



AN ANALYTIC STUDY OF IRAN'S NUCLEAR PROGRAM: STRATEGIC DIMENSIONS AND GLOBAL IMPACTS

Vannshikha Dahiya

Research scholar (graduate level)

Department of political science ,Ramanujan college ,Delhi university

ABSTRACT

Iran's nuclear energy development programme is considered as one of the most controversial international issues in the contemporary world .The process of developing nuclear power in Iran resulted in a hostile relationship between the US and Iran, which is often characterised by the period of feud among the two that poses a constant threat to international security and peace in contemporary times.

This article analyses the multilayered political and strategic dimensions of Iran's nuclear program and examines its impact across various interconnected lenses such as the diplomatic efforts, regional security , existing dynamics of various alliances in the gulf region, compliance with the Nuclear Non-Proliferation Treaty (NPT) and the framework of global nuclear governance.

The theoretical basis of this study is realism, which believes that every actor in the international sphere acts to maximize power and security for their own state while influencing and dominating other weak states for their benefit.

Keywords: diplomatic efforts, hostile relations , global peace, global nuclear framework, Iran, nuclear politics, Non-Proliferation Treaty (NPT), realism, regional power blocs, regional security, United States

INTRODUCTION

US president Dwight D Eisenhower delivered a speech to the United Nations on 8th December 1953 and proposed a program known as 'Atoms for Peace'. This program was aimed at repurposing nuclear technology from mass destruction weapons to peaceful and civilian use. The 'atoms for peace' program was later embedded in a non proliferation treaty allowing non-nuclear states to develop civilian nuclear programs while committing not to build nuclear weapons; it was an initiative to make the world more cooperative and NPT more sustainable . Under this program Iran's nuclear program began in the 1950s during the regime of Mohammad Raza Shah with the support and assistance from the United States of America.

The adoption of Iran's nuclear programme was aimed to diversify the nation's energy sources and to reduce their dependence on oil consumption while simultaneously supporting industrialization and modernization. This period of transfer of nuclear technologies between the US and Iran during Mohammad Raza Shah's regime marked the period of cooperation and mutual trust between the two nations.

However during those times climate change mitigation was not an important goal of the civilian nuclear energy program ; but later it was seen as compatible with the goal of low carbon energy transmission in the long run.

Since 2003 international sanctions were imposed on several states pursuing nuclear programmes as they were accused of a uranium enrichment process used in nuclear facilities to increase the proportion of the isotope uranium in order to develop nuclear reactor fuel and weapons. The imposition of these sanctions were considered necessary as those states violated the notions of NPT under which these civil nuclear programmes were initiated and posed a global security threat.

Some people believe that civil nuclear programmes do not lead to the nuclear proliferation or development of nuclear weapons. However scholars like Fuhrmann and Reza Marashi argue that this assumption is wrong and misleading as they believe that the aid and assistance provided for nuclear civil programmes to nations indirectly help them to develop nuclear weapons as it establishes the technical base required for the development of nuclear weapons.

Fuhrmann further argues that the risk of proliferation is always there as nuclear programs have dual capability of peaceful use such as producing electricity or cancer treatment as well as of developing nuclear weapons .

Similarly Iran showcased its nuclear programme as peaceful which was meant for civilian use such as electricity generation and medical uses but due to this dual capability of nuclear programmes and technological overlap alongside the revival of Iran's nuclear programme developed a strong suspicion among other nations about the intention of Iran's nuclear programme and their possible plan to develop and acquire nuclear weapons. This suspicion on Iran escalated the geopolitical concerns regarding international peace and security . It also raised concern and questions about the possibility of a new nuclear arms race in Western Asia and about the effectiveness of the NPT in contemporary times.

Thus, these developing concerns provided the motivation for this study, which aims to analyse the consequences of Iran's nuclear programme on international peace and security and effectiveness of the non-proliferation treaty in contemporary times.

1. THE DIPLOMATIC EFFORTS

The concerns about international security and peace alongside the suspicion of Iran regarding their intention about the nuclear programme was raised in 2003 . However the negotiations between UK, France and Germany took place between 2003 to 2006 and was popularly known as EU3. As time passed it became very much evident to the global powers that the negotiations and talks with Iran on the nuclear programme was insufficient ; as a result UNSC (United Nations Security Council) initiated a series of imposing sanctions on Iran for not providing access to IAEA. Global powers also demanded Iran to stop the process of nuclear enrichment. In 2006 Resolution 1737 again warned Iran to suspend its uranium enrichment process or else sanctions would be imposed on Iran. Further UNSC imposed several sanctions on Iran by resolutions (1747, 1803, 1835, and 1929) that resulted in travel restrictions on individuals that were working or helping Iranian nuclear facility in any possible way , it also imposed ban on the transfer of heavy weapons to Iran and also froze the asset of individual or entities that belonged Iran .

