NUCLEAR DISARMAMENT AND NON PROLIFERATION: THE STEPS TO GLOBAL ZERO

STUTI BANERJEE

Nuclear weapons are the perhaps the most destructive of all weapons invented by mankind. Their use; intentional or unintentional, by design or accident or miscalculation could lead to very serious and catastrophic impact. The impact of their destructive capacity can be felt for decades, along with the consequences of radiation which could pass from one generation to the next. They are, perhaps, the only weapon that can destroy life on this planet as we know it. Today, technological developments have come a long way from the nuclear weapons that were detonated over Hiroshima and Nagasaki. While the size of the warheads has reduced the damage that they can cause has increased many fold. The arsenal that we possess today is capable of bring forth a nuclear winter many times over. These fears make nuclear weapons such a taboo.

The employment of destructive force – both its use and its threatened use – plays a major role in the relations among nations. And it would seem that States are of the opinion that nuclear weapons are suitable nuclear weapons for this role.[1] The primary goal of national security is to maintain national sovereignty. Each nation wants both freedom and peace from

Dr **Stuti Banerjee** is an Associate Fellow at the Centre for Air Power Studies, New Delhi.

1. Lee, Steven P., "Morality Prudence and Nuclear Weapons", (Cambridge: Cambridge University Press, 1993), p. 1.

Nations have to; given the damage these weapons can cause, reduce the possibility of them never being used. To achieve this goal they have to work on the twin aspects of nuclear disarmament and nuclear non proliferation

outside interference, but peace is sacrificed when freedom is threatened. In this case the uniqueness of nuclear weapons has to be considered. What rival nuclear powers threaten each other with is not primarily territorial gain or political domination, which is the traditional form that military threats took. What is unique is that nuclear powers mutually threaten each other's very existence. What is unique about this condition is not the threat of destruction but its mutuality. Never before was it possible that two nations could engage in a military conflict that would result in both being destroyed.[2] During the Cold War, the development of a nuclear arsenal was considered essential. It was hoped that with the end of the rivalry between the two superpowers would also translate into nuclear disarmament. However, that situation has not arisen. Today, we have taken a step back with countries exploring the need for nuclear weapons as part of their arsenal. It would seem with the nuclear tests conducted by North Korea, the announcement by Japanese lawmakers to amend the law to explore the option of nuclear weapons and the Iranian crisis, the debate on nuclear non proliferation and disarmament has taken a few steps back rather than forward. However, some thinkers are of the opinion that this not the case. They argue that nuclear weapons and the deterrence that they provide have in fact been the keepers of peace. They believe that in their absence the world would be more prone to war.[3] Nonetheless, to assume that since they have never been employed they would never be and this situation of perennial non use would continue would be naive. Nations have to; given the damage these weapons can cause, reduce the possibility of them never being used. To achieve this goal

2. Lee, Steven P., "Morality, Prudence and Nuclear Weapons", (Cambridge: Cambridge University Press, 1993), p. 5.
3. Sethi, Manpreet, *Approach to Nuclear Weapons: Devalue to Discard*, in Manpreet Sethi (edited), " Towards a Nuclear Weapons Free World", (New Delhi: Knowledge World Publishers, 2009), p. 85.

they have to work on the twin aspects of nuclear disarmament and nuclear non proliferation.

The world has been united in trying to eliminate these weapons from the very first instance of their use. The United Nations has over the years made a number of efforts to achieve the goal of universal disarmament. What is commendable is that the efforts to achieve the twin goals of non proliferation and disarmament are not restricted to any one type of States. Those States that are recognised nuclear powers, those that are unacknowledged, and those that do not have them, all have tried to bring forward proposals at various times at various international platforms to highlight the issues and find a way forward. However, success has been elusive.

The current resurgence in nuclear technology is being viewed as a direct result of the interest that nuclear energy has been able to generate among the nations

Nuclear disarmament and non proliferation have once again gained prominence over the past few years. What has further promoted this importance has been the attention that nuclear energy has gained over the past decade and a half. The current resurgence in nuclear technology is being viewed as a direct result of the interest that nuclear energy has been able to generate among the nations.

Energy resources have been important for States for a very long time. One has to glance over history to realise the role that coal and oil have played in the development of States. Energy security gained a lot of importance after the oil shocks that the nations experienced repeatedly from the late 1970's. With countries becoming more and more integrated with world economy and economic prosperity becoming equal to military strength, countries are looking at diversify their fuel resources that provide them with the energy to promote their economies. Energy mix diversification is being viewed as a valid way of achieving energy security. While coal and oil would continue to be the fuel that would be used by States for the foreseeable future, alternative options are being explored; one of these options is nuclear energy.

