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Koodankulam Anti-Nuclear Movement: A Struggle for Alternative Development?

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KOODANKULAM ANTI-NUCLEAR MOVEMENT: A STRUGGLE FOR ALTERNATIVE DEVELOPMENT?

Patibandla Srikant*

Abstract

Indian state's notion of development is increasingly being questioned from the point of view of the people's livelihood concerns. The Koodankulam anti-nuclear movement in Tamil Nadu is one such grassroots movement that is questioning mainstream development while putting forward an alternative notion of development. This paper looks at the link between technology, development and the state and how the movement is addressing the concerns that are different from mainstream development.

Introduction

Development as a form of industrialisation and modernisation has been criticised in the recent past. In India, many movements are protesting against such a process of development. Many of these movements contest the current development paradigm as one that encroaches upon their space and alienates them from their own habitat. Against this backdrop the current study attempts to look at one such movement in order to capture the criticisms emanating from the grass-root level against the mainstream development process. The study looks at the Koodankulam anti-nuclear movement in Tirunelveli District of Tamil Nadu in the southern part of India. In the first section the paper discusses the link between development and technology in brief. The second section argues that the anti-nuclear movement in India has a different basis compared to its counterparts in the West. The chronology and the activities of the movement are discussed in the third section. The fourth session draws a conclusion. Since the movement has been going on for the last two decades (albeit with breaks), secondary sources from various newspapers have been extensively used apart from the interviews and discussions with the activists.

Indian State, Development[i] and Nuclear Technology

In the formative years after independence, one of the major tasks of the Indian state was to usher in a new era of development. Initially there were two schools of thought – Gandhian and Nehruvian – that figured in the debate over the kind of development best suited for India. While the Gandhian model advocated a more traditional approach, the Nehruvian model saw wisdom in modernisation. Similarly, the Gandhian model called for a village level, small-scale cottage industries with less technological inputs. On the other hand, the advocates of the Nehruvian model believed in centralised planning, large-scale industrialisation along with a sound scientific and technological inputs. The Nehruvian model

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came to dominate the policy making process with space for the Gandhian model as guidelines under the Directive Principles of State Policy in the Indian Constitution. Even before the Nehruvian model came to dominate the development path, Homi Jehangir Bhabha started collecting young scientists with funding from the Tata Institute of Fundamental Research (TIFR) as early as 1945 (Penney, 1967: 41; Marwah, 1977: 98). This was followed with the Indian state making large-scale investments in industries and research in science and technology.

Development was primarily understood by the ruling elite as something that results from increase in wealth, which in turn would alleviate poverty. Hence, it was felt that large-scale industrialisation was necessary in order to fuel the growth rate. However, the question regarding energy that could facilitate the process of industrialisation loomed large over policy makers. At this juncture nuclear energy was projected as an alternative in the context of scarce energy sources. Scientists like Bhabha stressed on the use of nuclear technology in solving the power problems of India. Subsequently, Thomas B Smith (1993) argues, the political leaders expressed confidence in nuclear energy, while the successors of Bhabha kept this faith alive. Thus, at the policy level nuclear energy was viewed with optimism as a one-time solution to energy related problems.

Adding to this, the rational for nuclear energy was presented at two levels – one as a source of development and two, as a programme that could put India on par with the West, especially in the context of the Third World. For instance, Bhabha writing to the Sir Dorab Tata Trust for funds, in a letter, promised,

> When Nuclear Energy has been successfully applied for power production in say a couple of decades from now, India will not have to look abroad for its experts but will find them ready at hand (Venkataraman, 1994: 141).

Also, G C Raju Thomas (1986) argues that two objectives – defence and development – constituted India's nuclear programme in the 1970s.

