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World needs peace and predictability, says Modi

Quad leaders issue joint statement opposing economic, maritime 'coercion' in Indo-Pacific; Modi proposes seafarers' safety initiative at East Asia Summit, and attends meeting with ASEAN leaders

Suhasini Haidar
NEW DELHI

Prime Minister Narendra Modi on Tuesday called for "peace, stability, and predictability" in the world as he attended three back-to-back summits, including the Quad Leaders' Summit, in Manila, the Philippines. He made a number of proposals aimed at maritime security, protecting critical minerals supply chains, and enhancing trade.

The Quad meet, which was being held for the first time in a non-member country, was hosted by U.S. President Donald Trump and was attended by Australian Prime Minister Anthony Albanese and Japanese Prime Minister Sanae Takaichi, apart from Mr. Modi. The leaders issued a joint statement opposing economic and maritime "coercion" in the Indo-Pacific, and Mr. Modi announced that India would host the first Quad Business Forum in Mumbai in 2027.



Strategic group: Prime Minister Narendra Modi with leaders of other Quad nations in Manila, the Philippines, on Tuesday. REUTERS

The events started with Mr. Modi's meeting with the leaders of the Association of Southeast Asian Nations (ASEAN) for the ASEAN-India Summit, where he said the world now needed peace, stability, and predictability more than ever. "Together, India and ASEAN represent nearly one-fourth of the world's population. That is why it is essential to ensure that our future is shaped not by competition, but by cooperation," Mr. Modi told ASEAN leaders. He also promised that India would give e-visas free of charge to ASEAN tourists. Myanmar's junta leader, President Min Aung Laing, was not invited, and the country was represented by an official.

Following this, Mr. Modi took part in the East Asia Summit, attended by the leaders of India, China, Russia, the U.S., Japan, South Korea, and the ASEAN countries, and proposed a seafarers' safety initiative. He said that "whether it is the conflict in Ukraine or West Asia, India will continue to support every effort towards peace".

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1. World Needs Peace and Predictability, Says Modi

Source: The Hindu
GS Paper II – International Relations

Context

- At the ASEAN and East Asia Summits in Manila, India called for peace, stability and predictability amid rising geopolitical tensions, economic coercion and maritime insecurity.

1. Key Developments

- **Quad:** Opposed coercion and unilateral attempts to change the status quo; raised concerns over critical mineral and strategic equipment export restrictions.
- **ASEAN:** Proposed a Seafarers' Safety Initiative; offered e-visas to ASEAN tourists; emphasised cooperation against cybercrime and online fraud.
- **New initiatives:** Quad Business Forum in Mumbai (2027); cybercrime summit at National Forensic Sciences University, Gandhinagar; East Asia Summit University Heads Conclave at Nalanda.

2. India's Membership in Regional Groupings

Grouping	India's Status
ASEAN	Dialogue Partner
East Asia Summit (EAS)	Member
Quad	Member – India, U.S., Japan, Australia
APEC	Not a member

3. Significance for India

- **Strategic balancing:** Counterbalance China's growing influence in the Indo-Pacific.
- **Maritime security:** Protect sea lanes, shipping, trade routes and Indian seafarers.
- **Economic resilience:** Diversify critical mineral, technology and supply-chain dependencies.
- **Regional influence:** Strengthen India's Act East Policy and engagement with Southeast Asia.
- **Rules-based order:** Promote freedom of navigation, peaceful dispute resolution and opposition to coercion.

4. Challenges

- China’s expanding military and economic footprint in the Indo-Pacific.
- Maritime disruptions and vulnerabilities along critical trade routes.
- Dependence on concentrated global supply chains for critical minerals and technologies.
- Divergent strategic interests among regional partners.
- Cybercrime, online fraud and emerging transnational security threats.

5. Way Forward

- Strengthen maritime domain awareness and naval cooperation.
- Diversify critical mineral and technology supply chains.
- Deepen ASEAN engagement and Quad cooperation without undermining ASEAN centrality.
- Enhance intelligence-sharing and cross-border cybercrime coordination.
- Maintain diplomatic dialogue and confidence-building measures to prevent escalation.

UPSC Prelims PYQ | 2015

India is a member of which among the following?

1. Asia-Pacific Economic Cooperation (APEC)
2. Association of South-East Asian Nations (ASEAN)
3. East Asia Summit (EAS)

- (a) 1 and 2 only
- (b) 3 only
- (c) 1, 2 and 3
- (d) India is a member of none of them

Answer: (b) 3 only

The battle for responsible microfinance

Is the RBI drawing a necessary line between financial inclusion and reckless lending? Is the microfinance industry prioritising loan growth over borrower protection? Are existing credit checks enough to assess a household's actual repayment capacity? Is pseudo-consent becoming a wider banking-sector concern?

EXPLAINER

Santosh V. Perumal

The story so far:

The firm stand of the Reserve Bank of India (RBI) on the microfinance industry has sent out strong messages that financial inclusion cannot be at the cost of household over-indebtedness, and responsible lending begins even before a loan is sanctioned. After two years of contraction, stability appears to have returned in the country's microfinance sector – which primarily targets unbanked or under-banked individuals, informal workers, and rural households living below or near the poverty line – but recovery remains fragile.

