

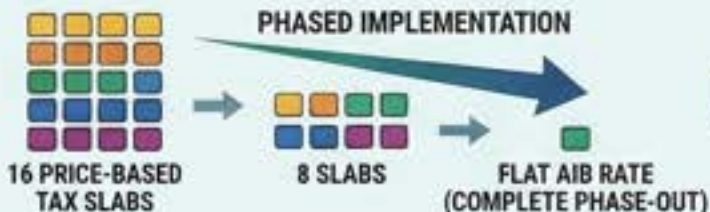


INTER-STATE SMUGGLING

Significant price differences between Karnataka and neighbors like Maharashtra could trigger large-scale cross-border smuggling.

PHASED DE-SLABBING STRATEGY

PHASED IMPLEMENTATION



CONSTITUTIONAL AND LEGAL PILLARS



SEVENTH SCHEDULE & ENTRY 51

The State List grants states the exclusive power to tax "Alcohol for Human Consumption," making it a vital independent revenue tool.



THE GST EXCLUSION (2017)

Alcohol remains outside the GST net, increasing pressure on states to maximize excise duty to fund welfare schemes.



ARTICLE 47 (DPSP)

The Directive Principles urge the State to endeavor toward prohibition; the AIB model justifies taxation as a tool for public health by targeting the intoxicant.

COMPARISON: AD VALOREM vs. SPECIFIC (AIB)

FEATURE	AD VALOREM (OLD SYSTEM)	SPECIFIC/AIB (NEW SYSTEM)
1 Tax Basis	Market Declared Price	Alcohol Content (ABV)
2 Impact on Premium	High prices (taxed as a luxury)	Lower prices (volume-based)
3 Social Logic	Tax on Wealth	Tax on Intoxication
4 Market Style	State-fixed pricing	Market-determined pricing (Deregulation)
5 Global Status	Traditional/Developing Model	International "Gold Standard"

THE UPSC ROADMAP

(WAY FORWARD)



ROBUST CHEMICAL AUDITING

Success requires enhanced excise labs to ensure distillers report accurate Alcohol by Volume (ABV) levels.

CROSS-SUBSIDIZATION FOR HEALTH

A portion of the new revenue should be directed toward addiction rehabilitation and public health awareness.

LINK TO GS PAPERS

Relevant for GS-2 (Federalism), GS-3 (Government Budgeting), and GS-4 (Ethics of Sin Revenue).

Why LPG sector is the worst hit by Iran war

India's import dependency for LPG supplies is around 60 per cent. The now-choked Strait of Hormuz is a major passageway for the imports



SUKALP SHARMA

THE WAR in West Asia has affected India's overall energy imports, be it crude oil, liquefied natural gas (LNG), or liquefied petroleum gas (LPG). But the country's overall supply challenge in the case of LPG—used as kitchen fuel by cores of Indian households—is far more acute than oil and LNG.

While India so far appears comfortable on crude oil, petrol, and diesel stocks, the government has prioritised natural gas so that sectors that need the fuel the most get it, while others receive curtailed volumes. But in the case of LPG, relatively drastic steps have been undertaken.

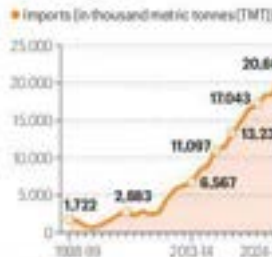
Given the scale of LPG use in homes, the government has prioritised LPG supplies to households over commercial and industrial consumers, which has led to massive shortage of the fuel for these segments across India. It has also ordered refiners to maximise LPG production, and directed them to divert propane, butane, and other streams from petrochemical manufacturing to LPG production.

The government has also increased waiting times between cylinder bookings by households from 21 days to 25 days in urban areas and 45 days in rural areas. Such is the supply crunch, particularly for commercial consumers, that the government has activated alternative fuel streams like kerosene, fuel oil, biomass, and even coal for them.

Why is LPG the hardest-hit?

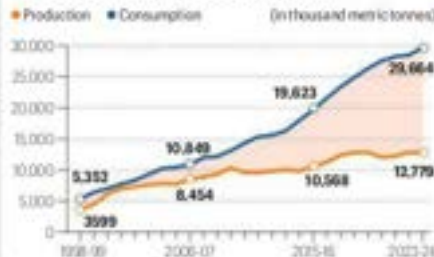
India's annual LPG consumption is currently estimated at around 33 million tonnes, of which domestic production is around 13 million tonnes, or around 40%. This means that India's import dependency for LPG supplies is around 60%. Now, in the case of crude oil, the reliance on imports is much higher at over 88%. So why is it that so far India appears to be doing fine on crude oil and major fuels like petrol and diesel, while LPG supplies have been affected?

