

 $International\ Research\ Journal\ of\ Human\ Resource\ and\ Social\ Sciences\\ ISSN(O):\ (2349-4085)\ ISSN(P):\ (2394-4218)$

Impact Factor 6.414 Volume 6, Issue 4, April 2019

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The Indo-US Nuclear Deal and India's Nuclear Programme: A Critical Analysis

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Abstract:

The Indo-US Nuclear Deal signed in 2008 marked a significant milestone in India's nuclear programme and its international relations. This research paper examines the origins, implications, and controversies surrounding the deal, along with its impact on India's nuclear capabilities and strategic partnerships. India's nuclear program dates back to the 1940s, when the country embarked on its journey to develop nuclear capabilities for both peaceful and military purposes. In 1974, India conducted its first nuclear test, codenamed "Smiling Buddha," which established India as a nuclear-armed state. However, this move was met with international condemnation and sanctions, as India was seen as a violator of the global non-

Introduction:

proliferation regime.

The Indo-US Nuclear Deal, officially known as the United States-India Civil Nuclear Cooperation Agreement, was signed on July 18, 2005, and implemented in 2008. The deal allowed for civilian nuclear cooperation between India and the United States, effectively ending India's nuclear isolation following its nuclear tests in 1998. The agreement was hailed as a breakthrough in India's quest for energy security and recognition as a nuclear power.

India's nuclear journey dates back to its first peaceful nuclear explosion in 1974, codenamed "Smiling Buddha." Following this, India faced global isolation and sanctions due to its nuclear weapons ambitions. Despite these challenges, India continued to develop its nuclear capabilities, conducting further tests in 1998 under the leadership of the Bharatiya Janata Party (BJP) government.

The Indo-US Nuclear Deal, also known as the 123 Agreement, was a landmark agreement signed between India and the United States in 2008, which paved the way for India to engage

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in civilian nuclear trade with other countries. This agreement marked a significant shift in the international nuclear landscape, as India was previously excluded from global nuclear trade due to its status as a non-signatory of the Nuclear Non-Proliferation Treaty (NPT).

India's nuclear program dates back to the 1940s, when the country embarked on its journey to develop nuclear capabilities for both peaceful and military purposes. In 1974, India conducted its first nuclear test, codenamed "Smiling Buddha," which established India as a nuclear-armed state. However, this move was met with international condemnation and sanctions, as India was seen as a violator of the global non-proliferation regime.

Despite facing international isolation, India continued to develop its nuclear program and conducted a series of nuclear tests in 1998, under the leadership of then-Prime Minister Atal Bihari Vajpayee. These tests, known as "Operation Shakti," signified India's nuclear capabilities and further solidified its status as a nuclear-armed state.

In the early 2000s, India's growing energy needs and desire to integrate itself into the global nuclear community led to discussions with the United States about a potential civilian nuclear cooperation agreement. These talks culminated in the signing of the Indo-US Nuclear Deal in 2008, which provided India with access to nuclear technology, fuel, and equipment from other countries in exchange for placing its civilian nuclear facilities under International Atomic Energy Agency (IAEA) safeguards.

The Indo-US Nuclear Deal was seen as a game-changer for India's nuclear program, as it opened up opportunities for the country to expand its nuclear power capacity and meet its growing energy demands. It also signaled a shift in India's foreign policy towards greater engagement with the international community and a commitment to upholding global non-proliferation norms.

However, the Indo-US Nuclear Deal also faced criticism from various quarters, both in India and abroad. Critics argued that the deal undermined the global non-proliferation regime by granting special exemptions to India, a non-NPT signatory, and could potentially set a dangerous precedent for other countries seeking similar deals. There were also concerns about the implications of the deal for regional security dynamics, particularly in South Asia, where India's nuclear capabilities have long been a source of tension with neighboring Pakistan.

Despite these concerns, the Indo-US Nuclear Deal was eventually approved by both the Indian and US governments and came into effect in 2008. Since then, India has made significant strides in expanding its civilian nuclear program, with plans to increase its nuclear power capacity to meet its energy needs and reduce its dependence on fossil fuels.

Background

The Indo-U.S. Civilian Nuclear Agreement, also known as the Indo-U.S. Nuclear Deal, refers to a bilateral accord on Civil Nuclear cooperation between the United States of America and India. The framework for Indo-US Civil Nuclear Agreement was a 18th July 2005, joint statement by then Indian Prime Minister Dr. Manmohan Singh and U.S. President George W. Bush Jr, under which India agreed to separate its civil and military nuclear facilities and to place all its civil nuclear facilities under the control of International Atomic Energy Agency (IAEA).

