



# ANUMUKTI

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## Analysis

### **Some Problems and Prospects Facing the Antinuclear Movement**

It is doubtful whether an anti-nuclear "movement" worth the name has so far evolved in India; yet there are groups taking up nuclear issues all over the country. These are mostly middle-class oriented city groups. The poorer classes on the other hand, have not participated in the work of these groups. Therefore, anti-nuclear groups always face a dearth of activists to continue their work persistently. There have been ups and downs in each antinuclear upheaval in the country. Due to constraints of men and material there has not been any continuous or sustained work in most cases. To keep people active, there is a need for programmes. Most groups have limitations that they have not been able to overcome successfully. Financial constraints have crippled many a group that could have put in commendable work. The apolitical nature of the antinuclear groups and their general indifference to pressing problems like price rise and increasing unemployment have

made mainstream political parties sceptical of them. The masses generally share this scepticism about antinuclear and environmental groups. They have no faith in many of these groups, as these are not addressing directly felt needs like the drinking water problem and are not suggesting workable solutions. Lack of information and the consequent inability to counter effectively certain apparently pertinent points raised by the government, the pronuclear anti-environmental lobby, and a section of the press, cast a few activists in a bad light in the eyes of the public. Activists suffer due to the lack of effective communication among themselves; on the other hand, the media has let loose a propaganda blitz for anti-people programmes in the name of "progress" and "development"

#### **Problems with special reference to Kerala**

Though economically a poor state and industrially not well-

developed, Kerala has achieved a level of literacy and health status comparable to those of a few developed countries. This in turn has promoted a kind of consumerist, urban middle-class culture throughout the state. It is a veritable sellers market for all consumer goods, and people's life style has been considerably affected and influenced by the flood of manufactured goods. Therefore, any call to change the present life style will fall on deaf ears. "We cannot turn the clock back" people say, and activists are viewed with suspicion.

The people of Kerala are highly politically conscious and they are all affiliated to one party or the other. All mainstream parties have unfortunately a concept of development which is similar to that propagated by the World Bank and the International Monetary Fund. According to that concept, nuclear plants mean more electricity; more electricity means more industry; more industry means more employment. To the people of the state which faces

acute unemployment problems. Especially among the educated, any scope for employment is quite appealing and irresistible, despite all the attendant occupational hazards and environmental pollution. This is the rationale behind the Deration of Indian Rare Earths (IRE) and other hazardous and energy intensive industries in the state. It is an arduous task to convince the people that the present sort of "development" cannot solve the problem of unemployment or for that matter any problem. Mass print media causes a great deal of damage by dubbing those who oppose the present mode of development as "anti-national" and "anti-people". In Kerala, where everybody is addicted to the daily newspaper and tends to believe the printed word, activists need to be extra-careful to avoid being misunderstood.

There are differing perspectives among environmental groups themselves. Some take extreme "fundamentalist" and "purist" stances, which do not appeal to the people at all. Certain groups vehemently oppose dams and deforestation, but are rather lukewarm on the nuclear issue. There is no common shared perspective or an integrated approach towards alternative modes of development. Consequently, many groups oppose particular projects with sectarian and regional biases. The antinuclear group of Bhoothatthankettu in Southern Kerala, for example, is not opposed to a nuclear plant coming up anywhere else. Various groups cultivate a sort of personality cult, and certain persons are projected as "heroes". These people think they are infallible and they sit in judgement on others. There is a lot of destructive criticism spewed out by such groups. These groups themselves do nothing, but simply create the impression that they are doing something by their public relations exercises in the press and the media. People who are earnestly doing something, and devote much of their time to antinuclear work, get disgusted with

these self-advertisers and are in fact ashamed to be seen by the public as one among these so-called "activists".

People at large are confronted daily with innumerable problems like unemployment and rising prices of essentials. The structural adjustment programme has inflicted on them innumerable burdens in quick succession. They are not able to cope with the speed with which these economic measures are being implemented. They are shocked and paralyzed to such an extent that they cannot divert their attention to anything else. A general apathy and indifference to environmental issues exists as many think that these problems are not their concern; they think that is for the scientists or the government or the "movement" to take care of these issues. However, this attitude is changing, though slowly. Many champions of the antinuclear cause, though they are active in various cultural, literary and other social activities, are not so deeply committed to the nuclear issue that they can get involved in struggles. They are reluctant to work among ordinary people; as "stars" they stand aloof. People in turn suspect their motives. There is a credibility crisis. When a political leader with a past record of struggle and sacrifice, says something, even if it is utter nonsense, people tend to believe it; while they are sceptical of these stars who are not prepared for any sacrifice at all and who do not get directly involved in organising people

Raising financial resources is a formidable problem in the state. People will give money when there is a live political issue. At other times the movement has to be kept alive with meagre contributions. Often the workers face extreme hardship.

In any group there are only a few who work with deep conviction. They have to do everything. Added to this when money becomes a pressing problem, many workers feel helpless and slowly withdraw from the movement.

Though these are the problems,

the experience with the movement against the Peringome nuclear power plant illustrates that one need not lose hope at all. Peringome demonstrates clearly that:

A sustained struggle is possible, if a group is determined to go ahead with the work, and like-minded, groups support it. People can gradually get a perspective of our wrong mode of development. Even monolithic political parties will be compelled to review and readjust their positions when they find that people are really concerned about the nuclear issue and are prepared to fight against the power plant at all costs. People matter the most: if they put up a united struggle sinking all differences, no government in power can ignore it.

The struggles should not be seen in isolation but need to be placed in the global political context. The antinuclear issue, for example is a powerful political issue in the sense that it gives scope for exposing the strong neo-colonial interests dictated by the IMF and the World Bank, the interests of multinationals, and of the "new world order" which among other things aims at dumping hazardous industries and wastes in the Third World. Export of nuclear technology to Third World countries needs to be seen in the proper political perspective and people need to be convinced of the irrevocability of the mega hazards in all spheres — economic, political and ecological. Viable alternatives to nuclear power need to be demonstrated. It is strategically important in winning the support of people who want to continue their consumption patterns and at the same time want to be converted to an antinuclear position.

*K.Ramachandran  
Indivaram, Payyanur, Kannur*

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# Anumukti Cycle Yatra

**U**he crowning moment of the cycle yatra for me came unexpectedly when it was already all over. We had received a hero's welcome in Payyanur and in Peringome. The two day convention of antinuclear activists called at Peringome had ended. We had sold our bicycles and were all set to go home. Manoj, one of the fulltime participants in the cycle yatra, invited us to visit his home at Taliparambha, a small taluka town some twenty kilometres from Payyanur. We had travelled in a bus and after the lovely cycling it all felt both strange and a bit distasteful. We got down at the bus stop in Taliparambha and were about to proceed to Manoj's house. He asked us to wait for a while, so that he could buy a few provisions before the twenty of us would descend unexpectedly on his parents. As we were waiting at the bus stop, there were curious glances from onlookers. We were no doubt a strange sight - our dresses had antinuclear slogans painted on them. And then, suddenly, things started falling into place. We started singing:

*Uru uru ser beku  
Oggatu aag beku  
Anu Sthavara Nilessa bekanna...*

*(Come, come and get together  
People need to unite together  
We don't need nuclear power plants)*

Suddenly we were all singing and dancing and there was a crowd of around two to three hundred people watching us. And some from the group were distributing leaflets, selling books and copies of *Anumukti*, and somebody had taken a hat around and made a collection. We were unfortunately not carrying our megaphone at the time. But, that lapse made no real difference. We gave speeches, sang songs, danced a little more. At that moment, I knew that what one really needs in a cycle yatra are not cyclists or even cycles but a group of people who act like a team

and who are trained to communicate. And finally at the end of our journey, we were a team.

