The NPT at Fifty: Successes and Failures

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ABSTRACT
The NPT succeeded in its initial task of preventing the proliferation of nuclear weapons to the potential proliferators considered likely at the time of its entry into force in 1970. Thus, it helped prevent the spread of nuclear weapons to the ten, twenty, twenty-five countries that President John F. Kennedy once feared. It was helped by the establishment of the IAEA comprehensive safeguard system to monitor the nuclear activities of those countries that pledged not to acquire nuclear weapons under the treaty. The NPT, over the years, also succeeded in enticing the second tier countries, thus bringing the treaty to a near universal adherence. This was helped by the strong diplomatic efforts by the United States, and subsequently by the end of the Cold War. However, in the last three decades, the NPT started to show its limits. Clandestine nuclear weapons programs were proceeding in Iraq, Libya and South Africa. During the course inability of the IAEA safeguards in uncovering nuclear weapon programs in a timely fashion became evident. In the area of promoting nuclear disarmament, the NPT cannot claim to be very successful. Even after 50 years of its existence, the achievement of the goal set in Article VI of the treaty has a long way to go. Peaceful use of nuclear energy went vibrant in the past 50 years helped by the IAEA works in the field.

Introduction
The NPT succeeded in its initial task of preventing the proliferation of nuclear weapons among potential key players at the time of its entry into force in 1970. Countries with sufficient industrial capability included Canada, West Germany, Sweden, Switzerland, Japan, South Korea, and Australia. Thus, it helped to prevent the spread of nuclear weapons to the numerous countries as President John F. Kennedy once feared. It was helped by the establishment of the IAEA comprehensive safeguard system to monitor the nuclear activities of those countries that pledged not to acquire nuclear weapons under the treaty. The NPT, over the years, also succeeded in enticing second tier countries such as Egypt, South Africa, Brazil, Argentina, Mexico, Cuba, Indonesia, Iran, Iraq, Saudi Arabia, and North Korea, thus bringing near universal adherence to the treaty. This was helped by the strong diplomatic efforts of the United States, and subsequently by the end
of the Cold War. However, in the last three decades, the NPT has started to show its limits. Non-adherents, India and Pakistan, have started building their nuclear weapons and North Korea has claimed to have withdrawn from the treaty and started to build its own nuclear weapons. Clandestine nuclear weapons programs had been proceeding in Iraq, Libya, and South Africa. Some of these have been forcibly abandoned and some were voluntarily abandoned. During this time, the inability of the IAEA safeguards to uncover nuclear weapon programs in a timely fashion became evident. A testing time may come when the NPT faces another challenge to stop further proliferation of nuclear weapons, a key area being the Middle East. In terms of promoting nuclear disarmament, the NPT cannot claim to be very successful. Even after 50 years of its existence, there is a long way to go to achieve the goal set out in Article VI of the treaty. As the disappointment of non-nuclear weapon states (NNWSs) about the slow progress of nuclear disarmament intensifies, the adherence of those states to the treaty obligation is under threat of being weakened. The peaceful use of nuclear energy has been animated over the past 50 years, helped by the IAEA works in the field. It was more driven by the desire of those countries to use nuclear energy and helped by the commercial motivation of providers than the originally intended facilitation activities of the nuclear weapon states (NWSs). Major nuclear accidents proved to be a primary brake as far as nuclear power development was concerned. The safety of nuclear operations will remain a supreme challenge to the peaceful use of nuclear energy.

How can the world overcome the shortcomings of the NPT so that it can remain a viable tool for the prevention of nuclear proliferation, the promotion of nuclear disarmament, and the peaceful use of nuclear energy?

Successes of the NPT

Success in Preventing Nuclear Proliferation

The NPT succeeded in preventing the proliferation of nuclear weapons to those industrialized countries that were considered capable of developing nuclear weapons if they decided to at the time the treaty came into existence.

