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Nuclear Disarmament

A Step Towards Safe and Better World

Introduction

The world has entered a new nuclear era whose characteristics and challenges differ markedly from those of the Cold War. Beyond the changing geostrategic topography, advances in weapons technology make things even more complex.

The ongoing nuclear arms race in Southern Asia and threats of nuclear weapons use in Russian- Ukraine war and China- Taiwan conflict looms large over the world. Recent assessment in the review meeting of NPT highlights that while the number of deployed nuclear weapons has appreciably declined, not one nuclear weapon has been physically destroyed pursuant to a treaty.

In this document, we'll discuss how the nuclear weapons ecosystem has evolved over the years, what factors are driving the risk of nuclear weapons use in the present times, why is nuclear disarmament needed, what is India's role in global nuclear disarmament, what steps have been taken to achieve nuclear disarmament and to what extent have they been successful, what are the challenges in achieving complete nuclear disarmament, and what is the way ahead to achieve universal nuclear disarmament in order to create a safe and peaceful world.

How did the evolution of nuclear weapons ecosystem take place?

Nuclear weapons were developed during World War II and they evolved from nuclear fission to fusion to thermonuclear and has been a constant threat to life on earth. Periodic attempts at achieving nuclear disarmament also took place but remained unsuccessful.

1942
United States sets up Manhattan Project to develop first nuclear weapon.

1945
US dropped nuclear bombs over Hiroshima and Nagasaki.

1946
First resolution of UN General Assembly calls for complete elimination of nuclear weapons.

1949
USSR explodes nuclear weapon in Kazakhstan.

1952
US detonated first hydrogen bomb at Marshall Islands (500 times more powerful than Nagasaki bomb).

1963
Partial Test Ban Treaty (PTBT) was signed.

1968
Nuclear Non-Proliferation Treaty (NPT) was signed.

1974
India conducts an underground nuclear test at Pokharan (Smiling Buddha).

1987
USSR and US signed Intermediate-Range Nuclear Forces (INF) Treaty.

1996
Comprehensive Test Ban Treaty (CTBT) opened for signature at UN.

What factors are driving the risk of nuclear weapons use in the present world order?

This risk is driven by the following interconnected developments:

- **Evolving foreign policy doctrines:** Nuclear weapons are acquiring a more important role in the military doctrines and security strategies of nuclear-armed states like US, Russia, India and China.
- **Modernisation of technology:** This involve **development of new nuclear weapons** with novel, "more usable" capabilities.
  - For example, **US is making a miniaturised nuke** while **China and Russia are developing hypersonic glide vehicles.**
- **Perils of miscommunication:** Increased reliance on infrastructure in space, and integration of digital technologies in nuclear command, control and communications has increased complexity in decision-making processes, thereby **heightening the risk of misinterpretations** that could trigger the use of nuclear weapons.
- **Weakening of legal policy frameworks:** Erosion of the nuclear arms control legal framework – for example, abrogation of INF Treaty – has **reduced transparency and predictability in policy and decision-making processes.**

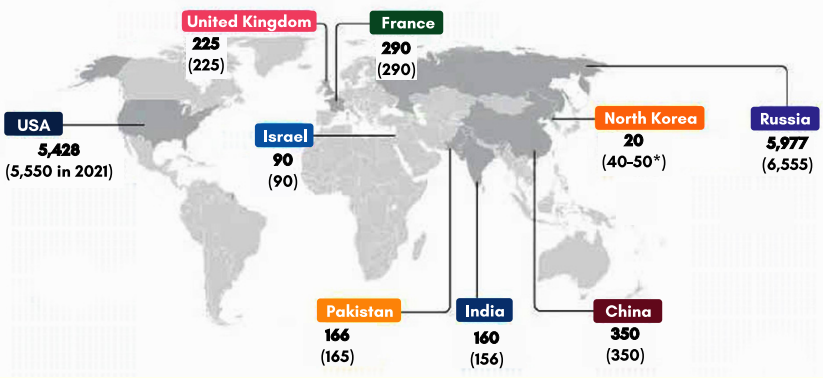
Trends in nuclear weapons proliferation

As per recent Stockholm International Peace Research Institute (SIPRI) report,

- While absolute numbers of nuclear arsenal have reduced, they are expected to grow over the next decade.
- Russia and the USA together possess over 90% of all nuclear weapons.
- Nine nuclear-armed states—**United States, Russia, the United Kingdom, France, China, India, Pakistan, Israel and North Korea** continue to modernize their nuclear arsenals.
- India had 160 nuclear warheads as of January 2022 and it appears to be **expanding its nuclear arsenal.**

