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Ahmed Al-Ajili

Introduction

The political changes that took place after the Second World War resulted in two nuclear superpowers coming to the fore: the United States and the Soviet Union, which would later open the door to a nuclear arms race among developed and developing countries throughout the world. The Iraqi nuclear program (INP) was limited in the late of 1950s. The INP really began when the *Ba'ath* party came to power in 1968, and particularly during Saddam Hussein's regime (1979-2003). And after 1981 the INP had shifted focus, with their work becoming more military orientated.

There were indirect reasons behind this change; namely Iraq's concern that Israel was advancing a nuclear program, which included nuclear warheads and ballistic missiles that could be used by military aircrafts or nuclear submarines. And also there was a concern over Israel not signing the Treaty on the Nonproliferation of Nuclear Weapons in 1968. A more direct reason for the INP's shift was the targeting of the Iraqi nuclear reactor (*Tamoz*) by Israeli aircraft in 1981.

In the 1980s, Iraq relied on the experiences of foreign companies to develop its nuclear industry (particularly France and Italy), but after sending students abroad, Iraqi technical staff and scientists acquired the expertise needed to start teaching domestically trained technicians. These kinds of training courses completely changed the structure of the INP, and in the end there were over 8,000 people working in the INP.¹

The International community and particularly U.S. started to have concerns about the real intentions of the INP, and its potential impact on the future of the Middle East region. The first attempt to put an end to this program was the bombing of the Osirak French reactor "*Tamooz*" in 1981 by Israeli aircraft. The attack

coincided with other events, such as the campaign of assassinations on Iraqi and Arabic scientists who used to work in the INP. The program was closed down by the United Nations Special Commission (UNSCOM), which was established by the United Nations under the United Nations Security Council Resolution (UNSCR) No. 687 in April 1991. Along with cooperation from the International Atomic Energy Agency (IAEA), this resolution was used to ensure Iraq's compliance, as well as the abolition of their chemical, biological, and missile weapon developing facilities in the aftermath of the Gulf War.

The UN and U.S. argued that the commission did not completely finish its job in eliminating the Iraqi missile system, and therefore asserted that the country still possessed Weapons of Mass Destruction (WMD), thus posing a great threat to the stability of the Middle East. This claim was proven to be false after the war and the U.S. invasion of Iraq in 2003.

The United Nations Security Council Resolution (UNSCR) 687 of 3 April 1991 created the terms and conditions for a formal cease-fire between Iraq and the coalition of Member States co-operating with Kuwait. Section (C) of this resolution called for the elimination, under international supervision, of Iraq's WMD and ballistic missiles with a range more than 150 km, together with other related items and facilities. It also called for measures to ensure that the acquisition and production of prohibited items were not resumed. The United Nations Security Council adopted this resolution in April 1991, less than year after Iraq's invasion of Kuwait in August 1990, and created UNSCOM in order to implement the non-nuclear provisions set out, as well as assists the IAEA.

This paper aims to highlight the historical background of the INP, from its founding in the 1950s through to the outbreak of the Gulf war in 1991,

while also addressing why the program shifted from peaceful to military purposes during Saddam Hussein's regime. This research will help clarify its stages of development and how they related to different periods of rule in Iraq. There will also be an examination of how this project, which is considered one of the first of its kind in the Middle East, advanced in what was classified as a third world country. This discussion will also touch upon the security and strategy conditions, which led Iraq to shift to a military orientated nuclear program during the 1980s.

Keywords: Iraqi nuclear program, Iraqi Atomic Energy Commission, Historical background of the Iraqi nuclear program.

The Iraqi Nuclear Program During the 1950s (Foundation period)

The founding of the modern Iraqi state in 1921 developed in line with the monarchy established by the period of British colonial rule. The era of Iraqi modernization, which resulted in the formation of ministries, government departments, universities, educational facilities, as well as legislative and judicial bodies, took modern institutions in western countries as an example to emulate.

During the period of the British occupation (1914-1920), British mandate (1920-1932) and subsequent independence from British Mandate post-1932, Iraq was not in a position to build its own governmental institutions. Even after becoming politically independent from Britain, there was still a reliance on western countries experience and expertise in forming state institutions.

