INDIA's NUCLEAR DOCTRINE

INTRODUCTION

India at the UN Conference on Disarmament 2020 reiterated its commitment to the nuclear doctrine of "No First Use" against nuclear weapon states and non-use against non-nuclear weapon states. At the same time, India also reaffirmed its commitment to a universal, verifiable and non-discriminatory nuclear disarmament for the complete elimination of nuclear weapons from the world.

In this context, we will try to understand the major aspects of India's Nuclear Doctrine, how and under what circumstances the doctrine evolved and whether the doctrine is still relevant in its present form or there is a need to revise and update it ?

WHAT IS A NUCLEAR DOCTRINE AND WHAT ARE THE MAJOR ASPECTS OF INDIA'S NUCLEAR DOCTRINE?

A nuclear doctrine of any nuclear weapon country **encompasses the goals and missions that guide the deployment and use of nuclear weapons** by that country both during peace and war. The **dominant goals of a nuclear doctrine** most often include deterrence, target destruction, assurance of allies, and a hedge against an uncertain future.

- The Indian dispensation have generally **considered nuclear weapons at best a necessary evil.** As a result, India's nuclear doctrine is **centred around deterrence rather than war-fighting** capability. In consonance with this ideology, India's nuclear doctrine has left open the scope of nuclear disarmament if the global situation permits. Major aspects of Indian Nuclear Doctrine can be summarized as follows:

- **Building and maintaining a credible minimum deterrent:** Assuring adversary nation's belief that the costs of launching a nuclear strike against India would be unbearable and unacceptable.
  - **India's nuclear deterrence is not aimed at any one particular country** but aims to deter any nation from using nuclear weapons against it.
- **A posture of No First Use(NFU):** Nuclear weapons will only be used in retaliation against a nuclear attack on Indian territory or on Indian forces anywhere.

INDIA'S NUCLEAR CAPABILITIES

- India's current **ballistic missiles** including the Prithvi, **the Agni-I and Agni-2, as well as the Agni-3** have the potential to deliver a nuclear warhead.
- India has a number of combat aircrafts which can be used as delivery vehicle, including **the Jaguar, the Mirage-2000 and the Su-30.**
- The **nuclear submarine INS Arihant** gives India the maritime strike capability.

These three launch mechanisms complete what is called the **Nuclear Triad.**

- **Massive Retaliation:** Indian response to a nuclear strike is massive retaliation to inflict incalculable and unacceptable damage to the aggressor. The response is based on the doctrine of **Mutually Assured Destruction (MAD)** on both sides.
- **Political Control of Nuclear Weapons:** Nuclear retaliatory attacks can only be authorised by the civilian political leadership through the Nuclear Command Authority (NCA). The **NCA comprises a Political Council and an Executive Council.**
  - **The Political Council is chaired by the Prime Minister.** It is the sole body which can authorize the use of nuclear weapons.
  - **The Executive Council is chaired by the National Security Advisor.** It provides inputs for decision making by the Nuclear Command Authority and executes the directives given to it by the Political Council.
- **Conditional use of nuclear weapons:** Non-use of nuclear weapons against **Non-Nuclear Weapon States(NNWS)** (Negative Security Assurance) and option of retaliation with nuclear weapons in the event of a major Chemical or a Biological Weapons(CBW) strike against India.
- **Non-proliferation:** Continuance of strict controls on export of nuclear and missile related materials and technologies and participation in the Fissile Material Cutoff Treaty (FMCT) negotiations.
- **Commitment to Disarmament:** Moratorium on nuclear tests and continued commitment to a nuclear free world through verifiable and non-discriminatory nuclear disarmament.

HOW AND UNDER WHAT CIRCUMSTANCES INDIA'S NUCLEAR DOCTRINE EVOLVED?

For a country like India which has always believed in a nuclear weapons' free world, the decision to weaponize was not out of political considerations or national prestige. The only touchstone that guided it was national security. Sequence of events that led to the emergence of India as a nuclear weapon state and consequent development of nuclear doctrine in India can be described as follows:

Developing a Peaceful Nuclear Program (1947 to 1974)

- India's nuclear program was mainly conceived by Homi Bhabha, an influential scientist who persuaded political leaders to invest resources in the nuclear sector.