Nuclear weapons stockpiles

Warheads by country in 2022, according to the Stockholm International Peace Research Institute (SIPRI)



- **Geopolitical developments:** Increasingly tense relationships and the possibility of conflict across several contexts between nuclear-armed and nuclear-allied states, increases the risk of escalation.
  - For instance, within the AUKUS alliance, Australia is embarking on acquiring nuclear submarines.
- **Emerging nuclear arms race in South Asian region:** With the ongoing developments in the region, it is now being termed as the **forerunner of the 2nd Nuclear Age post World War II.** The resulting security dilemma encourages arms racing among the regional players and undermines regional strategic stability.

Rising Strategic Instability in South Asia

Strategic stability usually refers to a state of affairs in which countries are confident that their **adversaries would not be able to undermine their nuclear deterrent capability.** Strategic stability can be said to **exist between two nuclear-armed powers if:**

- neither side has an incentive to use nuclear weapons first;
- neither side has an incentive to build up its nuclear forces; and
- there exists some degree of predictability and transparency during periods of heightened tensions between the two sides.

Factors undermining strategic stability in South Asia

As of today, Pakistan, India, China, North Korea, and Iran, are states with **varying shades of nuclear and strategic weapons which have direct implications on strategic stability** of the South Asia region. However, the dynamics of strategic stability in South Asia is facing tremendous challenges due to the following factors:

- **Evolution of warfare:** With the blurring boundaries between various generations and categories of warfare, the **concepts of hybrid warfare and hybrid threats are more lethal** in their effect and tend to alter stability in the region.
  - **Pakistan's development of tactical nuclear weapons** and **China's aggressiveness** poses security challenges in the region.
- **Modernisation of weapons:** Advent of new weapon systems such as hyper velocity and multi-entry launch vehicles are becoming the cause of altering the strategic equation.
- **Energy:** Global **race for fossil fuels and energy security** has taken over all other aspects and is **impacting the strategic stability** of the region. US, China, Gulf and Middle East are experiencing energy security issues.
- **Multiple players:** Indian Ocean region (IOR), Pacific, and now Africa, are experiencing the race of global powers to extend their reach and project a global role. **US' positions in IOR, Gulf, and Pacific is gradually being hedged by Chinese bases under Belt and Road Initiative** of which Pakistan is an important player, hurting the strategic interests of the US and India.

What is nuclear disarmament and why is it needed?

Nuclear disarmament is the **process of reducing and eradicating nuclear weapons,** as well as ensuring that countries without nuclear weapons are not able to develop them.

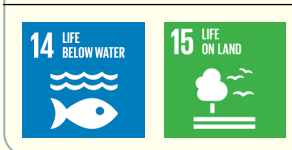
The horrors of nuclear bombings in Hiroshima and Nagasaki and its impact across subsequent generations is a glaring example substantiating the urgent need to move towards nuclear disarmament. Some of the other factors highlighting the need for complete disarmament at global level are:

- **Social:** The immediate and longer-term humanitarian impact of nuclear weapons uses and testing on human health includes **increased mortality and infant mortality rates,** kills or sickens exposed cells, can **cause cancer and genetic damage** and long-term radiation affect future generations.
- **Economic:** Nuclear weapons programmes divert public funds from health care, education, disaster relief and other vital services. The nine nuclear-armed nations spend many billions of dollars each year maintaining and modernizing their nuclear arsenals.

- **Security:** Terrorist acquisition of a nuclear weapons is giving rise to the threat of **Nuclear terrorism** which is a major threat to world peace and security.
  - Nuclear terrorism encompasses a spectrum of threats-the detonation of a nuclear bomb, an attack on a civil nuclear installation, or the dispersal of radiological materials through a "dirty bomb."
- **Environment:** Using the scare natural resources for the manufacture, storage, deployment and retirement of weapons impacts **environment, global climate, food security, ocean acidification, health and both biotic and abiotic components** of ecosystem.
  - For instance, when the bombs in Hiroshima and Nagasaki exploded in air, high degree of radiation was emitted and carried by wind to areas beyond the cities which then dispersed gradually and led to radioactive air contamination.