## The Group

We had started some five and a half weeks previously, a mixed group: there were five (four boys and a girl) adivasi youth from villages around Kakrapar; there were the three students of Sampoorna Kranti Vidyalaya, (one each from U.P., Orissa, and Kerala); there were two who had taken leave from their jobs in Ahmedabad and had come; one had come specially for the yatra all the way from Kerala because he felt that if people from Gujarat could come to protest against a plant in Kerala, he could certainly do the same; and there were five from the staff of the Sampoorna Kranti Vidyalaya and there was my young daughter. Twelve of us were on cycles, two on a motor cycle and the rest were accompanying travelling in buses. However, till the Gujarat border, our hosts on the way sent us some vehicle, usually a jeep or a car. As we proceeded, some had to drop out and return to the real world but others joined in the way.

Two activists got married in Delhi on the 10th of April and departed for Goa on the 11th to join us there. Even a horse representing the entire non-human animal kingdom joined us for a short while in Ankola (he found the heat overpowering); Bharat was at two and a half the youngest member of the yatra. He joined us from Honnavar. Many joined us for the last two days in Kerala and in Peringome there were more than a thousand people for the final stretch.

## The Route

Our route took us through some really beautiful and breathtakingly oceanic parts of the country. We started from Vedchhi and then

travelled southwestwards through Vansda and Dharampur to meet the sea at Daman. After that, all along the route, the sea was our constant companion. So, for the most parts were hills of the Western Ghats and jungles. From Daman our route took us to Tarapur and then on to Bombay where we stayed for three days. Then, through Panvel and Pen up to Mangaon, on Highway 17. Then we took a diversion and got off the highway and went through Ambet and Mandangarh to Dapoli. From there on to Ratnagiri, Malvan and Vengurla before entering Goa in Pedne. We stayed four days in Goa travelling not directly southwards down the coast but visiting various groups in Mapusa, Panjim, Madgao, Ponda and Cancon areas. We entered Karnataka at Karwar and then took a detour to Kaiga. There we took two days off our cycles and travelled in a bus and a truck to Yellapur, Sirsi, the Bedthi dam site and other places in the hills before returning to our cycles at Ankola. From then via Kumta, Honnavar, Bhatkal, Baidoor to Udupi, Mulki and Mangalore. Kerala was our destination and all along the route we had kept chanting.

*Kahan chale bhai kahan chale?  
Gujarat se Kerala chale*

We entered Kerala at Thalicheri and stayed one night at Kasargod and the next at Payyanur. The yatra culminated at the proposed nuclear power plant site at Peringome.

It was a cycle yatra where half the yatri fell sea-sick! There were a lot of ferry crossings and the one near Vijaydurg involved crossing the open sea.

The route was scenic no doubt, but it was also full of ups and downs. At times, this could be quite tiring. Though coming downhill at great speeds was an exhilarating and a not to be missed on any account kind of experience, but then it was soon invariably followed by climbing steep slopes

pushing the cycle. This, especially in the hot Sun was not something to be cherished, though I feel that it is the memory of such climbs especially the ones on the road between Malvan and Vengurla which would remain with me for a long time.

## Ups and Downs

Our mood too like the road during the yatra, was sometimes way up and sometimes deep down. There were times when people fell ill Bachhi Singh fell from his cycle while going downhill at great speed near Ambet and had to have stitches. Vinayak slipped and fell on the road in a crowded street near Borivali in Bombay and then I collided with him. He was bleeding profusely and just then a person came up to me and started arguing that the cycle yatra was not in the national interest since it was against development! But the hardest part of the journey was not the physical hardship involved but rather the stresses and strains of group dynamics: Of people in the group, oneself included, being selfish and not acting in the best interest of the group. There were times when some dirty linen got washed in public. But then there were the highs—moments of pure ecstasy which one would not miss for anything in the world—moments of inspiration.

The most exhausting and trying day of the cycle yatra came early on. We had entered Maharashtra and spent the night at Dahanu. Originally, our schedule was to have the night halt at Chinchani—a small village just two kilometres from the Tarapur Atomic Power Station. However, local hosts had made some changes and Anand, our local organiser, was to meet us at Boisar railway station at Ten O'clock in the morning.

We started from Dahanu at 5.30 in the morning and proceeded to Chinchani. The morning air was cool and we made good progress. Reached Chinchani in time for breakfast and distributed a lot of leaflets. From Chinchani we went to Boisar via Tarapur, shouting

slogans most of the way especially when we spied some power station vehicle. We reached Boisar station in time to meet the morning train which brings nuclear workers and had a well attended street meeting. Anand met us and he informed us that our night halt was at a village called Nandakhal, which was another eighty-five kms distant. We had already covered around forty five kms till then in the morning. His suggestion was that we should all go in a train up to Virar and then go further on cycles. However, these were early days of the yatra and none of the yatriis were willing to even consider this proposal. Instead, we asked around if there was a shortcut, and somebody suggested an alternate route over a new bridge which had been constructed over the Par creek. He claimed that this route would save around 30 kms. Of course, the tourist map of Maharashtra that we had was totally useless in this situation. All of us were game for this plan and so alter a quick lunch at Palghar we were off, braving the hot noon sun. A little distance down the road, Manoj felt sick and started vomiting. So, we rested for a while in a small village on the verandah of a house by the side of the road. The women of the house were very hospitable and offered us tea and we talked about the problems caused by industrial pollution, salt pans and especially radioactive pollution from Tarapur. We left alter Manoj felt a little better and was able to ride pillion on the motor-cycle, while Uma took his cycle.

Soon alter leaving Safale, we had an unpleasant surprise in store. The road started climbing and a huge hill loomed ahead. None of our guides had even whispered a word about the road being hilly. We went up and then down again alter enjoying the fantastic view and crossed the bridge on the Par creek. And then our problems began. There was a small mud track going south, while the tar road that we had been travelling on, turned northwards opposite to the direction of our destination. We asked a lot of people directions,

but they were all unanimous in recommending the tar road. The mud track they claimed did not go anywhere. The highway is just some ten kms away and you will have to catch that There is no other way." Well, we cycled on, but after cycling well more than ten kms, there was still no sign of the promised highway. The site, just then of a small canal by the side of the road was like nectar to our eyes. We all waded in and had a most refreshing bath and were ready to face the road once more. "How far is the highway", we asked. "Oh, just another ten kms," was the entirely predictable answer.

By the time we reached the highway, it was dark already, and all of us were ready to drop off. Virar-naka was another seventeen kms down the highway we learnt. We were wondering what to do, with most of us in favour of spending the night beside the road, when suddenly a truck stopped and out stepped Anand. "Your food is all ready and waiting for you at Nandakhal," he said. Now there was no opposition at all to the suggestion that the cycles be loaded on to a truck and we all go to Virar-naka. The problem was how to get a truck to stop and listen to our proposition.

We walked to a dhaba some hundred yards down the road and explained our plight to the owner, who happened to be a Sardarji. "No problem at all," he said. "I will see that you set there. He talked to two truck drivers who had retired there for the night and miraculously we were all loaded and off within a few minutes. To top it all these friends refused any payment on reaching the destination saying that it was their *duty* to help fellow travellers, and specially those like us who were on a mission.