- The first Indian Prime Minister, Jawaharlal Nehru, launched an ambitious nuclear program to boost the country's prestige and self-reliance in energy with primary focus on producing inexpensive electricity.
- In the years that followed, the internal debate over whether India should develop a nuclear explosive device continued on the grounds of rising security threats from China.
- Ultimately in 1974, India tested a fission device which it described as a **"peaceful nuclear explosion" (PNE).**

Moving Towards Weaponization (1974 to 1998)

- India's 1974 nuclear test was condemned by many countries as a violation of the peaceful-use agreements underlying U.S. and Canadian-supplied nuclear technology and material transfers, and was a major contributing factor to the **formation of the Nuclear Suppliers Group (NSG).**
- After initial moratorium , **negotiations over Comprehensive Test Ban Treaty (CTBT) and indefinite extension of the Non Prolifertion Treaty (NPT)** reignited domestic political pressure to conduct further tests.
- Faced with the prospect of having to **confront nuclear-armed China and Pakistan,** both of which it had fought wars over unresolved territorial disputes, India conducted a series of nuclear tests at Pokhran, Rajasthan in 1998, and **formally declared itself a state armed with nuclear weapons.**
- But at the same time, **India continued to support efforts for nuclear disarmament** by submitting an Action Plan for a Nuclear-Weapons-Free and Non-Violent World Order to the United Nations General Assembly.

THREATS FROM CHINA AND PAKISTAN

- India's second nuclear test in May 1998, was influenced by the **volatile geo-political environment** of the time.
- On the one hand, there was the **growing affinity between China and Pakistan** as evinced by the Sino – Pak nuclear collaboration, and on the other hand, **China doggedly pursued its path of rapid military modernization** – especially in the case of the nuclear program – which potentially upended the strategic balance in Asia.
- As of today, **Chinese sources have stated that their NFU commitment is not applicable to the areas which Beijing claims (like areas in Arunachal Pradesh, Ladakh etc.)** Also, they have mentioned some red lines, which if crossed, would invite a nuclear attack.
- **Pakistan's nuclear doctrine is India-specific** and stipulates deterrence by **"guaranteeing an immediate massive retaliation by nuclear weapons"** against a ground and air attack which crosses certain red lines. To counter India's Cold Start Doctrine, Pakistan has added the use of TNWs (Tactical Nuclear Weapons) against Indian troops in its doctrine.
  - The 'Cold Start' doctrine of the Indian Armed Forces envisages swift deployment of troops if a situation of a full-blown war arises between India and Pakistan.

From emerging to established Nuclear Power (1998 till present)

- India's nuclear tests were followed by a similar set of tests by Pakistan, resulting in fears in the international community of an arms race or an escalation of conflict between the two openly declared nuclear powers in South Asia.
- After the 1998 tests, the Indian government established a **National Security Advisory Board,** which issued a Draft Report on Indian Nuclear Doctrine in 1999 under the chairmanship of nuclear strategist K Subrahmanyam followed by the **release and operationalisation of official nuclear doctrine in 2003.**
- U.S.-India nuclear cooperation agreement and the subsequent endorsement of India's case by the Nuclear Suppliers Group (NSG), enabled India to engage in international nuclear trade. In return, India has agreed to allow safeguards on a select number of its nuclear facilities that are classified as "civilian" in purpose.

STATUS OF INDIA'S CIVIL NUCLEAR DEVELOPMENTS

- To explore the possibility of tapping nuclear energy for the purpose of power generation, **three-stage nuclear power programme** was formulated in 1950s.
  - **Nuclear power programme** in India is largely indigenous which is controlled by Nuclear Power Corporation of India Ltd. (NPCIL), a state-owned corporation founded in 1987.
- **Atomic Energy Act, 1962** was enacted with the objectives of using two naturally occurring elements Uranium and Thorium having good potential to be utilized as nuclear fuel in Indian Nuclear Power Reactors.
  - Due to earlier trade bans and lack of indigenous uranium, India has been developing a **nuclear fuel cycle to exploit its reserves of thorium** (used in third stage nuclear reactors).
- **Currently, India has more than 20 operating** nuclear reactors at six locations across the country, with their **combined capacity of 6.7 GWe** (Giga Watt Electricity), contributing about 2% of the country's electricity supply.
  - India has ambitious plans to increase its nuclear power generation capacity to 275 GWe by 2052.
- **The scope for civilian nuclear trade increased significantly since 2008,** following the Nuclear Suppliers Group (NSG) India-specific agreement. **Civil nuclear cooperation agreements** have since been signed with US, Russia, France, Australia and Kazakhstan, among other countries.