Industry-wide early-stage delinquency (30-179 days past due) fell to 1.9% in June 2026 from 6.1% a year earlier. However, loans overdue by more than 180 days were high at 17.4%, implying the extent of legacy stress.

What is microfinance's footprint?

The SIDBI-Equifax Microfinance Pulse Report, covering June 2026, shows that the outstanding microfinance portfolio fell 12% year-on-year (YoY) to ₹2.69 lakh crore. The sector had 7.15 crore active loan accounts. Disbursements during April-June 2026 however grew 17% YoY to ₹62,302 crore.

The Sa-Dhan Quarterly Microfinance report gives a somewhat broader picture, with the industry's outstanding portfolio at ₹3.26 lakh crore in June 2026, down 7.6% YoY. Banks' direct microfinance portfolio was about ₹83,080 crore in June 2026, accounting for one-fouth of the industry's portfolio, according to Microfinance Institutions Network (MFIN) data, it represented less than 0.4% of total scheduled commercial bank credit.

Direct financial footprint is relatively small, but microfinance's influence on rural consumption, women's entrepreneurship, informal businesses and household livelihoods is substantial. The sector's cumulative contribution to India's Gross Value Added (GVA) was 2.03% in 2018-19, projected to rise to 2.7% by 2025-26.



RBI Deputy Governor emphasised that lenders must provide the Key Facts Statement regarding loans and obtain an acknowledgement that the borrower understands the commitment. GETTY IMAGES

What are the industry demands?

One of the key demands is an upward revision of the ₹3 lakh annual household income threshold, which was introduced in 2022. According to the MFIN, the threshold does not adequately reflect increases in wages, household incomes and inflation. Consequently, borrowers whose incomes improved marginally may be out of the regulatory definition, although they may continue to require small-ticket credit.

Another demand is on the 50% fixed-obligation-to-income ratio (FOIR) as the industry seeks a rational review from the banking regulator as they view that a uniform 50% repayment ceiling may not adequately capture regional differences in household income, consumption expenditure, cost of living and repayment capacity.

Divergence over FOIR, income eligibility and lending practices could create uncertainty and discourage fresh capital in the sector. It could also push financially vulnerable households towards informal moneylenders, potentially exposing them to higher interest rates. The microfinance industry wants certain repayment obligations to be assessed more flexibly, including proposals to consider only the interest component of some loans rather than the entire principal and interest repayment.

What did the RBI say?

On FOIR, the RBI instead viewed excluding principal repayments as understating actual household indebtedness. In this regard, it cites a study that showed an average microfinance borrower spends just 18.7% of her monthly household income on loan repayment, while about two-thirds goes towards consumption.

On the threshold, the RBI's sights are on industry developments, hinting that regulatory flexibility will depend on demonstrable improvements in household income assessment, credit reporting and responsible lending. "It is imperative for the industry to strengthen its lending practices, uphold responsible credit standards and build greater resilience to withstand emerging challenges," RBI Deputy Governor Shirish Chandra Murmu had said.

For the RBI, it is a tight-rope walk, balancing the financial inclusion and due diligence. It has to ensure that tighter credit discipline does not become a barrier to financial inclusion. At the same time, it shouldn't undermine the purpose of microfinance.

What is pseudo-consent?

Highlighting possible instances in which borrowers sign documents without adequate information about what they contain, Mr Murmu distinguished between mindful consent and pseudo-consent. He emphasised that lenders must provide the Key Facts Statement (KFS), explain its contents in a language understood by the borrower and obtain an acknowledgement that the borrower understands the commitment.

With expanding digital lending, instant personal loans, credit cards and other retail products, pseudo-consent could become a wider banking-sector problem.

Elevated crude oil prices, costlier transportation and high inflation in essential commodities, can squeeze household disposable incomes, which translate into additional borrowings. In such a scenario, financial inclusion could inadvertently deepen household indebtedness, turning credit into a source of financial distress.

Is there a conflict of interest?

The two RBI-recognised SROs or Self-Regulatory Organisations – MFIN and Sa-Dhan – are industry associations whose members are also the institutions they are expected to monitor. MFIs may market additional financial products such as insurance, savings-linked products and other services alongside microcredit, creating a potential conflict between the borrower's actual financial needs and the institution's revenue-generating interests.

What is the underlying ethos?

The RBI's June 2026 directions on advertising, marketing and sale of financial products seek to prohibit deceptive practices and ensure explicit customer consent. These requirements are scheduled to take effect from January 1, 2027.

THE GIST

- The RBI's firm stand on the microfinance industry sends a message that financial inclusion cannot come at the cost of household over-indebtedness
- The microfinance industry wants certain repayment obligations to be assessed more flexibly, including by considering only the interest component of some loans
- Elevated crude oil prices and inflation in essential commodities can squeeze household incomes, leading to additional borrowings. In such a scenario, financial inclusion could inadvertently deepen household indebtedness

2. The Battle for Responsible Microfinance

Source: The Hindu – Explainer

GS Paper III – Economy | Financial Inclusion | Poverty

Context

- The Reserve Bank of India (RBI) is tightening oversight of microfinance to ensure credit-led financial inclusion does not result in over-indebtedness, irresponsible lending and exploitation of vulnerable borrowers.