Over the years nuclear energy could not deliver much in terms of electricity. Currently nuclear energy caters to only 3 per cent of the overall energy requirements of India. Constant increase in oil prices and the pressure to maintain annual growth rates in the backdrop of globalisation pushed the Indian state to consider nuclear energy seriously. The oil crisis of the 1970s had not only adversely affected India's balance of payments, but also 'transportation, petrochemical, agricultural and the domestic household sectors of the economy' (Thomas, 1982: 37). Thus, to quote:

> The precipitation of the international oil crisis after 1973 only reinforced the Indian commitment to nuclear energy to meet future industrial demand and anticipated shortfalls in fossil, thermal and hydel sources of energy (Ibid: 39).

Against the above backdrop, the Indian state looked at nuclear energy as a part of wider development goals. The debates over climate change, dwindling coal resources and difficulties in constructing large dams for hydro-electricity also underscored the need for nuclear energy. As a result, construction of nuclear plants is going on in some places, while it is in the planning stages in others.

However, opposition has emerged from various quarters against the Indian state's notion of development and its subsequent reliance on nuclear energy. In this background, the current paper

attempts to understand the following issues vis-à-vis social movement opposing nuclear power plants in the context of the current development paradigm. For the purpose of this paper only the following questions are addressed: What is the basis of such social movements? In what way is mainstream development different from that of the movement's notion of development? What is the basis for the alternative development that the movement advocates? This is discussed in the backdrop of movement's struggle against the nuclear power plant in Koodankulam.

Anti-nuclear Movement in India

Anti-nuclear movements all over the world have pursued different strategies with different levels of impact on energy policies (Kitschelt, 1986: 57). In the West anti-nuclear movements branched out of environmental movements in the second half of the 1970s (Ibid: 58). These were further catalysed by several nuclear accidents. For instance, the Three Mile Island nuclear accident in 1979 had triggered several protests in the US and elsewhere. These movements in the West were typically characterised as 'new social movements'. They were different from the classical working class movements. The support base of the anti-nuclear movement is typical of the environmental movement – middle classes from suburban regions. The Chernobyl accident in the USSR also gave rise to many anti-nuclear protests, particularly so in Western Europe. Moreover, the anti-nuclear movement in the West emerged after a certain process of industrialisation. At the same time many countries had stopped constructing new plants, which resulted in anti-nuclear movements concentrating more on nuclear waste rather than nuclear reactors.

The emergence of the anti-nuclear movement in India has been different. It was preceded by two main events. First, the success of the Chipko Movement in the 1970s inspired many mass movements on similar lines and second, the Bhopal gas tragedy in the mid-1980s raised doubts over industrial safety and hazards. By the 1980s the Narmada Bachao Andolan (NBA) had also made its presence felt by questioning the construction of dams, displacement of people and related environmental costs. This in turn influenced other grass-root movements in the country. Thus, the anti-nuclear movement in India, unlike in the West, is based on issues like livelihood and displacement.

There are two streams of anti-nuclear movements in India. The first, an urban-based movement, not discussed here in detail, which largely represents the anti-nuclear movement in the mainstream media. This movement is aimed at addressing the issue of the nuclear bomb rather than fall out of nuclear energy. The Left parties are also part of this movement and the movement *per se* is not against nuclear energy. The second movement, the concern of this paper, is found in many parts but is restricted spatially. In this case, the movement is clear on its stand vis-à-vis nuclear energy and the bomb. Unlike the first type, the second one clearly views the links between development, security, the state and nuclear scientists. This version of the movement is rooted in the livelihood of the people. The threat of displacement, loss of livelihood, alienation from their own surroundings and the harmful radiation from nuclear power plants are catalysts for this strand of the movement.

One of the main critiques that come from the second type of movements is based on the review of the mainstream development paradigm. The contemporary paradigm of development, for them, encourages increasing consumption (read as growth rates) and the same is perceived as

evidence of development. On the contrary, it is the rising consumption levels that are creating the problems of climate change and dwindling resources for which nuclear energy is pursued as the only alternative to meet the demands of energy. Thus, the entire debate surrounding alternative sources of energy in order to combat global climate change is rooted within the current development model. However, the answer lies in locating an alternative development model, rather than trying to shift from one source to another equally threatening (in this case nuclear) source of energy. It is in the above context that the Koodankulam anti-nuclear movement is discussed.

