

Domestic Debates In India On Nuclear Energy

Anusmita Dutta,

Centre for International Politics, Organization and Disarmament,

Jawaharlal Nehru University

ABSTRACT: -

The Chernobyl catastrophe in 1986, Three Mile Island Accident or the Fukushima disaster in Japan- these incidents have rekindled the debate over nuclear power as a clean source of energy for the future. This paper seeks to examine these debates which revolve round the nuclear energy aspect in India. The domestic debate has mainly been about the generation of electricity from the nuclear fuel cycle. This debate is further extended to include the Indo- US nuclear deal and the pros and cons surrounding it.

INTRODUCTION: -

Energy is the engine for economic growth and human development (Srinivasan et al, 2005) and as such energy security is essential for a country to ensure its progress. For a large country like India this can only be provided by a diversified assortment of means and this has to include nuclear energy as well. But there has been debate among those who support nuclear energy and the anti- nuclear group regarding the use and development of nuclear energy. This debate has mainly been about the generation of electricity from the nuclear fuel cycle. The rising concerns about cost and security of energy supplies and global climate change have supported the case for nuclear power advocates. It provides a sustainable energy source. However those who oppose argues that the aspect that nuclear power poses various threats which include health risk and environmental damage from the mining of uranium, the risk of nuclear proliferation and also the problem of radioactive waste management. The Chernobyl catastrophe in 1986, Three Mile Island Accident or the Fukushima disaster in Japan- these incidents have rekindled the debate over nuclear power as a clean source of energy for the future. The euphoria over nuclear energy is likely to be cooled down by these incidents.

So this paper seeks to examine these debates which revolve round the nuclear energy aspect in India. In the first section it seeks to examine the role of nuclear energy in India and also

its situation at present. In this section focus will also be laid on its capacity to meet energy security, safety, environmental requirement and its economic viability and also the displacement aspect. In the second section it seeks to examine the conundrum of nuclear energy in India with respect to the Indo- US nuclear deal and the debates surrounding it.

ROLE OF NUCLEAR ENERGY IN INDIA: -

In order to outline the role of nuclear energy one has to examine its growth scenario at both global and national level. It aims at meeting three general objectives: firstly climate change mitigation, secondly energy security and diversification and finally energy access and safety¹. The role of nuclear energy in India is well articulated by Amitabh Mattoo (2005) in which he suggests that for a variety of reasons nuclear energy may not find favour with anti-nuclear absolutists, but there is a consensus across the major political parties that India's existing and future energy needs can be provided by this energy and it is potentially an attractive source. The role of nuclear energy in India revolves around the following debates.

- **ENERGY SECURITY**

In the beginning of the nuclear era there was skepticism about the nuclear generated electricity and there was the prophecy of it being 'too cheap to meter'². For George Milton these skeptics criticize nuclear energy without realizing its importance. This skepticism was present in India too. The three-stage nuclear power programme being pursued by the Department of Atomic Energy (DAE) in India was visualized during the mid- 1950s when the expectations from nuclear energy were at their peak. But the growth in nuclear has been slower than foreseen and so those who oppose it criticize this slow growth. They failed to realize that in spite of the then industrial development in the country this achievement by the DAE is spectacular.

Also the nuclear establishment in India has not only built nuclear reactors, but has also contributed to the growth of industrial infrastructure as a very useful spin-off. For manufacture of different complex and large-sized components of PHWRs, the DAE has interacted with Indian industry and helped them to adapt to sophisticated technologies for the manufacturing processes,

¹ 'Energy to 2050- Scenario for a Sustainable Future', International Atomic Energy, 2003.

²In a speech to the National Association of Science Writers, New York City, September 16, 1954, Lewis L Strauss, chairman, Atomic Energy Commission, USA said, "Our children will enjoy in their homes electrical energy too cheap to meter", New York Times, September 17, 1954

highest levels of quality control, quality surveillance and quality assurance. So the prospect of energy security is to certain extent fulfilled as suggested by its supporters. India has a flourishing and largely indigenous nuclear power programme and it expects to have 14,600 MWe nuclear capacities by 2020. It aims to supply 25 percent of electricity from nuclear power by 2050.

- **SAFETY**

Safety is another aspect. The nuclear industry all over the world has been conscious of this challenge and has been making all efforts to enhance safety. Gopalakrishnan being a Chairman of the AERB assured the safety status of the DAE installations. For him the safety issues in India have been resolved within the last decade by the management. The nuclear industry all over the world has been conscious of this challenge and has been making all efforts to enhance safety. Also compared to various methods of electricity generation, nuclear industry has the best record and often through the development and implementation of indigenous technological solutions.

However the Fukushima crisis has raised safety concerns regarding the proposed 9,900 MW Jaitapur Nuclear power plant as it reportedly falls in a seismically sensitive area in Maharashtra. The Nuclear Power Corporation Ltd (NPCIL) and the Atomic Energy Commission of India are tried to allay such concerns by reiterating that a Fukushima type crisis could never happen in India as Indian reactors are built to withstand quakes, use different technology and India follows all safety norms. India has set up a panel to look into backup power and cooling water sources at all nuclear plants, as the failure of these two sources triggered the Fukushima crisis. Prime Minister Manmohan Singh has also called for a review of nuclear safety systems. However, overall, the Fukushima crisis has not prompted any serious policy change in India. The Koodankulam project installation rose similar fear psychosis but it did not help much.

