The Iran Nuclear Dilemma: The Peaceful Use of Nuclear Energy and the NPT's Main Objectives

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Despite the fact that, after about four decades, about 190 countries have joined the –Treaty on the Non-Proliferation of Nuclear Weapons (NPT), the three main objectives of the treaty have still not been accomplished.

The NPT's three core goals were: *first,* to guarantee complete disarmament of nuclear weapons by the NPT nuclear weapon states: China, Russia, United Kingdom, France and the United States. The *second* goal was to prevent the spread of nuclear weapons and technologies related to nuclear weapons and the *third* to ensure cooperation in the peaceful use of nuclear energy.

Although the five permanent members of the United Nations Security Council (P5) have all ratified the NPT, none has fulfilled its NPT commitment to give up its nuclear weapons. After more than 40 years, they still possess huge stockpiles of nuclear warheads. Currently, Russia and the United States each have about 10,000 nuclear warheads, of which about half are awaiting dismantlement. France has about 300, the United Kingdom about 225 and China about 240 (Ploughshares, 2014).

It is true that the United States, Russia, France and the UK have reduced their stockpiles, but significant inventories still remain and the goal of total nuclear disarmament is not in sight (Kristensen and Norris, 2012). Moreover, by modernising their arsenals, delivery systems and related infrastructure, they are undermining the objectives of the NPT in terms of both non-proliferation and disarmament (Acheson, 2012). Therefore, nuclear disarmament as one of the main objectives of the treaty has not been realised.

To fulfil the goal of non-proliferation, the NPT established a safeguards system as a confidence-building measure and an early warning mechanism to check compliance with the treaty through inspections conducted by the International Atomic Energy Agency (IAEA). A Comprehensive Safeguards Agreement with the IAEA is in force for172 member non-weapon states (IAEA, 2013).

The IAEA has been responsible for verifying that member states do not use their nuclear programs for nuclear weapons purposes. To ensure non-proliferation, the Agency carries out safeguards visits as well as ad hoc, routine and special inspections. The 'Additional Protocol,' which grants the IAEA complementary inspection authority at additional nuclear sites where nuclear materials are not present, has also been accepted by 122 countries (IAEA, 2014). The principal aim of the Additional Protocol was to enable the IAEA inspectorate to provide assurances that there are no undeclared activities.

Since the NPT came into force, India, Pakistan and North Korea, the latter a member of NPT which later withdrew, have proliferated and tested nuclear bombs. Israel is also believed to be a nuclear weapon state. Except in the case of North Korea, the world powers have established strategic relations demonstrating acceptance of these proliferators. Therefore, the second objective of NPT, non-proliferation, has also not been realised.

The third objective of NPT is to promote cooperation in the field of peaceful nuclear technology and equal access to this technology for all states parties. Article IV of the NPT confirms that all states party to the Treaty have the right to benefit from the peaceful uses of the atom and urges the parties to cooperate with one another in the fullest possible exchange of nuclear equipment, materials, and information for peaceful purposes. Based on Article IV, research, development, and use of nuclear energy for non-weapons purposes are the 'inalienable right' of non-nuclearweapon states. Based on Article IV, several member states on NPT including Germany, the Netherlands, Japan and Brazil are carrying out enrichment for peaceful purposes (ACA, 2012). Since the 1979 revolution in Iran, that country's 'inalienable right' under NPT to enjoy peaceful nuclear technology has been challenged.

The Origin of the Iranian Nuclear Programme

The US laid the foundation for a nuclear Iran in the 1960s due to its strategic relation with the Shah of Iran. The US supplied Iran's first nuclear facility, the Tehran Research Reactor (TRR) in 1967, estimating that Iran would have a full fuel cycle with 23 nuclear power plants by 1994 (Bruno, 2010). But after the 1979 Iranian Revolution, even though Iran decided to cancel or reduce the Shah's ambitious nuclear and military projects, the US and the West withdrew from all nuclear agreements and contracts and isolated Iran through sanctions and other means. The US stopped providing fuel rods for the TRR, Germany stopped completion of the Bushehr power plant and France suspended an enrichment agreement signed in 1973 in which Iran joined a consortium with Eurodif to enrich uranium in France for the Tehran Research Reactor and for the Bushehr power plant. The US and the West objected to the rights of Iran even to possess civilian nuclear power plants. Even worse, after Iraq's invasion of Iran in 1980, the United States and the West supported Saddam Hussein with material and technology to build and use the chemical weapons that killed and injured thousands of Iranians.