• LPG imports

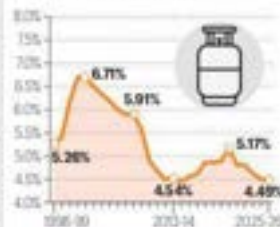


SOURCE: IEC

• LPG production and consumption



• Share of LPG in total output of domestic refineries



*SHARE OF LPG IN TOTAL OUTPUT OF DOMESTIC REFINERIES

At the heart of the problem is the Strait of Hormuz—the narrow waterway between Iran and Oman that connects the Persian Gulf with the Gulf of Oman and the Arabian Sea—where maritime traffic has effectively come to a halt since the conflict began.

India's reliance on the Strait of Hormuz for crude is around 40%, while in the case of LPG, it is a whopping 90%. This effectively means that with the chokepoint all but closed, over 50% of India's LPG supply has disappeared.

Although the government's emergency measures have led to about 30% increase in domestic production of LPG vis-à-vis the pre-conflict levels, it essentially translates to just 10-12% of additional production when total consumption is considered. So even with higher LPG output from domestic refineries, 42-44% of the country's LPG supply is still offline for all intended purposes.

The government and oil companies are getting some LPG cargoes from non-Hormuz regions, particularly North America, but these will take weeks to reach India, as compared with West Asian cargoes, which usually take a few days.

Why is there no panic on crude oil, petrol, diesel supplies?

As for crude, getting extra cargoes from regions other than West Asia has been relatively easier so far. For instance, mil-

Russian oil factor

With the US no longer objecting to India buying Russian oil, New Delhi's daily average oil imports from Moscow have shot up by over 50% from February levels.

Crude supply risk can be partially mitigated through diversification and Russia flows. LPG availability is the variable to monitor in the coming weeks," said Sumit Ritola of Kpler

lions of barrels of Russian crude that were idling in tankers in international waters around India before the conflict are taking just a few days to arrive at Indian ports. India also has relatively higher levels of stockpiles of oil, petrol, and diesel than LPG and LNG, which hardly have additional stocks beyond what is there in the supply chain.

Last week, a top government official said that India had six-eight weeks of crude and petrol and diesel stocks put together—including commercial stocks as well as strategic reserves—and expected the position to remain "comfortable" going forward, considering additional volumes of oil from non-Hormuz-dependent regions was being bought. The regular oil supply from outside West Asia is continuing unabated.

What about natural gas supplies?

There is some stress in natural gas supplies as well, though not as much as LPG. India depends on imports to meet around half of its natural gas needs, and roughly 60% of those imports came through the Strait of Hormuz, mainly from Qatar and the UAE. This means that the Strait's effective closure has cut off roughly 30% of India's natural gas supplies.

The government has decided to divert natural gas to the critical "priority sectors" that are dependent on the fuel. Segments that directly impact millions of common

consumers—PNG for households, compressed natural gas (CNG) for vehicles, and LPG production—will have precedence. Also, as is the case with crude oil and LPG, Indian companies are actively scouting for spot LNG cargoes from regions other than West Asia.

The government order on natural gas supplies lists four priority categories that shall receive, subject to availability, natural gas in varying quantities based on their average gas consumption levels of the past six months. The top-priority category, which will receive 100% of the average gas consumption of the last six months, includes PNG for households, CNG for transportation, natural gas used for LPG production, and gas consumed for essential pipeline operations.

The second priority category, according to the order, is fertiliser units, which will receive 70% of their average gas consumption of the past six months.

The third category includes "tea industries, manufacturing and other industrial consumers supplied through the national gas grid", for which supply will be maintained at 80% of their six-month average consumption.

In the fourth category are commercial and industrial consumers of city gas distribution companies; they will get 80% of their past six-month average gas use.