But the adventures of the day were not yet over. Nandakhal turned out to be another seventeen kms from Virar naka. Five people declared that they could not cycle any more and decided to call it a day right there, while the rest of us proceeded further. It was ten at night and this area it seems is not

not considered very safe, due to the activities of smuggler gangs. Five miles down the road, we came upon a road-block and found to our joy, a jeep there belonging to our hosts—the Harit Vasal group. One friend joined us to show us the way, while the jeep went to Virarnaka to collect all those sleeping there and bring them to Nandakhal. By the time all of us reached our destination and ate the much awaited meal, it was past midnight.

The day had certainly toughened us. Later on, once we had to cycle 93 kms in a day over hilly roads, but that felt like child's play. But what really touched us was the unstinted help of those unknown Sardarjis and the wonderful hospitality of the Harit Vasai group. It was such experiences which are the most cherished memories of the yatra.

### Himalayan Blunder

The biggest blunder of the yatra was of our own doing. We had given very short notice of the whole programme and that had given very little time to local organisers to make arrangements. Thus, there was an air of uncertainty regarding the route of the yatra right till our departure since we did not receive any word from the people who were to be our hosts. Despite the short notice, the arrangements for our stay and the food almost everywhere were excellent. This fact bears testimony to the magnificent effort put up by our local hosts.

Only once did we have to fend for ourselves. This happened in Sindhudurg district. According to our schedule we were supposed to have a night-halt at a place named Meethbav, where the Sarpanch had been informed of our impending arrival. Meethbav was ten kms off our track. When Uma and Suren Raut who were the advance party on a motorcycle arrived there they found that there were no arrangements for our stay. The Sarpanch had considered his duty just lay in writings notice regarding a meeting in the town square, and he said that the village had no

facilities for accommodating fifteen persons. At that, Uma and Suren hurried back to stop the rest before the detour. In passing, Uma noticed a Mahadev temple at a village named Dahibav. She went in and asked the old pujari there if the whole party could put up there for the night. Without a moment's hesitation and without even asking for the total number, he answered, "Of course." And he further added, "Would you be able to cook for yourselves if I get you food and utensils?" But as we were eating we found that he had another unexpected surprise in store for us. A lot of the young men of the village gathered at the temple. So after dinner we had a slide show and a fine lively meeting as well.

### Picture of Devastation

Talking to the villagers in Dahibav we found that this village was indeed exceptional—it did not have water problem whereas all the other villages in the vicinity were suffering from a severe water crisis. Even in my own ancestral home in Vengurla, which I visited for the second time in my life after a gap of thirty-two years, wells had run dry. All along the Konkan coast the sight of women walking large distances up hill and down dale to fetch a pail of water has become distressingly common. This, in an area which registers over hundred inches of rainfall every year, is an absolutely shocking state of affairs.

In fact, the whole cycle yatra was an object lesson in the after effects of this madness known as development. Hill sides in Konkan lay barren with hill tops presenting a desert like appearance. But deforestation and water shortages are not the only problems affecting the region. Industrial pollution and toxic waste dumping in water ways has made some rivers stagnant looking, foul smelling stench pools. The condition of Kolak river on the border of Gujarat with Daman is too appalling for words. Industrial pollution from Vapi has made this once rich fish breeding ground into a totally lifeless

stream of some dirty viscous fluid. The villagers of Kolak came ten kms to meet us and to tell us about their plight. A lot of local fisherwomen have fallen ill with cancer of the pelvis, they claimed. Patalganga was another seriously contaminated stream. The culprit in this case was a chemical plant belonging to Reliance Industries. But all along the northern part of the route there were many operating and proposed agro-chemical complexes. The southern part of the route has a multiplicity of nuclear installations!

We had some very good meetings with people in villages which have been targeted as sites for chemical complexes. Everywhere one question dominated. How can we organize ourselves effectively to stop this monster coming in our area?

The dominant impression left on my mind from the yatra is one where the bull-dozer of development in riding roughshod over the picture-book pretty landscape. This impression is probably heightened because there were a row of bulldozers and trucks all systematically tearing apart a hillside for the Konkan Railway project. Even this project, which could easily be implemented after consultation with the effected people and with their consent is sought to be implemented in a way where a large number of Christians in Goa feel that the railway is a disguised attempt to destroy their faith by destroying old churches and monuments.

### A Tale of Two Cities

I will never forget the public meeting in Ratnagiri—the home of Bal Gangadhar Tilak and many other leaders of the freedom struggle. Our local organiser had booked a hall and made announcements in all the local papers. We went to the hall a little ahead of time and waited for the audience to come. We waited and waited. Not a soul appeared. Finally, after nearly an hour, a man came. We all almost jumped on him hoping to 'convert' at least one person. But he had just come to inform us to vacate the premises



since they were needed for another programme. We left. Just outside the hall, a little distance away was the main bus station. Aradhana started talking on the megaphone and soon there was a crowd of two hundred listening and asking questions and buying our literature. We did six such separate meetings in the course of the next two hours, and learnt a valuable lesson in the bargain. The energy spent in arranging public meetings with its microphones and chairs and tables and flowerpots is better spent doing street actions which are watched by far more and where there is more active participation.

But on the other hand, the public meeting in Bombay was a very lively affair with a lot of people asking questions, expressing opinions and making promises of future involvement. The limitation of the street meeting is that there is no possibility of follow-up. And that is a very severe limitation indeed and a well arranged meeting like the one in Bombay is a reminder of this. The credit for the success of the Bombay meeting goes mainly to Mona Patrao and other members of the Anumukti Support Group which had been formed with a view to coordinating the

Bombay programme of the cycle yatra.

## A Kaleidoscope of Changing Patterns

Every state boundary meant a new set of friends and a new pattern of organisation which was absolutely fascinating to watch. Different state groups had reacted to the possibilities presented by the yatra in different ways. Thus, for example, the Karnataka group had decided to utilize the yatra as an attempt to revitalize the Kaiga movement. In their preparation, some activists went and visited each and every village that they had previously contacted during the Save the Western Ghats March. Bailancho Saad in Goa, on the other hand decided to involve a lot of new groups and individuals who had previously been unexposed to antinuclear ideas. The Kerala activists on their part had focussed their efforts on people's participation and the huge crowds that greeted the yatra in Kerala were a tribute to their organizing skills.

Our hosts and supporters reflected the great cultural, religious and even ideological diversity of our country. Thus from

R.S.S. and Shiv Sena to Gandhians, Socialists, Communists and Naxalites all hosted us and joined us. Rich chicu and supari planters took us in their homes, but then so also did many poor families. We stayed in Hindu mutts but then we also stayed in Christian churches.

But the real success of the yatra would depend mainly on how this upsurge in feeling can be channeled into a movement of continuing activity. On our part, we intend to organise both local level and all India level antinuclear camps at Vedchhi, during the coming year.

The finest tribute to the spirit of the cycle yatra came in Bhatkal. We had done a street play and talked and most of us had already left for our next destination. Dr Kusuma had stayed behind showing the Rawatbhata slides. A beggar woman with a mentally handicapped child who was watching the slide-show went around and collected a few Rupees and handed over this money saying, "you are working so that no mother in the world has to suffer like I have had to suffer." The antinuclear movement in India cannot afford to fail her.

*Surendra Gadekar*

## An Advertisement

Sampoorna Kranti Vidyalaya invites applications from young men and women to a new course, beginning from August 24, 1992. Applications can be obtained by sending a self addressed stamped envelop to:

Long Term Course  
Sampoorna Kranti Vidyalaya  
Vedchhi via Valod  
District Surat 394641

The vidyalaya has facilities and funds to train around fifteen students during the next year. There is no fixed curriculum, but each student devises his/her own curriculum in consultation with the staff. Anybody satisfying the following four conditions can become p. student of the vidyalaya:

- He/she must come of his/her

own choice and not be sent unwillingly

- Should have faith in non-violence
- Should be willing to do manual work. All work in the vidyalaya is done by the staff and students together.
- A minimal knowledge of Hindi and failing that at least a willingness to learn the language which is the language of communication in the vidyalaya.