An example of one such institution was the Iraqi Atomic Energy Commission (IAEC), which was founded in 1956. It was a body associated with the office of the cabinet. The membership of the IAEC included members from the ministry of health, ministry of agriculture, ministry of construction, ministry of education, ministry of transport, ministry of defense, and the secretary-general, who implemented decisions made by the institution. The commission's target was to oversee the development of nuclear science in Iraq. During its early years, the IAEC was given a library

by the Atomic Energy Commission of the U.S., which included many U.S. publications on science and the peaceful use of atomic energy.²

This gift came after U.S. President Dwight Eisenhower's speech on December 23 1953 in front of the United Nations general assembly in which he expressed a desire to see atomic energy used for peaceful and not the military purposes. As a result, the U.S. donated a 5MWcapacity nuclear reactor to Iraq, which had been developed by the General Auto-mix company. At that time, Iraq was at the center of the Baghdad pact.³

The Iragi Nuclear Program After 1958

After the Coup d'état and subsequent collapse of the monarchy, which lasted from 1932 to 1958, Iraq declared its independence on July 14 1958 and became a republican regime, and the subsequent withdrawal from the Baghdad pact, saw nuclear cooperation between Iraq and the U.S. come to a halt. This sequence of events also saw the U.S. decide against sending a new reactor to Iraq, and instead redirect it to Iran, which was then under the rule of Shah Mohammad Reza Pahlavi (1941-1979).4

During the rule of Colonel Abd Al-Karim Qasim (1958-1963), Iraq changed dramatically on an ideological, political, economic, and social level. The country shifted from a monarchy, which had conjured up images of imperialism, to a firmly anti-colonial republic that believed in social equality. At that time, Iraq moved from a pro-West to pro-Soviet ally. The country pivoted from pursuing a conservative agenda to adopting leftist ideologies.

The new policies under Qasim's regime moved closer to the Soviet Union, and started to learn from the Soviet nuclear energy industry. An agreement was signed between Iraq and the Soviet Union in 1959, which would see the two sides cooperate in the field of atomic energy for peaceful purposes. This arrangement saw the Soviet Union agree to equip Iraq with a 2MWcapacityreactor. The agreement also included a provision that would see Iraqi staff trained to operate and maintain the reactor, as well as the creation of study abroad program that sent Iraqi students to research the field of atomic energy.⁵

The Iraqi Nuclear Program during the 1960s

During *Al-Arifi* regime which was led by Abdul Salam Arif (1963-1966) and his brother Abdul Rahman Arif (1966-1968), Iraq's internal and external policies stabilized. The government adopted an ideology of socialism and followed the trend of Arab nationalism, while also striving for Arab unity.

While Abdul Salam Arif (1963-1966) was in power, the INP developed a center for nuclear research in 1964, and set up their first nuclear reactor in 1968 with the support of the Soviet Union.⁶

From 1966 to 1967, many Iraqi scientists who graduated from Soviet and British universities joined the center for nuclear research. The reactor IRT-2000 was named on July 14, had a capacity of 2MW, and was located in Tuwaitha (26 km southeast of Baghdad).By 1968 the reactor was producing radioactive isotopes with ease.⁷.

The Iraqi Nuclear Program during the 1970s

Under the *Ba'ath* regime [Ahmed Hassan Al-Bakr (1968-1979), and Saddam Hussein (1979-2003)], a strong socialist system was built, which focused on Arab national interests. These would form the ideological pillars of the Arab Socialist Ba'ath Party (ASBP).

In 1974, an agreement was signed between Iraq and France that involved Iraq receiving the Osirak reactor, which had a capacity of 40 MW, in addition to the Isis reactor. A contract with an Italian company called SNIA-Technit, helped assign the responsibility for constructing and supplying laboratories.⁸

During the French Prime Minister Jacques Chirac's period in office (1974-1976), France sided with Arabic interests on many political matters, including the Palestinian issue. This position strengthened the political and economic relationship between France and the Arab world, meaning that there was an improvement in Iraq's relationship with France during the 1970s. France was also one of Iraq's staunchest supporters during its war with Iran (1980-1988).

