



## A JOURNAL DEVOTED TO

When I decided to give up a career in physics and take to full time antinuclear activism, many of my physicist friends were sceptical. Not that my career was any great shakes, but still it did provide the daily bread. "All that you really need to do is to take a few months off and write down clearly all the arguments against nuclear power and then convince the policy makers about them. After all what you are saying is not something radically new. Other countries are in the process of abandoning nuclear power and anybody reasonable can see the force of these arguments", so went their plea.

No doubt, physicists are somewhat naive when it comes to predicting the 'real world'. But to-day, four years later, even my friends are convinced that it is not mere sweet reasonableness which is going to drive out nuclear power or any other anti-people technology from this land. Is *Anumukti* then doomed to failure? A battle for a cause already lost!

No, because there is a language that policy makers do understand—the language of organised mass protest. And it is heartening to see that protest is beginning to bloom everywhere. In Eastern Europe it has blossomed like a desert flower after rains. Old, long hidden, skeletons have come tumbling out of nuclear cupboards as freedom, the right to know, accountability of public officials, become the key words in the new order. It seems increasingly likely that nuclear power has no future in that part of the world. Already a number of projects have been postponed, cancelled or abandoned unfinished as a direct result of public agitation.

At home too, people are becoming aware of the fact that without protest, survival itself becomes difficult. It is a hopeful sign that activists in Kerala have already started organising in response to the nuclear lobby's Interest in the State. The victory at Kothamangalam needs an encore. But what is especially encouraging is the fact that even at Rawatbhata in Rajasthan—the site of India's first CANDU reactors—that people have realised the false promise of the nuclear future. The moment of waking heralds a new dawn.

# Kakrapar to Rawatbhata Cycle Yatra

Sampoorna Kranti Vidyalaya, Vedchhi is organising a cycle rally from Kakrapar to Rawatbhata to commemorate Chernobyl accident and as a mark of protest against the continued government support to antipeople nuclear policies. The rally which would commence on April 10th, would mainly pass through adivasi lands of Gujarat and Madhya Pradesh and reach Rawatbhata on April 24th in time for the antinuclear convention being organised there. On the way there would be a large number of small public meetings at which participants would try to raise public consciousness on the nuclear and other 'development' issues. Attempts would be made to make contacts with individuals and small grass-roots groups so that an effective organisation can be built for the future.

The rally will focus attention on four main themes:

(1) Nuclear energy has proved to be neither safe nor clean nor cheap. Recent findings in other countries (BEIR V-report, Sellafield leukaemia clusters, privatisation fiasco in U.K. etc) just show that nuclear energy is an even bigger failure than was apparent even a few years back.

(2) Although the rationale behind installation of a nuclear facility is local development - it is precisely

the 'locals' who don't develop. Thus, even after 17 years of an operating reactor and almost 30 years after the decision to build the plant was taken, people who live in villages surrounding Rawatbhata Atomic Power Plant (RAPP) have yet to receive electricity, drinking water or basic emergency medical services from the plant.

(3) Big dams - besides causing large scale environmental degradation themselves - are precursors of atomic power projects. This has happened at both Rawatbhata (Rana Pratap Sagar dam on river Chambal) and Kakrapar (Ukai dam on river Tapi). The new proposed dams on the Narmada too - despite all protestations regarding fulfilling the drinking water needs of thirsty people of Kutch and Saurashtra - would no doubt be strong attractors for a future nuclear power plant.

(4) All over the world nuclear power has paid special 'attention' to indigenous populations. Whether it is uranium mining, or location of nuclear installations or nuclear weapons (peaceful nuclear device) testing, it is the indigenous people who bear the greatest risk and get the least benefit. The route of the rally lies mostly through adivasi land to highlight this injustice.