The vidyalaya bears ail the lodging and boarding expenses of the students during their stay. It does not bear travelling expenses in-

curred in travelling to and from the vidyalaya.

The long term course attempts to not only impart information and skills but most importantly it tries to develop attitudes so that the trainees can become agents of a non-violent, non-exploitative society. A lot of remarkable people, who are actively engaged in movements for an alternative society, and in peace and justice issues, visit the vidyalaya, and students get ample opportunity to learn from them. But the greatest asset the vidyalaya possesses is that it considers life itself as the best teacher and thus all experiences in community living are seen and utilised as learning opportunities.

# Human Right to Radiation Security

**U**n 1948, when the Universal Declaration of Human Rights was adopted by the UN General Assembly, nobody in the world was fully aware how radiation was dangerous to human beings. Today, having experienced the Chernobyl catastrophe, all people of good will realize the danger of radiation. It creates a threat to the very existence of mankind, human health and gene funds. The earth has already got 15 wounds caused by radiation, that cannot be healed, Chernobyl being the most terrible among them. The victims of these tragic events have been and are common peaceful people. Social efforts to reduce the damage caused by radiation are uncoordinated and weak. The efforts put forth by states and governments are also inadequate. International Atomic Energy Agency (IAEA), the sole international organisation dealing with atomic energy, concentrates its activities on control over military projects and maintaining the minimum safety standards for the workers of atomic energy industries. IAEA objectively cannot protect the interests of the people who are suffering, and in fact, it does not. Therefore, we have nothing at all to protect ourselves from the menace of radiation. This situation is getting worse due to some more factors. One of them is psychological. Since human sense organs cannot detect radiation, people do not realize its danger. The second factor is the profit-oriented attitudes of individual governments, industrial companies, and ruling class. They would keep the danger of radiation secret from the people or sacrifice the counter-radiation measures by distorting and underestimating the facts in order to derive dubious advantage from accelerated technological progress. Another highly important factor is the inadequate concern for this global problem on the part of politicians, diplomats, and the

world public. Meanwhile there is urgent necessity to take measures which could comprise a special comprehensive programme and support the human right to radiation security. As a concrete step to be taken initially we propose the following actions to the United Nations, the UN Refugees Committee and other international organizations:

- (1) To introduce the new concept of the "Status of Radiation Refugees" into international law, which is similar to the existing "Status of Refugees."
- (2) To establish the "Radiation Refugees Assistance Committee" attached to the UNO.
- (3) The assistance of the above mentioned committee must be given to all the refugees that either have already left their country or the contaminated area or have the intention to leave but no possibility to do so.
- (4) To supplement the Universal Declaration of Human Rights with an article which would provide for the right of all people on the earth to radiation security.
- (5) By amending certain articles (e.g. Art.3) in the Universal Declaration of Human Rights, to widen the spectrum of rights to ecological security, radiation security in particular.
- (6) To evaluate the level of radiation and take comprehensive measures according to fair scientific approach, not tending to the promotion of atomic power, in order to protect the people from the effects of radiation.
- (7) **Taking into account the**

importance of the problem, a special session should be called by the General Assembly at which environment protection NGOs could be invited to present their opinions, as well as the representatives of member states.

We realize the possibility of different views concerning our proposals. However, we firmly believe that we must decide the fate of radiation refugees without further delay. It is a crime against mankind to bring about another Chernobyl.

*Vladimir Kirichansky  
Secretary for Zhitomir regional  
organization of Journalists  
League of Ukraine*

*Valery Nechiporenko  
Editor, Zhitomirsky Visnyk*

*Hiromi Bando  
Chernobyl-Chubu Relief Assoc.  
Nagoya, Japan*



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# An Unprecedented Disaster

## The Government's Own Case Against Kaiga

**1988** turned out to be a watershed year in the history of nuclear activities in India. In December of that year, the Government of Karnataka, besieged as it was by public uproar regarding the installation of an atomic power plant at Kaiga, in the heart of the Western Ghats, organised a public debate between the authorities of Department of Atomic Energy (DAE) and the members of the protesting public. Probably for the first time in the history of such movements, environmental groups got an opportunity to debate establishment scientists in an open forum. Represented by eminent technologists, scientists, economists and ecologists, they displayed a rare degree of sophistication and expertise in matters nuclear. The DAE could no longer brand the environmentalists as woolly headed do-gooders. In a desperate bid to defend itself the DAE parted with a considerable though not adequate amount of information concerning the Kaiga project. DAE did deposit some documents at the library of the Indian Institute of Science, Bangalore and shortly thereafter made some of these documents available to us through the Supreme Court where a case against the installation of the Kaiga plant is presently pending. The most important amongst the documents made available this way are the M.R.Srinivasan committee report on site selection (SSR) and the Rapid Environmental Impact Analysis (REIA) report prepared by the National Environmental Engineering Research Institute (NEERI) for the extension proposal at Kaiga. The DAE has not yet given us the Environmental Impact Assessment report for the original Kaiga project.

Even a cursory reading of these reports reveals that Kaiga site is most unsuitable for the installa-

tion of a nuclear power plant even by the government's own siting standards. The installation of a nuclear power plant at Kaiga is unprecedented for a number of reasons.

It is for the first time that a nuclear plant is being located in the heart of the dwindling rain forest. Tropical rain forests are a rare ecological niche and ought to be considered as a collective heritage of the people of India. No effort has been made to gather even elementary base-line data of the precious flora and fauna of the area which is home to many near-extinct species.

It is also the first time that a nuclear power plant is being located in close proximity to a cluster of eleven (existing or proposed) dams, in an area of proven reservoir induced seismicity. The risk due to dam failure here, (especially the Supa dam,) to the power plant is not negligible. Also here the existing water ways could maximize damage due to any accidental radioactive release to the environment.

### Site Selection Committee Report

The available literature from the government's own sources justifies these fears amply and throws light on the mechanism by which the government works on these matters. Going into the details of site selection committee report, one finds that making a comparative ment of the various sites, the committee made the following observation:

- In respect of storage of solid radioactive waste, rocky substrata and low water table are desirable for safe burial and containment of waste. But in the Kaiga area, the report notes that the water table is above ground

level in the high water table season. This is evident to anyone who has cared to visit this area in the monsoons.

- For rapid dispersal of radioactive waste, it is desirable that good wind speeds be associated with the topography. But the report notes that at Kaiga, the topography is predominantly hilly, somewhat close to a large bowl with a valley providing the opening. The calms are also reported to be high.

- In respect of access and transportation facilities, the report notes that broad gauge rail heads are far away at Mangalore and Hospet at distances of 330 and 355 kms respectively. All other sites, Tungabhadra, Kudankulam, Bhoothathankettu, Nagarjunasagar and Kalpakkam have better transportation facilities. Even regarding ocean transport, Karwar does not have the requisite draft for receiving big ships for construction work. The report clearly states that "there are no existing facilities and infrastructure at Kaiga which can be made use of during construction."

Clearly, the Kaiga site is endowed with the poorest communication and transport facilities of all the proposed sites. This issue is neither unimportant nor peripheral as may seem at the outset, especially in light of the fact that the Rama Rao committee has identified poor transport facilities as the main reason for the failure of the Rajasthan Atomic Power Station, Rawatbhata to perform satisfactorily.