The first wave of ratifications by NNWSs came immediately after the treaty was opened for signing in 1968 and in time for its entry into force in 1970. They were the countries that seriously considered acquiring nuclear weapons but decided at an early stage not to do so. These countries were Canada and Sweden. Together with the Soviet Union, the United Kingdom and the United States, they formed the first cluster of the NPT adherents. Taiwan is a unique and complicated case. It signed the NPT in 1968 as a representative of China, well before the United Nations changed the Chinese representation from the Nationalist government in Taiwan to the Communist government in mainland China. Taiwan maintained its position that it signed the treaty as a NWS as it, though under the Communist government, conducted its first nuclear test in 1964. As the United States moved to recognize the People’s Republic of China in 1972 and severed its diplomatic relationship with Taiwan, there was concern about the US guarantee regarding Taiwan’s national security. Taiwan started a clandestine nuclear weapons program in the 1970s. The program came to the notice of the IAEA and the United States in 1976. Under strong pressure from the United States, Taiwan
abandoned the program. It later restarted the program and again abandoned it following pressure from the United States.

The second wave happened from 1973–77 when Australia, South Korea, West Germany, Belgium, the Netherlands, Japan, and Switzerland ratified the treaty. They took considerable time to do so. Most of them were offered nuclear security assurance by the United States, often referred to as a “nuclear umbrella.” In the case of NATO countries such as West Germany, Belgium, the Netherlands, Italy, and Turkey, an additional nuclear sharing scheme was provided to store nuclear warheads in the American bases in those countries so their aircraft could deliver the warheads at times of nuclear confrontation. South Korea hosted American tactical nuclear weapons on its soil until the United States decided to withdraw them after the end of the Cold War.

In the case of Japan, due to the strong anti-nuclear sentiment among its population, the government decided not to allow the “introduction” of nuclear weapons in the country while seeking to confirm protection by the US extended nuclear deterrence from time to time. Japan took six years after signing the treaty to ratify the NPT. While a significant majority of the Japanese people were firmly against the Japanese acquisition of nuclear weapons, the conservative wing of the ruling Liberal Democratic Party was reluctant to abandon future options to acquire them. It took an intensive campaign by the progressive Prime Minister, Takeo Miki, and Foreign Minister, Kiichi Miyazawa, to move the treaty through the parliamentary ratification process. One of the arguments that they used to persuade the conservatives was that if the worst happened, Japan could invoke Article X of the treaty to withdraw with three months’ notice. One of the major supporters of early ratification, surprisingly, was the Japanese power industry that was eager to build nuclear power plants. It needed to secure American civil nuclear cooperation and wanted to dispel any American suspicions about Japanese intentions.

South Korea was also engaged in a clandestine nuclear weapons development program during the 1970s. However, the United States found out and it was abandoned under pressure from the United States.
In this way, nuclear proliferation was prevented, not solely through the legal obligation of the NPT, but it took US diplomatic pressure and persuasion to do so. It is noteworthy that the provision of some kind of security assurance and of civil nuclear cooperation provided leverage to such US diplomatic pressure. Conversely, when the United States could not provide such leverage, or when it became weaker, its diplomatic efforts became less successful.

**Converting Potential Proliferators to Active Nonproliferation Supporters**

By the end of the Cold War in 1989, as many as 138 states had become party to the NPT. A remarkable achievement during the twenty year period after the coming of the NPT was the fact that the former potential proliferators became active supporters of the nuclear nonproliferation regime. Australia, Canada, West Germany, Japan, Sweden, and Switzerland, for example, campaigned actively to support nonproliferation efforts, export control regimes, IAEA safeguards, and even provided voluntary contributions for these activities. In Japan, as the years went by, the NPT settled well into the Japanese political sphere and anybody who spoke in favor of the nuclear option was immediately sacked.

**Establishment of a near International Norm**

The third wave of ratifications came after the end of the Cold War. Important players such as South Africa, France, China, Argentina, and Brazil joined the NPT bringing the total number of state parties to 187 by the turn of the century. As accession to the treaty was almost universal, a near international norm against nuclear proliferation was generated. To underscore this, the Security Council has repeatedly affirmed that the proliferation of nuclear weapons and other WMD constitutes a threat to international peace and security. It decided that Iraq should not acquire nuclear weapons and should abandon its nuclear weapons program (1991). It condemned the Indian and Pakistani nuclear test and called upon them to stop their nuclear weapon programs (1998). Finally, it decided that North Korea should abandon all its nuclear weapons and its nuclear weapons program (2006).

