

Ukraine crisis and Nuclear weapons

On January 3rd, 2022, all de-jure nuclear weapon states (same group happens to be P-5 countries) reaffirmed their commitment towards arresting nuclear threat and reiterated the statement- ‘A nuclear war cannot be won and must never be fought’. But, within less than two months, to be precise February 24th, Russia brazenly invaded Ukraine. Russian autocrat- Putin used nuclear sabre rattling to shield NATO from supporting Ukraine. Moreover, he ordered military personnel to keep nuclear deterrents in a “special regime of combat duty”. Which was later seconded by Russian foreign minister- one must not underestimate the nuclear war. This invasion has once again unbottled the genie of nuclear crisis, reaffirming the belief that any type of arms control or commitments by states are useless in case of nuclear weapons.

New Trends

The world witnessed two new and dangerous trends with this invasion. First, the blackmailing of nuclear weapons was used in war, almost at the onset of war, to keep other states away from coming for help to an invaded country. It was against the shared wisdom of security pundits. So far, nuclear weapons are believed to be weapons of ‘last resort’. Pronouncing the ‘n’ word, to a large extent, helped Russia to limit the war between the two countries. It allowed the former to buy extra time to recalibrate the military strength and strategy. It is now widely accepted among academia and military experts that things didn’t roll out as planned by Russia- which thought it to be a cakewalk to capture Kyiv.

Second, a nuclear ‘have’ state has invaded another erstwhile-nuclear state. In the early 1990s, with the disintegration of the USSR, Ukraine inherited weapons of mass destruction. Which was later returned to Russia under ‘Budapest memorandum-1994’ in exchange for promises from Russia, Britain and the US that her sovereignty would not be breached. Many commentators and general masses have a consensus that it was a blunder for Ukraine to surrender nuclear deterrents.

As put by Indian nuclear security doyen Manpreet Sethi, there is a trend among vested groups to ‘conventionalize’ nuclear weapons. These two trends as mentioned earlier, further contribute in that direction and set a bad example for the future. Of course, such instances will hinder any attempt to denuclearize and motivate the state to go nuclear.

Future Steps

Today's world is utterly different from the Cold-war world. With the coming of the fourth industrialization, exponential advancement in the suite of core technologies, and dual use in nature, have further exacerbated the problem. In the third nuclear age (First: 1945-90 & Second: 1990-2010/15, roughly), interaction between modern technologies like- intercontinental ballistic missiles (ICBM), hypersonic gliding vehicles (HGV), artificial intelligence (AI), cyber capabilities on the one side and nuclear capabilities on the other side, either between two or among all, produces the deadliest cocktail. Almost all nuclear experts accept that the coming of more and more advancements in either delivery technology or command and control has further destabilized nuclear stability. All types of fears – misinformation, disinformation, misfire, fire initiated by the bug or remote non-state actor- increase the chances the nuclear havoc.

But the solution lies in the same. With the help of the same technological advancements, we can check the further horizontal and vertical proliferation of nuclear weapons and ultimately lead to its elimination. The only way to save humanity from the future scourge of this deadliest weapons is a complete ban on possession and production; also, incongruence with the goal of the 2017-Treaty on the Prohibition of Nuclear Weapons, which entered into force last year.

Technologies like- Blockchain can be harnessed for verified elimination of nuclear warheads. This can also be used for keeping an eye on the peaceful use of fissile materials, radioactive waste management, and preventing divergence for covert military projects. A large amount of data, often christened as 'Big-data' being generated related to nuclear-activity [use of information technology in command and control, satellite signal, maintenance, radar system, delivery medium etc.] is another gold mine for researchers. These Big-data can be used for feeding into Machine learning, which can be harnessed to keep an eye on the stealth activity of the rogue state. Advance satellite technologies can be deployed to monitor such clandestine state activity under "mutual surveillance". This will also result in building confidence among the states.

In this arena, Japan is leading from the front. For example, last year Japanese Atomic Energy Agency collaborated with International Atomic Energy Agency to help strengthen technical capacities in decommissioning, radioactive waste management and nuclear security. Uses of these advanced technologies are in some way already playing a significant role or have scope to do so.

For example, in countries like Australia, Argentina and more, Blockchain is already used for documentation of sensitive information related to fissile material.

Conclusion

Today's scenario is different, P-5 countries must realize and keep non-nuclear states in the loop; unlike past, any unilateral promise or treaty cannot be dictated. Instead, nuclear states need to roll out convincing and time-bound frameworks to eliminate weapons of mass destruction. Compelling enough for the non-nuclear states, only lip service will not be enough. The current crisis demonstrates that we need to be creative and think out of the box to tackle such long persisting danger to humanity. Old conventional practices of the past would not be of any use further.

A few lessons are: 'positive peace' is not enough for fighting a threat like limited nuclear war, which is prone to slide into the full-fledged nuclear Armageddon. We will have to adopt a new approach in this information technology age to fight misinformation and disinformation in the time of caged media and controlled internet. With changing times, we need to adopt new technologies for a nuclear-free world; before they get entirely entangled with nuclear without having any option of turning back. In nutshell, fourth industrial revolution advancements have fathomless possibilities to arrest the nuclear threat. We need to be little more creative and open minded to harness its advantages.