Over the past few years the resurgence interest in nuclear energy has

been seen as a good sign. While this is most certainly heartening news for the nuclear energy industry, given the setbacks that the industry has faced as a result of the Fukushima accident, it has caused concern among some. It has to be kept in mind that nuclear technology is duel use technology. It is technology that can be used for civilian peaceful use as well as weapons applications. It is this possible, second use of nuclear technology that has both the non proliferation proponents as well as the supporters of nuclear disarmament concerned. The question that is being asked is will the nuclear renaissance in peaceful use that is being welcomed be able to also help address the issues of proliferation and disarmament in the nuclear weapons arena. While the civilian use of the technology is acceptable, the military use is not. It is to limit the latter that nuclear disarmament and non proliferation that has taken center stage.

This paper is an attempt to lay emphasis on the need to disarm nuclear weapons as well as to understand the relation between nuclear proliferation and nuclear disarmament. It is also an attempt to try an answer the question is 'global zero' an option that States would accept.

THE RELATIONS BETWEEN NUCLEAR DISARMAMENT AND NON PROLIFERATION

It would not be wrong to say that nuclear disarmament and non proliferation are complimentary steps that States have to take in order to achieve the goal of universal nuclear disarmament. The speech made by President Obama at Prague has made both governments and nongovernmental organisation hope that some concrete steps would be taken by the United States that may be emulated by others. However, given past experiences there are concerns that this statement by the United States president would lead to non proliferation steps that are a few steps short of elimination of nuclear weapons and that to the extent that it succeeds and the NPT is strengthened, more restraints on peaceful utilisation of nuclear energy would follow. With modest steps being taken for nuclear disarmament being followed with no

concrete follow up actions, most plans have floundered.[4]

Nuclear disarmament is not just about a doctrine that States pursue to reduce, dismantle and destroy their weapons. It questions the validity and need of nuclear weapons. It is a process through which State's are trying to devalue the importance of such weapons. This has a bearing on the process of non proliferation. Proliferation can be both in terms of quality and quantity of weapons as also the spread of weapons to other States and non state actors. Non-proliferation is the prevention of the spread of nuclear weapons, in both spheres.

Neither of the process can be confined to a region or a number of States. As States start to disarm and the goal of achieving global zero is within reach non proliferation gain importance. The possible risk of the remaining limited number of nuclear weapons being used would continue to remain. It is at this stage that the non proliferation regime has to be the strongest. The possibility of regional proliferation would be a threat to global disarmament. It would be impossible to achieve any level of non proliferation if States are unwilling to commit to the legal frameworks of disarmament set up by international treaties.

It is the relationship between the two that is at the heart of the Nuclear Non Proliferation Treaty (NPT). If one tries to concise the treaty in to a few sentences, it can be said that the treaty envisages that the non nuclear weapons States would abide by the agreement to non proliferation while the nuclear weapons States would agree to take steps to disarm.

Future efforts to achieve global zero would thus depend on two parallel treads. The first is the achievement of an international consensus on certain substantive issues relating to nuclear weapons such as their irrelevance as military instruments, the security hazard posed by their very existence, their cost, the human and environmental consequences of their production and use and their widespread identification as a source of prestige or status. The second trend would be the multidimensional political process to build and sustain a political consensus and involving the participation of not

4. Lodgaard, Sverre, "Nuclear Disarmament and Non Proliferation: Towards a Nuclear Weapons Free World", (London: Routledge, 2011), p. 170.

Developments achieved in weapons technology, both nuclear and conventional, we today have been able to develop nuclear warheads that are becoming smaller in size but continue to maintain the force needed for maximum destruction

such governments, but also individual citizens, regional and international organisations.[5]

THE NEED TO DISARM

Nuclear disarmament has been a topic of concern for a very long time. The dream of a nuclear free world is not a recent one. Attempts were made during the Cold War to introduce deep reductions in strategic nuclear forces. However, the attempts were unsuccessful due to the lack of interest shown by the States to disarm in an ideologically hostile world.

In the post Cold War period there was a marked difference in the importance that was given to the 'ultimate weapon'. It was also hoped rather prematurely that the end of the Cold War would also lead to a limiting of nuclear weapons. However, that has not happened. Today in fact we have a situation where nuclear weapons are seen not just as the weapon of last use but for some countries it has become the only weapon that they can use for both defence as well as for deterrence. In such a situation it is not just important but necessary to have an established policy on when and how these weapons would be used and against what adversary. A transparent policy will go a long way in reducing threats both perceived as well as real. Which begs the question is global zero an achievable target even in the distant future.