WHAT IS INDIA'S PRESENT NUCLEAR STANDING VIS-À-VIS THE GLOBAL NUCLEAR DISCOURSE?

India's participation is based on the progressive nuclear disarmament and adoption of a non-discriminatory & verifiable process to effect this disarmament. Based on these principles, India's stand on various international treaties and regimes is as follows:

- **India has not signed the CTBT,** but maintains a unilateral moratorium on nuclear testing and supports negotiations for a Fissile Material Cut-off Treaty (FMCT) that is "universal, non-discriminatory, and internationally verifiable."
- **India has remained firmly outside of the NPT,** arguing that nuclear weapons are an integral part of India's national security and will remain so pending the global elimination of all nuclear weapons.
  - Also, all NNWS have criticised this treaty of having structural flaws and viewed it as discriminatory as it focuses on preventing only horizontal proliferation while there is no limit for vertical proliferation.
- **India has also opposed** the recent enforcement of **Treaty on Prohibition of Nuclear Weapons (TPNW)** which India believes is not a comprehensive instrument on disarmament as it excludes the verification of nuclear armaments.
  - India maintains that the Geneva-based **Conference on Disarmament (CD) is the single multilateral disarmament negotiation forum.**
- India has a **facility-specific safeguards agreement in place with the International Atomic Energy Agency (IAEA)** and a waiver from the Nuclear Suppliers Group (NSG) allowing it to participate in nuclear cooperation agreements with other countries.
- India has been **actively pursuing membership into the NSG** and has received explicit support for its membership from many current NSG members including the United States, Russia, Switzerland and Japan (except China).

- India was **recently accepted as a member of three of the four Multilateral Export Control Regimes;** Missile Technology Control Regime (MTCR) in 2016, Wassenaar Arrangement in 2017 and Australia Group in 2018.
- The Indian mission to the United Nations has also submitted several **draft recommendations on "reducing nuclear danger,"** which include "steps to reduce the risks of unintentional and accidental use of nuclear weapons, including through de-alerting and de-targeting nuclear weapons.

MAJOR GLOBAL NUCLEAR TREATIES AND REGIMES

NON PROLIFERATION TREATY (NPT)

- Signed in 1968, the NPT is a multilateral treaty aimed at limiting the spread of nuclear weapons including three elements: (1) non-proliferation, (2) disarmament, and (3) peaceful use of nuclear energy.
- It de-legitimised 'proliferation' of nuclear weapons and related technology by the non-nuclear weapon states (NNWS) while recognising that five nuclear-weapon states (NWS) — namely the US, Russia, the UK, France and China, can continue to possess nuclear weapons and commit not to transfer nuclear weapons to other states.
- India is one of the only five countries that either did not sign the NPT or signed but withdrew, thus becoming part of a list that includes Pakistan, Israel, North Korea, and South Sudan.

COMPREHENSIVE TEST BAN TREATY (CTBT)

- Adopted at the UN General Assembly in 1996, the treaty **prohibits all nuclear testing** and will enter into force after all 44 States listed in Annex 2 to the Treaty will ratify it.

  - These States had nuclear facilities at the time the Treaty was negotiated and adopted.
- As of 2016, 36 of these States have ratified the Treaty except China, North Korea, Egypt, India, Iran, Israel, Pakistan and the United States. India, North Korea and Pakistan have not yet signed the Treaty.
- The treaty establishes the **Comprehensive Test Ban Treaty Organization** (CTBTO) to ensure the implementation of its provisions and verify compliance through a global monitoring system upon entry into force.