## Singing a New Tune

A report by the National Research Council of the US National Academy of Sciences (NAS) has concluded that the risk of exposure to low levels of radiation are at least four times — and in some cases, up to 14 times — greater than previously acknowledged by most radiation scientists. The long awaited *Biological Effects of Ionizing Radiation* (BEIR - V) report, released late last December, confirms the view held by dissident scientists. Mainly, that there is no safe dose of radiation and that the risk of radiation exposure follows a linear model. The reports findings are expected to lead to new standards for workers in the nuclear industry worldwide.

In 1980, the Academy's *BEIR-III* report had adopted a "linear- quadratic model", which presumed that low levels of radiation offered little to no risk. BEIR-V report is based on more recent data about the amount of radiation released by the atomic bombs dropped on Hiroshima and Nagasaki, which was considerably less than previously believed, and

also on the fact that bomb survivors are developing cancers at much higher rates than projected by *BEIR-III*. The report is a step in the direction of vindication of such antinuclear pioneers as Drs. Rosalie Bertell, Alice Stewart, Irwin Bross, Thomas Mancuso, John Goffman, Earnest Sternglass, the late Karl Z Morgan and many others much of whose work had previously been ignored or ridiculed by the nuclear establishment.

Using new information the report concludes that the risk for solid tumour cancer is three times greater than previously believed while the risk for leukemia is four times greater. The report also found a much greater risk of mental retardation among unborn babies exposed to low level radiation during the eighth to fifteenth weeks after conception. The report found that women are slightly more likely than men to develop cancers from low levels of radiation and that in some type of cancers, children are more susceptible than adults.

The BEIR-V report also concluded that normal background radiation poses a cancer risk up to 14 times higher than acknowledged in BEIR-III. According to the report, between 520 and 600 fatal cancers will be caused by lifetime exposure of 100,000 persons to 100 millirems annually - an average background dose. BEIR-III had predicted that only 25 to 119 fatal cancers would develop. However, BEIR-V only measured fatal cancers; the risk of developing non-fatal cancers is another 50% greater.

The panel was not charged with making public policy recommendations based on its conclusions and it did not attempt to do so. But Warren Sinclair, president of the US National Council for Radiological Protection, the panel which sets radiation exposure limits in the US, said that "present occupational limits will very likely be reduced" because of BEIR-V. There will most likely be an even more drastic reduction when a future BEIR-VI takes into account the recently released data on the

500,000 workers in the US Department of Energy's nuclear weapon's facilities.

Meanwhile Back Home....

The Atomic Energy Regulatory Board (AERB) has cautioned against the abnormal increase in the total radiation exposure at almost all nuclear establishments in the country. Prof. A.K. De chariman of AERB, said that the Board's Safety Review Committee had noticed that the total radiation exposure at nuclear power stations had gone up to 1,700 man-rem. It has asked the stations to bring the figure down to around 1,000 man-rems. Each individual should not be subjected to more than one rem of radiation. In 25% of the cases at Rawatbhata (RAPP) and Kalpakkam (MAPP), the reading had gone up to 2.5 rems. Recently RAPP was shut down for a few days as a result of increase in radiation in take.