From 1976 to 1977 Iraq planned to acquire a nuclear reactor to create electric power (develop an electronuclear station). An Iraqi team visited a number of

companies across several different countries to learn from their expertise. The trip took them from Sweden (Asia Atom), to West Germany (Kraft Work AG), and Japan (Mitsubishi). Negotiations in Tokyo progressed well, but ultimately stalled after pressure was applied on to Japan by the U.S. Company Westinghouse, which supplied fuel to all of the electro-nuclear stations in Japan. Westinghouse rejected the idea of providing Iraq with nuclear fuel, bringing discussions between Iraq and Japan to a halt before an agreement could be reached.⁹

The Iraqi Nuclear Program during the 1980s

In the 1980s, despite continued progress in the development of technical staff, engineers, and scientists, the INP encountered many difficulties. There were three main obstacles:

First, in the early 1980s, the tense political conditions between Iraq and Iran after the outbreak of war in 1980meant that the Iraqi regime began to displace those who held government documents that proved they were originally from Iran. This was known as Iranian subordination "*Tabaiya Iraniya*" and was associated with the Islamic *Dawa party*, which opposed the Iraqi regime. In fact, this situation forced a number of trainees and engineers to leave the INP as they felt both they and their families were not safe. This included Engineers Mohamed Al-Attar, Kadhim Al-Bakri (who had communist leanings), Dr. Adel Ali Ridha, as well as Ali Kadhim Al-Adhadh, who was an employee in the computing division.¹⁰

Second, assassinations that targeted Iraqi and Arabic scientists during the 1980s by the national intelligence agency of Israel (Mossad) may also have influenced the progress of the Iraqi nuclear program. This campaign of assassinations resulted in the deaths of the director of the Iraqi-French nuclear arms project Dr. Yahya Al-Mashhad (Egypt) on June 14 1980 at his Hotel in Paris, Engineer Abdulrahman Rasoul (Iraq), and Dr. Salman Rashid Al-Lami (Iraq).

Third, on June 7 1981, 14 Israeli aircraft bombed the Osirak French reactor "*Tamooz*." Iraq submitted a complaint to the UN Security Council on this matter. On June 19, 1981, they passed Resolution 487, which strongly condemned the Israeli attack, and ordered

them to compensate Iraq for losses amounting to 750 million dollars. As of yet, Iraq has not received compensation for the attack.¹²

During the 1980s, the Iraqi government honored scientists for their efforts in helping to develop the Iraqi nuclear program. One of these awards was known as the medal of Jabir Ibn Hayyan. Awarded only twice, once in 1988 and once in 1993, it was granted by the IAEC to either its own employees or staff who worked in other government departments.¹³

Shifting to Military Purposes during the 1980s

After the bombing of the Osirak reactor "Tamoz" by an Israeli aircraft in 1981, the Iraqi government started to seriously consider developing a nuclear program. Over the next ten years Iraq continued pursuing this project and adapting it for military purposes. During that time, Iraq aspired to create a nuclear bomb, but this project was permanently stopped after the outbreak of the second Gulf War in 1991. One of the scientists who worked on the project is quoted as saying: "On that morning, the Iraqi nuclear weapons program stopped, and never restarted...In terms of Iraq's approach to obtaining a nuclear bomb after ten years of development...We were about 10 to 20% of the way through the process of finishing a nuclear weapon. It would have required a few more years of work, development, and production".14

The political ideology of the Iraqi government has held the belief that the country's unity and strength derives from a shared sense of unity and strength that exists throughout the Arab nations. Iraq viewed strategic balancing in the Middle East as the key to political stability in the region. As such, it was Iraq's view that Arabs should acquire an atomic arsenal that matched the capabilities of Israel, and thus undermine the possibility of an Israeli nuclear attack. This policy of deterrence was seen as crucial in avoiding the war and bringing peace to the region. Saddam Hussein expressed similar sentiments in a secret meeting after the bombing of the Iraqi nuclear reactor in 1981:

"Regardless of Iraq's intentions, and its potential now or in the future, I think that any country in the world wants peace, stability, and security...In one way or another, there has to be cooperation amongst Arabs so that it is possible to acquire an atomic bomb and be prepared for the atomic threat posed by "Israel". It is not an issue of ensuring that Arabs win or even support the war; it is about keeping peace irrespective of people's intentions and potential...I believe that any country in the World has a responsibility both towards humanity, and for peace. If Arabs take the weapon in order to face the nuclear threat posed by Zionists, and prevent Zionists from using an atomic bomb against Arabs, we can prevent the world from having to deal with nuclear war". 15