**Establishment of Regional Nuclear Weapon-free Zones**

Regional nuclear weapon-free zones are not a requirement set out in the NPT. But, at the time the treaty was negotiated, the Tlatelolco Treaty (Treaty for the Prohibition of Nuclear Weapons in Latin America and Caribbean) came into existence. Article VII anticipated this and prepared the way for other regional nuclear weapon-free zones.

Article VII states, “Nothing in this Treaty affects the right of any group of States to conclude regional treaties in order to assure the total absence of nuclear weapons in their respective territories.”

So far, free zones have come into existence in Southeast Asia, the Pacific, Africa, and Central Asia, and in the case of the state of Mongolia. While the basic obligation of not acquiring nuclear weapons overlaps with that of the NPT, such nuclear weapon-free zones reinforce the obligation of Article II of the NPT, put additional restrictions such as
the non-introduction or the non-stationing of nuclear weapons in the region, and help to provide negative security assurances (not to attack with nuclear weapons) that are otherwise not provided universally to those party to the NPT.

**Failures of the NPT and What Needs to Be Done**

**Still No Prospect of Nuclear Disarmament**

A big failure of the NPT is its inability to achieve nuclear disarmament and there being no good prospect of achieving it. From the 1996 advisory opinion of the ICJ, it is clear that the obligation of Article VI of the treaty is not just conducting negotiations on nuclear disarmament but bringing the negotiations to a conclusion and achieving nuclear disarmament in all its forms.

One practical way to move nuclear disarmament forward may be to agree on a formula to reduce the nuclear holdings with a greater margin when the initial holding is greater, and with a smaller margin when it is smaller\(^1\). In view of the rapid improvement of the Chinese military capability, the United States has proposed to include China in three-way nuclear arms control talks among the United States, Russia, and China. China has refused to join, saying it will only join the process when the United States and Russia reduce their nuclear arsenals to the same level as China. This would mean putting China on a par with the United States which the latter would not accept. In the meantime, it would be very difficult for the more powerful China to solidify its current relative strength vis-à-vis the United States. One way to overcome this would be to require the parties to reduce their nuclear holdings in a ratio corresponding to their current holdings. Suppose the United States has 5,000 nuclear warheads while China has only 250, i.e., 5% of those of the United States, and the United States accepts to reduce its holding by 10%, i.e., by 500 warheads. China would be required to reduce by 5% of the 10%, i.e., by 0.5% = by 1.25 warheads. However, you cannot reduce a one quarter of a warhead. Thus, it should be rounded down to one warhead. By accepting such a symbolic reduction, China could claim that it is joining the world process of nuclear disarmament. Indeed, this format assumes that parties would commit to not increasing their nuclear holdings while they are reducing them, and also provide mutual transparency by which each party joining the process can agree on the starting point of the reduction. This format would enable France and Britain, and even India and Pakistan, to join the global reduction process. Some countries may complain that even though they accept the principle of major holders reducing by a bigger margin, asking China to reduce by just one warhead is too small. In this case, you may then adjust the rate of reduction by inserting a variable \(n\), e.g., Chinese holding \((250) \times 0.5\% \times n (2) = 2.5\) warheads (rounded up to 3). What number to put in \(n\) should be a matter for negotiation.