These policies forced Iran toward self-sufficiency for providing nuclear fuel. In 2003, shortly after Iran had mastered enrichment technology, its nuclear case came under the spotlight of the IAEA. Iran therefore submitted proposals to assure the international community of the peaceful nature of its nuclear programme. In that period, while I was a member of Iran's nuclear negotiating team, we proposed packages that offered to: cap enrichment at the 5per cent level; export all low-enriched uranium (LEU) or fabricate it into fuel rods; commit to the Additional Protocol and to the updated Code 3.1 of the subsidiary arrangements to the basic safeguards agreement. These would have maximised the barriers to break-out and would have provided the maximum level of transparency. In exchange for these Iranian commitments, we expected the international community to recognize Iran's right to enrichment under the NPT and normalise Iran's nuclear dossier at the IAEA. However, our efforts failed because the United States objected to Iran's legitimate rights to enrichment for peaceful purposes.

Several years later, in February 2010, to assure the international community about Iran's peaceful intentions, Ali Akbar Salehi, then head of the Atomic Energy Organization of Iran, proposed that Iran would keep its enrichment activities below 5 per cent in return for the West providing fuel rods for the Tehran reactor. The US and the West again declined the offer, which made it necessary for Iran to increase the enrichment level to 20 per cent to build fuel rods for TRR.

In summer 2011, Iran responded positively to Russia's Step-by-Step Plan, which addressed all the West's concerns about Iran's nuclear activities. The Russian proposal required Iran to: 1) allow full supervision by the IAEA; 2) implement the IAEA Additional Protocol and subsidiary arrangement Code 3.1;[1] 3) limit enrichment to 5 per cent; 4) Halt installation of new centrifuges; 5) limit the number of enrichment sites to one; 6) address the IAEA's concerns about a 'possible military dimension' to Iran's nuclear programme and other technical ambiguities; and 7) suspend enrichment temporarily (Mousavian, 2012). In response, the P5+1 would recognise Iran's legitimate right to enrichment under the NPT and gradually lift the sanctions. The Russian proposal failed because of Western objections.

Disappointed over the failure of the Russian plan, in September 2011, Tehran again proposed stopping its 20 –per cent enrichment activities and accepting fuel rods supplied by the West for the Tehran reactor. Once again, Western objections forced Iran to move towards producing its own fuel rods. Even today, the main reason nuclear talks cannot succeed is because the West is not willing to recognize the legitimate right of Iran to enrichment under Article IV of NPT, despite Iran's willingness to commit to maximum transparency and confidence-building measures under the NPT to deal with concerns over the potential diversion of the Iranian nuclear programme for military purposes.

The case of Iran therefore proves that the third objective of NPT, peaceful nuclear technology for all member states, is not universally realised.

[1] Code 3.1 of the subsidiary arrangements to IAEA safeguards agreements specifies when a state is required to declare facilities to the agency. In its original version, states had to declare nuclear facilities six months prior to introducing nuclear material. But in 1992, the code was modified, requiring countries to inform the agency of facilities 'as soon as the decision to construct or to authorize construction has been taken, whichever is earlier' (IAEA, 2011, p. 6).

The Way Forward to Secure Peaceful Use of Nuclear Energy and NPT's Objectives

The first and foremost step must be that nuclear arms regulation must become comprehensive, universal and mandatory. The nuclear weapon states should demonstrate their serious determination to reduce their reliance on nuclear weapons and orchestrate a 'multilateral and collective security cooperation' effort to address global security threats with measures beyond nuclear arms reductions. The following principles would be essential to guarantee 'nuclear technology for all, nuclear weapons for no one'.[2]

1. *To ensure the disarmament objective of the NPT,* all nuclear weapon states should commit to eliminating their nuclear weapons. All countries should join NPT and there should be no discrimination and discrepancies in implementing the treaty. The agenda of nuclear arms reduction should include all categories of weapons in all nuclear weapons countries. To address the multitude of serious nuclear dangers, a broad multilateral approach is essential. Bilateral negotiations to reduce the US and Russian stockpiles to zero are extremely important because these two countries possess more than 90 per cent of all nuclear warheads.

In parallel, a multilateral process should seek to cap, freeze, reduce and ultimately eliminate all other nuclear weapons. The goal of broadening the scope of nuclear arms reductions to zero should include all countries and all types of weapons in their possession. Spanning almost fifty years, the arms negotiations between the US and Russians need to be extended to all other nuclear states because the major risks of nuclear weapons use, proliferation and arms race instability lie outside the US–Russian arena. Therefore it is essential to bring the rest of the nuclear-armed world to the negotiating table to begin to cap, freeze, and reduce these third-country nuclear arms programmes. It seems to me that the US and Russian arsenals would need to be downsized substantially – to fewer than 1,000 warheads on each side to draw the other nuclear states into the process.

