The Takshashila Institution

Proposals for A New Agenda for Peace

Aiming for Nuclear Peace: The Global No-First Use Treaty

For over 50 years, the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) was the cornerstone of nuclear peace. While the NPT may claim to have contributed to the slowing down of horizontal nuclear proliferation, it has had little impact on the arms competition between the established nuclear powers. The emergence of new technologies such as hypersonic weapons, conventional precision missiles and ballistic missile defences, coupled with the renewed international tensions, has accelerated the arms race among nuclear powers.

In this regard, the NPT regime's efforts to achieve disarmament is an impractical goal in the short run. Instead, the international community must focus on the more realistic goal of dissuading first use through a Global No-First Use (GNFU) Treaty. A is more realistic and suited to contemporary strategic challenges. A GNFU would commit all eight states with declared nuclear weapons to no-first-use pledges for nuclear weapons.

A nuclear no-first-use policy is committed to not carrying out a first strike and is focused on retaliation after an adversary has initiated a nuclear strike. No first-use is a credible threat by its very nature, as it reflects the de facto policy of nuclear weapon states. Therefore, an NFU policy does not require states to expend significant cost, efforts and energy towards building credibility, contrary to what a first-use policy requires them to do.

A (GNFU) Treaty adopted by all eight overt nuclear powers would reduce the pressures driving both vertical and horizontal proliferation of nuclear weapons. Furthermore, such a universally adopted pledge will reassure non-nuclear powers that they will not be subject to nuclear threats and thus have less need to develop nuclear deterrents of their own. In short, if a GNFU agreement is put in place, it is likely to both slow down nuclear arms races and inhibit the spread of nuclear weapons to other states.

Putting together a GNFU Treaty may not be easy to achieve. However, persuading nuclear weapon states to give up first-use is more realistic than attempting to make them give up nuclear weapons altogether.

Strengthening the BWC For Emerging Threats

Emerging technologies such as gene drives, CRISPR-Cas9, artificial gene synthesis, gain-of-function research etc. are changing the ways in which bioweapons may be created and used. This necessitates a comprehensive reform of the Biological Weapons Convention (BWC) to prepare the world for emerging biosecurity threats. A Scientific Expert Group (SEG) can help the BWC monitor emergence of biological threats, assess biosecurity risks of new technologies, identify potential scenarios for bioweapon use and recommend countermeasures.

In the future, bioterrorists may use new gene editing techniques to convert a relatively harmless biological agent into a more harmful agent. Other synthetic biology techniques could be used to create pathogens without the necessity of an organic backbone. With the commercialisation of artificial gene synthesis, this task has become easier. Universal availability of scientific knowledge and the Artificial Intelligence-driven processing powers can help identify combinations of genes to specifically tailor a bioweapon against a target. Building on this knowledge, bioweapons capable of targeting single individuals or ethnic groups may be created. The use of a bioweapon of this variety may go unnoticed as an intentional attack and state parties may prefer such a weapon to avert large-scale conflict with an enemy state. Bioweapons may also be used to precipitate an economic crisis by disrupting agriculture or livestock health and creating an artificial dependency on the perpetrating country.

Given the political and technological context of this changing scenario of bioweapon use, existing regulations helmed by the Biological Weapons Convention (BWC) are severely inadequate in restraining the proliferation of these new technologies. The proposed SEG should include domain specialists in epidemiology, public health, biosecurity etc. along with scientific experts from WHO, World Organisation for Animal Health, and Food and Agriculture Organisation. The BWC mandate should be expanded to identify future biological threats and likely scenarios of use. This would require further funding and strengthening of its Implementation Support Unit (ISU). Furthermore, the current voluntary confidence-building measures requiring member parties to exchange information on vaccine production plants, biodefence programs, and unusual disease outbreaks have seen low active participation. The BWC should move from a confidence building approach to making reporting mandatory, and penalties can be put in place for parties who are not compliant with the measures mandated by the BWC.

Introducing the Global Space Situational Awareness Treaty: A New Agenda for Peace in Outer Space

For over 50 years, the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, simply known as The 1967 Outer Space Treaty (OST), has remained the cornerstone treaty for establishing norms of behaviour in space. Despite serving its purpose for decades, the treaty has raised doubts about the extent to which it can preserve the peaceful use of outer space. Three major developments have led to this thinking:

a. The number of commercial actors in space has expanded rapidly since the OST was signed. While commercial actors can bring innovative solutions to mitigate problems in space, they also create new challenges to space governance.

b. An exponential increase in space activities which has resulted in the creation of space debris, has raised serious questions about the sustainability of space activities.

c. The growing view of outer space as a warfighting domain by some states and alliances has also fuelled concerns about the heightened weaponisation of space.

An alternate way to revitalise the safety, security and sustainability is by substantially increasing the transparency of outer space universally to all nations. We propose the introduction of a Global Space Situational Awareness Treaty where member-states share their space situational awareness (SSA) data in order to obtain a more complete picture of activities in the Earth's orbits.

By making use of existing space situational awareness (SSA) networks of states, along with commercially available technologies, it is possible to create a global space tracking network to verify activities in space and induce transparency measures among member-states. Further, improvements in data processing technologies and machine learning will help member-states accurately predict potential collisions and take appropriate measures to mitigate risks. The Global SSA Treaty is also a tool for non-intrusive verification which can induce normative behaviours among member-states.

The political and technological climate of the near future could offer an opportunity to strengthen space governance through a Global SSA Treaty. Challenges to fostering such a treaty can be overcome by steady diplomatic engagement and technical cooperation.