Source: Indian Express 11.3.1990

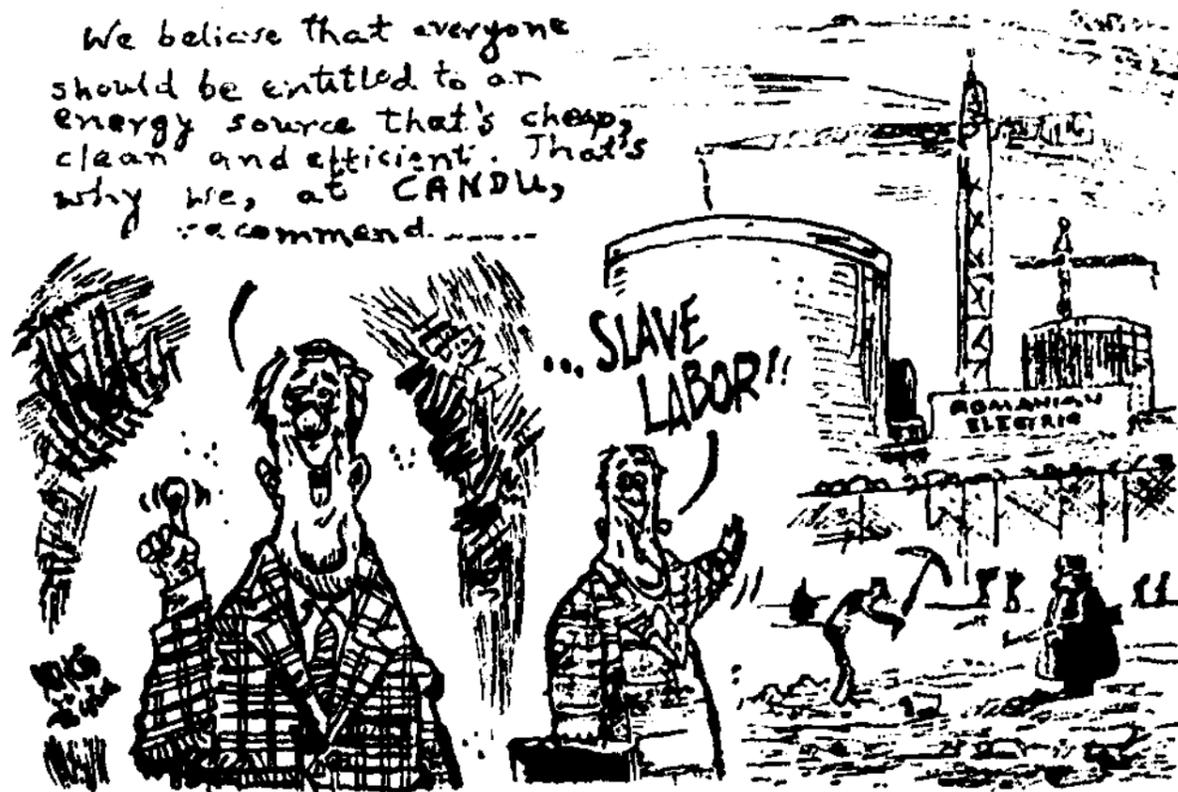
## Conscripts Construct CANDUs

The world knows that the regime in Romania led by the late Nicolae Ceausescu was founded on brutal repression and routine violations of human rights. Since Ceausescu's execution, it has also become clear that Canadians played a role in that repressive regime through the deals made by Canadian government agencies to build CANDU nuclear reactors in Romania. Forced labour has

been reported on the construction of Canadian CANDU reactors in Romania, and Canadian External Affairs officials admitted that they had previously received reports of conscripted labour being used at the nuclear megaproject. It seems that "commercial considerations caused countries such as Canada to overlook Ceausescu's villainy."

Canada began negotiating the sale of these

reactors in 1967. By 1977, Canada was reported to be close to an agreement with Romania for the construction of up to sixteen reactors. That same year, Canada and Romania signed a nuclear cooperation treaty that included nuclear weapon non-proliferation safeguards. In July 78, an agreement was signed covering the engineering services for one reactor, and by October that year, Atomic Energy of Canada Ltd. (AECL) announced that Romania



had agreed to buy two reactors and most of the heavy water needed to run them. In August '83 construction on two reactors began at Cernavoda, a small city on the Danube River, close to the Black Sea.

In retrospect, barter trade arrangements, negotiated to allow Romania to pay for reactor parts without currency, may have contributed both to the hardships that Romanian workers have endured, and to predictable financial losses for certain Canadian manufacturing industries. While most Romanians were chronically short of clothing and food, and living in dwellings with only minimal heat, Romania was exporting millions of dollars worth of garments and food products to Canada. These goods were apparently sold at bargain prices across Canada, thus undercutting comparable Canadian-made items. Romanian plate steel, imported under the same conditions, is reported to have cost Canadian steel companies in excess of \$10 million in lost sales. Most Canadian nuclear suppliers, with the exception of AECL, took 100% counter-trade on all their sales to Romania. Romanian steel plates that were part of the trade deal eventually became subject to Canadian dumping tariffs.