Can Disarmament and Arms Regulation facilitate Sustainable Development?

The catastrophic humanitarian consequences of any use of nuclear weapons (by intent, accident or miscalculation) anywhere in the world threaten the fulfilment of the Sustainable Development Goals. Banning and working towards the elimination of nuclear weapons, therefore reinforces implementation of the SDGs:

	Disarmament and arms control reduce the impact of conflict on human health.
	**Disarmament education** contributes to education on peace and non-violence, conflict resolution, gender equality, economic justice, human rights and tolerance of cultural diversity.
	Female atomic bomb survivors have suffered discrimination and stigma due to fears about problems with reproduction.
	Adequate arms regulation helps **prevent illicit transfers of weapons in support of human trafficking, modern slavery or forced labour.**
	Measures for disarmament can **redirect public resources/spending towards social and economic initiatives** that can contribute to greater equality.
	**Arms control measures increase urban safety and security** by curbing uncontrolled proliferation and misuse of small arms, particularly for gang-related violence.
	Disarmament and arms regulation **reduce the impact of weapons on the environment.**

16 PEACE, JUSTICE AND STRONG INSTITUTIONS	**Active engagement of all States,** especially developing countries, in multilateral disarmament discussions leads to **more effective and sustainable policy outcomes.**

What steps have been taken towards the goal of nuclear disarmament?

Recognising the perils of nuclear weapons, the global countries have taken multiple steps to achieve the goal of nuclear disarmament:

Initiatives by the US and USSR

- **Strategic Arms Limitation Talks (SALT) negotiations** were aimed at curtailing the manufacture of strategic missiles capable of carrying nuclear weapons.
  - SALT I was completed in 1972, with signing of two agreements, Treaty on Limitation of Anti-Ballistic Missile (ABM) Systems and Interim Agreement and Protocol on Limitation of Strategic Offensive Arms.
  - SALT II, which formally began in 1972, is still underway.
- **Strategic and Tactical Arms Reduction Treaty (START)** for reduction and the limitation of strategic offensive arms.
  - START-I was signed in 1991, **barred its signatories from deploying more than 6,000 nuclear warheads** atop a total of 1,600 ICBMs. It was expired in 2009.
  - **2002 Strategic Offensive Reduction Treaty (SORT, or Moscow Treaty)** entered into force in 2003, followed by **New Strategic Arms Reduction Treaty (New START), which entered into force in 2011.**
  - In 2021, US and Russia agreed to **extend New START by five years i.e. until February 2026.**

Diplomatic Efforts by United Nations

- **Conference on Disarmament (CD):** It has 65 Member States including India, and 38 observer states and is **sole negotiating body for multilateral nuclear disarmament.** It was established in its current form by United Nations General Assembly (UNGA) in 1979.
- **Comprehensive Nuclear-Test-Ban Treaty (CTBT), 1996:** It was negotiated at the Conference on Disarmament in Geneva and **aims at eliminaing nuclear weapons** by constraining the development and qualitative improvement of new types of nuclear weapons.
  - It needs eight key countries(including the US and India) to ratify before entry into force.
- **Treaty on Non-proliferation of Nuclear Weapons (NPT), 1968:** NPT is the **only binding commitment in a multilateral treaty to the goal of disarmament by the nuclear-weapon States(NWSs).** Its objectives include non-proliferation, peaceful use of nuclear energy and disarmament.
  - **Four NWSs India, Israel, Pakistan, and North Korea are currently non-signatory** to this treaty.

- **Treaty on Prohibition of Nuclear Weapons (TPNW), 2017:** It entered into force in 2020, and **prohibits all states parties(and not just NWSs)** from developing, testing, producing, manufacturing, acquiring, possessing or stockpiling nuclear weapons.
  - Treaty does not contain a verification regime and each State Party must **maintain its existing safeguards agreements with International Atomic Energy Agency (IAEA).**
- **Fissile Material Cutoff Treaty (FMCT):** It is a proposed international agreement that would **prohibit the production of the two main components** of nuclear weapons i.e. **highly-enriched uranium (HEU) and plutonium.**
- **International Day for Total Elimination of Nuclear Weapons:** It is celebrated on September 26th every year and provides opportunity **to educate the public - and their leaders - about the real benefits of eliminating nuclear weapons.**