[2]On 17–18 April 2010, Iran held an international conference on disarmament and non-proliferation under the motto of 'Nuclear Energy for All, Nuclear Weapons for No One'.

2. The world powers should *end double standards on non-proliferation*. Having strategic relations with countries which are not members of the NPT and possess hundreds of nuclear weapons while penalising Iran, which is a member of NPT and which neither has nuclear bombs nor has diverted materials from its nuclear programme, is clear evidence of applying a double standard which undermines the credibility and legitimacy of the NPT. There is no justification for Western countries to upgrade their own nuclear warheads and weapons while forcing other members of the NPT to suspend their peaceful nuclear programmes. With over 100 ready-to-launch warheads in its stockpile, Israel is the sole possessor of nuclear arms in the Middle East--, but Western countries have remained mute on the Israeli atomic arsenal. The sanctions and pressures against Iran, which is a member of NPT and does not have nuclear weapons, exceed those against North Korea which withdrew from NPT and has tested nuclear bombs. Furthermore, the West has established strategic relations with India and Pakistan while they have both refused to join the NPT and each have about 100 nuclear weapons.

3. The West should *end efforts to monopolise* the scientific knowledge and the technology of peaceful nuclear energy and to deprive others from sharing such knowledge and technology by various means such as cyber-attacks, assassination of scientists and use of the IAEA as a political instrument to deprive the member states of their rights to peaceful nuclear technology. 'Multilateral arrangements' for uranium enrichment worldwide may be the only sustainable approach to guarantee 'nuclear fuel for all'.

4. A *weapons of mass destruction-free zone (WMDFZ) in the Middle East* is the only robust long-term solution for the Middle East. Israel has been the only obstacle for decades. The US and the international community must play a critical role so that the initiative can be realised. Despite general international support, serious progress has been stymied because Israel has linked discussions on the establishment of the WMDFZ to peace agreements with all of its neighbours (ACA, 2013). No such linkage should exist and the establishment of a WMDFZ would contribute to

peaceful relations. Recently, Israel expressed its strong opposition to the WMDFZ conference that was supposed to take place in Helsinki at the end of 2012 or early in 2013 but was not convened (Oren, 2012). All countries in the Middle East should participate actively once this conference is rescheduled and ultimately undertake not to possess, acquire, test, manufacture or use any nuclear, chemical and biological weapons or their delivery systems.

5. To realize the WMDFZ in the Middle East, we need serious measures such as procedures to reach an agreement on non-intrusive verification of the zone's nuclear-free status, measures to halt production of fissile material or at least to minimize it, measures towards regionalisation of enrichment and reprocessing, measures to establish a regional monitoring and verification programme supplementing the Safeguards Agreements with the IAEA and, last but not least, a ban on attacks on nuclear facilities based on the 1990 IAEA General Conference Resolution 533, which prohibits 'all armed attacks against nuclear installations devoted to peaceful purposes whether under construction or in operation' (IAEA, 1990).

As explained in the recent report of the International Panel on Fissile Material (Von Hippel, et al., 2013), to reduce the risk of secret nuclear weapons programs, all countries should commit to a phased approach plan to achieve a WMDFZ in the Middle East. The following measures would be recommended for the first phase:

- A ban on the separation and use of plutonium
- A ban on the use of highly enriched uranium as fuel for reactors
- A limitation on uranium enrichment to the very low levels needed for power reactors
- No stockpiles of enriched uranium but rather a 'just-in-time' production system and
- Placing enrichment activities under multi-national control.

6. *The 'inalienable right'* of NPT member nations to the peaceful use of nuclear technology should not be held hostage by their political relations with other

members. Resolving the Iranian nuclear dilemma through diplomacy and a face-saving solution is a must. It seems as if the US is intent on using the nuclear issue as an instrument to orchestrate international pressures to bring regime change in Iran. History suggests that the nuclear issue is subsidiary to Iran–US relations and Iran–US relations have been profoundly influenced by the Iran–Israeli conflict. Therefore I recommend a dual-track approach. The first track for the nuclear deal between Iran and the world powers, and the second for direct talks between Iran and the US to discuss all bilateral, regional and international issues on equal ground.