Another question is what to do with other remaining nuclear weapons possessors, i.e., India, Pakistan, Israel, and North Korea. It would be better to apply different approaches as each case is unique and different. North Korean denuclearization should be realized in the context of the denuclearization of the Korean Peninsula through U-

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\(^1\)The author was inspired by the tariff harmonization formula adopted towards the end of the Tokyo Round Trade Negotiations (1973–78), in which the author participated as a member of the Japanese negotiating team. The formula requires deeper reduction of higher tariffs. Thomas, 1979. http://scholarship.law.cornell.edu/cil/vol12/iss1/1
North Korea negotiations or the 6-Party Talks. It may eventually become a greater scheme such as a Northeast Asia nuclear weapon-free zone. If there is any chance that Israeli nuclear possession could be eliminated, it would probably be through the establishment of a Middle East zone free of weapons of mass destruction. The important first step is to start negotiations without any preconditions from any side. Because of the India-China and India-Pakistan security nexus, India and Pakistan may be dealt with by applying the same formula mentioned above without awarding them the NWS status under the NPT.

**Inability to Stop Proliferation**

The NPT has failed to achieve its principal purpose of preventing the proliferation of nuclear weapons in a number of countries. Those that have not joined the NPT and went ahead with possession of nuclear weapons are India, Pakistan and, probably, Israel. The only country that had joined the NPT but ended up possessing nuclear weapons is North Korea. Again, the United States tried to stop those countries but failed to do so. Israel is virtually a *de facto* ally of the United States but still went ahead with acquiring nuclear weapons in the 1960s, perhaps ahead of the impending NPT. It is said that India sought the protection of the United States but the United States declined. Israel, Pakistan, and North Korea cite serious threats from surrounding Arab countries, India, and the United States respectively as reasons for acquiring nuclear weapons.

North Korea and Iraq are cases where NPT parties carried out clandestine nuclear weapon developments. North Korea was found to have discrepancies as regards the IAEA safeguard verification but refused to clarify this and eventually declared that it would withdraw from the NPT. In the case of Iraq, due to its outright invasion of Kuwait, it was found to be conducting a clandestine nuclear weapons program. It was made to abandon it by the Security Council and subjected to powerful verification. If it were not for that, Iraq could have gone further with its clandestine nuclear weapons program.

These incidents revealed the inability of the IAEA safeguard system to detect hidden nuclear activities. Thus, the IAEA came up with a model additional protocol to its safeguard system so that its inspectors could verify a wider range of sites and use such methods as taking soil samples for minute radio isotopic particles. The problem is that even after more than 20 years since its introduction, the additional protocol has not been ratified by key countries of concern such as Iran, Brazil, Argentina, Egypt, Saudi Arabia, Israel, and Pakistan, while it has already been ratified by more than 130 countries. India has only ratified an additional protocol regarding limited facilities.

The model additional protocol was designed because the existing safeguard system proved to be not good enough to detect hidden nuclear activities. Logic should tell us that without it, a country cannot fully satisfy the requirement under Article III of the NPT proving that it is not in violation of the rules. However, the additional protocol remains a voluntary requirement, not a legal one, and certain countries resist signing and ratifying it. Some of them argue that while NWS have not fulfilled their obligations under Article VI, they should not be asked to indefinitely fulfill the requirement of Article III. The argument is political and not legal.

While arguments about the additional protocol continue, other potential loopholes have also surfaced. The Iranian crisis about suspected nuclear weapons program activities
have presented a new question of the latency of a state to move quickly to acquire nuclear weapons. A country can reach a state of latency while superficially satisfying the IAEA safeguard requirements. This can be done in various ways, for example, by acquiring enough high-enriched uranium (HEU) or high grade plutonium, through bomb design and missiles or other means of delivering nuclear weapons, and even testing them. Iranians sometimes argue that while Japan is allowed to enrich uranium, separate plutonium, and have satellite launching rockets, why are these activities not allowed in Iran? It can be said that Japan has declared in many ways that it has no intention of acquiring nuclear weapons, it has fulfilled the IAEA safeguard and additional protocol requirements throughout its history, and it has no nuclear bomb design or ballistic missiles for delivering nuclear warheads. Meanwhile, Iran has been found to have not complied with the safeguard requirements, to have had a nuclear weapons development program, and is testing ballistic missiles that can deliver unspecified warheads. Admittedly, the line is hard to draw between those who have a theoretical latency with no intention to acquire nuclear weapons, and those who are trying to reach a similar latency while hiding their intentions. This presents a serious challenge to the validity of the NPT.