Saddam's talk implies that Iraq had expected Israel to target the nuclear reactor. Iraq called for the international community to stand by them and offer support by supplying weapons in order to put an end to the Israeli threat. Saddam considered this to be the primary threat to Iraq and Arab nation:

"What happened to the Tamoz reactor was not surprising for us, but was still painful as it was a precious state treasure...After 1979, we said that many countries would seek to minimize, discipline, or break Iraq psychologically or physically...With this in mind, we stated that Israel would prepare to attack Irag...There is no secret to say that in early 1979 we discussed with other friendly nations about the possibility of acquiring a weapon that would make Israel hesitant to use force against Iraq...Is there a precedent anywhere the world where a state or regime enters the borders of another country in order to strike without first declaring war! I cannot recall it happening in history, but it has here. Now they are an enemy. It constantly reminds us that the Zionist regime is the main threat to Iraq and the Arab nations".16

Saddam considered Israel's possession of a nuclear weapon as a danger to Iraq and the Arab nations. He stressed the need for strategic balancing in the Middle East region. He went so far as to liken the balance that Iraq sought to achieve with Israel as similar to the relationship between the Soviet Union and the U.S. He also emphasized that an atomic weapon could always be used to apply pressure against Israel if the security of the Arab world came under threat:

"The Iraqi regime believes that creating a

strategic balance between Iraq and "Israel" should be viewed in as similar manner to the relationship between both of the Soviet Union and America, both of whom have nuclear weapons, and have developed military arsenals, which in effects maintains a degree of peace. This is not to advocate Arabs have developing nuclear technology for military purposes...All atomic experts in the Middle East recognize that Israel now has a number of the nuclear bombs. What will happen if Israel threatens Arabs with one of these nuclear bombs, what will happen to the Arab people? And what will happen to humanity"?¹⁷

In 1989, Iraq participated in the Paris conference on banning chemical weapons. Iraq's deputy prime minister and minister of foreign affairs Tariq Aziz aimed to clarify the country's political position:

"Iraq is an Arab nation that believes in peace and equality for all people. We respect international law and want to uphold the values of justice and peace. If these kinds of relations cannot be achieved between countries, then peace cannot prevail, and the disarmament process will not be able proceed smoothly. Threat to peace will see countries prepare to protect their security, sovereignty, and right to self-defense.¹⁸

Aziz also pointed out that when the Geneva Protocol was signed in 1925, chemical weapon were the only weapon of mass destruction that had been developed. During and since World War II, new weapons of mass destruction had been created, which are potentially more dangerous than what had gone before. Iraq called for the International community to deal with these new weapons in the disarmament process and called for comprehensive ban on their use. If Iraq also emphasized the importance of mutual obligation and achieving a balance of responsibility between countries that do possess nuclear-weapon and those that do not. Aziz also stressed that Iraq would not make their chemical weapons expertise available to others.

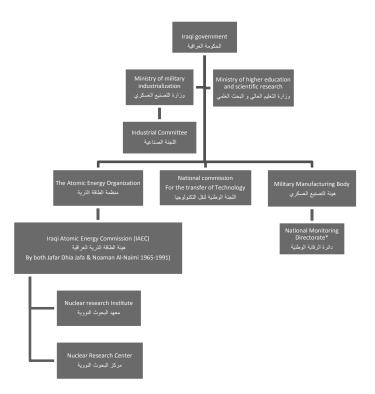
Tariq Aziz was not so trusting of the main powers participating in the disarmament of chemical weapons. Aziz spoke of the instability between countries, and how this kind of relationship requires states to be on standby in case of any sudden attack. Iraq also gave a clear statement to the International community that

they believed they a country has a right to chemical weapons when peace is threatened. What reinforced Iraq's viewpoint was the requirement to eliminate all weapons of mass destruction, and not just chemical weapons. This relit a sense of skepticism that Iraq had over the true intentions of major powers. There was a concern about whether disarmament would require the removal of all weapons of mass destruction would or just chemical weapons. There were also question marks as to whether it would include the other nuclear superpowers.