Multilateral Export Control Regimes (MECR)

- MECR are **voluntary and non-binding agreements** created by the major supplier countries that have agreed to co-operate in their effort to prevent and regulate the transfer of certain military and dual use technology. **It aims at preventing the proliferation of Weapons of Mass Destruction (WMD)** which includes nuclear, radiological, chemical, biological or other weapon.
  - There are currently **four such regimes under MECR:**

Nuclear Suppliers Group (NSG), 1975

- Prevents nuclear proliferation by implementing guidelines for nuclear and nuclear-related exports.
  - Group of 48 nuclear supplier countries.
  - India is not a member of NSG.

Australia Group (AG), 1985

- Ensures that exports do not contribute to development of chemical or biological weapons.
- Its formation was prompted by Iraq's use of chemical weapons during Iran-Iraq War (1980-1988).
  - 43 members including India and EU.

Missile Technology Control Regime (MTCR), 1987

- Prevent proliferation of missile and unmanned aerial vehicle technology capable of delivering WMD.
- It is not a legally-binding treaty.
- 35 members including India.
- Formed by G7 countries.
- China is not member of MTCR.

Wassenaar Arrangement (WA), 1996

- Promotes transparency and responsibility in transfers of conventional arms and dual-use goods and technologies.
- 42 members including India.
- WA's Secretariat is in Vienna, Austria.

Progress in Nuclear Disarmament: NPT's achievements and failures

NPT's Achievements

- Succeeded in **preventing proliferation of nuclear weapons** (from more than 70,000 warheads in 1986 to about 13,000 in 2020).
- **Facilitated cooperation on peaceful applications of nuclear technology** under watch of IAEA.
- **Converted Potential Proliferators to Active Non-proliferation Supporters** like Australia, Canada, Sweden etc.
- Established **Regional Nuclear Weapon-free Zones.**
- **Generated a near international norm against nuclear proliferation.**

NPT's Failures

- **Inability to effect universalization of treaty** and resolve major regional security threats.
- **Failure of NWS to fulfil their disarmament commitments.**
- **Unable to prevent non-signatories like India, Israel, and Pakistan from crossing the nuclear threshold.**
- **Not been able to prevent acquisition of nuclear weapons by non-state actors**, terror outfits and availability of nuclear weapons on black market.
- **Absence of crucial institutional support** for NPT.
- **Intensified competition** among great nuclear powers causing **polarization among NPT member states.**

What is India's role in global nuclear disarmament?

India has been a consistent advocate of global nuclear disarmament and had proposed universal nuclear disarmament, a nuclear test ban treaty, freeze on the production of fissile material and stressed disarmament as a solution for nuclear proliferation. **India's Nuclear doctrine and its two-pronged strategy** reflect this:

- **Push for universal and non-discriminatory nuclear disarmament:**
  - **India supports the commencement of negotiations on a comprehensive Nuclear Weapons Convention in CD**, world's single multilateral disarmament negotiating forum working on the basis of consensus.
  - In 1965, India was amongst the **Non-Aligned Eight in the Eighteen Nation Disarmament Committee (ENDC)** that advocated for de-linking disarmament and non-proliferation.
  - **India proposed a comprehensive proposal for "complete and universal nuclear disarmament" to the UNGA** which came to be known as **Rajiv Gandhi Action Plan.**

- **India is in support of a non-discriminatory, and universal FMCT t**hat is being negotiated in Geneva-based CD.

- **Opposition to discriminatory treaties:**
  - **India opposed to signing NPT,** which it views as discriminatory as it divided the world into "nuclear haves" and "nuclear have-nots'.
  - **India opposes CTBT** due to the failure of treaty to include a commitment by the NWSs to eliminate nuclear weapons within a time-bound framework.
  - India **opposed the enforcement of Treaty on Prohibition of Nuclear Weapons (TPNW)** which is not a comprehensive as it excludes the verification of nuclear armaments.

India's nuclear doctrine is however being questioned for its relevance in the present times amid the changing security dynamics of the world and the south asian region. ***To know more on this and other aspects , kindly refer to weekly focus document on India's Nuclear Doctrine:***

What is India's Nuclear Doctrine?