In respect of foundation conditions and the seismic environment, a prospective site must be

endowed with good bed-rock conditions, but the Site Selection Committee has done only limited bore hole investigation and provides no data about these.

## Rapid Environmental Impact Analysis Report

However REIA has a lot to say about the bed rock and seismic conditions. It states that "the whole area has undergone extensive laterisation and among the 17 bore holes dug for geological investigations, core recovery has been poor to very poor." The report further states that:

- There are major geological faults in the region between Haliyal and Sirsi. The Kaiga site straddles a confluence of three major faults which makes the site "vulnerable". The Kaiga site is in a parallelogram whose south-western angle was the epicentre of the earthquake triggered by the Koyna dam reservoir.
- The course of the Kali Nadi river runs parallel to lineament No. 11 and (this is a source of major concern as seven dams of the size of Kadra Dam have been planned in the area.

The 1967 Koyna earthquake was triggered by impounding of water and the reservoirs which have been planned will go a long way in lubricating faults, fissures, joints and fractures, both major and minor and make the site unsafe from a seismological point of view. Lineament No. 11 is specially active and the Kali river runs parallel to it. The Kaiga site and its water resources are intimately connected with it. It is thus clear that from a geological point of view, Kaiga does not satisfy the basic criteria required of a site for an atomic power plant.

Apart from these, there are a number of other factors that have been overlooked. The report admits that investigations of the micrometeorology of the

Kaiga site are inadequate and incomplete and the effect of evaporating 300 million litres of water per day on the temperature, humidity and aquatic life has not been investigated. These effects are unlikely to be benign on the sensitive environment of the rain forests. The REIA makes no mention of the release of tritium, a radioactive isotope of hydrogen in the form of tritiated water.

In the matter of radioactive waste disposal, NEERI has no independent expertise and has left this whole matter to the Nuclear Power Corporation itself. No evaluation of the management of waste transport, location of waste storage sites, and waste transportation routes has been done in the report. Base line health data have not been collected but a cursory mention of the prevalence of cervical cancer among the females of the Gowda community has been made. But there is no epidemiological study to quantify this observation or identify the causes.

However, a socio-economic survey has been carried out which points out that half the surveyed population is opposed to the project and among the rest who support it, about half do so because of the promise of jobs held out to them by the NPC personnel. Terming the opinion held by the people opposing the project as "wrong", the REIA recommends that the NPC personnel must carry out a "campaign" to correct this. One wonders if such suggestions from NEERI are a part of the terms of reference!

## Why Kaiga?

If the Kaiga site is unsuitable on ecological, geological, geographical and strategic considerations, why then is the government going ahead with the Kaiga project even when a majority of the local populace is opposed to it? The answer can be found in the site selection report. The committee admits that not all factors influencing site selection are objec-

tive and quantifiable and a certain subjectivity invariably arises while making a comparative evaluation of several sites. This I believe is one of the most candid admissions to be made by our technocrats because all those years they had steeled themselves within the fortress of "objectivity" and technical expertise and flung the epithets of "subjectivity" at environmentalists

Now has the site selection committee resolved this dilemma of objective facts that disqualify Kaiga and the subjective compulsions of installing a plant there? The report answers the question by stating that only "techno-economic" criteria were<sup>4</sup> relied upon in recommending Kaiga as a suitable site. In fact, the Chairman of the Atomic Energy Regulatory Board, in a fit of honesty admitted during the December '88 debate, that Kaiga was a political decision.

This brings us to the central issue at hand. Can the welfare of the people and their democratic will, be sacrificed at the altar of political expediency?

A quick review of the reports of the three previous site selection committees, reveals that Kaiga was never even mentioned by the Hayath (1962), Vengurlekar (1975) and Kati (1982) committees. While every other site such as Kalpakkam, Kudankulam, Tungabhadra and Nagarjunasagar have a history of being favourably considered by successive site selection committees, Kaiga does not find a mention in any of the earlier reports. Even more intriguing is the fate of the Kati committee report which was submitted as late as October 1982 and which does not recommend Kaiga. One fails to understand why the Srinivasan committee was constituted in September 1983 barely an year after the Kati committee submitted its report. None of the siting criteria could have changed in an year's time and yet we have Srinivasan committee (which relied heavily on the data compiled by the Kati committee), coming out with a new list of suitable sites. Kaiga came from

nowhere to the top of this list!

### A Mammoth Project

Unlike others, the Kaiga project is a mammoth project, the dimensions of which only a few have realised. The Kaiga Atomic Power Plant is contingent upon the successful completion of the Kadra Dam, which itself has overrun its time schedule by over three years and is still not even half complete. Kaiga is viable only if the Kadra reservoir receives the requisite quantity of

water after which a 8 kms long channel has to be constructed for the outflow and inflow of water to the atomic power plant. Meanwhile the Kaiga project can be completed only when the Karwar port is developed sufficiently to be able to berth ships of the requisite tonnage that can bring in the heavy equipment to be erected there. Simultaneously the forests are being surveyed for the laying of heavy tension lines to energize the reactor as well as to evacuate power over enormous distances. Each of these projects by themsel-

ves can be daunting and the success at Kaiga is dependent on the simultaneous success of all of these. While the psychological predilections of being a developing country compel us to take on such mammoth tasks to "prove" to the world our technological power, can we really afford to commit our meagre resources to such empty challenges?

*Dr P Vishnu Kamath  
Dept, of Chemistry,  
Central College  
Bangalore University  
Bangalore 660001*

## Can Conservation Replace Kaiga?

**E**veryone 'knows' that energy conservation is the first alternative to nuclear power. However, there is a general misconception that conservation simply means using less electricity — that it implies a primitive lifestyle that foregoes the modern comforts offered by electricity. While an austere lifestyle may be intrinsically desirable, it is not the only alternative. In this article we devote ourselves to examining the possibilities of obtaining basic needs and comforts by using minimum amount of electricity required for the job.

Take lighting for example. No environmentalist would argue that we should not use electricity for lighting. But what we can and should be doing, is to get down to basics and ask whether it optimizes the ratio of light generated to electricity consumed. The answer is an emphatic NO in case of incandescent bulbs. In a bulb, a tungsten filament is heated to a very high temperature, where the glow is sufficient to perform the lighting. The electricity here is used basically to generate heat, not light. The light comes as a by-product. On the other hand a fluorescent lamp, or a tubelight as it is generally known, uses a different technology to

generate light in a more direct fashion. Using a tubelight amounts to a better, more efficient utilisation of electricity.

This much is common knowledge. Our electricity boards often advertise, exhorting people to use tubelights and save energy. But the higher initial cost of tubelights has inhibited their widespread use. Should not the government then subsidise the tubelights to promote their use? Should it, for example, divert the funds from our atomic energy projects towards subsidizing the tubelight industry? The answer would be yes, provided it made economic sense. That is, if one could save more electricity more cheaply by using a large number of tubelights than by constructing and operating a nuclear power plant.

Just how many tubelights are required to replace a reactor? Let us first calculate the energy generated by a nuclear power plant. A typical plant of 235 MW operating for 25 years continuously, would generate  $235 \times 1000 \times 365 \times 24 = 51465$  million units of electricity. For the uninitiated, one 'unit' of electricity is generated when a plant of 1 kilowatt capacity works for one hour. Above we have

converted 235 megawatts into kilowatts and multiplied that by the number of hours in a year. However, none of our reactors work anywhere near their installed capacity! The average for the nuclear power plants operating in the country is just 43%. Even if we assume a 50% plant load factor, the units generated come to  $51,465 \times 0.5 = 25732.5$  million units. But not all the energy generated is available for use. India has an astonishing and shamefully high figure of 23% for transmission and distribution losses. Even if we make a saving of 2% in this, we could do without nuclear power, but that is not the point of this article. In other words, only 77% of the electricity generated is available for public use. Thus, we have  $25,732 \times 0.77 = 19,814$  million units available for public use.

