

RELATIONSHIP BETWEEN IRAN'S NUCLEAR POWER AND OIL, PERSIAN GULF

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ABSTRACT

One of the disputes between Iran on the one hand and Europe and the West on the other hand is nuclear dispute, which has been subject of prolonged and continuing negotiations for many years, and remained unsettled so far. Many governments took over power in Iran while this issue on the agenda. Both government and the general public in Iran believe that it is a vital and national issue for Iranians to have nuclear energy. Led and guided by the US, the West has so far prevented Iran to achieve this right. Westerners state that Iran is not trustable, and is seeking nuclear bomb, while supreme leader of Iran, Ayatollah Khamenei, declare possession of nuclear bomb to be religiously prohibited, and Iranian government has also declared that it is not seeking nuclear bomb, and is only seeking medical and humanitarian purposes. All nuclear activities of Iran are supervised by IAEA, and have been inspected thousands of times. One the other hand, so many years of dispute and media coverage of Iran nuclear dispute in international assemblies have had many negative impacts on Iran. Iran retains the right to obtain nuclear energy, because it has many applications in all branches of science. This paper addresses nuclear dispute and its future. Also explain about the relationship between Iran's nuclear and oil.

Keywords: *Iran, Nuclear Energy, International System, States.*

History of nuclear energy before Islamic revolution (1970)

The first attempts of Iran to achieve nuclear technology dates back to early 1950's. The US was the first state to encourage Iran to achieve nuclear technology, and to transfer such technology to Iran. However, the US is the primary serious opposer of Iran's nuclear activities today. The first serious step to use nuclear sciences and technology in Iran was taken in 1956, and the US-Iran Cooperation Agreement on civilian use of nuclear energy was concluded in 1957. (Greg, 2010)

Again, another agreement was concluded between the two countries for cooperation in production of energy from atomic energy in Iran in 1964. In parallel with Iran-the US nuclear cooperation agreement, Nuclear Science Institute, which was under supervision of Central Treaty Organization (CENTO), was moved from Baghdad to Tehran, and the University of Tehran founded a center called Atomic Center of the University of Tehran, for nuclear education and research (Farhang, 2010) . Later, upon recommendation of the University of Tehran, construction of a nuclear reactor was placed on the agenda of government, and approved. In this regard, US president, Eisenhower gave a nuclear reactor to Iran for promotion of his plan (atoms for peace).

Construction of the University of Tehran's nuclear reactor completed and it was commissioned. Construction of this reactor was an important point of departure in nuclear activities of Iran, and a positive revolution occurred in creation of nuclear industries in Iran in the course of construction of this reactor in which some Iranian experts were also present.

Iran and the US agreed on formation a joint committee in 1974 with the intention of strengthening cooperation in all fields including nuclear science and especially production of nuclear energy. At the same time, a preliminary agreement was signed, which provided that the US government must provide enriched fuel for power nuclear reactors, which were to be constructed for Iran by the US. Also, according to this agreement, it was suggested for Iran-the US nuclear cooperation to be part of the programme of Iran-the US Joint Committee, and nuclear energy to be placed under supervision of the US Energy Researches and Development Department.

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From 1957 through victory of Islamic Revolution, the US took different measures including sale of nuclear reactors and hot cabinet, delivery of enriched uranium and plutonium, meeting of high profile officials and numerous agreements on delivery of nuclear power plant, formation of joint commission for strengthening the relations, especially in the field of nuclear energy, and exchange of information and equipment, and most importantly, conclusion of different agreements on support for use of nuclear energy by Pahlavid government, which measures placed the US in the first place among the western supporters of Iran's monarch government (Iran Nuclear Chronology, 2011).

On June 30, 1975, Iran and Germany concluded a cooperation agreement on scientific research and technological development in Tehran. Under this agreement, the parties undertook to expand mutual cooperation in the field of peace use of nuclear energy, and especially, in the following areas:

- Scientific research and technological development
- Planning, construction and operation of nuclear power plant and other nuclear and research facilities.
- Education and training of academics and technicians.
- Nuclear energy technology.
- Security and protection of nuclear facilities and prevention of radiations.
- Nuclear fuel.
- Use of nuclear energy for other intentions than electricity production.
- Production and use of radioisotopes.