Koodankulam Anti-nuclear Movement

Koodankulam is a rather big village with a population of 11,029 by 2001 census with 2,386 households of which 944 belong to Dalits. It is situated in the southern part of Tamil Nadu in Tirunelveli district and is part of the state's coastal line. Although, Koodankulam falls under the Tirunelveli Kattabomman district, it is very close to the famous tourist spot of Kanyakumari. Edinthakarai is another village located close to the nuclear plant and falls under the Vijayapati panchayat. The main occupation of the people of this village is fishing on shores and the deep sea. In Koodankulam around 80 per cent of the employable workforce is jobless while in Edinthakarai 60 per cent are involved in fishing (Moorty, 2000). The womenfolk in Koodankulam make a living by rolling *beedi* (Ibid). Similarly, in villages like Uvari and Koothankuzhi the residents are actively involved in the movement. There are also Christian priests from Tuticorin and Kottar dioceses who are actively involved in the movement against the nuclear power plant. Around 40,000 people are living close to the plant site, including the people of Koodankulam (Ibid). This region also has a large number of alternative energy schemes in the form of converters of wind in to electricity. Even the Koodankulam nuclear power plant has half-a-dozen of them on its premises.[ii]

The Koodankulam nuclear power plant has its roots in the 1974-Pokhran tests conducted by India. Soon after the tests India was isolated by the West and came under the influence of the Soviet nuclear establishment. The US stopped fuel shipments to the Tarapore nuclear power plant after the 1974 test. In 1979 during Morarji Desai regime the nuclear deal with the Soviet Union was discussed. The deal was finally concluded when the then Soviet President Mikhail Gorbachev and the then Indian Prime Minister, the late Rajiv Gandhi, signed the Koodankulam Nuclear Power Project deal in 1988. Initially, there was a strong opposition to the Koodankulam power plant from farmers, intellectuals, fisher folk, scientists and activists. Farmers participated in the movement because it was declared that the nuclear plant would meet its water needs from the nearby Pechiparai reservoir. Water meant for agricultural purposes would be diverted to the nuclear plant. One of the strong motivations for the resentment was the water scarcity in this region[iii] (Moorty, 2000).

Later an umbrella organisation called the *Samathuva Samudaya Iyakkam* (Social Equality Movement) was formed. People from three districts – Tirunelveli, Kanyakumari and Tuticorin – organised a massive rally at Tirunelveli in 1988. However, the disintegration of the Soviet Union, Gorbachev losing power and the assassination of Rajiv Gandhi stalled the Koodankulam deal and by the end of 1991 the Nuclear Power Corporation (NPC) declared that Koodankulam nuclear power project had been called off and the government's permission was sought to set up two 500 MW indigenous

reactors at the same site (*Indian Express*, 20-01-1992). Very soon the movement against the plant also died down.

In March 1997 the then Indian Prime Minister, H D Deve Gowda, and the Russian President, Boris Yeltsin, signed a supplement to the 1988 agreement and commissioned a detailed project report on Koodankulam.[iv] Accordingly, Russia agreed to supply two standard high pressure VVER-1000 water-cooled and water-moderated reactors. In spite of concerns over the safety of the VVERs and the cost, some argue, India went ahead with the deal as the cash-strapped Russian nuclear industry linked it with other defence deals like that of T-90 tanks, SU-30 planes and the *Admiral Gorshkov* submarine (*The New Indian Express*, 02-10-2000; Udayakumar, 2004: 138).

Many in Koodankulam, especially those involved in the movement, immediately cited the instance of Chernobyl Unit 4 accident in April 1986 where steam explosion, fire and nuclear fuel melting occurred due to the flawed design of the reactor, adding that it was also made in Russia, like the VVER-1000 being installed at Koodankulam (Fieldtrip in Koodankulam, 29-03-07 to 13-04-07). The activists also pointed out to the fact that nearly 3,50,000 people had been displaced after the Chernobyl accident (Also see *IAEA Report*, 2005). They also know about other nuclear accidents like the one on the Three-Mile Island in the US (*The Indian Express*, 16-02-2000). The initial phase of the movement was centered on the issue of using water from Pecheiparai dam for the nuclear plant (*Anumukti*, 1990: 7-8). Later on when the Koodankulam plant authorities planned for a water re-cycling and desalination plant on its premises, the issue of water took the back seat and other issues like displacement, radiation hazards and, in particular, concerns about radiation contaminating the food chain through fish, dominated the movement.