TREATY ON PROHIBITION OF NUCLEAR WEAPONS (TPNW)

- Adopted in 2017 at the UN General Assembly, the treaty **entered into force in October 2020.**
- It prohibits States Parties from developing, testing, producing, manufacturing, acquiring, possessing, or stockpiling nuclear weapons or other nuclear explosive devices.
- **Other features of the treaty include:**
  - **Verification and Compliance:** The treaty does not contain a verification regime and each State Party must maintain its existing safeguards agreements with the International Atomic Energy Agency (IAEA).
  - **Amendment:** Any State Party may propose an amendment to the Treaty at any time after its entry into force. The amendment may be adopted by an affirmative vote of two-thirds of States Parties.
  - **Withdrawal:** Each State Party has the right to withdraw from the Treaty if it decides that extraordinary events related to the subject matter of the Treaty have jeopardized the supreme interests of its country.

CONFERENCE ON DISARMAMENT (CD)

- It **was formed in 1979 as the single multilateral disarmament negotiation forum** of the international community, after agreement was reached among Member States during the first special session of the UN General Assembly (UNGA) devoted to disarmament (1978).
- Since the conclusion of the negotiation of the CTBT in 1996, the **CD remains deadlocked** and has not been able to reach consensus on a programme of work and thus to commence substantive deliberations.

- The key items under consideration include: a **treaty banning the production of fissile material for nuclear weapons or other nuclear explosive devices (FMCT), nuclear disarmament, prevention of an arms race in outer space (PAROS), and negative security assurances.**

FISSILE MATERIAL CUT-OFF TREATY (FMCT):

- **It is a proposed international agreement that would prohibit the production of the two main components of nuclear weapons:** highly-enriched uranium (HEU) and plutonium.
- Neither this treaty has been negotiated nor have its terms been defined.

MULTILATERAL EXPORT CONTROL REGIMES (MECR)

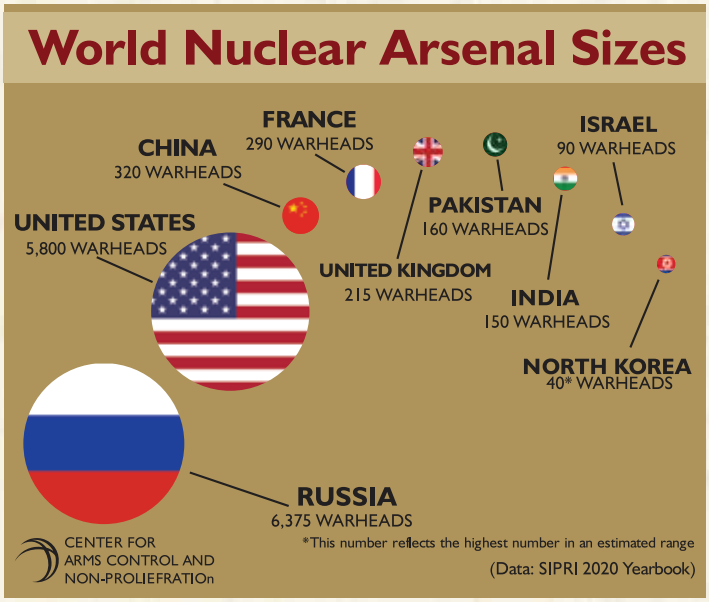
- These are voluntary and nonbinding arrangements of major supplier countries, aiming **to prevent the proliferation of weapons of mass destruction (WMD)** and their delivery means, related equipments and technology.
  - **A weapon of mass destruction (WMD)** is a nuclear, radiological, chemical, biological or other weapon that can kill and bring significant harm to a large number of humans or cause great damage to human-made structures (e.g., buildings), natural structures (e.g., mountains), or the biosphere.
- **There are currently four such regimes under MECR**
  - **Nuclear Suppliers Group (1975):** It is a group of 48 nuclear supplier countries that commit themselves to **exporting sensitive nuclear technologies only to countries that adhere to strict non-proliferation standards.**
  - **The Australia Group (1985),** to ensure that exports do not contribute to the development of chemical or biological weapons. Its formation was prompted by Iraq's use of chemical weapons during the Iran-Iraq War (1980-1988).
  - **Missile Technology Control Regime(1987),** to prevent the proliferation of missile and unmanned aerial vehicle technology capable of delivering weapons of mass destruction.
  - **Wassenaar Arrangement(1996),** to contribute to regional and international security and stability, by promoting transparency and greater responsibility in transfers of conventional arms and dual-use goods and technologies.
    - **Dual-use refers** to the ability of a good or technology to be used for multiple purposes - usually peaceful and military.