Also, two agreements were signed with German KWU Company. One for engineering and design, construction, installation and commissioning of two 1300 MW light water power plants in Boushehr, and another for supply of nuclear fuel for these power plants. Also, a preliminary agreement was concluded with the said German company for construction of two 1290 MW power plants in Esfahan, and two other 1290 MW power plants in Saveh.

The first nuclear cooperation between Iran and France dates to 1969. On March 11, 1969, Radioactive Researches Protocol was signed between the two states in Tehran. In 1977, another agreement was concluded with French CGG Company for discovery of uranium (Raees, 2012).

On January 7, 1972, Iran and Canada signed a cooperation agreement for peaceful use of nuclear energy in Ottawa.

On February 25, 1976, Iran and India signed a cooperation agreement for peaceful use of nuclear energy in Bombay.

In 1977, negotiations were held between Iran and Australia (AUSTRIEX Company) for extraction and export of uranium. Australia was important to Iran because it was one of the leading uranium producers and Iran intended to purchase uranium from it.

Use of nuclear energy was first introduced in Iran during Mohammadreza Shah, and with formation of Atomic Energy Organization of Iran, commencement of Boushehr Nuclear Reactor Project, and financial participation of Iran in French nuclear fuel technology projects. Atomic Energy Organization of Iran (A.F.O.I) was established in 1974.

Besides, dozens of experts were departed abroad to acquire and receive required learning and training. In this regard, the US, the UK, West Germany, France, Canada, Italy and Belgium were mostly the places where Iranian experts were trained. The main and the costliest nuclear aim sought before Islamic Revolution was to establish nuclear power plant. Stanford Research Institute, an American institute, carried out a research in this period, which suggested that Iran would need 20,000 MW of nuclear electricity by 1995.

Nuclear Energy after Islamic Revolution

With victory of Islamic Revolution in 1979, policy of western states towards Iran change, and was replaced by policy of technological sanction against Iran. German Siemens Company withheld from completion of Boushehr Nuclear Power Plant, and suggested that the project be completed using natural gas-operated reactor, which was disagreed by Iran.

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The agreement with France was cancelled. 8-year imposed war resulted in deconstruction of some of incomplete nuclear facilities, and also, in lack of significant activity in the field of nuclear researches. Amid Iran-Iraq war, with shortage of energy resources in Iran, Iran appealed to Spain and Japan to complete Boushehr Power Plant, but they refused to continue their cooperation with Iran under pressure from the US. After imposed war ended, Iran's government put different plans for achieving nuclear energy and production of fuel and nuclear energy on its agenda. Conclusion of agreement between Iran and Russia for completion and commissioning of Boushehr Power Plant, development and completion of nuclear fuel facilities in Esfahan, and establishment of uranium enrichment facilities in Natanz are among Iran's activities to achieve nuclear energy and nuclear fuel cycle during these years. After George W. Bush took over in the US, the US made extensive attempts to shut down Iran's nuclear activities, and pressures from Zionist regime and some European states through International Atomic Energy Agency and the UN caused Iran's nuclear case with IAEA to enter to a intensive state. Following introduction of Iran's case in Governors' Council, and ultimatum of this council that it would refer Iran's case to the Security Council, then secretary of National Security Council, Hassan Rohani, was assigned to settle this case. In late 2003, foreign ministers of three European states (the UK, France and Germany) travelled to Iran, and it was agreed in Saadabad that Iran would suspend its nuclear activities and sign NPT additional protocol. With signature of Saadabad nuclear letter of understanding between Iran, and three European states, Iran's nuclear activities were voluntarily suspended by Iran to eliminate misunderstandings between Iran and IAEA. Time wasting policy of European countries to delay achievement of nuclear energy by Iran and their non-implementation of provisions of cooperation agreement for development of peaceful nuclear activities in Iran made Iran remove the seal of UCF center in Esfahan and resume its activities in summer 2005. In 2006, Mahmoud Ahmadinezhad officially declared that Iran had achieved technology of uranium enrichment and had established a full enrichment chain in Natanz. Since then, pressures on Iran have increased on daily basis. International sanctions have poses many difficulties to people of Iran (yergin, 2008).