1. Microfinance: Growth and Emerging Stress

- **Microfinance:** Small collateral-free loans to low-income households, particularly women, for livelihoods, self-employment and household needs.

- **Sector portfolio:** ₹3.26 lakh crore in June 2026, declining 7.6% year-on-year.
- **Early-stage delinquency:** Loans overdue by 30–179 days declined to 1.9%.
- **Severe repayment stress:** Loans overdue by more than 180 days remained elevated at 17.4%.
- **Concern:** Multiple borrowing, rising household expenses and weak repayment capacity are increasing borrower vulnerability.

2. RBI vs. Microfinance Industry: The Regulatory Debate

- **Household income threshold:** Industry seeks revision of the ₹3 lakh annual household income limit, citing inflation and rising living costs.
- **Fixed Obligation to Income Ratio (FOIR):** Industry seeks greater flexibility in assessing repayment obligations, while RBI prioritises the actual debt burden of households.
- **Repayment assessment:** Industry seeks flexibility in calculating certain obligations; RBI emphasises that principal repayment commitments cannot be overlooked while assessing indebtedness.
- **Credit assessment:** Credit bureau checks alone are insufficient; lenders must assess household income, existing loans, consumption expenditure and repayment capacity.
- **Regulatory objective:** Balance credit access and growth with borrower protection and financial stability.

3. Major Concerns

- **Over-indebtedness:** Multiple loans from different lenders can create excessive repayment obligations and debt traps.
- **Pseudo-consent:** Borrowers may accept loans without fully understanding interest rates, charges, terms and repayment conditions.
- **Conflict of interest:** Cross-selling insurance and other financial products may prioritise institutional revenue over borrower welfare.
- **Economic vulnerability:** Inflation and rising essential expenses weaken household repayment capacity.
- **Financial inclusion paradox:** Credit without affordability assessment and safeguards can deepen financial distress instead of alleviating poverty.

4. Way Forward

1. **Responsible lending:** Strengthen household-level creditworthiness assessment beyond credit bureau scores, including income, existing debt and repayment capacity.
2. **Borrower protection:** Ensure transparent disclosure of interest, charges and loan conditions through Key Facts Statements (KFS), with genuine informed consent.
3. **Prevent multiple lending:** Strengthen credit information sharing and monitoring to prevent excessive borrowing across institutions.
4. **Financial literacy and grievance redressal:** Educate borrowers on loan obligations, interest rates and financial risks, while improving complaint-resolution mechanisms.

5. **Sustainable regulation:** Balance repayment flexibility with prudent lending standards, preventing aggressive credit expansion while maintaining access for genuine borrowers.

5. UPSC Mains PYQs – Microfinance & SHGs (GS II)

2021 | 10 Marks

Can the vicious cycle of gender inequality, poverty and malnutrition be broken through microfinancing of women SHGs? Explain with examples.

2020 | 15 Marks

“Micro-Finance as an anti-poverty vaccine, is aimed at asset creation and income security of the rural poor in India.” Evaluate the role of Self-Help Groups in achieving the twin objectives along with empowering women in rural India.

2017 | 15 Marks

“The emergence of Self Help Groups (SHGs) in contemporary times points to the slow but steady withdrawal of the state from developmental activities.” Examine the role of the SHGs in developmental activities and the measures taken by the Government of India to promote the SHGs.

2015 | 12.5 Marks

The Self-Help Group (SHG) Bank Linkage Programme (SBLP), which is India’s own innovation, has proved to be one of the most effective poverty alleviation and women empowerment programmes. Elucidate.

2014 | 12.5 Marks

The penetration of Self Help Groups (SHGs) in rural areas in promoting participation in development programmes is facing socio-cultural hurdles. Examine.

2013 | 10 Marks

The legitimacy and accountability of Self Help Groups (SHGs) and their patrons, the micro-finance outfits, need systematic assessment and scrutiny for the sustained success of the concept. Discuss.

COP31: India seeks to strengthen climate engagement with small island nations

Amitabh Sinha
New Delhi, November 17

SEEKING TO enhance its engagement with the small island countries on climate-related matters, India on Tuesday offered its scientific and technological expertise in issues like renewable energy deployment and disaster management to help these countries strengthen their resilience in the fight against climate change.

Addressing the first-of-its-kind roundtable with these countries on the sidelines of the COP31 climate conference in the Turkish city of Antalya, Environment Minister Bhupender Yadav said there was a lot India could also learn from the island nations, particularly their traditional knowledge of the oceans and experiences in living and adapting to changing oceans.

"Healthy oceans and resilient coastlines are fundamental to economic security, ecological stability and the well being of people. Today, these shared resources are facing growing pressures from sea-level rise, coastal erosion, ocean warming, coral bleaching, stronger storms and marine pollution," Yadav said, adding that India's experience in managing more than 11,000 km of coastline could offer useful lessons for these small island countries.