A Road to Resolve the Iranian Nuclear Dilemma and to Create a Model for the Middle East

In October 1992, Israel's then Foreign Minister Shimon Peres warned the international community that Iran would be armed with a nuclear bomb by 1999 and reiterated that Iran is the greatest threat and problem in the Middle East because it was seeking the nuclear option.[3] In 1997, Benjamin Netanyahu wrote in his book 'Fighting Terrorism: How Democracies Can Defeat Domestic and International Terrorists' that Iran would possess nuclear weapons in three to five years (Netanyahu, 1997). In July 2001, Defence Minister Binyamin Ben-Eliezer asserted that Iran would have the nuclear bomb by the year 2005 (Associated Press, 2001). In February 2009, Netanyahu told an America congressional delegation that Iran wasonly one or two years away from having nuclear weapons (Elliott, 2010). And, in August 2012, Israel claimed that Iran has made surprising, significant progress towards military nuclear capability and that the conclusions of US intelligence were very similar to those of Israel (Ravid, 2012).

However, the US and the majority of its allies generally agree on three things about Iran's nuclear programme: 'Tehran does not have a bomb, has not decided to build one and is not on the verge of achieving a nuclear weapon' (Reuters, 2012). Nevertheless, they believe that Iran intends to at least acquire the capacity to build nuclear weapons in a relatively short time should it deem them necessary and, as a result, they do not trust Iran to confine its nuclear activities to non-military purposes (Reuters, 2012).

[3] Then-Foreign Minister Shimon Peres in an interview with French TV, as described in Parsi (2007).

Israel's strategy is to use the Iranian nuclear issue to drag the US into a devastating war with Iran if possible, and if that fails, to commit President Obama to publically adopt a more aggressive military stance towards Tehran, to enshrine Iran as the No. 1 threat to peace and security in the Middle East, and to push the US and EU to implement further sanctions and distract the world from focussing on the Israeli–Palestine peace process.

The world powers and Iran reached an historical breakthrough and signed an interim nuclear deal on 24 November 2013, with plans to begin a new round of talks to reach a mutually agreed long-term comprehensive solution that would ensure Iran's nuclear programme would be exclusively peaceful (European Commission, 2013).

In order to achieve the final deal, Iran and the world powers would have to compromise on four major issues.

The first is about the heavy-water reactor at Arak. The P5+1 worry that plutonium produced there could be used to build a nuclear bomb while Tehran refuses to dismantle it or convert it into a light-water reactor and reiterates that the facility is needed for research, to produce radioisotopes needed to treat cancer patients, and that its purpose is not to make weapons.

To eliminate proliferation risk at Arak, Iran could allay these concerns by making design changes to produce no weapon-grade uranium, promise not to build a reprocessing plant of the kind needed to extract plutonium from spent fuel and to ship its spent fuel out of the country as soon as it is cool enough to be transported.

Iran's second enrichment site in Fordo is the next problematic issue. It was built deep under the mountains to protect it from aerial attack because the US keeps repeating its threat that 'all options [are] on the table', including military action. Placing Fordo under full IAEA surveillance and accepting limitations on what can be done at the facility should be a fair compromise to address worries over Fordo.

The third issue is how much enriched fuel Iran will produce, and in what concentration. A realistic solution would be for Iran to agree not to enrich uranium beyond about 5 per cent, and to tailor its equipment to the practical needs of civilian activity.

A final issue is about the inspections required by the IAEA. Despite the negotiating parties committing to a deal based on the NPT, a realistic solution should distinguish between demands within the framework of the NPT and those that go beyond it. Demands based on

the NPT can be agreed upon permanently. Based on the NPT and international regulations, a member state would demonstrate the maximum level of transparency by implementing the Safeguards Agreement, Additional Protocol and Subsidiary Arrangement Code 3.1. These three arrangements are the maximum transparency measures the world powers can expect. The IAEA demands that go beyond the NPT would just be implemented for a specified period as a confidence-building measure.

In return for Iranian overtures on the four issues mentioned above, world powers must respect Iran rights to the peaceful use of nuclear technology, including enrichment, and lift all sanctions related to Iran's nuclear programme, withdraw Iran's nuclear file from the United Nations Security Council and normalise its relationship with the IAEA.

With 14 countries operating or building enrichment plants, a successful resolution of the Iranian nuclear case could provide a model for dealing with other countries with break-out capability and contribute positively to non-proliferation. It is clear that the final deal with Iran would ensure the maximum level of transparency and all necessary confidence-building measures assuring that the Iranian nuclear programme would remain peaceful forever. This could be a model for all other Middle Eastern countries to follow as the first big step towards realisation of a WMD-free Middle East initiative.

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