In this period, western countries acted in contravention of their obligations under NPT:

- 1- Refusing to fulfill their obligations to Iran and to cancelling valid and legally binding nuclear cooperation agreements;
- 2- Putting pressure on countries which were willing to cooperate with Iran;
- 3- Refusing to cooperate with and participate in nuclear program of I.R. Iran.
- 4- Impeding nuclear self-sufficiency program of I.R. Iran.

Applications of Nuclear Energy in Iran's Community

Today, nuclear energy has many applications in different areas, the most important of which are described below.

- Application nuclear energy in electricity production

Among declared objectives of Iran has always been production of nuclear electricity. And in the four past decades, given increasing growth of social and economic development in Iran, strategy of use of fossil resources has been affected by two constraint factor. Raised living standard and economic indices improvement program require supply of increasing energy demand from all domestic home and industrial uses, while national economy is dependent on oil incomes. Resolution of such conflict requires a long term strategy and revision of excessive use of fossil resources, because these resources are limited, and belong to future generations of country as well, on the other hand, they create lower value for the country in such conversion industries as petrochemical industry, compared with nuclear energy, yet they are very costly, and use of such resources as fuel inside Iran extremely overshadows value of foreign exchange income from export of oil and natural gas.

- Application of nuclear energy in nuclear medicine and healthcare

In advanced industrial countries, nuclear energy is extensively used in medicine. The followings are examples of applications of nuclear techniques in medicine:

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- A - Preparation and production of radio medicine for use in nuclear medicine center.
- B – Preparation and production of radiopharmaceuticals for diagnosis and treatment of thyroid.
- C - Preparation and production of hormone kits.
- D – Diagnosis and treatment of prostate cancer.
- E – Diagnosis of colon, small intestine and some of breast cancers
- F – Location of carcinomas and examination of cerebral and breast tumors, and venous conditions.
- G – Imaging of cardiac disease, diagnosis of infections and arthritis, embolism and venous clots.
- H - Diagnosis of anemia, control of oral and injected radiopharmaceuticals, etc. (Farshadgozar, 2006)

- Application of nuclear energy in veterinary and animal husbandry

Nuclear techniques have such applications in veterinary as diagnosis and treatment of animal diseases, animal reproduction, animal nutrition, animal cross-breeding, and sanitation of animal products and animal's food.

- Application of nuclear energy in access to water resources

Nuclear techniques are used to locate ground waters, diversion of surface water and ground water, discovery and control of leakage and safety of dams. Nuclear energy is also used to sweeten water.

Oil-based economy

By “oil-based economy” we mean a form of unit-product economy in which different activities related to extraction and sale of oil as a crude and strategic product, form main structure of economy of a country. In fact, if we consider production, distribution, and consumption as the main elements of an economy, in an oil-based economy, oil exploitation and its benefits comprise affect the above three sectors. This question that “what cargo, with what composition, for whom, and by what method should be produced” is the main question of economy that is masked by oil in an oil-based economy. In an oil-based economy, economic indices and dynamic analyses are also fulfilled regarding to oil.

Statistics and numbers related to economic performance of state in the last few decades show pivotal role of oil in the state economic structure. From the early of 1960s that Iranian government preceded to capitalization development, a large economic revolution was occurred.

In 1976, oil comprised 77% of government income and 87% of its foreign exchange. In recent years, oil income has supplied about 85-88% of foreign exchange and 50% of government budget (Economic Trend of 2005). Among the other indices that show dependence of Iran to oil, is the share of exports of oil and gas to total export of country. This share was more than 90% for 1970s and was 83% in average for 1988-2003.

Effect of oil on economy of Iran

The records of oily countries show that their report cards in economic growth and development have not been better than the ones for other countries. In other words, the plentiful resources of oil and gas in these countries couldn't bring better economic outcomes for them. Even, despite this intellectual statement, economy of many oily countries had negative functions in exploitation of their financial sources. Thus, during the last decades, many speeches and writings about political economy were examined the reasons of this situation under titles “damn of resources”, “Holland disease”, “exploitation industry”,... and many oily countries in Africa, South America, Middle East, and Middle Asia are the brilliant instances of this policy.

