ORF ISSUE BRIEF
OCTOBER 2019
ISSUE NO. 320

India's Civil Nuclear Agreements: A New Dimension in India's Global Diplomacy

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ABSTRACT Nuclear cooperation has brought a new dimension to India's diplomacy in the 21st century. India's status as a responsible nuclear power is predicated upon the civil relationships in the nuclear domain that it has established with major powers. This, despite not being a signatory to the Non-Proliferation Treaty and operating outside the ambit of the Nuclear Suppliers Group. This brief analyses the impact of key agreements with different countries on India's engagements on the bilateral and multilateral level. It looks into the challenges facing the country in the implementation of these agreements and outlines the way forward for similar accords in the future.

Attribution: Pulkit Mohan and Pallav Agarwal, "India's Civil Nuclear Agreements: A New Dimension in India's Global Diplomacy", *ORF Issue Brief No. 320*, October 2019, Observer Research Foundation.

ISBN 978-93-89094-93-0

INTRODUCTION

Since 2005, when India signed a nuclear agreement with the United States (US), the country has made nuclear cooperation with other countries a significant aspect of its diplomatic initiatives. At present, India has civil nuclear agreements with 14 countries that vary in letter and spirit.[1] India holds the potential to expand this sector immensely by strengthening its current partnerships and forging new ones. This is required in order to supplement its growing energy demands while asserting its leadership position in the changing global order. After all, India's rise in the geopolitical sphere is encouraged partly by its deeper involvement in the nuclear energy sector and has facilitated its presence in the global civil nuclear framework.

India's civil nuclear agreements have been crucial in according credibility to its status as a responsible nuclear power. To articulate the future of India's civil nuclear energy cooperation, it is important to recognise the exceptional record that India holds in the global civil nuclear domain, given its status as a non-signatory to the Treaty on the Non-Proliferation of Nuclear Weapons (or the Non-Proliferation Treaty, NPT) and its non-membership in the Nuclear Suppliers Group (NSG).

In an energy-starved world, the potential of nuclear energy to be an important and cleaner option in India's energy basket must be recognised. India currently runs 22 nuclear reactors[2] with an operational capacity of 6,780 MW which is just 1.97 percent of India's total capacity of 344 Gigawatts.[3] Nuclear power holds significant potential to sustain the country's growing energy requirements; it also provides India with a leverage within the international nuclear energy framework.

This brief examines the likely scenarios for the future of India's nuclear cooperation with other countries. It analyses India's current civil nuclear agreements and articulates their potential to improve India's position in the world as a responsible nuclear power. The brief also outlines avenues where India can push forth similar agreements through the various lessons offered by its experience with past agreements.

The brief first examines India's engagements in the global nuclear energy sector by studying the agreements in detail and offering a nuanced understanding of those interactions. Such interactions with key nuclear powers have shaped the path for India's engagement with the global nuclear community. It then outlines the challenges facing the country in concluding and implementing these agreements, and offers specific policy recommendations as India pursues other agreements in the future even as it nurtures its status in the changing world order.

INDIA'S CIVIL NUCLEAR AGREEMENTS

India's civil nuclear accords aim to develop mutually beneficial economic, scientific and technical cooperation for the peaceful uses of nuclear energy.[4] There are 14 countries with which India has forged such agreements: Argentina, Australia, Canada, Czech Republic, France, Japan, Kazakhstan, Mongolia, Namibia, Russia, South Korea, United Kingdom, US and Vietnam. A central tenet of these agreements is the focus on the "peaceful

purposes" of nuclear power; this entails the "use of information, nuclear material, equipment or components in such fields as research, power generation, medicine, agriculture and industry."[5]

The most critical factor that has facilitated these agreements is India's exceptionally clean track record in the area of nuclear non-proliferation. India has observed a self-moratorium on conducting nuclear tests after second round of Pokhran in 1998, and has abided by the principles of the NPT far better than even some of its signatories.