The experience of North Korea and Iran has highlighted another critical issue regarding the NPT: how to enforce compliance with the NPT obligation to not acquire nuclear weapons. The question whether North Korea withdrew from the NPT lawfully and acquired nuclear weapons or not remains a matter for debate and North Korea continues to be free to increase its nuclear warheads. If other NPT parties find that this is a reality, the validity of the NPT will be seriously damaged, and other countries may use it as a way to acquire nuclear weapons when the time comes. During the agonizing debate concerning the Iranian question, the IAEA Board of Governors had considerable difficulty in reporting Iranian non-compliance with the IAEA safeguard requirements to the Security Council. It was revealed that the IAEA does not have the power to enforce secure compliance with the NPT. The ultimate responsibility to punish non-compliance and enforce conformity rests with the Security Council. While the Council had declared proliferation of nuclear and other WMD to be a matter affecting the maintenance of peace and international security, in practice, the Council has very often had difficulty even addressing the issue of specific non-compliance. It seems that Council members, in particular permanent members, tend to have certain countries they favor and resist addressing the question of their non-compliance. A way to overcome this frustration may be to agree beforehand that the IAEA Director-General does not require the IAEA Board consent to report non-compliance, and the Security Council should agree beforehand that any issue of NPT non-compliance or violation should automatically be put on its agenda.

Another issue that has surfaced over the years is the question of acquiring HEU for propulsion purposes, particularly for nuclear-powered submarines. Brazil is working on a program to develop nuclear submarines. There are arguments in Iran and South Korea regarding the acquisition of nuclear submarines. There is no provision in the NPT that prohibits the acquisition of HEU or nuclear submarines. However, this can be used as a convenient loophole to justify uranium enrichment capability and to produce HEU that may be quickly converted to nuclear weapons production.
Further emerging issues concern the deployment of small nuclear reactors to warfronts and using nuclear propulsion for cruise missiles, drones, and other unmanned vehicles. The IAEA interprets the diversion of special nuclear material for “military purposes” as making nuclear bombs but does not include military use for power generation or propulsion purposes. Americans seem to be considering the deployment of small nuclear reactors to the warfront to solve power supply questions in the days when many gadgets and pieces of equipment consume an increasing amount of electricity without interruption. Similarly, small mobile nuclear power plants are deployed by Russia and China close to frontlines or on disputed land. This generates concerns about the heightened possibility that they may be involved in military conflicts, or that the material may be destroyed and cause contamination. Russia boasts about nuclear-powered cruise missiles, drones, and underwater vehicles that can operate for a far longer time than using conventional fuel. But, these activities will increase the likelihood that they may be destroyed in the process of fighting and that they may spread radioactive contamination in the environment. The destruction of ballistic missile nuclear submarines would potentially signal the end of the world. The destruction of small nuclear reactors or small nuclear propulsion devices may become daily events.

**Nuclear Weapon-free Zones**

**Middle East Zone Free of Weapons of Mass Destruction**

The resolution adopted at the NPT Review and Extension Conference in 1995 called for “the establishment of an effectively verifiable Middle East zone free of weapons of mass destruction, nuclear, chemical and biological, and their delivery systems.” It was adopted as part of a compromise package at a time when Arab countries were not willing to accept the indefinite extension of the NPT. Thus, expectations were generated and lack of progress toward this realization has raised frustration in those countries. The complicated point is that Israel is not bound by the resolution as it is not party to the NPT. Israel, however, has been supporting the UN General Assembly resolutions calling for a Middle East nuclear weapon-free zone. So, theoretically, it should not be opposed to the idea of a Middle East WMD-free zone. In order to make progress toward its realization, practically, both sides have to be flexible in their approach to the negotiation of such a zone. The General Assembly described free zones as those established by a group of states, “in the free exercises of their sovereignty.” No country can be forced to accept a free zone. Israel, for example, would not join a free zone with countries that do not even recognize the existence of such a state as Israel. However, it would have to moderate its condition that peace and security have to be established before a free zone is agreed. It would be more realistic to think that the establishment of a WMD-free zone will help bring peace and security to the region, and the emergence of a peaceful and secure region will help the realization of such a free zone. They have to proceed in parallel. Arab countries could not insist that Israel first has to abandon its nuclear weapons, join the NPT as a NNWS and accept the full scope of the IAEA safeguards. That is exactly the objective of a free zone but it would be an end result rather than a precondition.

