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India's Nuclear Doctrine Faces New Strategic Pressures from China, Pakistan, Emerging Technologies and Regional Nuclear Diplomacy

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Recent Developments:

Bangladesh–US Civil Nuclear Cooperation, September 2026:

- Bangladesh and the United States signed a **Strategic Civil Nuclear Cooperation MoU on 25 September 2026 in New York**, covering peaceful nuclear cooperation and emphasising nuclear safety, security, safeguards and non-proliferation.
- The agreement is **civilian in character and does not constitute a nuclear-weapons arrangement**, but it reflects the growing role of major powers in South Asia's nuclear-energy and technology landscape. Bangladesh is already developing the **Rooppur Nuclear Power Plant with Russian assistance**.
- For India, the development is relevant to **regional strategic competition, nuclear diplomacy, energy security and strategic autonomy**, although it does not by itself establish a direct military threat to India.

India's Nuclear Arsenal and Force Modernisation:

- **SIPRI Yearbook 2026** estimates India's nuclear inventory at about **190 warheads in January 2026**, compared with approximately **170 for Pakistan and 620 for China**. SIPRI also reports continued expansion and modernisation of Chinese and Pakistani nuclear capabilities.
- India has continued strengthening survivable delivery systems, including the commissioning of **INS Arighaat** in August 2024, the second Arihant-class nuclear-powered ballistic missile submarine, which strengthens the maritime component of India's nuclear triad.
- In March 2024, DRDO conducted the first successful flight test of an **Agni-5 missile equipped with MIRV technology** under Mission Divyastra, demonstrating an important development in India's strategic delivery capabilities.

Evolution and Core Framework of India's Nuclear Doctrine:

Origins:

- India's contemporary nuclear doctrine developed after the **1998 Pokhran-II nuclear tests**, while the **1999 Kargil War** demonstrated that nuclear deterrence does not eliminate the possibility of conventional conflict.
- The **1999 Draft Nuclear Doctrine** provided the conceptual foundation, while the **Cabinet Committee on Security's 4 January 2003 decision** operationalised the nuclear doctrine and established the Nuclear Command Authority framework.
- The doctrine combines **deterrence, strategic restraint, survivability and civilian political control**, rather than relying solely on numerical expansion of nuclear forces.

Major Doctrinal Principles:

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- **Credible Minimum Deterrence:** India seeks a nuclear force sufficient to deter nuclear coercion and assure unacceptable damage to an adversary without pursuing an open-ended arms race.
- **No First Use (NFU):** India's declared posture is that nuclear weapons will be used only in retaliation against a nuclear attack on Indian territory or Indian forces anywhere. India has continued to publicly describe its doctrine in terms of **NFU and credible minimum deterrence**.
- **Massive Retaliation:** The 2003 formulation stated that nuclear retaliation to a first strike would be **massive and designed to inflict unacceptable damage**. This creates an important debate about the credibility of a large-scale response to a limited or tactical nuclear attack.
- **Second-Strike Capability:** India requires survivable nuclear forces capable of retaliating even after absorbing an adversary's first strike.
- **Civilian Control:** Nuclear retaliatory action can be authorised only by the **civilian political leadership through the Nuclear Command Authority (NCA)**.
- **Non-use against Non-nuclear Weapon States:** The doctrine includes a commitment not to use nuclear weapons against non-nuclear-weapon states, subject to the specific biological and chemical weapons exception contained in the 2003 formulation.
- **Chemical and Biological Weapons Exception:** The 2003 doctrine stated that India would retain the option of nuclear retaliation following a **major biological or chemical weapons attack** against India or Indian forces. Therefore, India's NFU posture is not an entirely unconditional prohibition on first nuclear use.
- **Nuclear Disarmament:** India continues to advocate **universal, non-discriminatory and verifiable nuclear disarmament**, while maintaining credible minimum deterrence.