An independent study of AECL's commercial transactions, published in 1987 by the Economic Council of Canada, confirms that the crown corporation's export history has not been profitable. It was estimated at that time, that AECL had cost federal taxpayers \$12 billion (1981 currency) since its inception. Clearly, AECL's difficulties in selling

CANDU reactors abroad, and the Canadian nuclear industry's fears of financial collapse were prime factors in this highly questionable deal with Romania. Unfortunately, the Romanian workers, upon whose industrial production the deal was founded, were a captive and impoverished workforce. Canadian officials did not let the prospect of Romanian deprivation affect their willingness to do business.

The deal with Romania covered not only the construction of nuclear reactors, but also the transfer of nuclear technology, and the proposed sale of heavy water. At each successive stage, this deal brought Romania closer to having the capacity to produce nuclear weapons. As Romania became increasingly unstable in the 1980s, the risk this deal posed to international security should have been clear to Canadians. Concern was highlighted in 1985, when AECL signed an agreement that gave Romania the right to re-sell CANDU components to other countries, thus increasing the risks of horizontal nuclear proliferation. With Romania now in a politically volatile state, it is difficult to predict whether construction on the CANDU station will continue and if non-proliferation agreements will be adhered to by the new Romanian government. The Romanian election, to be held in May, will no doubt bring more news about whether construction of the five reactors at Cernavoda will continue or not.

*Rod MacLeod*

*Nuclear Awareness News Winter 1989/1990*

## Chernobyl— The Sad Saga Continues

Between 1987 and 1989, a further 150,000 people (in addition to the 135,000 people evacuated at the time of the accident) were evacuated from contaminated areas in the Soviet Union. They had accumulated high doses of radiation through continued exposure to the fallout from the 1986 disaster. Another hundred thousand more people can expect evacuation between 1990-1992, when they approach the already too high emergency permissible radiation limit. At least 60,000 people mainly young persons and professionals have already left the areas without waiting for compensation or official resettlement. More than 220 villages have been already abandoned and some 600 villages and towns were included in a programme of systematic decontamination.

In 1989, it was officially acknowledged that an area of about 10,000 square kilometres in various parts of the Ukraine, Byelorussia and the Russian SSR was contaminated with cesium-137 to levels

higher than 40 Ci/square km and was considered dangerous for human habitation. About 150 villages are now waiting for the next wave of evacuation. In some still inhabited "hot-spots", levels of radioactive cesium as high as 90 — 140 Ci/square km have been found. The local population, particularly children are already suffering adverse health effects.

A significant part of the heavily contaminated area is far from the reactor site - in some cases between 100 and 400 kilometres away. High contamination was caused due to the fact that it rained on these areas during the time the damaged reactor was belching out radioactivity. Levels of cesium-137 between 15 and 40 Ci/square km were recorded over some 22,000 square kilometres during 1989. Western standards presently consider even 15 Ci/square km as unsuitable for agriculture, particularly livestock farming.

Some reports indicate that some 100,000 square kilometres of land in the European part of the Soviet Union has levels of cesium-137 and strontium-90 higher than 50,000 Bq/square metre. However, these rural areas and even those with contamination levels above 500,000 Bq/square metre, continue to be farmed although the agricultural produce from there is required to undergo special treatment. According to the regulations, livestock must be transferred to clean feeding about two months before slaughter. Milk is used only to make butter and cheese. But because of food shortages, violations

of the rules are common.

Approximately one million people live in areas now designated as "permanent strict radiation control" areas. The Ministry of Health has raised the maximum permissible limit of radiation dosage in these areas far above internationally recommended limits.