How many tubelights are needed to save these many units of electricity? The latest compact fluorescent tubes consume no more than 20 watts of power but give the same amount of light as a hundred watt incandescent bulb. Further, the typical life of these new tubes is 10,000 hours. The compact tubes work over a wide AC input range unlike the

standard tubelights presently available on the market. If we replace one 100 watt bulb with a compact tube, it will save us 80 watts X 10,000 hours = 800 units of electricity. Therefore, to save 20,000 million units we need 20,000 million / 800 = 25 million tubelights. Now, the question that comes is how much is all this going to cost. Nuclear reactors, by the governments own admission, cost well more than Rs. 1,000 crores. The open market price of the compact tubes is about Rs 200. But this includes the profit margins of the manufacturer and the dealer and also the marketing and distribution costs. If the government were to set up a plant for manufacturing the tubes, the price would come down substantially, particularly when one considers the economies of scale involved in producing two and a half crore tubelights! However, even at the present inflated market rates the cost of these two and a half crore tubelights works out to be just Rs.600 crores, just half that of a reactor.

Instead of setting up a reactor, all that the government has to do is to manufacture compact tubes in large quantities and distribute

them absolutely free of charge to the public. All public illumination and lighting of official buildings can be changed over to the more efficient technology. The public will certainly respond enthusiastically since they will get the same or better illumination at 20% of the electricity bill. The new tubes can be engineered so as to fit into the existing lamp-holders, so the changeover will not require any additional effort. The reactor can be scrapped.

A few comments and clarifications are in order. The Rs 1,000 crore figure is only the admitted cost of the reactor. The true cost of nuclear power can be mind boggling and hence the tax paying public is kindly spared this distressing bit of knowledge. The cost of decommissioning and waste disposal are not included by our nucleocrats in their calculations. Decommissioning is not acknowledged as a problem and waste management is swept under the carpet of reprocessing, vitrification and fast breeder reactors. However, the cost of these is enormous and has to be paid for by future generations.

The 50% plant load factor is also

highly optimistic. None of our reactors have shown any promise of working for 25 years and still end up with a gross figure of 50% at the end of it, as assumed in the calculations. CANDU reactors are known to age fast, and are likely to need scrapping after less than twenty years only. Prolonging their life will require massive overhauling exercises involving heavy additional cost, as the Canadian experience demonstrates. Despite the most unfavourable and conservative estimates, the above calculations show that energy efficiency in lighting applications alone can save as much electricity as can be expected from a nuclear reactor at half the cost. The scheme is environment friendly, will have full public support, has low gestation period and can be decentralised easily. And yet it will not be taken up seriously as an alternative to atomic energy because of just one shortcoming!

Compact fluorescent tubes do not produce any plutonium.

*Sanjay Havanur  
Citizens for Alternatives to  
Nuclear Energy  
Bangalore*

## A Warning

Radioactive wastes from nuclear reactors are being introduced into compact tubelight fixtures as materials in glow starters and these are being sold in India. These have been and are being discarded in the West. Compact fluorescent tubes (CFT) with non-radioactive materials are available. These give the same light as a 60 watt incandescent bulb but consume only 11 watts. These CFTs use electronic circuits and avoid radioactive starters. The claimed efficiency is more than four times that of conventional tubelights. However, an enquiry from India importers revealed no information on the energy audit of CFTs. The energy investment including that used in the production of materials used in the

construction of CFTs and its accessories is essential to estimate the net life-time energy saving resulting from the new device. CFTs cost a great deal more than an incandescent bulb. The cost of a tubelight using radioactive material should really include the overheads introduced from the nuclear enterprise from which the radioactive material emerged as waste in the first place. Just because someone like a weapon's manufacturer has free access to these wastes does not bring down the real cost of a commercialised product using such wastes. Krypton-85 used in these glow starters is a deadly radioactive gas emitting gamma rays which can travel long

distances and each ray has an energy of 517 kilo-electronvolts. Just one such ray would traverse some 70 cells and injure them all in microseconds. The repair of cells takes a much longer time (4.3 billion times more than the microsecond it took to cause the damage and then all the cells are not fully repaired.) The power of such energy transfer is of the order of 2500 watts to these cells. We must compare this to the power produced by the whole human body of some 170 watts! Thus, a gamma ray hit results in a strain to the affected 70 cells of about 15 times the whole body normal work. The corresponding shock delivered is something like 250,000 volts when

the ray ionises a cell to eject an electron out of the cell. And there will be tens of thousands of ionizations inflicted on the cells by each such gamma ray. And this is the lowest possible dose from the radioactive source. That is why

there is universal agreement that there is no safe level of radiation and this one ray can cause cancer or depression of the immune system. Thus, when we can avoid unnecessary exposure to radioactivity we must avoid it and ensure that

standards of health and well-being are not unnecessarily compromised. R.Ashok Kumar  
Bombay Sarvodaya Mandal  
299 Tardeo Road, Nana Chowk  
Bombay 400007

## Rawatbhata Health Study-Some Preliminary Results.

**O**riginally we had expected to publish a detailed analysis of the study on the health of the people near the Rawatbhata Atomic Power Plant (RAPS), in this issue. Unfortunately, the work of data entry into the computer has taken much longer than our expectations. Therefore, a detailed analysis would have to wait. However we are publishing this preliminary report since the plant authorities in Rawatbhata have started claiming that we did not find any effects at all and hence our silence. However we do hope to publish the full report within a month or so.

### Survey Methodology

We wanted to find out definitive answers to two basic questions.

- 1. Has the operation of the nuclear power plant resulted in any adverse effects on the health of the people living in the vicinity?
- 2. Has this massive development project made the poor less poorer?

To this end, we decided to select 5 villages in the vicinity (less than 10 Kms.) of the plant, in the East-Northeast direction and compared them with a group of villages around 50 Kms distant from the plant. For greater details of why particular villages were selected, please refer to the article, A report on the Rawatbhata Health Survey in October/November 1991 issue of *Anumukti*.

The other point that was decided was to obtain information from

each and every household in the selected vilages, and not rely on a random sample. This was done to avoid any possibility of bias in the selection of the sample. Of course, despite our best efforts, a few houses have been inadvertently left out since the respondents were not to be found at home despite repeated visits. However, the number of such "missed" households is less than 2 percent and would make no difference to our conclusions.

All the people who complained of any serious symptoms were examined by doctors and the statistics are based on their diagnosis.

### Conclusions

Till now, we have only analysed questions in the survey schedules which pertain to the health aspects, and there is no doubt at all that the health of the people in the nearby vilages is much worse than that of people in the distant vilages. The health picture of the two areas presents some telling contrasts.

- 1. Whenever a comparison is made of symptoms like short duration fever, weakness, breathlessness, cough etc. one finds there is no significant difference between the two populations.
- 2. Similarly diseases such as diabetes, heart conditions, hemiplegia (one sided paralysis), etc. there is no difference between proximate and distant vilages.

- 3. Diseases of the skin, digestive tract, sex organs, chronic and crippling infections all show a significant increase in the nearby vilages. Specifically four times as many people suffer from skin problems, three times as many from digestive problems and three times as many from sexual disorders.

- 4. However, the most startling contrasts appear in the comparison of solid tumours and congenital deformities. More than ten times as many people have different kinds of tumours in the nearby vilages. Similarly the proportion of congenitally deformed persons is four and a half times higher in vilages near Rawatbhata.