The United States of America agreed to work towards full civil nuclear cooperation with India. On 2nd March, 2006 in New Delhi, George W. Bush and Dr. Manmohan Singh signed a Civil Nuclear Cooperation Agreement. An initiation was started during the July 2005 summit in Washington between the two leaders discussed about over civilian nuclear cooperation. On 9th July, 2008, India formally submitted the safeguards agreement to the IAEA. This development came after the Prime Minister of India Manmohan Singh returned from the 34th G-8 summit meeting in Hokkaido, Japan, where he met with U.S. President George W. Bush. This was highly impact on Indian government, on 19th June, 2008, news media reported that Indian Prime Minister Dr. Manmohan Singh threatened to resign his position if the Left Front, whose support was crucial for the ruling United Progressive Alliance (UPA) to prove its majority in the Indian parliament. There are several left leaders has continued to oppose the nuclear deal and they described their stance as irrational and reactionary.

Subsequently, much of debate took place both in India and the US on issues related to granting special nuclear status to India and India joining a pro US camp. This deal has been viewed as a beginning of special relationship between India and the US. However, it took five years for the official start of first Indo-US strategic dialogue which took place at

¹ Annapurna Nautical, "Current Trends in India-U.S. Relations: Hopes for a Secure Future," *Strategic Insights V*, No. 4, April 2006.

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Washington during June 2010. For all these years, the other dimensions of this strategic relationship which were clearly articulated during July 2005 did not get much of publicity.²

123 Agreement and Its Benefits for Both Nations:

Section 123 of the United States Atomic Energy Act of 1954, titled "Cooperation with Other Nations", establishes an agreement for cooperation as a prerequisite for nuclear deals between the US and any other nation. Such an agreement is called a 123 Agreement. USA has such agreements with many other countries as well. There are some benefits.,

- ➤ The agreement will also help India meet its goal of adding 25,000 MW of nuclear power capacity through imports of nuclear reactors and fuel by 2020; it gives energy security for India.
- ➤ The proposed civil nuclear agreement implicitly recognizes India's "de facto" status even without signing the NPT (Non Proliferation Treaty), formally recognizing India's strong non-proliferation record even though it has not signed the NPT.
- ➤ India's economic growth and bring in \$150 billion in the next decades for nuclear power plants. It's also gives direct and indirect Employment for both nations.
- Regional development also increased.
- Energy for the growth of the region, where the plant is going to be set up.
- ➤ Since India's nuclear technology was developed mostly indigenously, the country can use unique techniques that other countries have used.
- ➤ The United States also sees India as a viable counter-weight to the growing influence of China, and a potential client and job creator. Geo strategic relations are also developed.
- ➤ Under this agreement, India has agreed to separate its civilian and military programs and to put two-thirds of its existing reactors, and 65 percent of its generating power, under permanent safeguards with international verification, and in return the United States would be under commitment to supply nuclear fuel and technology to India. One of the biggest constraints of India is the electricity

² Dr.Sunil Kumar Jangir, *Indo-US Nuclear Deal and 123 Agreements*, International Journal of Scientific and Research Publications, Vol. 2, Issue 10, October, 2012, pp.1-2.

- shortage. Nuclear energy is an attractive alternative to coal and expensive imported oil and gas.³
- ➤ The nuclear power could help India in addressing its energy problems to some extent, but it would not make a major difference in the energy sector and also contribute a little to satisfy the needs of its transportation sector.
- ➤ The economists believes that without aggravating its dependence on oil from the Middle East or excessively contributing to pollution and global warming, the growing energy needs could be fulfilled by using the nuclear energy.⁴
- > The nuclear energy may decrease the growing pollution levels.
- ➤ In view of the scarcity of alternative sources of electricity generation and India's mounting energy needs to match its economic progress India has perceived this agreement as a means of fulfilling its energy needs.
- ➤ The United States viewed it as a tool to bring India under the control and obligations of the nuclear regimes.
- ➤ In view of India's energy-related problems, this agreement appears to have transformed their relationship by fulfilling the objectives of both the countries.
- ➤ India reduces its dependence on oil from the Persian Gulf, and proves economically beneficial for the United States. According to Mohamed E Baradi, Director of the International Atomic Energy Agency," The nuclear deal would bring India closer as an important partner in the non-proliferation regime and which would be a milestone, timely for ongoing efforts to consolidate the non-proliferation regime, combat nuclear terrorism and strengthen nuclear safety." ⁵
- ➤ The U.S. Secretary of State Condoleezza Rice arguing that the Indo-U.S. strategic partnership and the civil nuclear deal, is a responsible behavior on proliferation matters, and the agreement would make the world, and the future of India and the United States, safe.
- ➤ It would also help the U.S. economy and enhance the employment and job prospects for the American people also. The nuclear deal grants India the facility of reprocessing the nuclear fuel acquired from the external sources.