*Sources: The Environmental Destruction of the Soviet Union" Zhores Medvedev The Ecologist Vol.20 No. 1 January 1990.*

## Rawatbhata : Development Brings Dissatisfaction

Rawatbhata near Kota in Rajasthan is being made into a large centre of nuclear generated electricity. The construction of the first reactor started in the sixties and by late 1973 the reactor had begun commercial production. The second unit commenced production on 1st April, 1981. Construction of the third and fourth unit has already begun and four more units are proposed. All these units are situated on the banks of the Rana Pratap Sagar dam reservoir. Within a 100 km distance three other dams have been built on the Chambal - the Gandhi Sagar dam, the Jawahar Sagar dam and the Kota barrage which together form the Chambal valley plan. All the dams produce hydroelectricity besides providing water for irrigation through a network of canals. On the top of this there is a thermal power station in Kota. A number of large industries have already started functioning there. One would expect that with so many 'temples' of modern development all concentrated in one place, the people of this region would be contented, happy and staunch supporters of the 'development' process. In fact before reaching Rawatbhata this is precisely the impression one gets - where once there was a jungle in which tigers roared, today there are new and newer colonies, shopping centers coming up by the minute. New buses run up and down Rawatbhata's roads.

But on January 13th, 1990, there was a meeting in Rawatbhata where an absolutely contrary picture emerged. This meeting had been called to discuss the benefits and the harm caused by the local nuclear power plant. It was attended by the sarpanches of two other villages besides Rawatbhata, a number of locally elected officials, farmers, tradespeople, unemployed youth besides some representatives from outside. In the meeting it became obvious that local people share feelings of disappointment, anxiety and anger and they feel that all these reactors, industries and dams have been of

no use to them.

The meeting was chaired by Shri Kishanlal Gupta the former chairman of Bhaisroad Panchayat and a resident of Eklingpura village. He said that the area was once a very good jungle and pasture land from which the local residents got various kinds of fruits, roots, leaves, wood, cattlefeed and other produce. The tornado of development has laid bare all this. The local residents have not benefited at all. Even today, most neighbouring villages do not yet have proper roads so that in an emergency the villagers could be taken elsewhere in a hurry. Although Rawatbhata is such a major electricity generating centre and supplies electricity to all parts of the northern grid, but the local farmers are still pining for electricity connections. He mentioned instances of farmers whose applications for electricity connections were still pending after ten years. In the same vein, the Rawatbhata village panchayat chairman Shri Ratanlal Gupta said, "The village Tamlav situated right next to the reactors is yet to receive electricity". There are also villages in the area where drinking water is still a serious problem and the water has to be carried in tankers during the summers.

Another fact which was illuminated during the discussions at the meeting was the discrimination practiced by the RAPP authorities between their own employees and the local population in matters relating to basic facilities. The local people have great difficulty in getting tap water connections. Even in cases of severe emergency, local people are not treated in the hospital attached to the power plant. This, despite the fact that there is no other hospital in the vicinity. In fact the government ought to set up a special hospital and health centres to deal with the damage caused by the radioactive pollution of the nuclear power plant. Even the suez of the colony of employees of RAPP is allowed to flow freely through the localities posing a grave health

risk. The Rawatbhata village panchayat has drawn the attention of the authorities many times to these problems through correspondence and only received empty reassurances in return.

Expectations regarding jobs and other employment opportunities are naturally aroused in the neighbouring villages the moment a large project is announced. But most of the jobs go to the well educated from the cities and metropolis while only manual work is left for the local people. The same has happened in Rawatbhata. The unemployed youth in Rawatbhata have organised themselves into a union which has raised the demand of local employment. Two days before the meeting they had carried out a 'Rasta-roko' agitation. The chairman of the union Shri Rajesh Singh Rajora told the meeting in very clear terms, "We do not want any new reactors here - they are of no use to us."