Nuclear Command and Control Architecture:

Nuclear Command Authority:

- The **Nuclear Command Authority** provides the institutional framework for political control over India's nuclear arsenal.
- Its **Political Council**, chaired by the Prime Minister, is the sole body authorised to approve the use of nuclear weapons.
- Its **Executive Council**, chaired by the National Security Adviser, provides inputs for decision-making and executes directives issued by the Political Council.
- The system is designed to prevent **unauthorised or accidental use**, maintain civilian supremacy and ensure continuity of command during a crisis.

Strategic Forces and Survivability:

- The credibility of NFU depends not only on the declaration itself but also on the ability to conduct a **reliable second strike** after an adversary's first strike.
- India's nuclear triad therefore combines **land-based missiles, aircraft and sea-based nuclear forces**, with SSBNs providing the most survivable leg because submarines can remain concealed at sea.
- The commissioning of **INS Arighaat** represents an important step in strengthening the sea-based component of the triad.

Why Is a Review of the Nuclear Doctrine Being Discussed?

China's Nuclear Expansion:

- China's nuclear arsenal has expanded rapidly, with SIPRI estimating approximately **620 warheads in January 2026**, while China continues to develop and deploy new delivery systems.
- India's original nuclear framework was developed when the scale and pace of China's present nuclear modernisation were considerably different.
- China's growing missile forces, nuclear infrastructure and strategic capabilities increase the importance of **long-range survivable deterrence** for India.

China–Pakistan Strategic Interaction:

- India faces a **two-front nuclear environment** in which Chinese and Pakistani capabilities cannot be analysed entirely in isolation.
- Pakistan has continued developing delivery systems and accumulating fissile material, while its nuclear posture is closely linked to compensating for India's conventional military advantages.
- China's strategic and technological assistance to Pakistan further complicates India's deterrence calculations and creates the possibility of **interconnected regional escalation dynamics**.

Tactical Nuclear Weapons and the Massive Retaliation Debate:

- Pakistan's development of **short-range, low-yield nuclear systems** has raised questions about how India's declared massive-retaliation doctrine would operate after a limited nuclear strike.
- A tactical nuclear attack could create a difficult choice between responding massively, which could generate uncontrolled escalation, and responding proportionately, which could raise questions about deterrence credibility.
- Strategic analysts have therefore debated whether India should retain **NFU and credible minimum deterrence** while developing greater flexibility in response planning. These are expert debates rather than announced changes in India's official doctrine.

Emerging Technologies and Decision-Time Compression:

- **Artificial Intelligence, cyber warfare, hypersonic systems, anti-satellite capabilities and advanced surveillance technologies** can reduce warning and decision-making time during a crisis.
- Cyber attacks could potentially target communication and early-warning networks, while attacks on space-based systems could degrade situational awareness.
- The increasing importance of these technologies makes **Nuclear Command, Control and Communications (NC3)** resilience central to credible deterrence.

Key Challenges Before India:

Maintaining Credible Minimum Deterrence:

- Credible minimum deterrence requires sufficient survivability and retaliatory capability without automatically leading to an unlimited numerical arms race.
- China's rapidly expanding arsenal complicates the traditional assumption that India can maintain deterrence through a relatively limited force structure.

Balancing NFU and Strategic Flexibility:

- **NFU provides predictability and reduces incentives for pre-emptive nuclear use**, but critics argue that adversaries could attempt limited nuclear or unconventional attacks while assuming that India will remain constrained by its declared posture.
- A major doctrinal challenge is therefore to preserve strategic stability while ensuring that NFU is backed by credible **retaliatory capability, survivability and command resilience**.

Strengthening Nuclear Triad:

- India needs continued development of **SSBNs, secure submarine communications, land-based strategic missiles and survivable air-based delivery systems**.
- The objective should be a sufficiently resilient triad in which the destruction or disruption of one component does not eliminate India's ability to retaliate.

Strengthening NC3 and Space Resilience:

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- Nuclear deterrence depends on reliable **early warning, secure communications, alternate command arrangements and protected decision-making channels**.
- Cybersecurity, electronic warfare protection and resilient space-based surveillance are increasingly important for preventing miscalculation during compressed crisis timelines.