The following paragraphs dissect the most significant among India's nuclear agreements.

1. India-US

On 18 May 1974, India conducted 'Operation Smiling Buddha'[6]— or Pokhran-I, the country's first successful nuclear test. The event made India the first country to conduct nuclear tests outside the five nuclear weapons states recognised under the NPT,[7] and it had negative consequences in the country's strategic engagements with the major powers of the day, especially the US. Despite the subsequent bilateral and multilateral sanctions, however, India has since made clear its choices in pursuing its nuclear ambitions. Nevertheless, there was a sense of isolationism that emerged as a result of the global response to India's nuclear tests. The combination of India being a non-signatory to the NPT, and its nuclear tests, created a precarious situation for New Delhi. One of the more direct impacts of the 1974 test was the establishment of NSG in 1974.[8] The primary aim of the NSG is the so-called "Non-Proliferation Principle," adopted in 1994, whereby a supplier, notwithstanding other provisions in the NSG Guidelines, authorises a transfer only when satisfied that it would not contribute to the proliferation of nuclear weapons."[9] Subsequently, India's successful nuclear tests on 11 and 13 May 1998 forced the world to acknowledge India's entry into the nuclear order. Although the initial reaction to the tests was one of international condemnation, it led to a strategic dialogue between India's then Minister of Foreign Affairs Jaswant Singh and US deputy secretary Strobe Talbott to establish a new relationship between the two countries.[10]

India's bid to be recognised as a responsible nuclear power and its integration with the global non-proliferation order was stalled due to the international perception with regard to its status as a nuclear weapons state and the geopolitical significance of its not being a signatory to the NPT. India's integration into the global nuclear non-proliferation architecture was aided by the "growing strategic convergence between India and the US"[11] through the "Next Steps in Strategic Partnership" issued in 2003-04.[12] The document would prove instrumental in cementing India's rise to the status of key actor in the non-proliferation regime.

India's nuclear isolation ended with its signing of a civil nuclear agreement with the US in 2005. The 1998 nuclear tests completely changed the context within which the US interacted with India and the resulting negotiations were vital in the signing of the agreement. The agreement facilitated a much deeper engagement between India and the US, while amending domestic US legal regime to enable closer cooperation between India and

the US on civil nuclear energy issues. The 2005 agreement also called for change in the global civil nuclear energy framework, including the International Atomic Energy Agency (IAEA) and the NSG. The key takeaways from the meeting between Prime Minister Manmohan Singh and President George Bush were reflected in a joint statement[13] which discussed the need to adjust US policies for a greater nuclear engagement with India and to also encourage US partners to do the same.

For its part, India committed to increasing transparency, separating its civilian and military nuclear facilities, and placing the civilian facilities under the purview of the IAEA safeguards.[14] Further, India committed itself to continue its unilateral moratorium on nuclear testing and strengthen the measures in restricting the transfer of nuclear technologies to states and actors who do not possess them. The agreement also led to India further updating and tightening its domestic export control regulations.

The talks between India and the US created the framework for renewed bilateral relations, as a result of which the '123 agreement' (also known as US-India Civil Nuclear Agreement)[15] was signed in 2008. The United States also took up India's case to the NSG to grant New Delhi a waiver in order to initiate global civil nuclear trade; the NSG granted a clean waiver to India on 6 September 2008.[16] India became the only country with nuclear weapons who is not party to the NPT that was allowed to engage in nuclear trade with the rest of the world. The NSG waiver therefore paved the way for India to take its place as a valuable partner in the civil nuclear trade framework. On 2 February 2009, India signed an agreement with IAEA (called the India Safeguards Agreement) which subjected India's civil nuclear facilities to IAEA safeguards.[17]

The key features of the India-US civil nuclear agreement became some of the points of reference for India's future discussions and agreements with other civil nuclear partners.