- India, a responsible nuclear weapon state, is committed to maintaining **credible minimum deterrence** with the posture of **no-first use (NFU) and non-use against non-nuclear weapon states.**
- Nuclear retaliatory attacks can only be authorised by civilian political leadership through **Nuclear Command Authority,** which comprises of a Political Council (Chaired by Prime Minister) and an Executive Council.
- India would continue to put **strict controls on the export of nuclear and missile related materials and technologies,** participate in Fissile Material Cutoff Treaty (FMCT) negotiations, and continue to observe the moratorium on nuclear tests.
- India remains committed to **goal of a nuclear weapon's free world** through global, verifiable and non-discriminatory nuclear disarmament.

India's Nuclear Doctrine

India's reiteration of its 'No-first-use' policy at the UN conference of disarmament has brought India's Nuclear doctrine in the limelight. In this context, it becomes important to understand its evolution, its current paradigm, the importance it holds for India and how it needs a review in the changing technological and geopolitical landscape.

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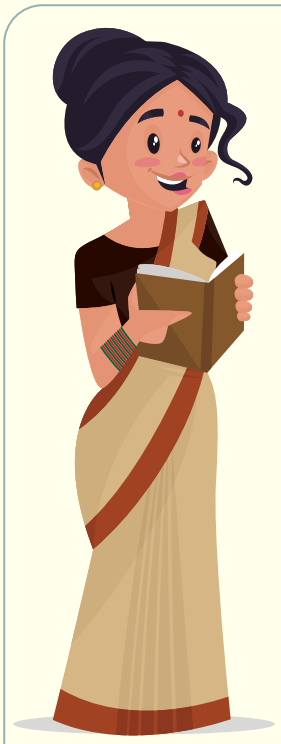
What are the roadblocks in achieving complete nuclear disarmament?

The path toward a world without nuclear weapons is well marked and many of the steps to be taken have been developed and agreed to. However, there is widespread skepticism about the effectiveness of disarmament efforts due to following issues:

- **Lack of consensus among NWSs:**
  - USA withdrew from INF Treaty, 1987 and Russia formally suspended its obligations under it.
  - Russia blocked 2022 nuclear Nonproliferation Treaty (NPT) Review Conference from reaching consensus on a substantive outcome document which criticised Russia's military takeover of Zaporizhzhia nuclear plant in Ukraine.
  - Discussions on **denuclearization between North Korea and US lost traction** during 2019 and by end of 2019 the Iran nuclear deal (2015 Joint Comprehensive Plan of Action) was largely non-functional.
- **Imbalance in military forces:** Imbalance in military spending and strength is further **promoting countries to move towards nuclear weapons** as a way to level the playing field.
  - For example, US spent $552 Billion, Russia $32 Billion (20:1 disadvantage) thus, Russia will continue to look to nuclear weapons as a way to level the strategic playing field.
- **Nuclear weapons states outside NPT/CTBT:** Nuclear weapon states such as India, Pakistan are outside the purview of NPT and are **not bound by NPT chapter on disarmament.** And countries like **USA, China have not ratified the CTBT,** thus posing a challenge to disarmament process with no legally binding agreement in place.
- **Unsettled international security environment:** US withdrawal from Joint Comprehensive Plan of Action (JCPOA); Iran rebuilding its enrichment program , tensions escalating between Saudi Arabia-Iran; Turkey's aspirations of being nuclear power; US- North Korea negotiations at a halt, may polarise nations to adopt the path of nuclear proliferation.
- **Ineffective implementation of NPT:** Largely due to perennial tension between NWS and NNWS, NPT has been under severe strain.
  - **Possession of weapon:** NPT does not forbid a NNWS from possessing nuclear weapons and has no sanctions for violators or for withdrawal from the treaty.
  - **Non-compliance:** NPT has been **unable to prevent non-signatories India, Israel, and Pakistan from crossing the nuclear threshold** and to prevent former NPT signatory North Korea from becoming a nuclear-armed state.
  - **Non-State actors:** NPT has not been able to address the issue of acquiring nuclear weapons by non-state actors, terror outfits and availability of nuclear weapons on black market.
- **Verification challenges of nuclear abolition:** These include verifying the dismantlement of nuclear weapons, accounting for and safeguarding all nuclear materials, and creating a robust international enforcement mechanism to deal with noncompliance.
  - The global verification agency International Atomic Energy Agency **(IAEA) currently faces funding issues along with lack of human resource and technology.**