The issue of radiation entering the food chain was a livelihood concern for the fishing community, while others expressed health concerns. The Nuclear Power Corporation of India Limited (NPCIL) has collected 929 hectares of land for the project and another 150 hectares for the township (Moorty, 2000). According to the GO, M.s.No. 789 of the Tamil Nadu Public Works Department (TNPWD) dated 11-05-1988, population should not be more than 10,000 within the 16 kms radius and free insurance cover should be provided for the people within 20 kms radius of the nuclear power plant. However, no action was taken to fulfil the requirements as per the G.O. by the NPCL (Interview with Sandal Muthu Raj). On the contrary, a school building was demolished as per the G.O. and was not reconstructed or compensated (Ibid). The Koodankulam village is situated within the 10 kms radius.

The current protest in Koodankulam picked up momentum when the proposal for four more VVER-1000 reactors, besides the earlier two, was announced[v] (Radyuhin, 2001). This nuclear plant is supposed to supply power to all the south Indian states - Andhra Pradesh, Karnataka, Kerala and Tamil Nadu (Radyuhin, 2002). The agreement with Russia over the VVER-1000 reactors effectively broke the 30-year Western blockade of nuclear technology to India (Ibid). The promise of jobs and sub-contracts to construct footpaths and platforms within the plant site made the people of Koodankulam feel that the nuclear power plant would help develop their small town. The Nuclear Power Corporation of India Limited (NPCIL) had even taken the targeted villagers to Kalpakkam[vi] to interact with the fisher folk there (Moorty, 2000; Interview with Sandal Muthu Raj). The Russian delegates gave seminars on the safety of the VVERs to the villagers were assured of a better livelihood as a spill-over effect of the

nuclear power plant (Moorty, 2000). The DAE-NPCIL also engaged the M S Swaminathan Foundation, at a cost of Rs. 50 lakh per year, to make the area around the reactor green (Ibid).

In the initial phases many people from Koodankulam supported the plant as many got jobs and sub-contracts in the plant (Interview with Sandal Muthu Raj). Sandal Muthu Raj is one of the active participants in the movement and has done some sub-contracting work at the plant.[vii] Regarding the quality of the plant construction, he confessed that he has used sand from the beach, which is not of good quality (Ibid). He further argued,

> This is the same nuclear plant [referring to VVER model] that caused the accident in Chernobyl. We know that even if the model is changed there will be problems. Meanwhile, our fish will catch radiation and we have to eat it. When more energy can be produced through wind, why do we need this bad Russian technology?

Even during the period when there was no opposition to the plant, there were instances where some of the villagers did not yield to pressure to give away their land for the project. Thangathurai Swami is one such person, who manages his ancestral Narayanswami temple on his family estate that falls within the premises of the nuclear power plant project. To quote him, "I cannot sell my God and the temple" (Udayakumar, 1998: 7). Similarly Muthukumaraswamy, a retired school teacher also resisted the alienation of land by filing a suit in the Tirunelveli district court. Typically many of the people argue that such nuclear power plants need to be built near state or national capitals as it is people there that need more electricity (Ibid: 8).

However, when it was decided to install the additional four reactors in the same plant, certain amount of displacement was required. This made the people of Koodankulam join protest movement. Earlier only the neighbouring fishing community was part of the movement. The threat of displacement and subsequent loss of livelihood forced the people of Koodankulam into the movement. In the light of new developments the People's Movement Against Nuclear Energy (PMANE), an umbrella organisation, was formed. The PMANE argues that the region is rich in Thorium and Monazite[viii] due to which there is natural radiation that is 40 times higher than the normal level (Interviews with Dr Lal Mohan and Dr Sumitra Raghuvaran). Koodankulam is very close to the district of Kanyakumari where natural radiation is high. The activists of the movement argue that in the backdrop of existing natural radiation the nuclear power plant would further worsen the situation by contaminating the food chain also (Interview with S. P. Udayakumar). The natural radiation is particularly high on the beaches of Kanyakumari (Mathew, 1990).