"a. Advanced nuclear energy research and development in such areas as may be agreed between the Parties;

b. Nuclear safety matters of mutual interest and competence, as set out in Article 3;[18]

c. Facilitation of exchange of scientists for visits, meetings, symposia and collaborative research;

d. Full civil nuclear cooperation activities covering nuclear reactors and aspects of the associated nuclear fuel cycle including technology transfer on an industrial or commercial scale between the Parties or authorized persons;

e. Development of a strategic reserve of nuclear fuel to guard against any disruption of supply over the lifetime of India's reactors;

f. Advanced research and development in nuclear sciences including but not limited to biological research, medicine, agriculture and industry, environment and climate change;

g. Supply between the Parties, whether for use by or for the benefit of the Parties or third countries, of nuclear material;

h. Alteration in form or content of nuclear material as provided for in Article 6[19];

i. Supply between the Parties of equipment,

whether for use by or for the benefit of the Parties or third countries;

j. Controlled thermonuclear fusion including in multilateral projects; and

k. Other areas of mutual interest as may be agreed by the Parties."[20]

In terms of the implementation of the agreement, both parties attempted to articulate a concise way forward in maneouvring through the relationship in a positive manner and remove possibilities of dispute.[21] A point of contention in the agreement arose on the issue of civil liability. In the wake of the aforementioned contention and the ongoing issue of liability following the Bhopal Gas tragedy,[a] the Indian Parliament enacted The Civil Liability for Nuclear Damage Act in 2010[22] which created mechanisms for victim compensation, provisions on recourse liability on suppliers (Section 17B) and potentially unlimited liability under other laws (Section 46).[23] These aspects of the law have impeded the operationalisation of the India-US nuclear agreement.

The deadlock has affected to an extent India's plans in pursuing nuclear energy and in establishing bilateral relations with other supplier countries. Section 17B of the act allowed a liable operator to recover compensation from the suppliers in the case of a nuclear accident, with the liability to be held for a potentially indefinite time.[24] This became a primary challenge in the India-US 123 agreement as it went against the internationally established norms of recourse in nuclear civil liability conventions which puts the sole onus on the operators. India signed an international treaty called the Convention on Supplementary Compensation for Nuclear Damage (CSC),[25] raising concerns amongst the US counterparts as there was a discrepancy in the enactment of the international treaty and India's domestic laws. However, during then President Barack Obama's 2015 visit to India, a compromise was reached between the two parties and India agreed to set up an insurance pool to protect companies constructing reactors in the country. India would thus provide relief to investors from the clause of paying huge compensations in case of an incident.[26]

The issue of civil liability poses a challenge to India and other states alike in establishing bilateral and multilateral relations in the field of civil nuclear energy cooperation. The India-US interaction suggests that there is a need to come up with innovative solutions at a domestic and international level.

The India-US civil nuclear relationship and subsequent agreements have been pivotal in bringing India to the global front of civil nuclear trade and assert its position as a responsible nuclear power. The 123 agreement also transformed the India-US partnership: moving from estranged democracies to engaged democracies[27] and now, strategic partners.

2. India-France

India and France have had a long history of cooperation since the 1950s. The two have

a On 2 December 1984, an accident at a pesticide plant in Bhopal, India resulted in the release of about 30 tonnes of a highly toxic gas called methyl isocyanate, as well as a number of other poisonous gases. Over 600,000 people were exposed to the toxic gases, with around 15,000 dying due to causes stemming from this accident.

shared a strategic partnership through diplomatic exchanges and bilateral meetings on trade and civil nuclear energy. France has been instrumental in India's nuclear technology progress. The French Atomic Energy Commission (CEA) offered technical cooperation to India on civil nuclear innovation in 1950, which materialised in 1951, with the two countries signing a bilateral agreement "for the research and construction of beryllium-moderated reactors".[28] France has continued to be a strong supporter to India in terms of enhancing global nuclear cooperation. Following India's 1974 peaceful nuclear explosion, France emerged as the only western country to commend the event, pointing to it as a reflection of India's advancement in the nuclear sector. However, France insisted on ensuring that their supply of nuclear materials was not used in any future nuclear explosions by India.[29]