"In Conversation"

Ethical Dilemma of Nuclear Deterrence



Mukherjee Ma'am: *Hello Sharma Sir! I heard your son works at a software firm in Taiwan. Is he safe there?*

Sharma Sir: *Hello ma'am. Yes, the situation was getting tense over there, so I have called him back to India.*

Mukherjee Ma'am: *Yes, I read in the news that China is adopting nuclear deterrence to prevent foreign intervention in Taiwan. Do you think that there is a risk of war there?*

Sharma Sir: *I don't think so. But yes, the risk has increased manifold in the present times.*

Mukherjee Ma'am: *Even though the countries keep on talking about achieving nuclear disarmament, why they still support the policy of nuclear deterrence?*

Sharma Sir: *Ma'am, you need to understand that nuclear deterrence is a psychological phenomenon. It involves convincing an aggressor not to attack by threatening it with harmful retaliation. It therefore acts a self-defence strategy.*

Mukherjee Ma'am: *But what if the aggressor is not persuaded by the policy and chooses to attack anyway? It involves a risk to civilians. Is this self defence strategy ethical and morally acceptable?*

Sharma Sir: *Well, the policy works on Utilitarianism principle i.e. the aim of action should be greatest happiness of the greatest number. Hiroshima bombing was justified on the same principle.*

Mukherjee Ma'am: *But on the other hand, principle of Deontology focuses on the rightness or wrongness of the action, instead of the consequences. And accordingly, it is intrinsically wrong to put innocent human beings, at risk. Mahatma Gandhi also emphasised on means and not just end.*

Sharma Sir: *You are right ma'am. But the issue needs to be viewed from a worldly and militaristic standpoint. Although in theory, nuclear deterrence may be immoral, but in practice, it is seen unavoidable till nuclear weapons are present in the world.*

Mukherjee Ma'am: *Yes, that's true Sir. Continued dependence on nuclear weapons is detrimental to international peace and stability and only a universal Nuclear Disarmament can ensure safety of all.*

Sharma Sir: *Rightly said Ma'am.*

What is the way ahead towards achieving the goal of a of a nuclear-weapon-free world?

Nuclear disarmament has been identified as an objective of highest priority by the world countries. However concrete steps are needed to achieve this goal. These include:

- **Commitment of states:** A renewed, demonstrated commitment by all states and in particular NWS to respect the **sovereignty, independence, and territorial integrity of their neighbors,** in order to keep **nuclear deterrence in check,** either through reduction in their own nuclear arsenals or through a reliance on alliances with NWS.

- **Strategic balance:** World countries should strictly **abide by the existing arms control treaties** in order to maintain the global strategic balance and stability which constitute the basis and precondition for progress in the nuclear disarmament process.
- **Cooperation:** A peaceful, secure, stable international environment based on **mutual trust is essential for the advancement of the nuclear disarmament** process and establish a new security concept based on mutual trust, mutual benefit, equality and cooperation.
- **Check on arms race:** Countries should **stop the development, deployment and proliferation of advanced missile defense systems** and outer space weapons, which will jeopardize the nuclear disarmament process and even trigger a new round of nuclear arms race.
- **Strengthening the verification system:** It is necessary that integrated safeguards continue to evolve as we gain experience.
- **Peaceful Uses of Nuclear Energy:** There is urgent need to ensure that **nuclear technology transferred, acquired, or developed for peaceful purposes is not diverted or misused** to produce or develop nuclear weapons and minimize the inherent risk associated with nuclear technology.

Conclusion

Nuclear weapons are intrinsically dangerous and pose an unparalleled threat to the very existence of humankind. The evidence of harm takes on a renewed importance in a world in which the risk of nuclear weapons being used is increasing. Thus, preventing the use of nuclear weapons is of the utmost urgency and the only way to guarantee that nuclear weapons are never used again. Any nuclear disarmament process should follow the **principle of undiminished security for all states which** requires the pursuit of cooperative security rather than competitive security. It requires a fundamental rebuilding of security relations among countries for which the overall security objective needs to shift from mutual deterrence, to mutual, and demonstrable, reassurance.

Topic at a Glance: Nuclear Disarmament

Nuclear disarmament is the **process of reducing and eradicating nuclear weapons,** as well as ensuring that countries without nuclear weapons are not able to develop them.