Diplomatic efforts gained momentum in 2012 but there was a long history of efforts that attempted to restrict the development of Iranian nuclear energy . In 2015 a key agreement known as Joint Comprehensive Plan of Action (JCPOA) was signed between Iran and six global powers i.e. United States of America, United Kingdom , France , Russia, China and Germany. This agreement aimed to limit the development of Iran's nuclear programme and in return they will provide Iran relief from the internal sanctions imposed on them. Iran agreed and committed to reduce its uranium enrichment levels, limit uranium stockpiles, would allow the international atomic energy agency (IAEA) to examine their nuclear sites and would convert Fordow fuel plant into a research laboratory; and in return the global powers agreed to remove the economic sanctions and allowed them to resume oil trade freely. However, In 2018 the United States of America under the leadership of Donald Trump withdrew itself from the JCPOA agreement and reimposed economic sanctions on Iran which made the agreement structurally weak. Since 2019 Iran has gradually increased its uranium enrichment and centrifuge use while simultaneously denying full access to IAEA for inspection. Thus the JCPOA has been effectively dead but not buried as it still exists in paper works but has failed politically and practically.

2. THE NON PROLIFERATION TREATY AND IRAN'S POSITION

The non proliferation treaty is a monumental international treaty signed by 191 countries ,including the five nuclear-weapon states with an aim to discourage and prohibit non nuclear countries from developing nuclear weapons and technologies while simultaneously promoting peace and cooperation in the international arena by encouraging the civil and peaceful uses of nuclear energy such as electricity generation. Article IV of NPT states that all parties have an inalienable right to develop , use , produce and research nuclear energy for peaceful and civilian use without any discrimination.

NPT came into force in 1970 establishing a structural bargain where all non-nuclear weapon states agreed to not acquire or develop any form of nuclear weapons and in return they will get access to peaceful nuclear technology. Moreover the five nuclear weapon states who are also the permanent members of the United Nations security council (UNSC) - United States, Russia (then the Soviet Union), the United Kingdom, France, and China also committed to pursue disarmament.

The Imperial state of Iran signed NPT in 1970 under the rule of Mohammad Reza as a non nuclear weapon state. They later developed their nuclear energy for civilian use under the Article IV of NPT which provides inalienable rights to all parties.

However post this development of Iran's nuclear energy it has been constantly accused of enriching uranium which is used in nuclear facilities to develop nuclear reactor fuel and weapons. Iranian officials have consistently justified their nuclear enrichment activities as peaceful while simultaneously criticising the constant international pressure as a violation of their national sovereignty . They also argued that NPT legally does not prohibit uranium enrichment per se and several other non nuclear states also practice this process of uranium enrichment without facing any controversies or sanctions ; they further believe that it is an example of double standards that are often applied by the western powers on their enemies.

On the other hand, IAEA (international atomic energy agency) established in 1957 is an intergovernmental agency that aims to promote the safe and peaceful use of nuclear energy for scientific and technical cooperation while discouraging the spread and development of nuclear weapons has repeatedly found that Iran does not comply with its safeguard obligations and has undeclared nuclear activities going on while obstructing inspections conducted by IAEA along with the developing technologies that has no civilian use. These findings reported by IAEA provide a legal and political reason for the UN Security Council to impose international sanctions on Iran. Moreover these findings also shape the international perception about Iran and its intent.

3. REGIONAL SECURITY DYNAMICS

3.1 ISRAEL

No other actor from West Asia has responded to Iran's nuclear activities with a greater concern than Israel. Israel has constantly described nuclear powered Iran as a threat to their existence and thus they have been secretly trying to halt Iran's nuclear program for a long time by sabotaging equipment and carrying out cyber operations against them. Due to this constant threat Israel has intensified its investment in ballistic missile defence systems including Iron Dome platforms to safeguard its nation from external armed attack .

However, Israel itself is believed to hold nuclear weapons though the nation neither accepts nor denies the existence of a nuclear arsenal.

Due to this continuous regional threat Israel and the US in February 2026 began a coordinated series of strikes against Iran and bombarded their governmental and military sites which resulted in mass casualties, infrastructural damages and the assassination of supreme leader Khamenei . They said these strikes were aimed to induce regime change in Iran and target its nuclear and ballistic missile programme. The head of IAEA described this war situation as the "greatest global energy security challenge in history" .

3.2 GULF ARAB STATES

Iran's nuclear ambitions have created an environment of constant fear across the Arabian Peninsula. Gulf countries like Saudi Arabia, United Arab Emirates, Bahrain, Qatar, and Kuwait relies heavily on the United States for their security and protection as they fear that nuclear-capable Iran will automatically become a regional power and will pose a direct challenge to the existing structure of power in western Asia.