Another great problem is unquestioned sovereign of governments of oily countries on the incomes of oil. Enlargement of government, development of commissioning, financial and political degradation, lack of an efficient tax system, development of renting activities, and retarding the government from its duties are from the negative effects of ownership of government on this income source.

From the views of authors, one of the factors that have closed way to growth a developmental government in Iran was oil. In other words, one of the defective effects of oil on Iranian government was that oil has transformed it into a domineering government. Thus, oil in Iran was cause of creation of a rentier government and a rentier society, which both had an anti-developmental nature. Rent is an income that is

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earned effortlessly. This is used against concepts such as economic effort and activity. Although this concept has a negative load in political economy texts, however it is the style that governments use oil incomes, which disgraces this word. Undoubtedly, thinking to this concept that “what happened if these large incomes were used for development instead of using them for dominancy goals, we would have different understanding from rent concept. Each government that obtains its income from outer sources and renting is a rentier government. In other words, a rentier government receives incomes of selling goods and services higher than their production costs.

In oily countries, a significant part of available wealth is divided between a little number of politicians and bureaucrats. In this government bureaucracy, affecting distribution of oil incomes is an attractive option for a special group to divert a large part of oil incomes toward themselves using political and social tools and political degradation. The more turbulent the financial structure of oily countries and the more ambiguous the rights of citizens from oil incomes, the more the share of powerful political groups from oil wealth. In other words, if there is not a good discipline for financial structure and budget mechanisms due to oil incomes, the share of political groups is more. Apparently, it seems that only a small part of community is far from labor and business; however there is bitter reality behind this situation.

In an oily economy, the mutual relationship between government and citizens, which is held by tax system in a conventional economy, is disturbed. If a government dissolves its financial needs by sale of oil, it will not encounter an obstacle to increase prices. Statesmen in oily countries are not compelled to permit from citizens for increment of government costs. They also do not respond to citizens for their previous costs. Lack of social-political constraints for increment of government costs and lack of necessity to respond for government functions are factors of diffusion of degradation in oily economies.

Although from emergence of oil in Iran, all governments talked about injection of the exchange resulted from oil to economy to supply welfare of society, but people found that this is a motto either in long term or in short term. Experiences of Iranian society from discovery of oil up to now were interfere of foreign forces in the internal affairs, deterioration of production specially in agriculture sector, inflation of services sector, development of related industries and montage, growth of consumption-driven culture, proliferation of imports than exports, increment of migration from villages to cities, expansion of margins of cities, increment of suppressive power of governments, increment of bureaucracy,...

Islamic revolution and oil

By intensifying the Islamic movement against Pahlavi by leadership of Imam Khomeini and by victory of this movement, oil market experienced a shock. Iran played an important role in oil market during Pahlavi as the second oil exporter country, and every instability in Iran was equal to disturbance of balance in oil market. Of course, this unbalance was not necessarily due to lack of oil in markets, but it was a kind of psychic effect of it on oil market. Before Islamic revolution, Iran obtained a special place in the framework of cold war and in the scene of competition of two superpowers. In the strategic calculation of west, Iran had an active role to confront with USSR. This role was favorable with worldview of Iranian government. Thus, Iran played an economic, security, and political role in international competitions toward benefits of west. King, which saw surveillance of his reign in success of America and west, used oil as an effective tool to accomplish this strategy; but this strategy increased the gap between him and people.

New revolutionary statesmen of Iran evaluated oil as a weakness point of west and a strength point for Iran. They saw Iran against USA and west because of their special worldview. Therefore, they construed supply of oil for west countries with low prices contrary to ideological beliefs and national goals. In this space, decrement of production of oil and limitation of its supply became as columns of state oil policies. The revolutionary government also used oil as an effective device to accomplish its regional and international goals.