The water used for cooling the reactors would be let into the sea, due to which the fisher folk have to go fishing in the deep sea. Only fisher folk with motorised boats can venture into the deep sea. Moreover, the chance of this radiation entering the food chain is very high. It is also argued that nuclear power plants by their sheer size and nature need large consumers for the power produced. The Koodankulam nuclear power plant has no big power consumers in its vicinity. The power generated needs to be transmitted to distant destinations for distribution to various consumers and will only increase existing transmission and distribution losses (Gadekar, 1996: 2).

Asuran, a journalist from this region, opined that the Koodankulam anti-nuclear movement stands for an alternative vision of development. To quote him:

> Chernobyl awakened us and hence we protested against Koodankulam nuclear power plant in the 1980s. This plant is a symbol of the Nehruvian model of development where mega projects like big dams and industries are built in the name of development, while our movement stands more for a Gandhian model of development with stress on self-reliance and village development... This entire region has a very significant place in the Tamil culture and history. This kind of project, in the long run, will ruin our history, culture, traditions, knowledge and future generations (Interview with Asuran, 07-04-07).

Many people who had sold their land to the nuclear plant complained that in the 1980s a paltry sum of Rs 2,000 was given per acre and Rs 100 per cashew tree. For most of the people it was the only property they possessed and for the tamarind trees on their property the NPC (Nuclear Power Corporation) did not pay any compensation (Udayakumar, 1998: 7). Moreover, the people of Koodankulam acknowledge that they did not know anything about the hazards of radiation from the nuclear power plant (Ibid). Any project of such a high cost (Rs. 17,000 crore) is supposed to get environmental clearance and also the authorities have to conduct a public hearing in order to solve, if any, problems of the local people. However, during the first phase of the plant (two reactors in the first phase) nobody was aware of the environmental impact assessment nor was any public hearing conducted. This first phase started in 1997. In 1994 the Pollution Control Act was amended that makes it mandatory for all projects to get environmental clearance. The Koodankulam plant in its first phase did not get any environment clearance by citing the fact that the plant was originally envisaged in 1988 and hence the new law was not binding on the construction of power plant and that the letter of clearance issued to the plant in 1989 was still valid (*The Hindu*, 23-12-2001). The Project Director of Koodankulam Atomic Power Project, S K Agrawal, declared that the project was given clearance by both the Union Ministry of Forests and Environment and the Tamil Nadu Pollution Control Board (Ibid).

On August 28, 1988, a meeting was held in Edinthakarai, where 1,000 people gathered to oppose the nuclear power plant (*Economic and Political Weekly*, 1989: 20). In May 1989 a huge demonstration was organised under the aegis of National Fish Workers Union (NFU). It was a nation-wide demonstration in order to bring the plight of water becoming scarcer and polluted. It also opposed the Koodankulam nuclear power plant. The police fired at the protestors, disconnected the public address system and prevented the organisers from addressing the rally (*Anumukti*, 1989: 11). Murpokkur Manavar Sangam and Murpokku Ilaignar Ani, two associations of progressive students and youth, undertook a cycle rally against the Koodankulam project from Chennai (then Madras) to Tirunelveli. Starting on January 30, 1991, from Chennai, the youth travelled through Vellore, Dharampuri, Coimbatore, Ramanathapuram and Madurai concluding the rally in Tirunelveli on February 10 (*Anumukti*, 1991: 16). There was a brief lull in the movement following the assassination of Rajiv Gandhi and the disintegration of the Soviet Union.