- **ENVIRONMENTAL CONUNDRUM**

One central issue which the policy makers are facing is the question of how to meet the rapidly growing worldwide demand for electricity while not increasing global greenhouse gas emissions. Electricity production currently is responsible for an estimated one-third of all greenhouse gas emissions. However nuclear energy does not directly create greenhouse gases. Global climate change and the 2005 entry into force of the Kyoto Protocol to the United Nations

Framework Convention on Climate Change have spurred new thinking about the potential value of nuclear energy by both environmental groups and the nuclear energy industry. Several prominent environmentalists like Hugh Montefiore (a long term trustee of Friends of the Earth), Patrick Moore (cofounder of Greenpeace) have publicly supported nuclear energy.

This has been opposed by many in their former organization who do not consider nuclear option to be the wisest choice. Organizations such as the Natural Resources Defense Council and the Union of Concerned Scientists now talk in terms of the proper role of government in energy policy and ensuring the safe operation of nuclear plants, rather than whether nuclear power should even be considered. Also there is no long term radioactive waste disposal policy in the country. Nuclear energy is often regarded as a clean energy option, and is therefore considered a solution to climate change. However the radioactive material which is leaked into the environment in case of accidents suggests that it is not always clean.

- **ECONOMICALLY VIABLE**

In this aspect one argument is, as Prashant Hosur argues, that nuclear energy will contribute only marginally to India's energy even in the long run. It is because the cost of nuclear energy will be much higher than other conventional resources like oil and gas, or even than renewable sources of energy like hydroelectric power and wind power (Hosur, 2010). Also as Varadarajan points out that the bureaucratic process in India is extremely inefficient and implementation of projects takes an extremely long time, so it is possible that the inefficient bureaucratic structure may make the nuclear deal unprofitable. The other strand of the debate concludes that India's energy requirements are so great that India has no option but to explore every avenue possible to fulfill its energy requirements. Moreover, the future economic costs and consequences of not fulfilling the energy requirement may be worse than the costs involved in harnessing nuclear energy.

- **DISPLACEMENT**

The nuclear power plant which has been set up for nuclear power generation has another dimension for its criticism. It causes displacement of large number of people. This is an immediate consequence which the people around the plant are going to face and this has been rallying point of protest in India. The area between 2 to 5 km radiuses around the plant site, called sterilization zone, needs to be cleared. This can cause displacement of the people. It

happened in the recent nuclear power plant project Koodankulam in vast proportion. This even causes large scale destruction of livelihood.

DEBATES ON INDO- US CIVILIAN NUCLEAR AGREEMENT

The Indo- US nuclear deal was indeed a milestone as it symbolized deepening of ties between the world's oldest democracy and the largest democracy. The deal was agreed to in 2005. In a joint statement between the Prime Minister Manmohan Singh and President George W. Bush, the President announced a commitment to attaining "full civil nuclear energy cooperation and trade with India". Despite domestic problems Manmohan Singh succeeded in pushing through the Indo- US civilian nuclear agreement. In 2008 the '123' agreement was signed in which it gives access to civilian nuclear technology and it is suppose to help the country fulfill its energy requirement. This agreement enabled India to freely participate in most forms of civilian nuclear commerce and also bring its long global isolation in the realm of nuclear technology to a close. India under the terms of the agreement will place 14 of its 22 nuclear reactors under IAEA safeguards, while the other eight will remain off limits (Ganguly, 2009). India has already started negotiations with France and Russia for various types of nuclear technology, including reactors. It is also likely that after the agreement major American firms will soon enter the Indian commercial nuclear market as well.

Three things were expected from India as far as the Civil Nuclear Programme was concerned. It include firstly, identifying and separating civilian and military nuclear facilities and programme in a phased manner and filing a declaration regarding its civilian facilities under IAEA safeguards. Secondly India needs to take decision to place voluntarily its civilian nuclear facilities under IAEA safeguards. Thirdly India also has to sign the Additional Protocol with respect to civilian nuclear facilities. In these three aspects the issue of 'Islanding', which is separating the civilian and military nuclear facilities, has caused the maximum controversy as Amitabh Mattoo enunciates. It is because in India the civilian and the weapon programme have over the last fifty years been intertwined. Also after separation is done, fissile materials from reactors will not be available for weapon programme. But Anil Kakodkar, chairman of the Atomic Energy Commission have made it clear that BAARC and other R&D facilities including the prototype fast breeder reactor at Kalpakam will not come under this safeguards. As far as the safeguards are concerned this is not a new experience for India. Four nuclear power plants are

already under IAEA safeguards. The two upcoming LWRs at Koodankulam too will be under safeguards and the experience is not bad. So situation was favorable as far as nuclear energy was to be used for energy purpose.