There is a great deal of anxiety amongst the local population regarding radiation hazards of nuclear power plants. The disasters of Bhopal and Chernobyl are particularly to the fore in peoples minds. There is no information regarding what kind and amount of damage an accident can cause; what to do in the event of an accident; what are the possibilities of an accident at Rawatbhata; what are the emergency plans of the authorities etc. On none of these points have the authorities been forthcoming with information. About one and a half years ago an exercise was carried out to test emergency preparedness. However, since the authorities have always maintained that an accident was impossible, the local residents wonder why the need to have emergency preparedness drills. Last September there was a gas leak in the heavy water plant which caused a great deal of panic in the area. The security guards and the employees had decamped wearing masks in trucks. The residents of Tamla village had also felt the smell of the gas. But the authorities have tried to cover-up this incident calling it a rumour. Due to this their credibility has reduced greatly. Any criticism of the atomic energy programme is labelled by the authorities as the work of foreign inspired people who want to weaken the country. There was a consensus at the meeting that the authorities have no other excuses left to offer. Ratna Mathur, who had come from Delhi said that the reality was just the opposite. Prosperous countries are cutting back on their nuclear programmes under the pressure of public opinion generated by Chernobyl. Hence there is a maximum pressure from

A "Parmanu Pradooshan Sangharsh Samiti" to fight against the radiation pollution caused by nuclear power plants both operating and proposed in the Rawatbhata area has been formed. The samiti has decided to commemorate Chernobyl day by calling a two day convention on April 25th and 26th, We invite friends and workers from other regions to come and join us. There are regular buses every hour from Kota to Rawatbhata starting from Gumanpura bus-stand between 7 A.M. and 10 P.M.

Contact: Shri Ratanlal Gupta — Sarpanch Rawatbhata Panchayat.

them on the Third World nations to accept the useless technology, hardware, instruments, etc. which they want to dump.

Authorities also claim that whatever the dangers involved, electricity is necessary for progress. But as one person said in the meeting, "There can be no development at the cost of human life." Rajeev Singh from Delhi clarified that the restart of Rawatbhata Unit 1 after there was a crack in the end-shield was not an achievement to be proud of but rather a crime against humanity considering the risk involved. Nowhere else in the world is a reactor with a crack in its end shield being operated. Sunil from Hoshangabad said that nobody could believe the authorities. They are going ahead with their programme despite growing protests only because their vested selfish interests are involved. They do not consider the local population any better than insects and treat them accordingly.

The slowly gathering storm of protest in Rawatbhata is about to break. The authorities of RAPP have started following a carrot and stick policy of simultaneously giving concessions and suppressing dissent. They have promised to make a junior college in Rawatbhata village. Shri Ratanlal Gupta, the Rawatbhata village sarpanch said that there was a proposal to supersede the village panchayat along with panchayats of another two villages and to incorporate them into a special development authority whose control would be exercised by a government appointed administrator. This way, the protest voiced by locally elected village officials could be silenced.

The meeting ended by forming a struggle council (sangharsh samiti). The samiti has decided to collect information on this issue and has called a conference on 25th and 26th of April, at Rawatbhata for this purpose. They want to establish a dialogue with other struggle movements and have invited representatives to come to the conference.

There is no doubt that modern development projects are raising anxieties and fears amongst the people not only at Rawatbhata. It is also apparent that the high priests of development have no answer to calm these fears.

*(Translated from Hindi)*

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# Radiation Kills Children of Nuclear Workers

An alarming UK study linking childhood leukaemia to fathers exposed to radiation has created furor in Great Britain and elsewhere. (See Box) The study found that children living in Seascale, a village near the Sellafield nuclear reprocessing plant, were ten times more likely to suffer from leukaemia than children in the general population; one in five of the children with the disease studied had fathers who worked at the plant. The study, led by Professor Martin Gardner of Southampton University on behalf of the British Medical Association (BMA), was published in the *British Medical Journal* on 16th February, and was picked up immediately by the British media, making the front page of virtually every daily coming out of Britain and prompting calls for action.