In 1999 the Tamil Nadu Fish Workers Union (TFU) called a nationwide strike in protest against the plant. The State President of TFU, Peter Dhas, blamed the scientific community for ignoring the livelihood concerns of the fishing community (*The Hindu*, 16-11-99). In March 2007 nearly 2,000 people including, 1,000 women and children, participated in a fast at Edinthakarai against the nuclear power

plant. Street plays were enacted at the venue in strengthen awareness among the public (*The Hindu*, 25-03-2007). The Tamil Nadu Legislative Assembly's Assurance Committee, after surveying around 130 projects in the district of Tirunelveli, appealed to the NPCIL to conduct a public hearing to record the people's opinion, which is mandatory for getting the approval of the TNPCB for the nuclear plant (*The Hindu*, 30-08-2002). The public hearing, slated for October 2006, had to be cancelled due to protests from the people. The public voiced their anger against the local MLA when he tried to speak about the nuclear project. The project staff and district collector remained mute spectators of the whole incident (*The Hindu*, 07-10-2006). This public hearing was finally held on June 2, 2007, after two postponements. However, this public hearing was a mere formality rather than a substantial effort to record the people's opinion (Observations from field trip).

The nuclear power plant in Koodankulam has garnered the support of all the mainstream political parties in Tamil Nadu like the DMK, AIDMK, etc. For instance, the present Chief Minister of Tamil Nadu and chief of the DMK party, M Karunanidhi, had stated in the state legislative assembly in 1997 that the only alternative to the existing power crisis was nuclear energy. He also blamed some people for making a false propaganda against the nuclear power plant in Koodankulam (*The Indian Express*, 27-04-1997). Similarly the former chief minister, J Jayalalithaa, had also extended support to the NPC with regard to Koodankulam project (*The Hindu*, 18-12-2003). On its part the NPCIL has initiated propaganda in the print media over the Koodankulam nuclear power plant. In one such advertisement in *The Hindu*, the NPCIL claims that the nuclear power plant in Koodankulam is safe from hurricanes, waterspouts, tsunami, air strikes or crashes, shock waves, seismic impacts, etc. Similarly the same advertisement proclaims that as per the integrated energy plan of the planning commission India's power generating capacity would increase to 8,00,000 Mwe by 2031-32 of which 63,000 Mwe would be from nuclear energy (*The Hindu,* 29-03-2007). This advertisement was issued just two days before the public hearing, which however, was cancelled due to the DMK's call for a state-wide bandh.

The movement has also networked with many like-minded organisations both nationally and internationally (Udayakumar, 2004: 300-15). Some Sri Lanka based environmental groups protested over the plant being within a distance of 50 kms from Sri Lanka. (Udayakumar, 2004: 329-31). However, this networking did not have much impact on the movement. During this time the movement approached Supreme Court for redressal. However, the Supreme Court of India slapped a fine of Rs 1,000 on the movement and cancelled the petition on the grounds that it was an inter-state agreement. The movement has organised and conducted a series of seminars, skits, conferences, etc, in order to create awareness among the public. A massive rally was organised in 2003 with more than 7,000 participants from the three districts of Tuticorin, Tirunelveli and Kanyakumari. Similarly one public meeting was organised under the auspices of the National Alliance for People's Movements (NAPM) under the leadership of Medha Patker. The movement also allayed fears over the safety of the plant, particularly in the post-tsunami period.

The main protest came from the fishing community and farming community, as the proposed expansion of the nuclear power plant was perceived as a direct threat to their livelihood (*The New Indian Express*, 7-10-06; *The Hindu*, 07-10-2006). Most of the farmers are from the neighbouring Kanyakumari district from where the water was proposed to be drawn for the nuclear power plant

(Ibid). The movement led a huge protest rally on April 26, 2007 on Chernobyl Day. This protest was also directed against the arrest of the three anti-nuclear activists on the allegation of attacking nuclear power plant employees (See also *The New Indian Express*, 12-04-07). The NPCIL director, S K Agrawal, promised the people near the nuclear power plant that the project would not draw water from the Petchipaarai dam. The plant will have its own high capacity desalination unit and also the discharge water into the sea which would not contain any radioactive material (*The Hindu*, 21-11-2006).