Oil was a political commodity from when it became a trade commodity. But west industrial countries exploited it for a long period. Politicization of oil for oil producer countries at the beginning of 1990s, and consequently increment of global oil price and increment of dependence of industrial countries to cheap

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oil of those countries with political instability, compelled oil companies of other countries to invest for increment of oil production in non-OPEC countries and regions. Consequently, the share of oil production in OPEC countries was diminished. Therefore, demand for oil in Iran was decreased in 2000s in comparison with 1990s. In the early years of Islamic revolution in Iran, decrement of oil production had not a serious effect on exchange incomes of country, which its reason was increment of oil price in world markets due to occurrence of revolution and aggression of Iraq to Iran.

Distant from renting

The Iranian government is a rentier one that only uses one source (oil). One of the subjects that was deteriorated after Islamic revolution was renting. Emergence of this phenomenon returns to the beginning of 1960s by increment of oil income (Farshadgozar, 2006). Distant from this phenomenon was an important step toward providing a real development in political and economic arenas. The most important strategies to terminate renting are: 1. Increment of income from wealth, 2. Minimization of government, 3. Increment of non-oil exports, 4. Increment of tax incomes.

Regarding to the oil policies after revolution in Iran, the role of this country in world market should be recognized. But, before anything, we should recognize the roles of governmental players in world oil arena, because the key of recognition of world market is recognition of oil policies and behaviors of great market players.

USA-Iran

Undoubtedly, USA is the largest player in the world oil market. Also, from stabilization time of modern oil industry, USA was always the largest oil producer in the world. Even in 2000, this country was the largest oil producer by production of 11 mb. Now this country is the third oil producer by production of 8 million barrel after Saudi Arabia and Russia. Also, his country is the largest consumer of oil in the world. The most important strategy of USA in oil was subject to Middle East, especially Persian Gulf. USA has implemented different policies to remove dangers and sovereign of enemies on Persian Gulf and to preserve its stability. One of these policies is promotion and improvement of oil production and consumption. As one of the economic poles of the world during 2 decades after Islamic revolution, USA has constantly deprived Iran. Since Islamic revolution affected many regional security equations, USA decided either to lead the revolution in their desirable path or deteriorate it by punishing Iran and by alarming Iran's neighbors toward the outcomes of measures against USA. The protective silence of USA in lieu of Iraq during the war had a strategic intensive and it was deterioration of Islamic revolution . Also, after war, USA adopted more severe sanction policies. In this period, USA has tried to neutralize any economic and political movement of Iran to insulate Iran. USA has concentrated on this policy to show its satisfactory silence and economic relation to buy oil of Iran, but meanwhile to use a contractive diplomatic policy against Iran and introduce Iran as a terrorist and protective of Islam-driven policy. By this policy, USA guessed no international company would invest in Iran after deprivation and this would cause stop of oil export and consequently, international insulation of Iran. However, there was no desirable result for USA and different international companies announced their readiness to invest in energy sources in Iran.

OPEC and Iran

OPEC was established on Sep. 14, 1960 in meeting of Baghdad by participation of Iran, Iraq, Kuwait, Saudi Arabia, and Venezuela. These five countries have 17% of oil reserves and 36% of global oil market. The main goal of this organization is making coordination and unity in oil policies of member countries and using the best methods to supply benefits of this organization. To do this, the organization has anticipated many provisions to fix prices in international oil markets. From its establishment, many factors affected the behavior of this organization. Thus, evaluation of its performance regarding its numerous effective factors is very difficult. We divide these factors into two categories: internal and external factors. "Internal factors" include non-coordination of members by volumes of reserves and production policies, ideological oppositions of members, political instability of members, and different political trends of members, which all have negative effects on performance of OPEC. However, similar

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economic structures of members and their severe dependence to oil incomes are factors that have held the members beside each other rather than their differences (Farshadgohar, 2006). In “external factors”, there are international energy agencies, USA’s oil policies and other consuming countries, and measures of multi-national companies that weaken OPEC. However, the large volume of OPEC’s reserves (77% of total world reserves) and low development volume of its reserves have created a unique international situation for this organization.

Since Iran is the first oil producer in the region, and now it is the fourth oil producer after Saudi Arabia and Russia, and regarding to its excess reserves, it is an effective power in OPEC. This role was stable up to early of 1980, but it was retarded by occurrence of Islamic revolution and imposed war. Study of about four decades of Iran’s activity in OPEC declares this reality and shows a set of factors that has diminished the credit of Iran in OPEC and in the international energy market. Some of these factors are:

1. Fixed production due to weak of investment due to internal deficiencies and international difficulties.
2. Strategy of USA
3. Increasing internal demands and its negative outcomes.