Mattoo enunciates that Government of India need to strike a balance, a middle path between an unfettered autarkic nuclear programme, handicapped by the limitations of technology and fuel and viewed with suspicion and concern by the international community, and a programme that has been totally surrendered to the discriminatory nuclear order (Mattoo, 2005). For him India's nuclear deterrent capability would not be compromised and we could witness the robust growth of now almost stagnant civil nuclear programme.

Mattoo supported the Civil Nuclear Energy Programme for reasons like- given India's existing and future energy needs, nuclear power provides a potentially attractive source. The uncertainty and excessive dependence on oil import make the quest for alternative and cleaner source of energy even more urgent. Also present concern about global warming has also led to a renewal interest in nuclear power all over the globe. But for him India's civil nuclear programme failed to deliver because of internal factors, its lack of access to the latest civil nuclear technology available in the international market, lack of nuclear fuel and also Indian Nuclear Scientists were not given permissions by the Americans to visit nuclear laboratories in the US after the 1974 nuclear test and situation worsened after the 1998 tests. Mattoo even points out that over the past few years it became clear that neither an old ally Russia, nor a new enthusiast France would be able to exert enough pressure to be able to suitably modify NSG guidelines to give India access. Only US have the weight and influence to be able to adjust the nuclear regime to be able to accommodate India. So he is in favour of the deal.

But the deal, as Brahma Chellaney articulates, offers more tangible benefits to the US. It stands out as an overvalued venture whose larger benefits remain distant for India including an end to dual-use technology controls and the greater US support in regional and global matters. While significantly advancing U.S. non-proliferation interests the deal which is embedded in a larger strategic framework fashions an instrumentality to help co-opt India in a "soft alliance." It also carries attractive commercial benefits for the U.S. in sectors extending from commercial nuclear power to arms trade. Bharat Karnad has criticized the deal. He believes that the nuclear

deal has reduced the possibility of nuclear tests in the future to a "theoretical possibility" (Karnard, 2008).

Jawid Liaq argues that the importance of the deal for India has been grossly exaggerated by those who perceive the country's destiny through their narrow focus on foreign policy, military security, and nuclear strategy and energy requirement. Going ahead or withdrawing from the deal will have some impact on these aspects but not drastic impact. This is proved by the fact that nuclear energy even if given a push by the deal will only be able to meet 7 per cent of the total energy needs of this country by 2020. So there will be not much change. Also these are the sectors dominated by the upper and middle classes and vociferously represented by the parties in Parliament, including the left, and by the national media. It should not, therefore, be very surprising that the decibel levels on the nuclear deal debate are so high and on the misery such as the floods, of lower class citizens are so low. The uproar on the nuclear deal drowns out the voices of those hundreds of millions of Indians seeking a slightly better material existence for themselves. The nuclear clamor also globalizes and distorts domestic political needs and priorities (Karnard, 2008).

Tellis, whose report on India-U.S. relations formed a valuable input to the Bush administration's thinking, argued that allowing India access to U.S. nuclear material and equipment would make New Delhi more likely to help further American strategic goals in the region. "[It] would buttress [India's] potential utility as a hedge against a rising China, encourage it to pursue economic and strategic policies aligned with U.S. interests, and shape its choices in regard to global energy stability..." (Varadarajan, 2005). So this agreement offers more tangible benefit to the US than India. When it comes to 'global energy stability' India will not benefit much.

CONCLUSION

Thus it can be concluded that the debates surrounding the nuclear energy in India is a balanced one, with both viewpoints having an equal say. Despite the criticism and the fears psychosis India's nuclear energy sector is growing. This growth is evident mainly after the Indo-US deal and the subsequent integration of India into the global scenario. However in this aspect

of growth the transparency factor is missing in India's decision making procedures with regard to nuclear energy issues and this cause a lot of disjunction between the government and the people. India needs to focus more on this aspect in order to make progress. This debate is more complex one.

REFERENCE: -

1. Srinivasan, M. R., Grover R. B., and Bhardwaj, S. A., 'Nuclear Power in India: Winds of Change', *Economic and Political Weekly*, Vol. 40, No. 49 (December 3-9, 2005), pp 5183-5188.
2. Energy to 2050- Scenario for a Sustainable Future', *International Atomic Energy*, 2003.
3. Hosur, Prashant, 'The Indo-US civilian nuclear agreement: What's the big deal?', *International Journal*, Vol. 65, No. 2, Annual John W. Holmes issue on Canadian foreign policy ,Spring 2010, pp. 435-448.
4. Ganguly, Summit, 'India in 2008: Domestic Turmoil and External Hopes', *Asian Survey*, Volume, 49, Number 1, January/ February 2009, pp 39-52.
5. Mattoo, Amitabh, 'Striking a Balance', *Economic and Political Weekly*, August 27, 2005.
6. Karnard, Bharat, 'Nuclear Test is a Must', *Asian Age*, February 22, 2008.
7. Liaq, Jawid, 'Nuclear Hullabaloo: Drowning out the Woes of the Disadvantaged', *Economic and Political Weekly*, Vol. 42, No. 35 ,Sep. 1 - 7, 2007, pp. 3533, 3535.
8. Varadarajan, Siddharth, 'The Truth Behind the Indo- US Nuclear Deal', 29 July, 2005, *The Hindu*.