Movement and the Public Hearings

The public hearings for the extension of Koodankulam nuclear plant from two reactors to six paved the way for the activists to air their grievances. Dr A G Satyanesan, a retired professor, argued that the first phase of Koodankulam nuclear plant had not conducted a public hearing, even though it had commenced in 1997. He stated:

> It is mandatory for such projects (like the Koodankulam nuclear plant) to get clearance through public hearing according to a 1994 statute under the environment law. But they (the plant authorities) proceeded without conducting any public hearing in 1997 by arguing that they had already obtained clearance in 1988. How can one get a clearance for a project in 1988 and start the same in 1997 by ignoring a law made in 1994? (Interview Dr A G Satyanesan, 04-04-07).

Thus, the first two units of the nuclear power plant were constructed without a public hearing, but it was demanded for the expansion of the plant. Accordingly, a public hearing was scheduled for October 6, 2006, at the Tirunelveli District Collectorate. However, this public hearing was postponed indefinitely as the activists from Tirunelveli, Tuticorin and Kanyakumari districts protested against the plant and also against the manner in which public hearing was announced. (*The New Indian Express*, 7-10-06). The protestors accused the TNPCB of attempting to conduct the public hearing in a secretive manner. The activists cited that public hearing announcement was published only in *The Economic Times* and the Tirunelveli edition of the *Dinakaran*. To quote, Jeeva,[ix] a protestor:

> This is a blatant violation of the Environmental Impact Assessment Notification 1994, according to which a public hearing to be conducted for any project with a total project outlay crossing Rs 50 crore (sic), be notified in all vernacular dailies so as to let people in the vicinity of the project site, register their opinions if any (*The Indian Express*, 7-10-06).

The activists also demanded that the public hearing be held separately in the three districts – Kanyakumari, Tuticorin, Tirunelveli – as people in all the three districts would be affected. Soon after that January 31, 2007, was announced as the date for the next public hearing, which however, was postponed. Initially it was advertised that the public hearing would be held in the town hall of Koodankulam on that date, but later it was the venue was shifted to a hall in nuclear power project township (*Nuclear Monitor*, 8-02-07: 1). The advertisement also stated that the public hearing would discuss the issue of possible displacement. As a result there was huge resentment among the public and they organised continuous protests under the banner 'People's Rights Movement' for three consecutive

days before January 31. Thus, once again the public hearing was postponed. Once more public hearing was scheduled for March 31, 2007. This time the announcement of the public hearing was published in all the vernacular dailies. Two days prior to the public hearing the NPCL even carried a full-page advertisement in various newspapers claiming nuclear power as clean power. Again the public hearing of March 31, 2007, was postponed indefinitely due to the call given for a state-wide bandh by the ruling DMK party.

Finally, June 2, 2007, was fixed as the date for the public hearing. People from the three districts came in large numbers for the public hearing. On the other hand, tight security was arranged with around 1,200 policemen in riot gear (Ramana and Bidwai, 2007, downloaded on 14 May 2008). People protested over not making environmental impact assessment available in the local language – Tamil - due to which many of the people who attended the public hearing were not in a position to comprehend the facts. However, the public hearing was brought to an abrupt halt with the collector declaring that sanction had been obtained from the people for the expansion of the nuclear power plant (Ibid). Although the activists of the movement participated in the public hearing, none of their complaints were taken seriously. For the activists of the movement it is a daily struggle against the nuclear power plant to save their livelihood.

Conclusion

The Koodankulam anti-nuclear movement is a combination of various groups from different backgrounds. There are people who have been against the nuclear plant ever since the 1980s, when the proposal was first made. They are educated and aware of the radiation hazards in general. They come from different strata of the society like doctors, professors, teachers, lawyers, NGOs, journalists and religious preachers from the church. Then there are farmers and the fishing communities who perceive a real threat to their livelihood from the power plant. There is a third group which initially supported the plant for jobs and contracts, but has turned anti-plant sensing that it cannot reap much benefits from the plant. The third group belongs to the younger generation and many of them also belong to mainstream political parties. The threat of displacement, radiation and the safety question brought these otherwise different groups together.