> **"Our approach recognises that conservation is more sustainable when local communities are partners in planning, implementation and benefit sharing"**
> **BHUPENDER YADAV**
> ENVIRONMENT MINISTER

"India's coastal regions support millions of livelihoods, and are central to our economic and ecological security. We are strengthening coastal resilience through scientific assessment, ecosystem conservation, sea shoreline management and disaster preparedness... Our approach recognises that conservation is more sustainable when local communities are partners in planning, implementation and benefit sharing," he said.

The round-table, organised by Delhi-based The Energy and Resources Institute, was a follow-up on the earlier initiatives that India has started with these countries. The Forum for India-Pacific Islands Cooperation has been active since 2014, where climate change is an important part of the discussions. In 2021, on the sidelines of COP21 in Glasgow, UK, India had announced the Infrastructure for Resilient Island States (IRIS) programme. IRIS is a special work programme under the Coalition for Disaster Resilient Infrastructure (CDRI) that India had launched two years ago.

As part of the IRIS programme, India had offered to provide, among other things, satellite data to these countries to help them build capacities on early warning systems. As of now, 23 different projects covering 25 small island countries are currently active. The round table was meant to review the progress on these projects and facilitate discussions on deepening these partnerships.

Yadav said there was ample scope for broadening partnerships on renewable energy, disaster preparedness, resilient infrastructure and locally-appropriate climate adaptation solutions.

"SIDS (Small Island Developing States) are custodians of extraordinary marine biodiversity and traditional knowledge, and their experience in living with and adapting to changing oceans, have much to offer to the world," he said.

Yadav said India was looking forward to enhanced cooperation in at least four major areas: coastal risk assessment and monitoring and setting up of early warning systems, ecosystem protection measures like mangrove conservation, technological partnerships in energy and related fields, and institutional tie-ups to facilitate exchange of scientific information and capacity building.

3. COP31: India Seeks to Strengthen Climate Engagement with Small Island Nations

Source: The Hindu | November 17
GS Paper III – Environment | Climate Change | Disaster Management | International Cooperation

Context: India has proposed strengthening climate cooperation with Small Island Developing States (SIDS) through technology, scientific expertise, renewable energy, coastal resilience and disaster preparedness.

1. Key Developments

- India offered scientific and technological expertise in renewable energy, disaster management and climate adaptation.

- Emphasised learning from island nations' traditional knowledge and experience in adapting to changing oceans.
- India's experience managing over 11,000 km of coastline can help address coastal erosion, ocean warming, coral bleaching, storms and marine pollution.
- 23 projects across 25 small island countries under the Infrastructure for Resilient Island States (IRIS) programme are currently active.

2. India's Existing Initiatives

- **Forum for India-Pacific Islands Cooperation (FIPIC):** Established in 2014 to deepen India–Pacific island engagement.
- **Infrastructure for Resilient Island States (IRIS):** Launched at COP26 (2021) to support island countries in building disaster-resilient infrastructure.
- **Coalition for Disaster Resilient Infrastructure (CDRI):** Promotes resilient infrastructure and international cooperation in disaster risk reduction.

3. Areas of Cooperation

1. Coastal risk assessment and monitoring
2. Early-warning systems and disaster preparedness
3. Ecosystem-based protection, including mangrove conservation
4. Renewable energy and appropriate climate technologies
5. Scientific information exchange, institutional cooperation and capacity-building

4. Significance

- **Climate justice:** Supports vulnerable nations disproportionately affected by climate change despite their limited contribution to global emissions.
- **Blue economy:** Protects marine resources, fisheries, coastal livelihoods and biodiversity.
- **Strategic engagement:** Strengthens India's ties with Pacific Island countries and its wider Indo-Pacific outreach.
- **Knowledge exchange:** Combines Indian scientific capabilities with island nations' traditional ecological knowledge.
- **Disaster resilience:** Promotes preparedness against sea-level rise, cyclones, coastal erosion and extreme weather.

5. Challenges

- Rising sea levels and coastal erosion threatening island territories.
- Limited financial and technological capacities of small island states.
- Vulnerability to cyclones, storm surges and ocean warming.
- Difficulties in implementing and maintaining resilient infrastructure.
- Fragmented international climate financing and cooperation.

6. Way Forward

1. Expand climate finance and technology transfer to vulnerable island states.
2. Strengthen regional early-warning systems and climate data-sharing.
3. Promote nature-based solutions such as mangrove restoration and coral conservation.
4. Develop resilient infrastructure, renewable energy and climate-adaptive livelihoods.
5. Institutionalise partnerships through FIPIC, IRIS and CDRI with community participation.

U.S. blocks remote access to AI chips; China slams restrictions

Ananth Krishnan
BEIJING

The United States has announced new regulations aimed at curbing Chinese firms' remote access to advanced AI chips through data centres in third-party countries, coming amid the scandal surrounding chipmaker Nvidia. Beijing on Tuesday slammed the new restrictions, accusing Washington of "abusing export control measures".