Measures to Strengthen India's Nuclear Posture:

Improve Survivability and Second-Strike Capability:

- India should continue strengthening the **maritime leg of the nuclear triad**, particularly SSBN capability, because survivable sea-based forces provide greater assurance of retaliation after a first strike.
- The commissioning of INS Arighaat and continuing development of additional SSBNs represent this broader effort.

Develop Advanced Delivery Technologies:

- **MIRV technology** can allow a single ballistic missile to carry multiple independently targetable re-entry vehicles and complicate adversary missile-defence calculations.
- Mission Divyastra demonstrated India's first successful flight test of an indigenous Agni-5 equipped with MIRV technology in March 2024.
- Such capabilities should be understood primarily within the framework of **deterrence and survivability**, rather than nuclear war-fighting.

Harden NC3 Infrastructure:

- India should strengthen **redundant communication networks, cyber protection, early-warning systems and alternate command arrangements**.
- Resilient NC3 reduces the risk that technological disruption could produce either loss of command or accidental escalation.

Strengthen Strategic Decision-Making:

- Institutional coordination among the **Nuclear Command Authority, Strategic Forces Command, armed services, intelligence agencies and civilian leadership** is essential for coherent deterrence.
- The objective should be clear political control combined with professional military preparedness.

Maintain Strategic Ambiguity Where Necessary:

- India can preserve the formal NFU framework while avoiding excessive predictability regarding specific retaliatory contingencies.
- Strategic ambiguity may provide policymakers greater flexibility against diverse nuclear scenarios without necessarily requiring abandonment of the central doctrine.

India's Nuclear Doctrine: Continuity Versus Change:

Case for Continuity:

- NFU reduces incentives for pre-emptive nuclear strikes and contributes to crisis stability.
- **Credible minimum deterrence** avoids unnecessary arms racing and remains consistent with India's stated commitment to strategic restraint.
- **Civilian control** reduces the possibility of unauthorised or accidental nuclear employment.
- Doctrinal continuity provides predictability to adversaries and supports India's broader diplomatic position on nuclear disarmament.

Case for Periodic Review:

- China's nuclear expansion has altered the regional strategic balance.
- Pakistan's tactical nuclear capabilities create challenges for the **massive-retaliation formulation**.
- Cyber, AI, hypersonic and space technologies are changing the conditions under which nuclear decisions would be made.
- The increasing involvement of external powers in South Asian civil nuclear cooperation demonstrates that the regional nuclear environment is becoming more interconnected.
- Therefore, the relevant policy question is not necessarily whether India should **abandon its doctrine**, but whether its operational assumptions, force structure, command-and-control systems and deterrence communication require periodic review.

Value Addition for UPSC:

GS-II — International Relations:

- **India–China strategic competition:** Nuclear deterrence, border security and regional power balance.
- **India–Pakistan relations:** Nuclear deterrence, tactical nuclear weapons and escalation management.
- **Neighbourhood diplomacy:** Bangladesh–US civil nuclear cooperation, Rooppur and the changing strategic environment in South Asia.
- **Strategic autonomy:** Balancing relations with the United States, Russia, China and other major powers.

GS-III — Internal Security and Science & Technology:

- **Nuclear deterrence:** Credible minimum deterrence, NFU and second-strike capability.
- **Defence technology:** MIRV, SSBNs, ballistic missiles, missile defence and hypersonic systems.
- **Cybersecurity:** Protection of NC3 and strategic communication networks.
- **Space security:** Protection of satellite-based surveillance and communication capabilities.
- **Emerging technologies:** AI and autonomous systems can compress decision-making timelines and increase escalation risks.

Conclusion:

- India's nuclear doctrine has provided **strategic continuity, civilian control and a framework for credible deterrence** for more than two decades.
- The strategic environment has nevertheless changed substantially because of **China's expanding arsenal, Pakistan's evolving nuclear posture, technological disruption and increasing geopolitical competition in South Asia**.
- A periodic review can therefore focus on **survivability, second-strike capability, NC3 resilience, nuclear triad modernisation and crisis stability** while retaining the core objectives of credible deterrence and strategic restraint.