Industrial development, according to the movement, is associated with a centralised power generating system like that of a nuclear power plant. This centralised energy system would not only alienate local communities from their surroundings but also threaten their livelihood. Further, such technical and centralised systems would not allow any space for people's participation. Hence, the movement argues for decentralised energy systems like bio-gas, mini-hydel plants, wind and solar energies. Such systems would ensure greater people's participation, make the local communities self-reliant and enhances their livelihood. The movement, in other words, argues in favour of the Gandhian notion of development with less technological inputs and greater decentralisation.

In the context of the nuclear power plant two major issues appeared to have caused concern among the people, apart from issues like radiation and risks. One was the issue of drawing water from Pecheiparai reservoir for the nuclear plant. Farmers concerned over the issue of water supply for agricultural purposes supported movement because it threatened their livelihood, particularly in the

context of water scarcity. The second one was the issue of discharge of high temperature waste water into the sea. The waste water would kill the fish near the shore leading and fishing communities feared the loss of their livelihood. Thus, for people in and around Koodankulam the mainstream development process of the Indian state was destructive in nature. It is in this argument that the movement's notion of alternative development is anchored.

As long as the movement is non-violent in character, the state responds with semi-coercion and intimidation to push forward its agenda. Also the state changes the issue by placing the discourse at the level of development and security, there by conveniently ignoring the issues of displacement and livelihood concerns of a small population. However, if the movement adopts a violent character, than the state would use physical force and shift the discourse to the law and order problem. As the movement attempts to oppose any such changes in the discourse, it could be seen as an alternative to mainstream institutional politics. Sheth (2005) argues that such grass root movements are a reality due to the failure of the institutional politics. Development is one such aspect of the institutional politics and the movement is opposed to such a development process – one that displaces and threatens livelihood by excluding and alienating the people. By asserting their right to live in Koodankulam and other livelihood issues like agricultural land and fishing the movement initiated by the people seems to argue for an alternative development.

End Notes

[i] My attempt here is not to discuss the development paradigm of the Indian state in detail, but to provide the link between pursuing a particular path of development and nuclear energy.

[ii] The pro-nuclear lobbyists argue that given the growth and developmental goals, it is necessary to tap all the energy sources available, whether it is wind or solar or any other source. In that context, one cannot ignore nuclear energy.

[iii] The recorded rainfall of very occasional rainfall is between 100 and 400 mm. To access groundwater the bore wells have to be sunk to a depth of 1,000 feet.

[iv] The cost of the deal was US $ 3.1 billion (Rs 114 billion). Russia extended a credit of US $ 2.6 billion credit to India, which was supposed to be repaid at four per cent annual interest over a period of 12 years from the time the reactors are commissioned.

[v] One of the reasons given as early as 2000 for increasing the number of reactors to six was that building two reactors was not economical (See The New Indian Express, 2000).

[vi] Kalpakkam is a place where a nuclear power plant is already at work on the Tamil Nadu coast close to Chennai, the capital city of Tamil Nadu.

[vii] Sandal Muthu Raj is a DMK party member in the local executive body of the DMK. He has taken one sub-contract to construct pavements and streetlights within the plant premises.

[viii] The discovery of Monazite in the coastal area of Kanyakumari happened accidentally. Coir workers while rolling coconut fibre into ropes rub their hands in the sand to get a good grip. The wet coir in the process gathered some sand, while the ropes gathered some more sand when spread for drying. This coir was in turn exported to Germany. Once the coir dried, the sand fell on the godown floor. In 1909, Schomberg, a German chemist discovered that this shining sand contained Monazite and was a useful raw material for manufacturing gas light mantles. He traced it to the Manavalakurichi of present day Kanyakumari district and made a fortune by exporting Monazite. See Narayanan (1990).

[ix] Jeeva is the State Committee member of Coastal Action Network (CAN) and also an active environmentalist.

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