The BMA study found an unusually high incidence of leukaemia among children living near the Sellafield plant in Cumbria, in the northwest of Britain, and provides the strongest link yet between leukaemia clusters with nuclear power facilities. Media reports are calling it the first study of its kind in the world, but in fact it is the latest in a long line of studies (most of which have so far been ignored) that show that radiation is

considerably more dangerous than what was assumed when the current safety standards were set. Where it differs from most other studies, though, is in the genetic implications: The study suggests that

radiation at Sellafield effected the sperm of men working there, possibly introducing a genetic mutation. It found that where workers received only 10 mSv in the six months prior to conception, their children also faced a 6-8 fold increase in risk of developing leukaemia. (The current annual dose limit is 50 mSv). It is not, however, the first time that damage to sperm has been linked to radiation. For example, according to Greenpeace, genetic implications of radioactive exposure on nuclear submarines were revealed in a study which showed that between 1972 and 1975 four babies born to submarines on the Polaris submarine HMS Resolution were born with hare lip and cleft palate. In 1986 Dr. Maha Linet, then at Johns Hopkins University in Baltimore, looked at 309 cases of childhood leukaemia in Shanghai. She and her Chinese colleagues found that the disease was more common in the children of men who had diagnostic X-rays before conception than in those of men

Results of case-control study of leukaemia and lymphoma among young people near Sellafield nuclear plant in West Cumbria.

Results : Expected associations with prenatal exposure to x rays were found, but little information was available on viral illnesses. Relative risks for leukaemia and non-Hodgkin's lymphoma were higher in children born near Sellafield and in children of fathers employed at the plant, particularly those with high radiation dose recordings before their child's conception. For example, the relative risks compared with area controls were 0.17 (95% confidence interval 0.05 to 0.53) for being born further than 5 km from Sellafield, 2.44 (1.04 to 5.71) for children of fathers employed at Sellafield at their conception, and 6.42 (1.57 to 26.3) for children of fathers receiving a total preconceptional ionising radiation dose of 100 mSv or more. Other factors, including exposure to x rays, maternal age, employment elsewhere, eating seafood, and playing on the beach did not explain these relationships. Focusing on Seascale, where the excess incidence has predominantly been reported, showed for the four out of five cases of leukaemia and one case of non-Hodgkin's lymphoma whose fathers were employed at Sellafield and for whom dose information was obtained, that the fathers of each case had higher radiation doses before their child's conception than all their matched control fathers; the father of the other Seascale case (non-Hodgkin's lymphoma) was not employed at the plant. These results seem to explain statistically the geographical and employment associations with Sellafield that were found.

Conclusions : The raised incidence of leukaemia, particularly, and non-Hodgkin's lymphoma among children near Sellafield was associated with paternal employment and recorded external dose of whole body penetrating radiation during work at the plant before conception. The association can explain statistically the observed geographical excess. This result suggests an effect of ionising radiation on fathers that may be leukaemogenic in their offspring, though other, less likely, explanations are possible. There are important potential implications for radiobiology and for protection of radiation workers and their children.

*British Medical Journal 17 February 1990*

who had not. The risk of cancer increased with the number of X-rays that the men had been given. Similarly the fifth report of the *Biological Effects of Ionising Radiation series* (See also "Singing a New Tune" page, this issue) describes Japanese research which shows that two out of the 1,630 women pregnant at the time of the atomic holocaust gave birth to children who subsequently contracted childhood cancers. Normally fewer than one in 1,630 would be expected.

The scientists in the BMA study found that of 52 local children who had leukaemia between 1950 and 1985, 10 had fathers who worked at Sellafield. The link was strongest where the father had received particularly high doses of radiation before the child's conception. Scientists and engineers at British Nuclear Fuels (BNFL), which runs the Sellafield plant expressed "deep concern" and called for urgent action to reduce radiation dose limits for employees. At the same time, however, BNFL said that while the report came from a "respectable source", it did not believe it established a link between radioactive discharges from the plant and childhood leukaemia.