By a correct understanding of the effects of policies of governmental and trans-governmental players, the place of Iran in global oil market may be recognized well. In addition, we should notice the internal policies. One of the important strategies to identify the place of Iran in the world oil market is comparison of capacities and performance of Iran in energy sector (oil) with those of other large players. As mentioned above, USA and Saudi Arabia are the greatest players of the world in this regard, and its reason is their large oil reserves, and production and consumption of oil products. This study shows that despite Iran is in the fourth order in oil production, it has a large distance with main oil producers; thus, the place of Iran in production of oil and gas is in average or even lower.

What should we do?

Unfortunately, some monopolist and oppressive countries which tend to keep monopoly on advanced technology, and keep third world and developing countries dependant on them, tries to limit legitimate and lawful rights of countries to peace use of nuclear energy by different means. The case of I.R. Iran is a typical example of an illegal and discriminative treatment by these countries. In case of Iran, such allegations as pursuit of nuclear bomb programme, or deviation and attempt to acquire nuclear bomb, despite explicit rejection of them by IAEA, are mere allegations and mendacity. Iran’s defense of its nuclear rights is not only defense of its rights, but also defense of rights of all developing and third world countries. Naturally, any treatment of Iran’s nuclear issue and Iran’s policy in this regard will become a united policy for these countries. Therefore, we as members of world community will stand united against such illegal and monopolistic measures.

Pressure and Threat

Referral of Iran’s nuclear case of Security Council was merely due to resumption of the suspended activity (R&D in the field of enrichment). The provisional, voluntary and non-binding nature of the suspension had been stated by governors’ council. There wasn’t and isn’t any legal, logical and even political justification for intervention and action of Security Council with regard to this issue. Security Council’s actions in this regard challenge and undermine fundamentals and principles of nonproliferation treaty. It’s a pity that the US and some nuclear countries, which have not been faithful to their obligations under nonproliferation treaty, claim to be guardians of the treaty, and to divert world public attention from their nuclear armory, allege based on false and misleading information a country which has no place for weapons of mass destruction in its security and defensive strategies. This comes as Zionist regime, excluded from relevant treaties and in absence of international pressure and supervision over its facilities and activities, is freely qualitatively and quantitatively expanding its nuclear bombs. The states who are seeking to make Security Council take punitive measures against Iran’s peaceful nuclear program themselves have always prevented Security Council from taking any measure, even small ones, against Israeli regime to make this regime follow rules governing nonproliferation regime.

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The reasons why Iran needs nuclear energy

Westerners argue that Iran doesn't need nuclear energy in presence of its huge oil and gas resources. In response to this argument, it can be said that first, non-renewable resources are not reliable, second, oil producing countries are different in terms of area, population and needs, third, Iran is not the only oil producer country seeking nuclear energy, fourth, our fossil fuels do not exclusively belong to the present generation, but also to future generations, fifth, environmental, we have no choice but to turn to low carbon energies, sixth, today, nuclear energy and its applications in human life is significant and can affect human life.

CONCLUSION

In recent years, Iran's nuclear issue has been among challenging disputes between west and the US on the hand and Iran on the other hand. History of Iran nuclear issue suggests that west readily started cooperation with Pahlavid regime in the field nuclear energy, and itself sought proactive involvement of Mohammadreza Pahlavi in seeking nuclear energy. But, with occurrence of Islamic Revolution and establishment of a new government, and the US's loss of its base in Iran and Persian Gulf, US government changed its behavior, and opposes Iran's nuclear activity. This can be explained by the non-autonomous nature of Pahlavid government and the US's dominance over Iran. Before Islamic Revolution, shah was the gendarme of Persia Gulf in favor of the US's and west's interests, but, after Islamic Revolution, government of I.R. Iran became independent from western block and entered to international system as a independent country. Such independence and autonomy unfortunately has cost Iran too much, with huge pressure put on Iran by the US.

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