Nvidia's provision of chips to companies running data centres in Southeast Asia has come under the spotlight amid questions surrounding founder Jensen Huang's relationship with Alice Huang, the CEO of one such Singapore-based company, Megaspeed. With Nvidia barred from selling its most advanced chips in China, many Chinese companies instead sought access to its technology through data centres in countries such as Malaysia.

Tech tussle

Nvidia's provision of chips to Southeast Asian firms is under the spotlight over a scandal involving its founder Jensen Huang

- The new U.S. rule imposes an additional license on 5 countries presenting a 'higher-than-normal risk of diversion'
- U.S. says curbs designed to ensure that restrictions on access to sensitive technology cannot be circumvented through remote arrangements



- China calls it yet another case of the U.S. 'overstretching the concept of national security' to 'go after' its high-tech industry

The U.S. Commerce Department's Bureau of Industry and Security (BIS) announced an interim final rule (IFR) "to address remote access" to advanced AI chips and servers, saying it was "designed to ensure that existing restrictions on access to sensitive American technology cannot be circumvented through remote computing arrangements involving data centres in third countries."

The rule states that in addition to the current licence requirements for advanced semiconductors, a licence will be required "to export, re-export, or transfer (in-country) advanced semiconductors to Indonesia, Malaysia, Singapore, Thailand, or Brazil", which it named as "countries which present a higher-than-normal risk of diversion."

The new rule was announced days before U.S. President Donald Trump's arrival in Shenzhen for the APEC Summit.

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4. U.S. Restricts China's Remote Access to Advanced AI Chips

Source: The Hindu
GS Paper II – International Relations | GS Paper III – Science & Technology, Economy

Context: The U.S. has tightened export controls to prevent Chinese firms from remotely accessing restricted advanced Artificial Intelligence (AI) chips through data centres located in third countries, closing a loophole in its technology restrictions.

1. What Has Changed?

- The U.S. Bureau of Industry and Security (BIS) introduced an interim final rule regulating remote access to advanced AI chips and computing servers.
- Chinese companies were reportedly accessing restricted chips through overseas data centres, particularly in Southeast Asia, despite restrictions on direct exports to China.
- The new rule requires additional licences for exporting, re-exporting or transferring advanced semiconductors to **Indonesia, Malaysia, Singapore, Thailand and Brazil**, identified as higher-risk destinations for diversion.
- The move follows scrutiny of Nvidia's chip supply arrangements with Southeast Asian firms.

2. Strategic Rationale Behind U.S. Restrictions

- **Prevent technology circumvention:** Restrict access to advanced chips through third-country data centres and remote computing arrangements.
- **National security:** Limit China's access to high-performance computing capabilities that could support advanced AI and military applications.
- **Technological containment:** Maintain U.S. advantage in advanced semiconductors and AI infrastructure.
- **Supply-chain monitoring:** Prevent diversion of restricted technology through intermediary countries.

3. China's Opposition and Global Implications

- China termed the restrictions an abuse of national security and **economic coercion**, arguing that they interfere with normal trade and technological cooperation.
- **U.S.–China rivalry:** Semiconductor access has become a central instrument of strategic competition.
- **Third-country dilemma:** Southeast Asian countries may face pressure to balance trade opportunities with U.S. export-control compliance.
- **Global supply chains:** Restrictions could disrupt semiconductor trade, investment and cross-border technology cooperation.
- **Technology fragmentation:** May accelerate the emergence of competing technology ecosystems led by the U.S. and China.

4. Challenges & Way Forward

1. **Prevent circumvention:** Strengthen monitoring of remote computing, cloud access and semiconductor diversion through third countries.
2. **Multilateral coordination:** Develop common export-control and compliance standards among technology-producing and transit countries.
3. **Proportionate restrictions:** Ensure controls remain targeted at genuine security risks rather than unnecessarily disrupting civilian trade.
4. **Protect supply chains:** Minimise disruptions to semiconductor manufacturing, trade, research and global investment.
5. **Diplomatic engagement:** Establish dialogue between major powers to prevent technology restrictions from escalating into wider economic confrontation.

India needs a comprehensive doctrine on space security



Advitya Madan

Analyst of geopolitics, international affairs and defence. Commanded 15 Punjab in Lebanon under the United Nations flag, commanded 27 Sector as DIG in Churachandpur, and served as Brigadier, Operational Logistics, at HQ Western Command

Space has transformed from a specialised domain of scientific exploration into an area which hosts essential infrastructure underpinning everyday life, economic activity and national security. Communications, navigation, weather forecasting, disaster management, agriculture, banking, logistics and critical infrastructure are increasingly dependent on satellites and space-enabled services. In India, space capabilities support the armed forces through communications, positioning, surveillance, timing and situational awareness. Space is therefore no longer a separate technological sector but an essential component of national resilience and strategic autonomy. As dependence expands, disruption can have consequences for markets, governance, security and society at large.