A point which needs to be noted strongly is that the health effects are far more significant and pronounced if one considers only young people of both areas. Thus, people who have been born after the reactors have started operating show far more deterioration in their health status than older people.

Questions besides those dealing with health have not as yet been considered in the analysis. So, right now we are abstaining from attempting to answer the second question in the previous section. However, information to give an unambiguous answer to this question has been obtained and we hope to do so shortly.

*Surendra Gadekar*



Recently I had an occasion to go to Rawatbhata. Right now the government is engaged in a strong propaganda effort. Even a short term course on radiation biology at Jaipur was full of one sided statements favouring atomic energy and denying any radiation effects. Employees of Rajasthan Atomic Power Station were among the speakers. They are trying to create an impression that the survey that you conducted around Rawatbhata did not find any adverse health effects and that is why the results have not yet been published. Therefore, the quicker the results of the survey are published, the better.

*Dr Rampratap Gupta  
Government College  
Rampura M.P. 458118*

Anumukti is a wonderful journal and has been very useful to our cause. Since I first wrote to you (see *Anumukti* Vol.5 No.1) The Yankee Utility has decided to close forever its Rowe reactor. While we are all ecstatic about this, we still have much work to do. We are planning to continue with a comprehensive health study of this region. We are also continuing our research on such things as high and low level waste, emergency planning and evacuation, and the economics and politics of atomic power, etc. In addition to continuing our local grassroots organizing Citizen's Awareness Network (CAN) is seeking funds from various foundations to assemble an organising packet (based on our successful campaign against Yankee Rowe) to distribute and give assistance to other organisations around reactors. In the tiny region of New England alone, there exist seven other nuclear power plants, six of which are at least twenty years old and are beginning to show dangerous signs of aging.

CAN has also arranged meetings

with two different delegations of grassroots organisers from Japan. We have also had correspondence from a group in Mexico and with two from Canada. The last delegation from Japan petitioned the United Nations to include in its "Refugees" category, a definition for "Radiation Refugees". (See Radiation Refugees page 7). CAN is in the process of drafting a similar petition. With all this international correspondence and exchange of information and ideas, I am feeling that an international, grassroots organizing forum or conference is needed. We are all doing such good hard work. I believe that if we band together in solidarity and combine our knowledge and skills then we will be well on the way to preserving our planet. We are all nuclear refugees.

*Ms Gail Steinbring  
Citizens Awareness Network  
P.O.Box 83 Shelburne Falls,  
MA 01370  
U.S.A.*

Your cycle yatra must be proceeding smoothly. I am sorry that I missed your programme in Bombay. There was very good coverage in the Bombay papers about the yatra. I had gone on a padayatra to Dandi in 1980, and therefore I have some idea of the kind of experiences that you must be having in your trip. Of course, since we were walking, communication was even more poor and anyway during the last twelve years communication network and telephones etc. have become ten times better, and so the feeling of being cut-off from the world is not so strong, but even then one eagerly awaits any letters that might be waiting at the next contact address and that is why I am writing this letter to you.

Usually, if one is travelling for a cause, one tends to be extremely busy and overworked — late nights etc. For cyclists the best

time to travel is early morning if you can force your hosts to let you go at 5 AM. You must be careful of the eating habits of all the members of the team. Many do not feel any appetite, but they are actually quite hungry. But since you have earlier experience of cycle yatras, so you know most of those things quite well.

You would be meeting hundreds of people at a personal level, (and that makes me jealous!). Antinuclear issues apart, there are a lot of other related matters which need to be discussed and could be talked directly to the people. Many people are more receptive to new ideas from a travelling group interacting on a personal level.

In the light of recent economic and commerce policy we are not only endorsing the Western model of development, but we seem to be endorsing Western definition of happiness! This model is totally energy intensive. Do we not need to fight this basic tenet? In the West, the per capita energy spent is considered to be the index of development. If we accept that, then where we derive our energy from becomes a matter of secondary importance at best. It is not the government alone which determines energy policy. People are also responsible for the choice. I feel that the yatra type of contact is effective in making people think about themselves and their choice of lifestyle and in which way they can contribute towards changes. Please avail of this opportunity to raise these important issues.

*Paresh Vaidya  
AFD, BARC, Bombay 400085*

While BARC officials like Mr V.V.S.Mani on the one hand, write that long lived radionuclides are a long term hazard and need to be isolated from the biosphere, (*Nuclear India*), on the other hand BARC is freely permitting the use of ionisation smoke detectors with radioactive material

inside them for ever in contact with the environment. The radioactive material inside the detector is Americium 241 which decays to Neptunium 237- which has a half life of 2.2 million years! The proliferation of these radioactive smoke detectors in industrial and office establishments all over the country poses a serious risk to the blue and white collar workers and managers who are committing suicide in a state of blissful ignorance. Krishna! please come quickly and show the world Anumukti.

R.Ashok Kumar  
Bombay

In your February-March 1992 issue, on page 6 under the subheading "India's Record of Democracy", the following sentence appears: "Free movement is not possible in a quarter of India's territory, because there are just too many armed men out there! This may be so in the North and North West on the borders of Kashmir and Punjab and also perhaps in the territory north of Cutch and Rajasthan, as these are areas from which illegal immigration and militant terrorists sneak in to cause disturbances in India. But I wonder, if this would cover a quarter of India's territory. Besides, you appear to suggest that the absence of free movement is due to reasons other than those of national security and involves avoidable and unnecessary restrictions on the freedom of movement. I think these inferences would not be correct.

R.K.Patil  
Civil Lines, Nagpur

Let me share with your readers two interesting things that I read in other (uncommon) journals. One is from an excellent interview with Vandana Shiva, the well known environmentalist, in the Unesco Courier of March 1992. In response to a question-

regarding the her changing her profession from being a nuclear scientist to the present one, she says (I quote only the portion relevant to anti-nukes, though I recommend the whole article highly to all interested in environmental concerns);

"... real, profound understanding of nature was supposed to be reached through physics. Then I went to nuclear physics, where I experienced massive disappointments. It was only when I was doing my master's degree that I realized how unthinking nuclear scientists were about the question of radiation hazards. We were taught how to create chain reaction in nuclear material and we knew all about energy transformations, and so on, but nothing about the interaction of radiation with living systems. I learned about radiation impacts from my sister who is a doctor. When I was working in a nuclear reactor in India, she kept saying: "Promise me you are never going to go back there!" "But why?", I said and she would reply, "you could have babies with mutations. You don't know what's going to happen to you." "When I was groping my way and exploring these issues, senior physicists would say, 'You don't need to know these things,' Again this was an exclusion and a violation of my search for knowledge. If science means to know, then I had no scientific training."

No wonder our nuclear scientific community is so agitated and cannot accept when you tell them about Rawatbhata study or any other effects of radiation contamination. In fact, the MBBS syllabus itself has one and half a page on radiation.

The other niblet is from the Safe Food News of Food and Water Inc., quoting from *Atoms and Waste* of Feb.6,1992:

## State of the Art?

### Sledgehammers Used to Close Safety Valves

*Wisconsin Electric Power Company (WEPCO) routinely used an eight pound sledge hammer to close safety valves at its Point Beach plant. The valves - giant main steam isolation valves - are required to close within seconds under accident conditions to prevent radioactive gases from leaving the containment area. The Point Beach personnel interviewed by the Nuclear Regulatory Commission (NRC) reported that valve failures "had become so routine that the use of operator assistance in closing these valves (with a sledgehammer) was considered an acceptable practice. WEPCO had been fined \$160,000 for this and other safety violations."*

Doesn't that make our nuclear establishment quite equal to the American one? Only Atomic Energy Regulatory Board (AREB) wouldn't do any of what NRC has done. If they read this, they would perhaps, rest even more content.