India and France signed an agreement in September 2008.[30] France became the first country to sign a civil nuclear agreement with India following the India-specific NSG waiver. According to the agreement, France will construct six European Pressurised Reactors (EPR nuclear reactors) of 1,650 MW each and implement the 9,900 MW Jaitapur Nuclear Power Project (JNPP) in an expedited manner.[31] The deal focused on emerging fields in the nuclear arena, for instance, agronomy, biology and earth sciences. The deal also created the opportunity for India to be a part of the ITER (International Thermonuclear Experimental Reactor - an international nuclear fusion research and engineering megaproject),[32] with the aid of both France and the US. India and France also signed an "industrial way forward" agreement which covers many issues including costs, safety concerns and liabilities. Through this agreement, Électricité de France (EDF) and Nuclear Power Corporation of India Limited (NPCIL) established the practice of ensuring that India's laws on liabilities are enacted under the purview of the internationally established CSC.[33]

Much before the nuclear accord, France's support to India was already seen in its continued supply of fuel to India's Tarapur Nuclear Plant[34] after the US and Canada terminated their agreements in protest of the 1974 peaceful nuclear explosion. France also openly opposed US sanctions on India after the 1998 nuclear tests,[35] and helped in creating a positive environment during India's negotiations with the IAEA. It can be argued that the continued nuclear cooperation between India and France has broadened and deepened the scope of strategic cooperation between the two sides, making it one of the most comprehensive strategic partnerships that India has with any country.

3. India-Russia

The nuclear cooperation between India and Russia dates back to the 1960s, when India and the then Soviet Union signed several agreements. In the first 10 years, these agreements were focused on scientific and technical cooperation, such as in the realm of facilitating the exchange of scholars. Within the nuclear domain, the first substantive bilateral nuclear cooperation agreement between India and the Soviet Union was signed after India's Pokhran-I. The Soviet Union agreed to supply heavy water for the Rajasthan

Atomic Power Station (RAPS-I&II) through a bilateral agreement signed in September 1976.[36] Previously, Canada had supplied the heavy water, but with the creation of the NSG and India's 1974 peaceful nuclear explosion, Canada withdrew its obligations towards India. In November 1988, a deal was signed with the Soviet Union for the construction of a nuclear power station made up of two "pressurized light water reactors, of 1000 MWe each."[37] Throughout the 1990s, Russia remained a key supplier of nuclear fuel to India, during a time of limited progress in India's engagement with the global nuclear architecture.

On 5 December 2008, the two countries signed an agreement for the construction of four additional units at Kudankulam and on developing new sites.[38] Russia welcomed India's decision to set up a 'Global Centre for Nuclear Energy Partnership' that was established in 2010[39] and agreed to discuss future cooperation with this Centre. In conjunction with Kudankulam, India agreed to identify a second site to expedite the possibility of further cooperation with Russia and also strive to collaborate on at least 12 units in the next 20 years.[40] Both India and Russia also agreed to consider cooperation on the peaceful uses of nuclear energy with third countries.

Cooperation in the peaceful use of nuclear energy has been an important pillar of this partnership. Russia has remained India's important partner and it has helped India at several critical junctures including after the 1974 and 1998 nuclear tests. Following the creation of the NSG—-which restricted India's nuclear development ambitions due to sanctions and technology restrictions—the Soviet Union was the only country that assisted India in its civil nuclear programme.

The longstanding relationship between India and Russia has proven to be of enormous value in furthering India's national interests. The nuclear collaboration has been one of the cementing factors, the other being defence trade. India-Russia civil nuclear partnership has been pertinent to realising India's energy goals, and has further helped the country's bid at international platforms such as the NSG. In recognition of this longstanding relationship, the India-Russia strategic partnership was elevated to the level of a 'special and privileged strategic partnership'[41] in 2010. The partnership has diversified even within the nuclear cooperation to not just in the energy sector, but in other areas such as nuclear medicine and processed food.