With the developments achieved in weapons technology, both nuclear and conventional, we today have been able to develop nuclear warheads that are becoming smaller in size but continue to maintain the force needed for maximum destruction. They are being mounted on weapons that are built to be precise in target accession and annihilation. The definition of the opposing force has also changed to include terrorist organisations, which may have the support of one or more States or the use of their territory. It

5. Rydell, Randy, *Advocacy for Nuclear Disarmament: A Global Revival?*, in Catherine McArdle Kelleher and Judith Reppy (edited), "Getting to Zero: The Path to Nuclear Disarmament", (Stanford University Press, Stanford, 2011), p. 39.

is possible that a State may use nuclear weapons to counter terrorist threats emanating out of their use of chemical or biological weapons. This has become a possibility as it becomes apparent that States are no longer restricting the 'no first use' policy to just nuclear weapons States. Threats that can now possible warrant the use of a nuclear weapons range from:

Ambiguity in the policy of one nation is possible motive for another to feel threatened enough to either develop nuclear weapons or enhance her existing arsenal

- A nuclear weapons attack.
- Use of nuclear weapons on the troops of the country anywhere in the world
- The use of chemical or biological weapon by any State. These weapons have gained equal weight age as nuclear weapons and are considered to require similar response.
- Nuclear weapons States have also kept the option of using nuclear weapons against non nuclear weapons States if they feel so threatened.

Ambiguity in the policy of one nation is possible motive for another to feel threatened enough to either develop nuclear weapons or enhance her existing arsenal. Nuclear weapons development has a domino effect. The very knowledge that a country in the neighbourhood has access to nuclear technology prompts most other nations to explore the option as well. While there have been a lot of debates on making the process of verification more stringent there is the question of sovereignty of a State and within that to pursue a course of action that protects her interests. If it is in the interest of the country then it is very difficult to stop her from developing or gaining access to the technology.

It is for this reason that the process of verification needs to be strengthened. The International Atomic Energy Agency (IAEA) is charged with the process of verification. The IAEA keeps a close watch on the accounts of countries dealing with nuclear material. However, the IAEA is grossly understaffed as well as under budget to be able to conduct all its duties effectively and efficiently. To be able to do so the agency would need

to be allowed to conduct its duties without the interference of States and its findings have to be accepted as impartial. It does not credit the agency that from time to time it is accused of being an agency that is controlled by the permanent members of the Security Council. It not just devalues the organisation but also the important work that is being done by it. As the number of States exploring the development of nuclear energy grows, the IAEA in the near future will face a massive shortage of personnel to conduct physical verification in the large number of countries that would be competent in nuclear based technology. A key challenge that the IAEA faces in defining the terms of an abolition agreement is on how to relate to multi-use and dual-use activities, material and equipment. The political and economic issues involved would mean that there are substantial potential for disagreement among nations. Since these issues also involve economic considerations the question of a State's security not just in the nuclear but also in the conventional dimension would require cooperation.

Verification also gains importance in the wake of clandestine networks that trade in nuclear technology and material. As has been pointed above terrorist organisations continue to threaten States and their institutions on a daily basis. While it is debatable if terrorist outfits would ever have the finance as well as the technological competence to build a nuclear weapon, it is still possible for them to make what is termed as a 'dirty bomb' with radioactive substance as it is core ingredient. Thus it becomes very important for States to invest in verification and a safeguard regime that provides a system whereby there is enough technological expertise available to ensure adequate verification commitments are being undertaken to abandon nuclear arsenal. It also provides adequate guarantees that nations are complying with their commitments. Such a regime would be possible through the combination of technological, diplomatic and statecraft skills.[6]

Trade in nuclear technology, material and know how is not forbidden. This trade has to be done within the guidelines as set under the NPT and the various treaties and agreements that have followed from it. However, the

6. Sethi,Manpreet," Towards a Nuclear Weapons Free World" in Manpreet Sethi, ed., *Approach to Nuclear Disarmament: Devalue to Discard*, (New Delhi: Knowledge World Publishers, 2009), p.96.