The character of threats in space is changing. Competition extends beyond the destruction of satellites to the disruption of the services they provide. Space systems can now be affected by jamming and spoofing that interfere with communications and navigation. Cyber interference can target satellite networks, ground stations and supporting infrastructure, while electronic warfare can degrade signals and reduce the reliability of space-enabled systems. Such methods can produce effects without physically damaging a spacecraft, making attribution and response more complex. The vulnerability lies not only in the satellite itself, but in the wider architecture connecting space assets to users on Earth. This shift from destruction to disruption has made space security a more complex challenge for states.

Changing threat landscape

This changing threat environment matters particularly for India, whose dependence on space-based services is expanding across military and civilian domains. The interconnected nature of these systems also means that disruption in one part of the space architecture can have consequences elsewhere on the ground. Therefore, resilience becomes essential.

As India's dependence on space grows, greater clarity is needed about how different forms of interference should be understood and assessed. What constitutes an attack on a space system? Is physical destruction of a satellite fundamentally different from jamming, spoofing or cyber interference that degrades or temporarily disables a system? How should responsibility be attributed when interference originates through complex networks or involves multiple actors? What if disruption is temporary but has significant effects on military operations, critical infrastructure or essential services? How should decision-makers distinguish accidental interference from deliberate attack? And, when attribution remains uncertain, how should a response be determined without inadvertently escalating a crisis?

India is not starting from a policy vacuum. The Indian Space Policy 2023 provides an overarching framework for space activities, while ISRO's Indian Space Situational Awareness Report for 2025 (ISSAR-2025) documents India's efforts in space situational awareness, collision avoidance and space-debris mitigation. The strategic question is how the existing policy framework and space situational awareness can better inform decision-making on hostile disruption, attribution and crisis response. India needs a clearer framework establishing thresholds, attribution standards and response principles for different forms of space disruption.

Interconnected network

Space security cannot be treated solely as a military or government responsibility. An increasing part of the space ecosystem is operated and serviced by commercial entities. Private satellite operators and service providers support communications, navigation, and other activities underpinning civilian infrastructure and economic functions. Disruption affecting a commercial system can therefore have consequences for public services, businesses and national security. Security depends on the resilience of the wider ecosystem, not simply on protecting government-owned assets. Sustained government-industry coordination is important for information sharing, identifying vulnerabilities, responding to disruptions and maintaining essential services.

A comprehensive Indian space-security doctrine should begin with resilience: multiple systems, redundancy, and sufficient flexibility to sustain essential functions when individual components are disrupted. Equally important is space-domain awareness – the ability to understand activity around Indian assets, identify anomalies and strengthen the basis for attribution. A credible framework must also address reconstitution and recovery, ensuring that essential capabilities can be restored rapidly. This requires partnerships among government agencies, the armed forces, ISRO, commercial operators and other stakeholders. A space-security doctrine need not mean an unrestricted push towards weaponisation. Its purpose should be to ensure that India can deter, withstand, attribute and recover from disruption while preserving the peaceful use of outer space.

India's objective should not be to turn outer space into another arena of conflict, but to ensure that disruption in space does not translate into vulnerability on Earth. As space-enabled services become embedded in defence and economic activity, their continuity is inseparable from protecting national interests. The measure of space security should not be the accumulation of capabilities alone, but the capacity to preserve functions, withstand shocks and recover quickly.

India's objective should not be to turn outer space into another arena of conflict, but to ensure that disruption in space does not translate into vulnerability on Earth

5. India Needs a Comprehensive Doctrine on Space Security

GS Paper III – Science & Technology | Defence & Security | Critical Infrastructure

Context: Growing dependence on space-based infrastructure and emerging threats of satellite disruption necessitate a comprehensive space-security doctrine to protect India's strategic, military and economic interests.

1. Growing Strategic Importance of Space

Space has evolved from a domain of scientific exploration into critical infrastructure supporting national security, economic activity and everyday life.

- **Defence:** Communication, navigation, surveillance, intelligence and situational awareness.
- **Economy:** Banking, agriculture, logistics, weather forecasting and connectivity.
- **Critical infrastructure:** Increasing dependence of civilian and military services on satellite-enabled systems.
- **Strategic autonomy:** Uninterrupted space capabilities are essential for national resilience and independent decision-making.

2. Changing Threat Landscape

Space threats are evolving from physical destruction of satellites to disruption of the services and networks they support.

Threat	Impact
Anti-satellite (ASAT) attacks	Physical destruction of satellites and creation of space debris
Jamming	Disruption of satellite communication and navigation signals
Spoofing	Manipulation of signals to mislead positioning and navigation systems
Cyberattacks	Compromise of satellite networks, ground stations and control systems
Electronic warfare	Degradation of signals and reliability of space-enabled services

Emerging concern: Disruption of one component can cascade across interconnected space assets, ground infrastructure and users on Earth, making attribution and response increasingly complex.

3. India's Existing Framework

- **Indian Space Policy 2023:** Provides the overarching framework governing India's space activities.
- **Indian Space Situational Awareness Report (ISSAR):** Reflects India's efforts in space situational awareness, collision avoidance and space-debris mitigation.