LONGER VERSION

[INDIA](https://www.bhaskar.com/article/INDIA)



- **Key Terms and Explanations**

- **LPG (Liquefied Petroleum Gas):** A flammable mixture of hydrocarbon gases (primarily propane and butane) used as fuel in heating appliances, cooking equipment, and vehicles.
- **Strait of Hormuz:** A narrow, strategically vital waterway between Oman and Iran. It connects the Persian Gulf with the Gulf of Oman and the Arabian Sea. It is the world's most important oil transit chokepoint.
- **Import Dependency:** The degree to which a country relies on external sources for its supply. For LPG, India's dependency is approximately 60%.
- **Strategic Petroleum Reserves (SPR):** Emergency fuel storage of crude oil maintained by the government to ensure energy security during supply disruptions.
- **City Gas Distribution (CGD):** The network of pipelines that provides Piped Natural Gas (PNG) to households and Compressed Natural Gas (CNG) to vehicles.
- **Spot Cargoes:** Energy shipments (LNG/LPG) purchased for immediate delivery on the open market, rather than through long-term contracts.

- **Main Arguments and Substantive Parts**

- The core thesis is that **India's LPG sector is more vulnerable to West Asian conflicts than crude oil or petrol/diesel** due to a higher reliance on the Strait of Hormuz and lower domestic buffer stocks.
- **The Chokepoint Vulnerability:** While 40% of India's crude oil passes through the Strait of Hormuz, a staggering **90% of its LPG imports** pass through this narrow corridor. Its closure effectively halts the majority of India's cooking gas supply.
- **Buffer Capacity Disparity:** India maintains significant stockpiles of crude oil, petrol, and diesel (sufficient for several weeks). In contrast, LPG stocks are much leaner, making the supply chain "hand-to-mouth."
- **Prioritization Policy:** To manage the crunch, the government has implemented a "priority ladder." Domestic households (LPG/PNG) and fertilizers get top priority, while commercial and industrial sectors face 20%–30% supply cuts.
- **The Russian Factor:** India has mitigated crude oil risks by diversifying imports toward Russia (non-Hormuz route). However, this diversification is not yet mature for LPG, which still relies heavily on Middle Eastern producers.

- **Historical Evolution of the Issue**

- **Pre-1990s:** LPG was a luxury in India, with limited penetration and long waiting lists.
- **1997-2000s:** The New Exploration Licensing Policy (NELP) sought to increase domestic production, but LPG demand began outstripping supply as the economy grew.
- **2014-2016 (The Ujjwala Revolution):** The Pradhan Mantri Ujjwala Yojana (PMUY) drastically increased LPG coverage from roughly 55% to over 95%. This social success created a massive, inelastic demand that now represents a strategic vulnerability.
- **2022-Present:** The Russia-Ukraine conflict and subsequent West Asian tensions shifted India's energy procurement strategy toward "strategic autonomy" and diversification.

- **Previous Years' Questions (PYQs)**

- **UPSC 2017 (GS3):** "It is a quantitative as well as qualitative change in India's energy inflow from West Asia. Comment."
- **UPSC 2022 (GS2):** "The Israel-Arab conflicts have impacted India's energy security. Discuss."
- **UPSC 2018 (GS3):** "Access to affordable, reliable, sustainable and modern energy is the sine qua non to achieve Sustainable Development Goals (SDGs). Comment."



India's LPG Vulnerability Amidst Straits of Hormuz Tensions

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Key Terms Explained

- LPG (Liquified Petroleum Gas)**
A propane and butane fuel mix.
- Straits of Hormuz**
A vital Persian Gulf chokepoint
- Import Dependency**
India depends 60% on imports
- Strategic Petroleum Reserves**
Fuel reserves for emergencies
- City Gas Distribution (CGD)**
Piped Natural Gas (PNG) network
- Spot Cargoes**
Immediate market purchases

--- UPSC CSE Syllabus ---

International Relations
UDBs (tests) (sessions)

Internal Security
(SPI)

Economy
Impact of crises
international trade development



Dependence on Hormuz for LPG vs. Crude

- Chokepoint Reliance:** 90% of LPG via Hormuz
- Low LPG Stocks:** Not as robust as crude oil stocks
- Economic Risk:** Industrial cuts impact GDP, jobs

Risks of Dependence on Hormuz

- Chokepoint Reliance:** 90% of LPG via Hormuz
- Low LPG Stocks:** Not as robust as crude oil stocks

Current Impacts

- Supply Cuts:** 20 or 90% reduction in industrial LPG supply
- Price Volatility:** Rapid LPG price spikes

Potential Solutions

- Developing LPG Storage:** Build strategic reserves
- Diversify Imports:** Reduce dependency on Hormuz
- Electrifying Kitchens:** Promote induction cooking

Strategic Responses

- Refinery Diversion:** Petrochemical feedstocks shifted to LPG
- Household Priority:** Domestic LPG/PNG prioritised
- Alternative Fuels:** Kerosene or biomass for industrials
- Promote Induction:** Electric cooking as long-term fix



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