On April 1, 1990, Saddam emphasized that Iraq had chemical weapons, during a ceremony honoring General Commanders of the Iraqi Army and military officers with decorations, such as the Sword of Al-Qadisiyah and the badge of honor:

"For the last five or six years, the Israeli, American and British intelligence have been offering us the chance to purchase depleted uranium that can be used to create an atomic bomb... We have said that we don't want it... We have told them to go away and not try to influence us with their evil... We don't need an atomic bomb... We have chemical weapon... And to whoever threatens us with an atomic bomb... We will tell him that they will be destroyed by our chemical weapons...And for the information of Iraqi people... This weapon has existed since the end of the war... It has existed since the last year of the war, but we did not use it against Iran... We did not use it against Iran because we believed that we had enough other weapons at that time".22

The reason that Iraq refused to purchase depleted uranium and nuclear weapon was because they felt that the U.S., British and "Israeli" intelligence were exploiting the war between Iraq and Iran. They knew that Iraq needed to be armed and prepared well, even though the weapons they were offering were unconventional and internationally banned. Saddam viewed this kind of policy as a ploy to implicate Iraq.²³



* The National Monitoring Directorate was under the supervision of the deputy prime minister Tariq Aziz, and later Vice President Taha Yasin Ramadan. The NMD was receiving orders from the government on how to deal with inspectors from UNSCOM.

Source: Jafar, Dhia Jafar and Al-Naimi, Noman, 1st edition 2005, the last recognition: the fact of the Iraqi nuclear program, pp. 17, 348, Interview with Dr. Humam Abdul Khaliq on Feb. 2015, UAE – Sharjah, The elite of the Iraqi Academy of Sciences, pp. 161, 192

Structure of the Iraqi government bodies

This section will help clarify the connection between the different governmental and institutional departments that were in operation during Saddam Hussein's regime, the mechanisms at works, and the connection between different executive state offices. The following chart helps clarify the hierarchical system that was in place during the construction of the Iraqi nuclear program in the 1980s, and how these bodies were connected to each other.

The responsibility of offering advice on scientific and technical issues was taken over by various government departments, who also exchanged expertise with similar offices inside and outside of Iraq.²⁴

Conclusions:

This historical review not only highlights the different stages of the INP and how they fit into contemporary history of Iraq, but also the obstacles that the INP faced, particularly during the 1980s, this led to the Iraqi regime fearing for the safety of developing their program. There was also concern among scientists over the reliance on foreign companies from Italy and France, which might have led to information leaks. After the completion of their data base and industrial infrastructure, the INP was provided with uranium, which meant that the program could proceed without depending on foreign expertise. At the same time, the INP began working with foreign companies to set-up and activates nuclear reactors, before building its own nuclear program.

The bombing of the French reactor Osirak in 1980 by Israeli aircraft, resulted in the Iraqi government thinking seriously about how to address what they viewed as an imbalance between nuclear-armed and non-nuclear-armed forces in the world, specifically in the Middle East. The outbreak of the Iran-Iraq war in 1980, led Iraq to consider acquiring nuclear arms in anticipation of any sudden attack by the other side.

During that time, the Iraqi government wanted to pursue this possibility as long as both Israel and Iran had a nuclear capacity, while also emphasizing the importance of creating balance in the Middle East region.

The policy of the Iraqi government has stressed the importance of unity and strength among Arabic nations through military and industrial development, as well as the need to become a nuclear powerhouse that could stand amongst the ranks of developed countries throughout the world. Another key issue was their view that Arabic nations had a right to possess a nuclear deterrent, like many other nations.

July 14 revolution, which overthrew the monarchy in Iraq and replaced with a republican regime). The second reactor was built by France in the midseventies (July 17 Reactor, which was related to July 17 revolution or coup, which brought the Arab Socialist Ba'ath Party to power). Al-Saati, Basil, 1st edition 2006, Files on the Nuclear Program and Military Manufacturing, Arab Scientific Publishers – Beirut, pp. 23-24

⁹ Khadduri, Imad, 1st edition 2005, Iraq's Nuclear Mirage: Memories and Delusions, Arab Scientific Publishers – Beirut, pp. 85-86

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¹ Jafar, Dhia Jafar and Al-Naimi, Noman, 1st edition 2005, The Last Recognition: The Facts of the Iraqi Nuclear Program, Center of Arab Unit Studies – Beirut, pp. 17