**Northeast Asia Nuclear Weapon-Free Zone**

There have been a number of proposals about a nuclear weapon-free zone in Northeast Asia. Once, there was a proposal to establish a free zone by drawing concentric circles
around the Panmunjom, encompassing the Japanese islands and the Chinese and Russian territories falling within the circle. In a way, this was a very balanced free zone between the West and the East in the context of the Cold War. A more popular idea today is a free zone made up of North Korea, South Korea, and Japan with the United States, China, and Russia providing negative security assurances to the three in-zone countries. Now that North Korea possesses nuclear weapons, it would only be this country that would have to give up its nuclear weapons under this scheme. South Korea and Japan will have to reaffirm their non-nuclear status under the NPT. Since North Korea has been demanding a guarantee from the United States of no nuclear use or no aggression, and for South Korea and Japan to give up their nuclear umbrella, the free zone is becoming increasingly synonymous with North Korean denuclearization. Thus, by working hard to realize North Korean denuclearization, a Northeast Asia nuclear weapon-free zone will become close to realization. It has to be acknowledged that denuclearization does not just apply to North Korea but to the Korean Peninsula. Furthermore, the security guarantee offered to North Korea is not just a political declaration but is backed up by other tangible developments, giving it credibility and permanency.

**The Peaceful Use of Nuclear Energy; an Initial Success and Now a Difficult Prospect**

The peaceful use of nuclear energy was a major success at the beginning. Major industrial countries made great strides in using nuclear energy for power generation. The IAEA and the Nuclear Energy Agency (NEA) of the OECD played a role providing advice and arranging cooperation for this purpose. Nuclear power generation, however, has been slowed down every time the world has experienced major nuclear accidents: Three Mile Islands in 1979, Chernobyl in 1986, and Fukushima in 2011. Every time, people around the world have become scared of horrific accidents and have demanded strengthened safety measures. Lessons have been learned but every time, nuclear energy has found a different loophole. The argument still continues that to reduce global warming, the world needs to make use of non-carbon emitting nuclear energy, and the IAEA and the NEA project a major increase in nuclear energy use as a result of concerns over global warming. But, unfortunately, the ratio of nuclear energy in power generation remains flat at best or is slightly declining. In fact, many Western industrial countries are moving out of or reducing their dependence on nuclear power generation.

**Conclusion**

Now that it is well-established, the NPT will remain for years to come. But, if the failures and the shortcomings of the NPT are not addressed, it will gradually lose its relevance. It will increasingly be seen as a weak treaty in the prevention of nuclear proliferation that struggles to impose punishments on those who violate it. Given the basic bargain underlying the treaty, if progress is not made towards nuclear disarmament, the willingness of the NNWSs to strictly adhere to the treaty obligations will continue to decline. Should the NPT continue to be a cornerstone of world nuclear nonproliferation, nuclear disarmament has to make steady progress with a good prospect of eliminating nuclear weapons. Negotiations for a Middle East WMD-free zone has to be started and the
verification and enforcement mechanisms have to be strengthened to keep pace with the political and technical developments on the ground.

The five-year Review cycle, therefore, faces an immense task. Some of the tasks, in the meantime, can be achieved outside the official framework of the NPT. Nuclear disarmament and arms control can be negotiated bilaterally or plurilaterally among the concerned parties. A Middle East free of WMD can be negotiated under the auspices of the United Nations to include Israel which is not a party to the NPT. The question of North Korea will best be dealt with in bilateral negotiations between the United States and North Korea or the regional negotiating framework of the 6-Party Talks. It is not the official nature of the forum but whether it can produce results that is important.

Disclosure Statement

No potential conflict of interest was reported by the author.

Notes on Contributor

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