4. India-Namibia

India signed a pact with Namibia in September 2009, to initiate the supply of Uranium to New Delhi.[42] Namibia, being a part of the Pelindaba Treaty[43] (also known as the African Nuclear Weapon Free Zone Treaty, ANWFZT), is barred from supplying uranium to a non-NPT signatory. As a result of this, the agreement between the two countries has faced various setbacks. In order to ratify the agreement, Namibia suggested that it would be beneficial for India to establish similar deals with other signatories to convince the ANWFZT members.[44] An experience to learn from in this regard is India's civil nuclear agreement with Argentina, which is a signatory to the Tlatelolco Treaty (also known as the Latin American Nuclear Weapon Free Zone Treaty, LANWFZT),

similar to the ANWFZT.[45] However, the LANWFZT does not specifically bar its members from engaging in nuclear trade for peaceful purposes. Given the NSG waiver and India's track record, there is scope for New Delhi to convince African countries to adopt similar approaches to their engagements with India.

However, little progress, if any, has been achieved in operationalising the agreement with Namibia. To increase India's civil nuclear engagement in Africa, it is crucial to actively work with Namibia, as a starting point, to solidify New Delhi's commitment to the non-proliferation regime and gain access to the civil nuclear market in Africa. If this agreement were to come into force, there would be multiple benefits for India's strategic interests. It would be a monumental step in enhancing global South-South Cooperation while strengthening India's bid to become a member of the NSG.

5. India-Japan

The India-Japan Agreement for Cooperation in the Peaceful Uses of Nuclear Energy was signed in November 2016 and entered into force in July 2017.[46] The agreement is monumental: Japan is the only country in the world to have suffered nuclear attacks. The agreement encompassed several aspects of cooperation, from exchange of information and expertise to support in design and construction of reactors. A contested aspect is the 'Nullification clause', which automatically suspends cooperation between the parties in the case of India conducting nuclear tests.[47] "However, it was resolved by annexing a separate memorandum to the treaty which specifies that Japan can suspend cooperation with India if India breaches its no-testing pledge to the NSG."[48]

The agreement has been a boost to the 'special and privileged strategic partnership' between the two countries, which has seen a huge uptake in the last decade or so. It was a breakthrough for India as it became the first non-NPT signatory to enter into a civil nuclear cooperation pact with Japan and thus in effect recognising the de facto status of India as a nuclear weapons power.[49]

Japan is a major player in the civil nuclear energy market and an atomic energy deal like this "will facilitate collaborating with the US-based nuclear plant manufacturers such as Westinghouse Electric Corporation and GE Energy Inc."[50], easier and improve the prospects of setting up nuclear power plants in India as both these conglomerates have Japanese investments. Japan holds a "near monopoly" on reactor elements of the AP100 and EPR reactors, such as safety components and domes.[51] In the aftermath of the 2011 Fukushima nuclear disaster,[b] the nuclear industry began facing a near-global crisis. Stricter safety regulations have caused an increase in the costs of constructing nuclear power plants, and some countries have become more cautious about new nuclear reactors. The

b On 11 March 2011, as a result of an earthquake and a major tsunami, the power supply and cooling of 3 Fukushima Daiichi reactors was cut off, in Fukushima, Japan. The nuclear accident led to 3 nuclear meltdowns, 3 hydrogen explosions and the release of radioactive contamination. The release of radiation forced the government to about 154,000 people. The disaster was the most severe nuclear accident since the 1986 Chernobyl disaster.

deal with India is likely to have the impact of revitalising the Japanese civil nuclear industry which is yet to recover from the setback of the Fukushima accident. Hitachi, Mitsubishi and Toshiba are all focusing on repair and maintenance of existing plants (most of which are idle) rather than the construction of new ones.[52] Thus, this agreement will further boost the energy security goals of both India and Japan while accelerating the pace of strategic cooperation between the two sides as they play a larger role in ensuring a safe and secure Indo-Pacific.