In order to fight against this constant fear Saudi Arabia's Crown Prince Mohammed bin Salman declared in 2018 that Saudi will also develop its own nuclear weapons if Iran does

so openly ; this creates a fear of proliferation cascade where acquisition of nuclear weapons by one state encourages other neighbouring states especially rivalries to also develop and acquire nuclear weapons .

Moreover, in the last few years the United States has become more interested in the Indo Pacific region due to the rising influence of its rival China which indirectly poses a threat to US supremacy. Due to this shift of interest, gulf countries are worried about their security as the United States used to provide them a security umbrella which now seems to be drifting apart. The United States' exit from the Joint Comprehensive Plan of Action (JCPOA) during the Presidency of Donald Trump made Middle Eastern countries more worried about their future security.

3.3 IRAN'S STRATEGIC PERSPECTIVE

To gain insight into the rationale behind Iran's quest for nuclear weaponry, it becomes imperative to explore the reasoning that lies behind this strategy.

Iran finds itself surrounded between enemies — Israel in the west, United States military forces and their alliances in the Gulf along with a historically hostile bloc of Sunni Arabs which poses a constant security threat to Iran . Moreover Iran lacks conventional military technologies to counter the threat posed by its rivals. Thus, Iran's efforts to develop nuclear weapons will act as both a deterrent and a bargaining tool as it will enable Iran to counter external pressure, aid negotiations from a seat of power and demonstrate its geopolitical power. Moreover inside Iran, the nuclear programme has become a symbol of national sovereignty, scientific achievement, and resistance to Western hegemony.

4. GLOBAL DIMENSIONS

In the 21st century, the international arena has witnessed significant changes in terms of power play as various global actors competed with one another for power. Thus, Iran's nuclear programme cannot be understood in isolation from the geopolitical dynamics as the relationship between United States, China, and Russia has played a crucial role in nuclear conciliation influencing the pathway for Iran's nuclear programme.

China is a newly emerging global power with a growing economy, military technologies and diplomatic weight . In the last few decades China became an indispensable partner for Iran and helped them in circumventing the sanctions imposed on Iran by the western powers. Beijing has constantly advocated for diplomatic negotiations and talk based approach rather than force or coercion to resolve the issue of nuclear development. This firm stance of China signifies both Beijing's opposition to coercion based sanctions and its calculated interest in maintaining diplomatic relations with Iran for oil .

Similarly Russia has leveraged the Iranian nuclear program as a tool to indirectly compete with the Western nations by alternating between cooperation in the IAEA framework and obstruction in the UN Security Council from time to time depending on its relations with the United States.

For the United States, the Iranian nuclear program poses a direct challenge to their power play in the international arena as sits at the intersection of multiple strategic priorities such as discouraging nuclear proliferation in the world's most tense region, supporting key regional allies , maintaining the credibility of deterrence and discouraging the constant demands of an multipolar world in order to protect its influence. Moreover , The failure of the United States' foreign policy in Iran due to the collapse of the JCPOA agreement and the inability to negotiate another agreement highlights the complexity of balancing various policy objectives such as nuclear proliferation and regional stability; thus making sustainable decision making very challenging.

CONCLUSION

It is challenging to find a simple answer to the Iranian nuclear issue because it has many different layers of reasons contributing to its intricacy. There has been an ongoing regional security concern that has made it harder for there to be a single, long-lasting agreement between Iran and other nations. Additionally, the inability of the global non-proliferation treaty (NPT) to be effective as a functional mechanism for stopping the spread of nuclear weapons and the growing impact of great power competition on collective diplomatic efforts also hinder the possibility of finding a long-term solution to this issue. Because of all of these reasons, no single agreement (no matter how technically effective) will be able to solve all of the complexities related to the Iranian nuclear dilemma.

To develop a long-term solution for the Iranian nuclear dilemma, it will be necessary to go beyond just technical agreements regarding uranium enrichment and verification by developing a larger regional security agreement, which addresses the motivations and fears that have caused Iran to pursue a nuclear weapon. Such an agreement would require engaging fully with Iran about its security issues and concerns, providing credible and sustained relief from sanctions, and establishing sufficiently strong guarantees that, if Iranian nuclear weapons were developed, the nations in the region (especially Israel) would not be negatively impacted by it.

While there are still possibilities of reaching such an agreement, there has not been a sustained, coordinated, multilateral commitment by the international community. If the international community continues to fail to reach such an agreement, it will face increased nuclearization threats in its attempts to promote stability in the Middle East, maintain the future viability of the NPT regime, and ensure the stability of the global system.

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