Factors driving the risk of nuclear weapons use

- **Evolving foreign policy doctrines** of nuclear-armed states.
- **Modernisation of technology and development of new nuclear weapons** with more usable capabilities.
- **Increased reliance on infrastructure in space, and integration of digital technologies** has increased **risk of misinterpretations** on use of nuclear weapons.
- **Weakening of nuclear arms control legal policy frameworks has reduced transparency and predictability in policy and decision-making processes.**
- **Conflict between nuclear-armed and nuclear-allied states** has increased risk of escalation.
- **Emerging nuclear arms race and consequent strategic instability in South Asian region.**

Need for complete disarmament

- **Social impact: Increased mortality and infant mortality rates,** disease like **cancer and genetic damage** and long-term radiation affect future generations.
- **Economic cost: Infrastructure loss** like houses, schools etc. and **high budgetary expenditure on nuclear weapons.**
- **Nuclear terrorism: Easy access of terrorist organizations** to materials and knowledge to build nuclear weapons is **threat to world peace and security.**
- **Environmental Impact:** Impacts **global climate, food security, ocean acidification, health of biotic and abiotic components** of ecosystem.

Steps taken to achieve Nuclear disarmament

- **Initiatives by the US and USSR:**
  - **Strategic Arms Limitation Talks (SALT- I & II)** for curtailing the manufacture of strategic missiles capable of carrying nuclear weapons.
- **Strategic and Tactical Arms Reduction Treaty (START)** for reduction and the limitation of strategic offensive arms.
- **Diplomatic Efforts by United Nations**
  - **Conference on Disarmament (CD)** , a sole negotiating body for multilateral nuclear disarmament.
  - **NPT aims to limit spread of nuclear weapons** through non-proliferation, disarmament, and peaceful use of nuclear energy.
  - **CTBT aims to eliminate nuclear weapons** by constraining development and prevent nuclear proliferation and nuclear disarmament.
  - **TPNW prohibits States Parties from developing, testing, producing, manufacturing, acquiring, possessing** or stockpiling nuclear weapons.
  - **FMCT prohibits production of highly-enriched uranium (HEU) and plutonium.**
  - **Celebration of International Day for Total Elimination of Nuclear Weapons** on September 26th every year to educate the public.
- **Multilateral Export Control Regimes (MECR) prevents proliferation of weapons of mass destruction** under 4 regimes i.e. NSG, AG, MTCR, WA.

India's stand in global nuclear disarmament

India remains committed to **goal of a nuclear weapon's free world** through global, verifiable and non-discriminatory nuclear disarmament.

- India **supports negotiations on comprehensive Nuclear Weapons Convention** in CD.
- India proposed **universal nuclear disarmament** to UNGA, known as **Rajiv Gandhi Action Plan.**
- **India is in support of universal FMCT.**
- India opposed to signing NPT, as it divided world into "nuclear haves" and "nuclear have-nots'.
- **India opposes CTBT** due to its failure to include commitment by NWSs to eliminate nuclear weapons.
- India **opposed enforcement of TPNW,** as it excludes verification of nuclear armaments.

Challenges in achieving nuclear disarmament

- **Lack of consensus among NWSs** as US withdrew from INF Treaty, 1987 and Russia formally suspended its obligations under it.
- **Imbalance in military spending** promotes countries to move towards nuclear weapons to level the playing field.
- **Unsettled international security environment** may polarise nations to adopt path of nuclear proliferation. Eg. US withdrawal from JCPOA etc.
- **NPT unable to address issue of acquiring nuclear weapons by non-state actors, terror outfits** and availability of nuclear weapons on black market.
- **Verification challenges as** International Atomic Energy Agency (IAEA) currently faces funding issues along with lack of human resource and technology.

Way Ahead

- **Commitment by NWS** to respect sovereignty, independence, and territorial integrity of their neighbors to keep nuclear deterrence in check.
- **Stable international environment** based on mutual trust is essential for nuclear disarmament process.
- **World countries should abide by existing arms control treaties** to maintain global strategic balance.
- **Countries should stop development, and proliferation** of advanced missile defense systems which trigger nuclear arms race.
- **Strengthening the verification system.**
- **Ensure peaceful use of nuclear energy** and minimize risk associated with nuclear technology.