6. India-Russia-Bangladesh (A Tripartite Agreement)

A momentous first for India was the signing of a tripartite agreement with Russia and Bangladesh to work together on the Rooppur Nuclear Power plant in Bangladesh.[53] The landmark deal was signed in March 2018 and signaled a shift in India's acceptance in the global nuclear community as a responsible nuclear power. The NPCIL is the commanding authority from the Indian side to assist in the construction, installation and also work in capacity building, as well as provide support to Russia which will take the lead in designing, manufacturing and supply of equipment and construction of the facility.[54]

This is the first initiative under the India-Russia deal where both countries decided to undertake an atomic energy project in a third country. This project also signaled significant strides in the issues of liability that had risen previously, as in the India-US agreement. Rosatom developed this project on a turnkey basis[55] that would make the contractor liable for issues arising in the plant. Furthering the importance of safe use of nuclear energy, this project has been developed using 'post-Fukushima' safety standards.[c]

This is the first nuclear reactor in Bangladesh, and the third in Southeast Asia, after those in India and Pakistan. While India has been steadily undertaking strategic agreements with major powers like the US, Russia and Japan, this agreement marks the first project that New Delhi is undertaking on foreign soil, signifying India's deeper involvement in the global civil nuclear sector. It has also given a huge boost to the country's 'Make in India' initiative by proposing the production of some nuclear equipment for the plant in domestic shores.[56] This agreement is also important in the context of India's 'Neighbourhood First' policy, making its role in South Asia noteworthy. It is a major step in achieving the objectives of non-reciprocity[57] towards India's smaller neighbours in South Asia as highlighted in the Gujral doctrine, furthering India's status as a responsible nuclear power. It will also help India in realising other strategic objectives, including for instance, a free-transit agreement with Bangladesh which will reduce its dependence on the Siliguri Corridor (also known as Chicken's neck) and contribute towards the development of the northeastern region.[58]

c In the aftermath of the 2011 Fukushima nuclear accident, significant enhancements were introduced to improve Nuclear Safety. These enhancements include but are not limited to adding capabilities to maintain key plant safety in the event of a natural disaster; updating evaluations on the potential impact from seismic and flooding events; new equipment to better handle potential reactor core damage events; and strengthening emergency preparedness capabilities.

CHALLENGES AHEAD

A key challenge to India's civil nuclear engagements with other countries is its status as a non-signatory to the NPT. In turn, two key barriers to India's acceptance within the global non-proliferation regime has been India's nuclear weapons programme, and its strained relationship with its neighbour Pakistan (which is similarly a nuclear weapons state). Several existing regional and international agreements bar the engagement of its signatories with non-NPT nuclear weapons states like India. Although the NSG has granted India a clean waiver, improving its ability to engage with key nuclear energy players, barriers remain that restrict its ability to realise the full potential of civil nuclear cooperation with the global community.

A second challenge that India has to confront is its experience with the 1984 Bhopal tragedy. As India was debating its nuclear liability law, the Supreme Court verdict on the Bhopal gas tragedy had just come out and it shaped the nature of the ensuing debates. There was a strong backlash against the establishment of civil nuclear power plants, as critics argued that there was a lack of adequate compensation for the victims of the Bhopal tragedy. Indeed, the issue of liabilities continues to be a challenge for India in its further engagements with other countries for civil nuclear trade. As highlighted by the concern surrounding the application of internationally established frameworks and India's own domestic liability laws in the India-US agreement, a similar challenge could potentially arise in the future as India negotiates agreements with other partners.