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³ Rahul Tongia, "The Political Economy of Indian Power Sector Reforms," Working Paper, No.4 (Revised), Program on Energy and Sustainable Development, Stanford University, December, 2003. ⁴ Ashton B. Carter, "Americas New Strategic Partner?" Foreign Affairs, No. 4, July/August 2006,

⁵ Mohamed El Baradei, "IAEA Director General Welcomes U.S. and India Nuclear Deal," International Atomic Energy Agency, Press Release 2006/05, 2nd March, 2006.

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- ➤ India ends its dependence on fossil fuels and eases the environmental impact of India's vibrant economic growth.
- ➤ It would also help the U.S. economy and enhance the employment and job prospects for the American people also.
- America has started to recognize India as an important strategic bulwark and an answer against a growing Chinese power and highly unstable and unpredictable Pakistan.
- Defense and trade routes are developing.
- ➤ The United States believes that a demographically and economically vibrant India could serve as a counterweight to expanding Chinese influence in Southeast Asia.
- America has agreed to help India acquire the same benefits and advantages as other states with nuclear weapons. India would also be granted full civil nuclear energy co-operation, fuel supplies and the transfer of technology, etc.
- Some scholars have point out that the 18th July, 2005 agreement for a civil nuclear deal with the United States has heralded India's strategic liberalization, and has also ensured substantial gains such as the import of nuclear fuel, etc. It also helps multi-polarity to become a reality at the global view.⁶

Why India Needs Nuclear Energy?

Today, India has an installed capacity of 4.5 GW which accounts for 3 percent of the total electricity generated. The demand for power is projected to stand at about 350-400 GW by 2020 and nuclear power generation capacity is expected to increase to about 35 GW. India targets to achieve 25 percent electricity production from this source by 2050. It would be baffling to mention that France, at present, generates 78% of its electricity from nuclear power plant. Besides, nuclear power is a clean source of energy. Interestingly, 1 GW of power station would consume roughly 3.1 million tonnes of black coal each year as compared to only 24 tonnes of enriched uranium.

However, the merits of nuclear power cannot mask the grave risk involved in harnessing that power, which could result due to mishandling of nuclear material or a fault in the nuclear reactor. The major argument advanced by the UPA government is that the nuclear agreement is vital for India to end its nuclear isolation, without which it will not be possible

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⁶ Mark Bucknam, "Power to the People of India: U.S. Nuclear Cooperation with India," Strategic Insights VI, No. 1, January 2007.

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to meet the country energy requirements in the future. This ignores the very limited contribution that nuclear power makes to our overall energy generation which is less than 3 per cent. It cannot exceed 7 per cent even if the ambitious plans for expansion to 20,000 MW are implemented by 2020.

While talking about energy security, the cost of nuclear power has to be factored in. We should continue to develop nuclear technology based on the three-phased program me. But the expansion of nuclear power cannot become the central focus for energy security. The cost of power per unit generated for imported nuclear reactor will be twice that of a coal-based plant. The capital required to set up a plant with an imported reactor will be thrice that of a coal-based plant. India targeted of 20,000 MW of nuclear power by 2020, or the more ambitious 40,000 MW target set out by the Prime Minister of India.⁷

Reactions from India and Outside World:

According to *The Hindu*, External Affairs Minister <u>Pranab Mukherjee</u>'s earlier statement said "I cannot bind the government if we lose our majority," implying that, <u>United Progressive Alliance</u> (UPA) government would not put its signature on any deal with IAEA. <u>Prakash Karat</u> also announced that the Left Front is withdrawing its support to the government over the decision by the government to go ahead on the United States-India Peaceful Atomic Energy Cooperation Act. The left front had been a staunch advocate of not proceeding with this deal citing national interests. 9

On 22nd July, 2008, the UPA faced its first <u>confidence vote</u> in the <u>Lok Sabha</u> after the <u>Communist Party of India (Marxist)</u> led Left Front withdrew support over India approaching the IAEA for Indo-U.S. nuclear deal. The UPA won the confidence vote with 275 votes to the opposition's 256, (10 members abstained from the vote) to record a 19-vote victory.