IS INDIA'S NUCLEAR DOCTRINE STILL RELEVANT IN ITS PRESENT FORM OR DOES IT NEED A REVIEW?

India's existing Nuclear Doctrine has served its aim of creating sufficient nuclear deterrence for its adversaries. But, at the same time, an examination of the existing doctrine has indicated that with the fast changing security dynamics in the region, there is a requirement for updating the existing doctrine. This debate has also gained momentum with recent remarks by the government.

The government in its 2014 election manifesto promised to study, revise and update India's nuclear doctrine to make it in tune with changing geostrategic realities. In August 2019, Indian Defence Minister implied that India's no first use policy would not be continued indefinitely.

Following are the reasons that advocate for the review of the doctrine:



- **Periodic review in a constantly evolving and shifting geo-strategic world order:** The American and the Russian governments review their nuclear policy periodically. The Indian doctrine, however, does not have such a caveat which requires such mandatory scrutiny.
  - The intesification of China Pakistan relations and their growing nexus with Russia demands calibrated review of India's doctrine.
- **Technological advancements in military:** Though India has tried to keep pace with the global technological advancements whether it is Ballistic Missile Defence (BMD) capabilities or the MIRV trajectory; but other technologies have been developed that can challenge any country's policy of credible deterrence.
  - **Miniaturised nukes and fractional bombs** are becoming possible because of technologies like the Fourth Generation Nuclear Systems, which are based on Plutonium. They are **also called the Pure Fusion bombs.**
    - For example-US is making a 'Mini-Nuke' (W76-2 bomb), which will ensure shrinkage of power and enable tactical applications.
  - China and Russia are developing **hypersonic glide vehicles,** and Russia is probably developing a **nuclear-armed, nuclear powered underwater vehicle.**
  - Concept of **Non-Strategic Nuclear weapons and munitions** like artillery ammunitions and mine are taking roots.
- **Efficacy of No First Use:** NFU remains the **most debated element of India's nuclear doctrine.**

- **Those who are against this caveat** believe that NFU may result in unacceptably high initial casualties and damage to Indian population, cities, and infrastructure. Also, an elaborate and costly ballistic missile defence (BMD) system would be required to defend against a first strike. At the same time, this caveat is especially ineffective when dealing with Pakistan, who is constantly trying to lower its threshold with its **Tactical Nuclear Weapons** (low yield weapons to be used in their own territory against Indian columns).
- **On the other hand, the theorists, who are in favour of NFU view,** believe that India's strategic restraint posture exemplified by NFU has resulted in major gains internationally, including the lifting of economic sanctions and the removal of technology denial regimes, civil nuclear cooperation agreements and accommodation in multilateral nuclear export control regimes. Further, No First Use posture is useful against China as well, as it is a prudent and non-escalatory approach to tensions within the geostrategic region.

- **Emerging nature of threats:** The present doctrine is silent over dealing with threats in the form of 'Cyber Crimes in the nuclear field' and 'Nuclear Terrorism'. Such threats can not only harm the individual interests of nations but also cause a global security risk as a whole. Major challenges associated with these threats are:
  - Preventing **non-state actors** from obtaining information technology.
  - **Lack of a consensus** on global security paradigms that deal with **Nuclear terrorism** specially the theft or accidental use of nuclear fissile material/weapons by terrorist groups.
- **Countering Chemical and Biological attacks:** Critics argue that the option of retaliating with nuclear weapons in case of CBW attack is an **aggressive posture that dilutes the NFU pledge** for NNWS that weakens credibility and ultimately nullifies deterrence. It is also believed that the **source of biological weapons is difficult to ascertain** and also the threat from the NNWS can be countered by conventional weapons.

ON WHAT LINES CAN THE PRESENT DOCTRINE BE REVIEWED?