A third major challenge faced by India and the global community alike is the safety of nuclear and non-nuclear materials. With institutions like the IAEA in place, the driving concern for countries entering into civil nuclear agreements with India has been the threat of nuclear disasters like Chernobyl and Fukushima. The Fukushima tragedy in Japan—a country which is technologically advanced—triggered global concern about nuclear safety. Although it was primarily caused by natural factors, anthropogenic factors like the failure of not only the cooling system but also the containment of radioactive release resulted in the evacuation of over a 100,000 people, bringing the city to a standstill.[59]

Concerns regarding nuclear safety have also led to protests in the domestic front. These protests have been a result of multiple concerns, such as diversion of water to the plants, environmental degradation, land acquisition, as well as issues of rehabilitation. For instance, in 1990, soon after the Kudankulam project in the state of Tamil Nadu was announced, a protest was held by nearby residents, opposing the diversion of water for the reactors from the Pechiparai dam in the Kanyakumari district.[60] Operating in a post-Fukushima world, there were a series of concerns surrounding the safety of the Kudankulam plant which led to further protests. Nearly a couple of thousands of protestors were arrested and charged with sedition.[61]

Similarly, the Jaitapur power plant in Ratnagiri in the state of Maharashtra (being built as a part of the 2008 India-France agreement) was opposed on the grounds that it

would destroy some 938 hectares of eco-sensitive land.[62] A similar issue arose when in January 2018, the Ministry of Environment and Forest asked the National Green Tribunal to shift a proposed 6,000-MW nuclear plant — the first under the 2008 Indo-US civil nuclear agreement— from the coastal district of Gujarat to Kovvada in Andhra Pradesh "on account of delay in land acquisition at Chhaya-Mithivirdi site".[63] The protests also led to delays in the projects, which increased the cost of project implementation.

CONCLUSION

The growing concerns around nuclear safety and security have pushed developed countries away from their long dependence on nuclear energy. For developing countries like India, however, the choice between one source of energy over another is not as easy, given growing energy requirements and persistent development challenges. Therefore, priority should be accorded to the continued development of safe mechanisms for the use of nuclear energy.

It is important for India to undertake a proactive role in establishing and improving global mechanisms through bilateral engagements and multilateral conversations so that states that are engaged in the civil nuclear industry are guided by strict guidelines and regulations. In addition to establishing new mechanisms or reinforcing existing ones, India should also undertake public outreach efforts that would assuage concerns not only in the domestic context, but also of those of the nuclear supplier countries. Outlining civil nuclear engagement policies as well as India's own nuclear security policies even in broad template could remove many suspicions and concerns of India's nuclear security policies and practices.

In the case of liability issues, India's approach has been to come up with specific solutions on a case-to-case basis. Curated solutions for the challenges were crucial in the success of India's engagements, as seen in the Rooppur Project in Bangladesh and the signing of the India-US 123 agreement. Liability continues to remain a big challenge and therefore, with India's past experience, it is important to acknowledge the lessons learned and incorporate them into practice in negotiating future agreements. The application of international liability frameworks can remove the concerns of many supplier parties who may otherwise have been disincentivised by the Indian domestic liability law.

With regard to safety issues, India must address domestic and international concerns at an institutional as well as project level. To address potential concerns that may arise during bilateral negotiations, robust practices must be established to deal with nuclear safety concerns.

At a domestic level, public participation should be incorporated at the planning stage, through initial studies relating to impact on environment, water balance and waste management systems; as well as issues of rehabilitation and resettlement. An example of ensuring safety through an institutional mechanism is the Environmental Impact Assessment under Environmental Protection Act, 1986[64] which not only addresses the safety concerns but also emphasises a participatory approach. Furthermore, emergency plans

prepared by the Atomic Energy agencies needs to be made available to the public. These plans must be revised frequently and training exercises with police should be conducted.

Nuclear cooperation has brought a new dimension to India's diplomacy in the 21st century. India's status as a responsible nuclear power is partly predicated upon its civil nuclear relationships established with major powers, despite not being a signatory to the NPT and without being a member of the NSG. Although India's civil nuclear engagements with the global community have strengthened its position in the global civil nuclear order, there is a need for the country to push for greater engagements with more key suppliers and stakeholders to fulfill its civil nuclear potential and assert its status as a responsible nuclear state. ORF

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