The <u>IAEA</u> Board of Governors approved the safeguards agreement on August 1, 2008, and the 45-state <u>Nuclear Suppliers Group</u> had to approve a policy allowing nuclear cooperation with India. U.S. President Bush can make the necessary certifications and seek

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⁷ Dr.Sunil Kumar Jangir, Indo-US Nuclear Deal and 123 Agreements, *International Journal of Scientific and Research Publications*, Vol. 2, Issue 10, October, 2012, pp.2-5

⁸ Kimball, Daryl. G, 'U.S-Indian Nuclear Deal: Round II', *Arms Control Today*, Vol. 37, No. 4, May 2007.

⁹ The Hindu, June, 2008.

final approval by the U.S. Congress. ¹⁰There were objections from Pakistan, Iran, Ireland, Norway, Switzerland, and Austria at the IAEA meeting. On 6th September, 2008, India was granted the waiver at the NSG meeting held in Vienna, Austria.

The consensus was arrived at after overcoming misgivings expressed by Austria, Ireland, and New Zealand and is an unprecedented step in giving exemption to a country which has not signed the NPT and the Comprehensive Test Ban Treaty (CTBT). The Indian team who worked on the deal includes Manmohan Singh, Pranab Mukherjee, Shiv Shankar Menon, Shyam Saran, M. K. Narayanan, Anil Kakodkar, Ravi Grover, and DB Venkatesh Varma. Indian PM Manmohan Singh visited Washington D.C. on September 26, 2008 to celebrate the conclusion of the agreement with U.S. President George W. Bush. He also visited France to convey his appreciation for the country's stance. India's External Affairs Minister Pranab Mukherjee expressed his deep appreciation for India's allies in the NSG, especially the United States, United Kingdom, France, Russia, Germany, South Africa and Brazil for helping India achieve NSG's consensus on the nuclear deal. 12

The Indo-US Nuclear Deal was a result of intense diplomatic negotiations between India and the United States, culminating in the landmark agreement signed by then-Prime Minister Manmohan Singh and then-US President George W. Bush. The deal granted India access to civilian nuclear technology and fuel from the international market, subject to safeguards and inspections by the International Atomic Energy Agency (IAEA).

The Indo-US Nuclear Deal had significant implications for India's energy security, nuclear industry, and foreign policy. It allowed India to expand its civilian nuclear programme, addressing its growing energy demands and reducing its reliance on fossil fuels. The deal also facilitated India's integration into the global non-proliferation regime, enhancing its international standing and strategic partnerships.

Controversies Surrounding the Deal: Despite its positive outcomes, the Indo-US Nuclear Deal faced criticism from various quarters, both in India and abroad. Opponents of the deal raised concerns about its impact on India's nuclear sovereignty, proliferation risks, and

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¹⁰ Mian, Z, Nayyar A.H. and Ramana, M.V, Fissile Materials in, South Asia and the Implications of the U.S. India Nuclear Deal, *Science and Global Security*, Vol. 14, 2006, p.147.

¹¹ Senger S.K.S. and Rathore R. S, The Impact of Indo-US Deal on India's Nuclear Policy, in '*India's Nuclear Policy, Disarmament and International Security*', Dr. S. K. Mishra (ed.), Radha Publications, New Delhi, 2006, p.119.

¹²Guihong Zhang, "US-India Strategic Partnership Implications for China", *International Studies*, Vol. 42, Nos. 4, 2005, pp. 277-293.

regional dynamics. The Left parties in India, along with other nuclear-weapon states, questioned the discriminatory nature of the agreement and its implications for global nuclear politics.

Impact on India's Nuclear Programme:

Indian Nuclear Programme: A Brief Review

The Indian nuclear programme and many of its facets have been relatively well documented. Less than one year after independence, the Atomic Energy Act created the legal framework for civilian use of nuclear energy in India in April 1948. In 1954, the Baba Atomic Research Center (BARC) was opened, marking the beginning of the nuclear era. In 1963, the United States and India signed a nuclear cooperation agreement. In the following years, the U.S. helped to construct and refuel the reactors Tarapur-1 and Tarapur-2 (Mumbai). In 1968, however, both India and Pakistan refused to sign the Non-Proliferation Treaty (NPT), prompting increasing suspicion in Washington about New Delhi's nuclear intentions.