Following suggestions have been given by experts which can be considered in the review process:

- **Dedicated defence technology programs:** With India continuously playing defence technological catch-up with other nuclear powers like China, the Nuclear Doctrine does not get the technological support needed for its effective enforcement. For example, limited range of ballistic missile capability vis-à-vis China. In this light, dedicated programs on the lines of Integrated Missile Development Programmes can be started in order to ensure capacity building alongside technological developments.
- **Increasing flexibility on 'massive retaliation' commitment:** The rationale behind the commitment is to create credible deterrence. But the commitment of massive retaliation forces the political actors to escalate the nuclear war, thus limiting the retaliatory options. To overcome this, some ambiguities could be introduced in the doctrine which enable the country to respond to threats like TNWs without it escalating to a full-fledged war.
- **Synchronizing with Foreign Policy:** The foreign policy continuously changes with the geo-political developments and changing national security needs. Some experts suggest reviewing the nuclear doctrine on the basis of changing foreign policy. This can serve the twin objectives of protecting the nuclear doctrine from becoming obsolete and regular review may serve as an indicator of our current military capabilities and what we need.
- **Building upon its status of a responsible nuclear power** – Given the current uncertain environment, India can emerge as a **potential leader for promoting global nuclear non-proliferation and disarmament.** Following efforts can be made by India in this regard -
  - **Reconsideration of India's doctrinal positions:** This include adopting a "global NFU" norm instead of a "conditional NFU" (which is India's current principle).
  - **Engaging in multilateral discussions** at the UN and other parallel platforms to voice the security and non-proliferation issues concerning states like itself. It can also work towards **reviving forums such as Conference on Disarmament.**
  - **Conducting open and transparent dialogues** on nuclear related issues with neighbouring countries as confidence building measures **amongst the regional powers** and convince more countries to adopt the route of no first use.
    - Presently, China is the only other nuclear nation in addition to India that professes to follow the doctrine of NFU.

CONCLUSION

India's 'Nuclear Doctrine' has created tangible and intangible advantages for India. However, it is also **important to continue to reassess the contextual validity of the doctrine** while keeping in mind the changes made by its geostrategic adversaries in order to ensure that the doctrine does not become stagnant in the face of changing threat perceptions.

Further, this upgradation has the potential to transform the nuclear policy into a tool for achieving India's global ambitions and effectively checking the national security threats.

TOPIC AT A GLANCE

NUCLEAR DOCTRINE

(goals and missions that guide the deployment and use of nuclear weapons by any country both during peace and war)

Major aspects of India's Nuclear Doctrine

- **Political Control of Nuclear Weapons**
- **Conditional use of nuclear weapons**
- **Non-proliferation of nuclear weapons and commitment to Nuclear Disarmament**
- **Credible minimum deterrence**
- **No First Use of Nuclear Weapons**
- **Massive Retaliation in case of aggression**

Evolution of India's Nuclear Doctrine

- Peaceful Nuclear Program (1947 to 1974)
- Moving Towards Weaponization (1974 to 1998)
- From emerging to established Nuclear Power (1998 till present)

India's present Nuclear Stature

- **Not signed the CTBT and NPT.**
- **Opposed the recent enforcement of Treaty on Prohibition of Nuclear Weapons** (TPNW).
- **Facility-specific safeguards** agreement in place with the International Atomic Energy Agency (IAEA) and a waiver from the Nuclear Suppliers Group (NSG).
- **Actively pursuing membership into the NSG**
- Recently accepted as a**member of three of the four Multilateral Export Control Regimes.**
- **Adhered to its mission of universal, verifiable and non-discriminatory Nuclear Disarmament.**

Reviewing India's Nuclear Doctrine

Need for review

- **No provision for a periodic review** which is very much required in constantly evolving and shifting, geostrategic world order.
- **Technological advancements** in military can challenge India's policy of credible minimum deterrence.
- **Checking efficacy of No First Use policy**
- **Emerging nature of threats** in the form of Cybercrimes and Nuclear terrorism.
- **Countering aggressive posture against Chemical and Biological attacks.**

Lines on which it can be reviewed

- **Dedicated defence technology programs** to ensure capacity building alongside technological developments.
- **Increasing flexibility on 'massive retaliation'** commitment.
- **Synchronizing with Foreign Policy** to keep the doctrine updated with the geo-political developments and changing national security needs.
- **Building upon the status of a responsible nuclear power.**