The Feb/March issue of *Anumukti* is excellent. It has been more prompt in production than when you happened to be settled in your headquarters! Maybe, cycling increases your efficiency. I particularly liked two articles in it: *Principles of Ecology* — excellent, prompting good soul searching, expansive. The other one is V.T.Padmanabhan's critique of CSE's paper on -Earth Summit- adds a very vital dimension beyond the simplistic polarisations in CSE's paper.

I would suggest that you give an author by-line rather than ghost I's writing or giving it like a Letter to the Editor type. It could even improve the get-up, too. I believe that it is a journalistic principle that when opinions are expressed, authors should be revealed.

K.Krupa  
809,17E Main, 5th Block  
Rajaji Nagar, Bangalore 560010

## National Antinuclear Convention at Peringome

Anumukti cycle yatra crossed the Karnataka-Kerala border on the 24th of April. The yatra started from Kasaragod early in the morning of the 25th and reached Payyanur in the evening.

All along the route people assembled on both sides of the road to welcome the yatra. Public meetings were held at various places like Manikkoth, Kanhangad, Nileswar, Cheruvathur, Kalikkadavu, Karivellur, Karamel and Annur in Kasargod and Kannur districts. Thousands of people gathered at Payyanur to welcome the Yatra. Eminent Gandhian activist and poet Sri A. V. Sreekanta Poduval presided over the large public meeting at Payyanur.

On 26th of April, Anumukti cycle yatra proceeded to Peringome - the site of the proposed nuclear power plant. The yatra was accompanied by numerous other cyclists from various places near Payyanur. Meetings were held at Kankol, Kundemkovval, Mathil and Aravanchal enroute. As the yatra reached Purakkat para, the actual site of the proposed reactor, a large gathering of men women and children, gave them a very warm and touching welcome with great emotional fervour and enthusiasm. The cyclists were garlanded to the accompaniment of beating drums and fireworks. The leaders of the yatra, Drs Sanghamitra and Kusuma were presented with white doves as a token of people's love for peace and concern for a non-nuclear world. Thousands of people watched as the doves flew into the skies of freedom. Everybody joined in and formed into a large procession which marched through the main street of Peringome in a massive demonstration against nuclearisation of India.

The valedictory meeting was held at the end of the demonstration. The whole gathering stood up in silence for a minute to pay homage to the victims of the Chernobyl disaster. Prof.R. V.G.Menon, Dr Surendra Gadekar and Dr .Kusuma spoke on the occasion. Prof Menon exposed the untruths being propagated by the nuclear establishment and contended that Kerala needed no nuclear plant to satisfy either its present or its future needs. Dr Gadekar stated that Chernobyl had exploded the myth of the safety of nuclear power. Dr Kusuma emphasised that women had an important role to play in the antinuclear movement and exhorted the women of Peringome to join the ongoing fight to prevent a nuclear plant coming in. The meeting ended with a slide show by Dr Sanghamitra about the health effects being observed in villages around the Rawatbhata nuclear power plant in Rajasthan. Dr Surendranath, the chairman of the Antinuclear Forum of Peringome who presided over the meeting thanked the cyclists from different parts of the country for coming over to Peringome and expressing solidarity with its people.

On 27th morning, there was a session presided over by Surendra Gadekar on "Conservation and Alternative Sources of Energy". Speakers included Prof Menon, Ashok Kumar from Bombay and N.Swaminathan from Thrissur. The last session was for sharing of experiences of activists from different parts of the country and based on these experiences for consideration of future programmes. Dr Sanghamitra Gadekar chaired the session. Anton Gomez, N.Subramaniam, Dr Kusuma and Dr Sanghamitra narrated the present state of the antinuclear struggles of Koodankulam,

Peringome, Kaiga, Kakrapar and Rawatbhata respectively. After that the meeting was broken up into small groups to decide about future programmes and spokespersons from these groups later reported the conclusions to the plenary.

The following are some of the suggestions that came up during the discussions:

### Common Ground

Issues need to be identified on which there is unanimous agreement among antinuclear groups and individuals. For example, the need for scrapping the Atomic Energy Act of 1962; the need to study the health and environmental effects around nuclear installations; the need to press the government to issue a white paper on the nuclear programme; familiarise activists and people with alternative technologies; the need for better press coverage of antinuclear issues, etc.

### Better Networking

*Anumukti* needs to become a better instrument of networking between various groups. Peringome Antinuclear Forum suggested that efforts should be made so that more people subscribe to *Anumukti* and each group should make it a point to write a letter every month to various groups and to *Anumukti*.

### Coordination

There should be increased coordination between antinuclear groups and other like minded groups such as environmental groups, health groups, human rights groups, women's groups

Some groups felt the need for a central committee or a contact council at a national level. However, a decision on this was shelved since others felt that the convention was not fully representative of the various regions of

the country. There was universal agreement on the need for organising more cycle yatras and other awareness raising people's contact activities. The Kakrapar group issued an invitation to others to hold the next national convention at Kakrapar.

The need to conduct more health surveys around nuclear installations as has been done in the case of Rawatbhata was emphasised. There was need to train people in conducting such surveys. The *Anumukti* group offered the facilities available at the Sampoor-na Kranti Vidyalaya campus to

conduct such workshops and training programmes.

The question of how to take a political stand was discussed at length. Also there were differing views expressed regarding the need for nonviolence in anti-nuclear protest. After summarising these suggestions in the plenary session, the meeting called upon the government to abolish the Atomic Energy Act of 1962 and to publish a White Paper on the working of Indian nuclear plants. It also requested the government to stop further nuclearisation of the country. The

meeting also adopted another resolution condemning the police repression and high-handedness against the activists fighting for their rights in the Narmada Valley.

The meet ended on the evening of the 27th of April. All the activists felt more enthusiastic about future work. Most participants felt that the Peringome meet and Anumukti cycle yatra had instilled greater confidence in them.

*K.Ramachandran  
Payyanur*

### Editor's Apology

It is already July and this is the April/May issue. I do not know what to say. I have apologised many times in the past but apologies however sincere can be no substitute for substance and I still don't manage to bring out *Anumukti* in time. In fact, we are falling behind schedule. The June/July issue, whenever it does appear and I hope that is within July, would still be late.

Shortage of material fit for the journal is not the problem. Actually, the opposite is true. The flow of news items on nuclear issues is something of a flood and one is liable to get drowned. *Anumukti* could be a monthly and still have enough 'matter'.

The bottleneck lies in the fact, that right now, *Anumukti* group consists of just three people, all of whom have other, sometimes more pressing, commitments. For example, although I am the editor, I am first a farmer and the month of May, the time just before the rains, is the busiest time. Journals have deadlines but plants are dead if they do not receive tender loving care in time. And everybody being away for a month during April for the cycle yatra doesn't help at all. So if any of you can volunteer to come and stay some time in Vedchhi and become part of the *Anumukti* family, do not hesitate for a minute. Apply now. See Advertisement on page 6 of this issue.

The other point I need to apologise profusely is the fact that in the last issue, I missed giving credit to people whose articles appeared in the issue. Ms Krupa has rightly pulled me up for this lapse. I would see that at least this sort of sloppishness doesn't take place again.

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*Anumukti deeply regrets the untimely death at the young age of 26, of the antinuclear activist N.Swaminathan of Altermedia of Thrissur, Kerala*