Meanwhile, the strategic environment for India had changed dramatically. The country had already fought and won two wars against Pakistan over Kashmir in 1947-1948 and 1965. However, Pakistan had become member of the CENTO and was now an ally of the United States. When India assisted East-Pakistan's struggle for Independence in the war of 1971, the U.S. did send the aircraft-carrier "Enterprise" to the Bay of Bengal. The ship was armed with nuclear weapons which President Nixon was willing to use if the Soviet Union had entered the conflict.

Additionally, India had been humiliated by China in 1962, when it lost a border war. After China successfully tested a nuclear bomb in 1964, India felt threatened from all sides. As a reaction to all these developments, India entered into an alliance with the Soviet Union in August 1971. Furthermore, Indira Gandhi developed the nuclear weapons program again.¹⁴

On 18th May, 1974, India exploded a "Peaceful Atomic Device" in the desert of Thar near Pokhran in Rajastan state, it also known under the code name "Smiling Buddha". This was first nuclear test conducted by India. This test de facto propelled India into the rank of a nuclear weapon state, although the Indian government emphasized the peaceful nature of the

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¹³ Mehmood Hussain, Impact of India and United States Civil Nuclear Deal on China and Pakistan Strategic Partnership, *Journal of South Asian Studies*, May 2017, pp. 13-15

¹⁴ Bajpai Kanti, "Where are India and the US Heading?", Economic *and Political Weekly*, 6th August, 2005, p. 3577.

explosion, thereby trying to maintain the official view that no imported nuclear technology or fuel had been employed for military use. Nevertheless, the U.S. initiative to create the Nuclear Suppliers Group (NSG) in 1975 was in large part a reaction to the 1974 Pokhran test, which had "demonstrated that nuclear technology transferred for peaceful purposes could be used to produce nuclear weapons." Consequently, the "Nuclear Non- Proliferation Act of 1978" put massive restraints on nuclear exports from the United States.

Indira Gandhi's successor Morarji Desai, a follower of Mahatma Gandhi's teachings, expressed his regrets about the 1974 test, but was unwilling to declare a unilateral abandonment of nuclear weapons. When Indira Gandhi returned to power in 1980, she restored the nuclear weapons programme and ordered another test in 1983, which was only canceled after political pressure by the U.S. government.

After the assassination of Indira Gandhi in 1984, Rajiv Gandhi who became the Prime Minister of India, he has followed a "policy of nuclear ambiguity". Still, however, the prospects for nuclear disarmament were dim. A nuclear weapon-free India became "increasingly unrealistic".

After 1998, it was nothing more than "a fantasy". In the early 1990s, Pakistan began to pursue its nuclear weapons programme with more determination and at full strength. As early as 1965, the Prime Minister Zulfikar Ali Bhutto had declared: "If India builds the bomb, we will eat grass or leaves, even go hungry. But we will get one of our own."¹⁵

In 1990, Pakistan's Prime Minister Nawaz Sharif was determined to make the nuclear weapons program work, even if that meant "eating grass for a thousand years". India felt obliged to respond, and in 1995, Indian Prime Minister P.V Narasimha Rao was willing to conduct a nuclear test, but once again it was prevented by U.S. intervention. 16

On 11th May, 1998, however, the newly elected Indian government under the leadership of the Hindu Nationalist Bharatiya Janata Party (BJP) finally ordered the test of three nuclear weapons near Pokhran, the test became also known as Pokhran-II. Two days later, two additional tests were conducted. Following the Pokhran-II tests, India became the

¹⁵ Implementation of the India-United States Joint Statement of 18th July, 2005. India's Separation Plan accessed from http://www.meaindia. nic.in. Also see Mehmood Hussain, Impact of India and United States Civil Nuclear Deal on China and Pakistan Strategic Partnership, Journal of South Asian Studies, May 2017, pp. 13-18.

¹⁶ Ramachandran R, "Indo-US Nuclear Agreement and IAEA Safeguards", Strategic Analysis, Vol. 29, No. 4, October-December 2005, p.-592.