NPT is a treaty that is not binding and the countries that have signed it have the option, with sufficient warning, of withdrawing from it. Verification, as has been pointed out is a very long drawn out process and not in which total accountability of material can be guaranteed. In such a situation it is not impossible for a State to acquire nuclear technology for peaceful means and to thereafter divert it to military use. One has an example of this in the Iranian program, where mounting evidence points to it being a military rather than the claimed civilian program. It can be argued that the countries that believe in such transgressions can be punished by ensuring that the international community acts as one. However, for them to have an impact sanctions can not be applied selectively and they have to be abided by all States. An effective means for sanctions can be to set up barriers in the acquisition of uranium. It is extremely difficult for any reactor to function without uranium. All States keep a stockpile of uranium for use, nonetheless, for any reactor to function at its full capacity it has to have a steady supply of uranium. There are very few countries in the world that supply uranium. Thus, it would seem the most effective method of sanctions to dissuade a country from developing nuclear weapons would be to try and stop the supply of the raw material needed for the reactor.

It has also been argued by some that universal disarmament would not be possible as the knowledge of how to make nuclear weapons is now available. They fear that it would be very easy for any State to build such a weapon in future is very high. However, what the proponents of this argument are unable to comprehend is that it is not the technology that is being eliminated it is need for weapons. Current warheads can be used for peaceful means. An example of this was the use of nuclear material from Russian warhead by America as fuel for her civilian reactors. Such steps allowed for not just safe disposal of the nuclear material but also for non military use. States have to work together to create condition where nuclear technology for peaceful use to become more prominent. Nonetheless, a continuous review of the civil nuclear industry would be necessary. Unfortunately, nuclear power generation is related to nuclear proliferation, in so far as the fissile material is needed to have a controlled chain reaction in a nuclear reactor

Nuclear weapons proliferation as with conventional weapons, works on the domino effect that is prevalent in international relations security

are the same as those needed for an uncontrolled chain reaction in a nuclear bomb.[7] As a result with the rise in the number of reactors, there would be a rise in the amount of fissile material leading to a greater possibility of them being used for weapons proliferation.

Resistance to stronger non proliferation measures is worrying given that there is going to be a significant expansion in nuclear technology use in the coming years. The problem as can be viewed is one in which the nuclear weapons States as well as the non nuclear weapons States have to work together to strengthen the disarmament and non proliferation regimes. Article VI of the NPT commits all parties to the Treaty to work for nuclear disarmament. This provides the non nuclear weapons States the opportunity to contribute more in establishing such a regime by leaning on the nuclear weapons States to do more in the name of international security and with reference to international norms. They can also contribute by deepening their own commitments to stay non nuclear.[8] They can also contribute by diminishing the value of a nuclear security umbrella. The goal would be to devalue the importance of security as provided by nuclear weapons.

There is also the question of promoting the idea of nuclear weapons free zones. Nuclear weapons proliferation as with conventional weapons, works on the domino effect that is prevalent in international relations security. If a country 'A' in the neighbourhood acquires a weapon then it will be viewed as a threat by some other State(s) in the neighbourhood, which then strives to get weapons that are more destructible to deter an attack. Possession of large nuclear arsenals brings about a basic change in the relationship between two opponent nations, especially in the military dimension. What makes these changes possible is not just the procession

7. Andreis, Marco De and Simon Moore," Is the Civil Nuclear Industry relevant to Nuclear Disarmament?" in Catherine McArdle Kelleher and Judith Reppy ed., Getting to Zero: *The Path to Nuclear Disarmament*, (Stanford: Stanford University Press, 2011), p. 283.
8. Lodgaard, n.4, p.168.

of nuclear explosives themselves, but also a host of other technological innovations. One set of innovations is the development of processes for making the weapons compact and relatively inexpensive, making economically feasible the deployment of large nuclear arsenal. Another is the development of reliable and swift means of delivering the weapons over intercontinental distances, insuring that a nation could quickly bring its opponent under direct nuclear attack. A third set is the development of ways of making the delivery system, especially missiles, less vulnerable to attack, which would guarantee that a nation can deploy a capacity to retaliate that would survive a surprise attack.[9]

For the three States of China, India and Pakistan, secrecy is very important and for any non proliferation and disarmament regime to be successful this element has to be forsaken

It is hoped that non proliferation and disarmament at a later stage would have similar effects. If the threat is reduced or is taken out of the equation of the relationship then it would be beneficial for all. It is perhaps for this reason that there is a lot of attention and focus on the issue of a nuclear weapons free zone for the Middle East. It has been argued rather effectively that it would be in the interest of both Iran and Israel to promote such a venture as well to actively participate in it. A nuclear weapons free zone for the Middle East would provide both the countries with the security that they both require. It would go a long way in not just allaying Western fears of Iranian intentions but would also give Iran the much needed space to develop her nuclear energy sector without the threats of sanctions. A similar zone with similar effect is hoped for south Asia as well, which has the distinction of one recognised and two not recognised nuclear States bordering each other with a history of clashes. For the three States of China, India and Pakistan, secrecy is very important and for any non proliferation and disarmament regime to be successful this element has to be forsaken. For China, nuclear weapons are viewed in relation to the power that she