Policy gap: Existing frameworks need to translate space situational awareness and broader space policies into a clear security doctrine governing hostile interference, attribution, decision-making, response and crisis management.

4. Why India Needs a Comprehensive Doctrine

- **Threat assessment:** Distinguish accidental interference from deliberate hostile action.
- **Attribution & accountability:** Establish responsibility for disruptions arising through complex networks or involving multiple actors.
- **Response framework:** Define thresholds and principles for responding to different forms of space interference.
- **Crisis management:** Prevent miscalculation and escalation during periods of geopolitical tension.
- **National resilience:** Ensure continuity of essential military, civilian and economic functions during disruption.

5. Space Security: An Ecosystem-Wide Responsibility

Space security extends beyond government-owned satellites to the interconnected network of space assets, ground infrastructure and service providers.

- Government agencies and Armed Forces – strategic and military space capabilities.
- ISRO – space infrastructure, missions and technical expertise.
- Private satellite operators – commercial communication and space-enabled services.
- Ground stations and service providers – operational connectivity and data infrastructure.

Disruption of commercial systems can have consequences for businesses, civilian infrastructure, military operations and national security. Sustained government–industry coordination is therefore essential for vulnerability assessment, information-sharing, preparedness and continuity of services.

6. Way Forward

1. **Resilience by design:** Build redundancy, alternative systems and flexibility to sustain essential services during disruption.
2. **Space-domain awareness:** Strengthen monitoring, anomaly detection, threat assessment and attribution capabilities.
3. **Clear security doctrine:** Define threat categories, response thresholds, attribution principles and crisis-management protocols.
4. **Integrated coordination:** Institutionalise information-sharing among government agencies, Armed Forces, ISRO and commercial operators.
5. **Rapid recovery:** Develop restoration and recovery capabilities to minimise disruption of essential space-enabled functions.

India's objective should be to ensure that space disruption does not translate into vulnerability on Earth—protecting national interests through deterrence, resilience, attribution and rapid recovery, while preserving the peaceful use of outer space.

President hails country's progress in malaria control

The Hindu Bureau
NEW DELHI

President Droupadi Murmu inaugurated the golden jubilee celebrations of the Indian Council of Medical Research-National Institute of Malaria Research (ICMR-NIMR) here on Tuesday.

The President highlighted India's progress in malaria control, noting that malaria cases and deaths had declined by nearly 80% between 2015 and 2025, while the number of high-burden districts fell from 155 to 33. She also noted that 160 districts reported zero indigenous malaria cases during 2022-2025.

Appreciating India's exit from the World Health Organization (WHO)'s High Burden to High Impact (HBHI) group in 2024, she acknowledged the collective efforts of scientists, healthcare workers, and citizens. She also recognised ICMR-NIMR's contribution over five decades to research on malaria parasites, mosquito vectors, vector control, insecticide resistance, and community surveillance.



President Droupadi Murmu visiting an exhibition stall at the ICMR National Institute of Malaria Research on Tuesday. X/ANI

Continued vigilance

Emphasising the need for continued vigilance and effective interventions, Ms. Murmu called for strengthened malaria diagnosis, treatment and surveillance, mosquito control, development of new medicines and vaccines, greater public awareness, and community participation.

She stressed that scientific research and its outcomes should reach villages and communities where they are most needed. She also expressed satisfaction over ICMR-NIMR's contribution to the indigenous malaria vaccine being developed in Bhubaneswar and voiced confidence that it would support India's malaria elimination efforts.

6. Malaria in India: Elimination Strategy and Disease Burden

Source: The Hindu
GS Paper II – Health | GS Paper III – Science & Technology

Context: President Droupadi Murmu highlighted India's progress in malaria control and emphasised sustaining elimination efforts through surveillance, vector control, research and community participation.

1. Malaria: Basics

- Caused by *Plasmodium* parasites and transmitted by infected female *Anopheles* mosquitoes.
- Major species in India: *P. falciparum* and *P. vivax*.
- Symptoms include fever, chills and headache; severe malaria may cause organ failure and death.

2. India's Malaria Control Framework

- **National Framework for Malaria Elimination (2016–2030):** Roadmap for phased elimination.
- **National Strategic Plan (2023–2027):** Focuses on surveillance, diagnosis, treatment, vector control and targeted interventions.
- **NCVBDC:** Coordinates prevention and control of malaria and other vector-borne diseases.
- **ICMR–NIMR:** Research on parasites, vectors, diagnostics, medicines, insecticide resistance and vaccines.

3. India's Elimination Strategy

- **Surveillance:** Early detection, reporting, case investigation and rapid response.
- **Diagnosis & treatment:** Microscopy and Rapid Diagnostic Tests (RDTs), followed by prompt and complete treatment.
- **Vector control:** Long-Lasting Insecticidal Nets (LLINs), Indoor Residual Spraying (IRS) and mosquito breeding-site management.
- **Targeted interventions:** Focus on high-burden districts, tribal and remote areas.
- **Research & community participation:** Develop new tools and strengthen awareness and frontline healthcare delivery.

4. Challenges

- Insecticide resistance and changing mosquito behaviour.
- Remote and tribal areas with limited healthcare access.