² Ibid., pp. 29

³ Baghdad Pact: Officially known as the Middle East Treaty Organization, it was concluded on 1955 between Iraq, Turkey, Britain, Pakistan, and Iran. The United States, which had made several unsuccessful bids to set up a Middle East defense organization, did not formally join the group, but acted as a shadow member. Aimed at the Soviet Union, the pact sought mutual cooperation in security and defense matters, noninterference, and the peaceful settlement of disputes. After changing from a monarchy to a republic in 1958, Iraq withdrew from the Baghdad Pact on March 24 1959. Ghareeb, Edmund A. and Beth Dougherty, 2004, Historical Dictionary of Iraq, Scarecrow Press - Maryland. Pp. 35 and Jafar, Dhia Jafar and Al-Naimi, Noman, Ibid., pp. 29

⁴ Abdulkhaliq, Humam and Alhijjaj, Abdulhaleem, 1st edition 2009, The Strategy of the Nuclear Program in Iraq, Center of Arab Unit Studies - Beirut, pp. 48

⁵ Ibid., pp. 49

⁶ Ibid., pp. 49

 $^{^{7}}$ Jafar, Dhia Jafar and Al-Naimi, Noman, Ibid., pp. 31- 32

⁸ Until 1974 Iraq had two reactors: The first reactor was built by the Soviet Union at the end of the 1960s (the July 14 Reactor, the name being linked to the

¹⁰ Al-Saati, Basil, Ibid.,pp. 32

¹¹ Ibid., pp. 34, 35, 36, 38
Bilal, Abdullah, 1st edition 2000, The Assassination of the Arab Mind, Al-Amin for Publishing and Distribution – Cairo, pp. 80

¹³ Al-Saati, Basil, Ibid.,pp. 13

¹⁴ Khadduri, Imad, 1st edition 2005, Iraq's Nuclear Mirage: Memories and Delusions, Ibid., pp. 154, 155

^{*}An international conference held in Paris in 1989, which was attended by delegations from 141 countries. The conference was part of a U.S.-led initiative that was brought about due to concerns over the use of poisonous gas by both Iraq and Iran during their war (1980-1988) . In its final document, the conference called for participants to make efforts to sign a treaty banning the development, production, and possession of Chemical weapons. It also urged nations to adhere the principles of peace according to the Charter of the United Nations.

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²⁴ Ibid., pp. 54-56

イラク核開発計画の歴史的展開背景: 1956~91年を中心に湾岸

アヘメド アル・アジーリ

要旨

イラクの核開発計画の始まりは1950年代であったが、統合された核開発計画が実際に開始されたのは1980年代である。イラクは当初、フランスやイタリアなどの海外企業に依存した核開発を進めていた。海外に技術スタッフおよび科学者を送ることを通して核開発に従事する人材の育成を目指し、その人数は約8000人に達した。その結果、米国を中心とする国際社会は、イラクの核開発の目標や意図、そして中東地域における安全と安定に対する脅威を懸念し始めた。まずイスラエルが1981年にフランス製ORISAK原子炉(イラク名「TAMOZ」)を破壊し、核開発計画を阻止しようとした。また、Iraqi Nuclear Program (INP)で働いていたイラク人やとアラブ人科学者の暗殺を行った。湾岸戦争時の1991年4月には、イラクの核兵器施設撲滅を監視するために国際連合大量破壊兵器廃棄特別委員会(United Nation Special Commission(UNSCOM))が形成された(安保理決議第687号)。この決議文には、イラクの核兵器施設を取り除くために国際原子力機関と協同し、化学、生物、およびミサイル兵器施設の撲滅を進めることが記載されている。

本稿では、1950年代のはじめから1991年の湾岸戦争の勃発までのイラクの核開発計画の歴史的展開を分析することを通して、サダム政権がINPを平和目的から軍事目的に変えていった要因を明らかにする。結論は以下の通りとなる。軍事目的に移行した要因は、イラクに対する近隣諸国からの脅威といえるだろう。1980年、イスラエル航空機によるフランス製原子炉ORISAKに対する爆撃により、イラク政府は核を所有する軍隊と核を所有しない軍隊との力の不均衡を考慮し始めた。そして1980年のイラン・イラク戦争の勃発により、イラク政府は突然の攻撃を予期した核兵器の保有を考慮するに至った。特にこの戦争の期間イスラエルとイランの両国が核能力を有していたため、イラク政府は核兵器保有の可能性を追求した。同時にイラク政府は、世界の先進国の立場を考慮して、原子力の必要性と軍事および産業開発を通じたアラブ諸国間の統一の重要性を強調した。