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sixth country to join the nuclear club.¹⁷ Shortly after the tests, a press meet was convened at the Prime Minister's residence in New Delhi. Prime Minister Atal Bihari Vajpayee appeared before the press corps and made the following short statement:

"Today, at 15:45 hours, India conducted three underground nuclear tests in the Pokhran range. The tests conducted today were with a fission device, a low yield device and a thermonuclear device. The measured yields are in line with expected values. Measurements have also confirmed that there was no release of radioactivity into the atmosphere. These were contained explosions like the experiment conducted in May 1974. I warmly congratulate the scientists and engineers who have carried out these successful tests. 18 "

With these tests, India established itself officially as a nuclear weapon state. Later Pakistan did the same. The US, Chaina, Pakistan, UNO and other countries were criticized and imposed several restrictions on India. Strong criticism was drawn from Canada on India's actions. The Chinese government is seriously concerned about the nuclear tests conducted by India. However, the United Kingdom, France, and Russia refrained from condemning India. ¹⁹

Overall, the effect of international sanctions on Indian economy was minimal; the technological progress was marginal. Most nations did not call for embargoes against India as the exports and imports together constituted only 4.0% of its GDP with United States trade accounting for only 10.0% of this total. Far more significant were the restrictions on lending imposed by the United States and its representatives on international finance bodies. Most of the sanctions were lifted within five years.

The Indian government has officially declared the 11 May as National Technology Day in India to commemorate the first of the five nuclear tests that were carried out on 11 May 1998. It was officially signed by the prime minister Atal Bihari Vajapayee in 1998 and the day is celebrated by giving awards to various individuals and industries in the field of

¹⁷ BBC Report on 13th May 1998, "Asia's Nuclear Challenge: Third World Joins the Nuclear Club", Retrieved 17, January 2013.

¹⁸ "Prime Minister's Announcement of India's Three Underground Nuclear Tests", Fas.org. Retrieved on 31st, January 2013.

¹⁹ Special Report on 13th, May 1998, "Pakistan Condemns India's Nuclear Tests". BBC Pakistan, Retrieved 18th, January 2013.

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science and technology.²⁰ Although, India had never signed the Comprehensive Test Ban Treaty CTBT), it had unilaterally followed a voluntary nuclear test moratorium since 1998.

The historical visit of Indian Prime Minister Dr. Manmohan Singh to US in July 2005, laid the real foundation for Indo-US civil nuclear cooperation. The Indian Prime Minister Dr. Manmohan Singh and US President G.W. Bush Jr. issued a Joint Statement on 18th July, 2005, in which they outlined civil nuclear cooperation between the two countries. Noting the centrality of civilian nuclear energy to the twin challenges of energy security and safeguarding the environment. The two leaders agreed to undertake reciprocal commitments and responsibilities that would create a frame work for the resumption of full cooperation in this field.

The joint statement of 2005 between the two nations is considered as a historic step. The civilian nuclear cooperation is the name assigned to a joint accord on strategic Cooperation between the two countries. The Hyde Act, 123 agreement, IAEA Safeguards and NSG waiver were main postulates for the nuclear deal to take place despite domestic and international reactions. The passage of the agreement in both the countries legislatures finally paved way for the enforcement of the deal. Both the nations were able to have lot of benefits through this historic nuclear deal. It balanced the strategic and economic relation between the two nations.²¹

The Indo-US Nuclear Deal had a transformative effect on India's nuclear programme, enabling the country to expand its civilian nuclear capabilities and fuel supply. India signed operational agreements with several countries, including Russia, France, and Australia, to facilitate nuclear cooperation and technology transfer. The deal also paved the way for India's entry into the Nuclear Suppliers Group (NSG) in 2016, further enhancing its nuclear credentials.

Conclusion:

The Indo-US Nuclear Deal remains a significant milestone in India's nuclear journey, shaping its energy security, strategic partnerships, and global influence. Despite the controversies and challenges associated with the deal, it has positioned India as a key player in the global nuclear landscape. This research paper provides a comprehensive analysis of the Indo-US

²⁰Press Information Bureau (11 May 2008), "National Technology Day Celebrated". Department of Science and Technology, Archived from the original on 15th, December 2010. Retrieved 9 Jan, 2016.

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²¹ Tawseef Ahmad Bhat and Deepika Gupta, Indo-US Nuclear Deal: A New Beginning in Indo-US Relations, *International Research Journal of Social Sciences*, Vol. 4(7), 59-69, July 2015, P.68.

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Nuclear Deal and its impact on India's nuclear programme, underscoring the complexities and opportunities inherent in nuclear diplomacy. In conclusion, the Indo-US Nuclear Deal represents a pivotal moment in India's nuclear history and its place in the global nuclear order. The agreement has opened up new possibilities for India to harness nuclear technology for peaceful purposes and contribute to global efforts towards clean and sustainable energy sources. However, its implications for regional security and non-proliferation remain subjects of debate and scrutiny, highlighting the complex and intertwined nature of nuclear politics in the 21st century.

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