- Undetected and asymptomatic infections.
- Climate and environmental changes affecting transmission.
- Risk of resurgence in areas with zero reported cases.

5. Way Forward

1. Strengthen surveillance, case investigation and rapid response.
2. Integrate vector control and insecticide-resistance monitoring.
3. Prioritise high-risk, tribal and hard-to-reach populations.
4. Accelerate research and translate innovations into field interventions.
5. Maintain vigilance to prevent resurgence and sustain elimination.

6. India's Progress & Global Burden

- Malaria cases and deaths declined by nearly **80% (2015–2025)**.
- High-burden districts reduced from **155 to 33**; 160 districts reported zero indigenous cases during 2022–2025.
- India exited WHO's **High Burden to High Impact (HBHI)** group in 2024.
- India accounts for approximately **73.3% of malaria cases in the WHO South-East Asia Region**.
- Globally, malaria burden remains heavily concentrated in Africa, which accounts for approximately 94% of cases.

India's global ranking: Approximately 60th by malaria incidence rate (around 1.5 cases per 1,000 population at risk, 2024)—not by total cases.

Target: Zero indigenous cases by 2027; malaria elimination by 2030.

Horticultural production shows 4.36% growth: govt.

The Hindu Bureau
NEW DELHI



The rise in production came despite a reduction in the area under horticultural cultivation, says Union Agriculture Minister. FILE PHOTO

India's total horticultural production is expected to reach 3,869.15 lakh tonnes in 2025-26, an increase of 161.77 lakh tonnes (4.36%) over the production recorded in 2024-25, according to the third advanced estimates of area and production of horticultural crops released by Union Agriculture Minister Shivraj Singh Chouhan in New Delhi on Tuesday. In the previous crop season, horticulture production stood at 3,707.38 lakh tonnes.

Mr. Chouhan expressed satisfaction over the projected growth and said the significant increase in horticultural production reflected the hard work of India's farmers and the impact of the Union government's farmer-friendly policies. "This record production would not only strengthen the country's nutritional security but also directly contribute to higher incomes for horticulture farmers," the Minister said, congratulating farmers across the country for their efforts.

Farmers were increasingly moving beyond traditional crops towards the cultivation of fruits, vegetables, flowers, spices, and plantation crops, including cashew, coconut and cocoa, as well as aromatic and medicinal plants, he said.

"This growing interest in commercial and high-value crops is opening up new avenues of income for farmers while creating fresh opportunities for self-reliance and growth in the agricultural sector," Mr. Chouhan said.

He added that one of the most significant aspects of the latest estimates was an increase in production despite a reduction in the area under horticultural cultivation.

7. Horticulture Production Rises 4.36%: Growth Despite Declining Cultivated Area

Source: The Hindu
GS Paper III – Agriculture | Economy | Food & Nutritional Security

Context: India's horticultural production is estimated to increase in 2025–26 despite a decline in cultivated area, reflecting productivity gains and growing diversification towards high-value crops. India is the world's second-largest producer of fruits and vegetables, with Uttar Pradesh ranking first in horticultural production among states.

1. Production Trends & Key Data

- **Total production (2025–26):** 3,869.15 lakh tonnes (386.9 million tonnes).
- **Growth:** Increase of 161.77 lakh tonnes (4.36%) over 2024–25.
- **Cultivated area:** Declined from 301.36 lakh hectares to 297.21 lakh hectares.
- Growth despite reduced area indicates improved productivity.
- **Major growth segments:** Flowers (14.45%), plantation crops (7.56%), fruits (4.60%) and vegetables (4.35%).

2. India's Global & State-wise Position

- **Global ranking:** India is the world's second-largest producer of fruits and vegetables.
- **Largest horticulture-producing state:** Uttar Pradesh.
- **Leading states:** Uttar Pradesh, Madhya Pradesh, West Bengal, Maharashtra and Andhra Pradesh.
- **Major vegetable crop:** Potato production estimated at 655.70 lakh tonnes, registering 11.95% growth.

3. Significance of Horticulture

- **Farm income:** High-value crops generate better returns per unit of land and diversify agricultural income.
- **Nutritional security:** Improves availability of fruits, vegetables and micronutrient-rich food.
- **Crop diversification:** Reduces excessive dependence on traditional cereal-based cropping.
- **Employment:** Generates jobs in cultivation, processing, storage, logistics and marketing.
- **Agro-industrial growth:** Strengthens food processing, value addition and export opportunities.

4. Challenges

- Post-harvest losses due to inadequate cold storage and transportation.
- Price volatility and market risks for perishable commodities.
- Fragmented landholdings and uneven access to technology.

- Limited processing capacity, value addition and organised market linkages.

5. Way Forward

1. Expand cold-chain infrastructure, storage and refrigerated transportation.
2. Strengthen food processing, value addition and Farmer Producer Organisations (FPOs).
3. Improve access to quality planting material, technology, credit and extension services.
4. Develop organised market linkages, export infrastructure and price-risk management.
5. Promote region-specific diversification and sustainable horticultural practices.