9. Lee, Steven P, Morality, *Prudence and Nuclear Weapons*, (Cambridge: Cambridge University Press, 1993), pp 4-5.

enjoyed before she was dominated by the West and a projection of the position that she hopes to occupy in the future. For India, the weapons are also rooted in her power ambitions, as much as in her threat perceptions. For both countries it fuels the national ambition and the international role that they foresee for themselves in the international order. It is hoped that the establishment of a nuclear free zone in the region would help in bringing down tension and establish peace and stability.

CONCLUSION

Global zero means that all countries have eliminated their nuclear arsenal as well as pledged to not build any such weapons in the future as well. To believe that at some point all countries would give up on nuclear weapons is a situation that would happen in the much distant future. However, steps need to be taken in this direction if expectations are to be realised and made into a reality.

The primary defining characteristic of the minimisation point, although not its only one will be a massive reduction in the number of nuclear warheads of all types still in existence. The other steps that States could take to help achieve global zero would be complete the ratification of various treaties such that a powerful arms control regime with respect to nuclear weapons can be established. States have to negotiate treaties to reduce the need for weaponisation and to build missiles of longer ranges, their delivery systems as well as to eliminate short range nuclear weapons designed for forward deployment. It would be in the interest of both nuclear disarmament and non proliferation to achieve peaceful negotiation with North Korea and Iran. While at the same time steps have to be taken to ensure that they are seen as examples by other States not to breech the various treaties like the NPT and the Comprehensive Test Ban Treaty (CTBT). Necessary provisions have to be made such that it is insured that nuclear weapons are not obtained and thereafter used by non state actors. Political conditions should be created that provide for sufficient space for regional as well as global cooperation and reduce the prospect of war and aggression such that the question of nuclear weapons use has no remaining deterrent utility.

Create an international legal regime that is able to enforce conditions that ensure that States that are breaching their obligations are not able to retain, acquire or develop nuclear weapons and will be heavily penalised. Create fuel cycle management conditions that will ensure complete confidence that no State has the capacity to misuse uranium enrichment and/ or plutonium reprocessing for weapons development purposes.[10] The objective would be not to just cut down on not just strategic weapons but weapons of all classes and not just those that are deployed but also those that are held in storage and those waiting for destruction (but capable of being reconstituted and deployed).

We are today talking about limiting the number of nuclear weapons to what would be considered a 'credible defense'. However, this raises a number of questions such as what is credible deterrence, who would decide for different countries what credible deterrence is. The biggest question would be verifying that the countries are adhering to the set limits. To say that this system would work on trust would be a giant leap of faith for countries some of which might not have the have nuclear weapons but find that they may be threatened by them. A possible solution could be a credible force posture with verifiable deployment and alert status that would reflect the doctrines of non proliferation and disarmament. There have been talks to achieve progressive achievement of interim disarmament objectives by 2025 in a minimisation point by moving towards low numbers, a world with no more than two thousand nuclear warheads (less than ten percent of today's arsenal). To also say that countries would be able to keep a certain number and on a hypothetical scenario, even if that number is one per countries, there are one hundred and ninety eight member countries in the United Nations. If all of them do at some point of time acquire the technology to make the bomb, it would mean one hundred and ninety eight bombs. That number is unfortunately not zero or a number that is even close to zero. To say in such circumstance that we have achieved global disarmament is not true. What one would hope should be acceptable would

10. Evans, Gareth and Yoriko Kawaguchi, ed.,*'Eliminating Nuclear Threats: A Practical Agenda for Global Policymakers,* (Tokyo: International Commission on Nuclear Non Proliferation and Disarmament, 2009), p. xxx.

be to announce the number of weapons that the arsenal has been reduced too as a first step towards global zero.

It has been acknowledged that a world free of nuclear weapons is achievable and is the need of the hour. Nonetheless, it is equally understood that global zero for the moment is a distant dream. It would seem that nuclear weapons continue to be the weapons of choice for States for security. It has to be kept in mind that not all States develop or acquire these weapons to play similar roles in their strategic and defence arena. They are developed to provide deterrence as well as parity in an unsecure international environment. However, how does a weapon that can destroy human civilisation provide it any form of security? For the world to be without nuclear weapons one has to first achieve a world that is secure in itself and thus no longer in need of these weapons.