Workers at Sellafield were told about the findings before they left work on the day before the study hit the front pages. Shop stewards began considering their response that night, but already the Transport and General Workers Union, on behalf of the industrial unions in the nuclear industry, a/e calling for urgent action. On March 6th three families, in which the father works at Sellafield and the children have cancer, served writs on British Nuclear Fuels as a result of this study. Martyn Day, solicitor for families claiming that their children were

The discovery of a clear statistical link between the exposure of men to excessive radiation and leukaemia in their children is a calamity of dreadful proportions for those directly affected. The anguish of a father of a child suffering from this serious and sometimes fatal disease will be increased immeasurably by the suspicion that the origin of such suffering may after all be in himself. Such families need and deserve all the support and sympathy a compassionate society can muster. So serious are the implications of this discovery that the only sound basis for public policy in response must be to act as if the suspicion was already proved. Further research is essential, but it must not be used as an excuse for delay. The investigation by Professor Martin Gardner of Southampton University is evidence enough for action. It is already being hailed as a model of its kind, and may become a classical demonstration of the detective power of environmental epidemiology, the science of investigating statistical patterns of disease in pursuit of clues to medical causes and effects.

The implication must be faced, painful though it is, that any man who has been exposed regularly to radiation in the course of his employment may run some risk of fathering children who may eventually contract leukaemia. One of the first priorities of research must be to identify that group at risk as accurately as possible, for there must be thousands of men whose work brings them into contact with radiation who will today be fearful about their own families. They need reassurance as fast as it can be obtained, based on solid scientific investigation. Meanwhile the entire nuclear industry is faced with a real emergency. Radiation safety levels will have to be reviewed once again, and almost certainly substantially lowered. This is also a case where it will be not sufficient to await the final dotted T or crossed T in the laboratory, but where the only right basis to proceed for the time being will be to assume the worst.

*The Times (London) 16.2.1990*

made ill by radiation, said that already half the children involved were dead. Susan D'Arcy believes that her daughter's leukaemia is directly linked to the Sellafield plant. Her daughter Gemma, is one of the three children in one school to have contracted the cancer in the last two years. The other two children died. Gemma who is six years old, is at present in hospital following a bone-marrow transplant. Gemma's father, Stephen D'Arcy, has refused to support his wife's test case against BNFL saying, "It's a bit like biting the hand that feeds you." BNFL employs around 33% of the population of the area. At Sellafield alone, there are some 14,000 people working at the plant, and thousands more depend on it for a living.

In a follow-up story on the study on Sunday after it was released, *The Guardian* ran a headline saying "Cumbrians Calm on Sellafield Report". But the article itself contradicted this. One person interviewed, Christopher Merlin, who had already begun a lawsuit against BNFL after plutonium from the plant was found in his household dust, predicted it would have a "disturbing effect on marriages in the area." Another man said, "I would be worried if I were starting a family. I've worked there for four years." Even a woman who said, "yes, people were taking it calmly and there was," she thought, "no panic", went on to add, "Yet I think young people are bound to think twice about whether there is any risk." Let's hope the authorities who set dose limits think twice, too.

*Source: WISE News Communiqué 326  
The Economist March 10, 1990  
Peace News February 23, 1990*

# Events

## Talk by Dr Rosalie Berteli

On 28th February, 1990 a lecture on the "Health Hazards of Low Level Radiation" by Dr Rosalie Berteli was organised in the Indian Merchants Chamber Hall in Bombay. The organiser was F.I.A.M.C. Bio-Medical Ethics Centre of Bombay. The lecture was co-sponsored by a number of organisations including *Anumukti*. Dr Biswatu Banerjee a physicist from Tata Institute of Fundamental Research presided and Mr Justice Y. V. Chaudrachud - the former Chief Justice of India was the chief guest. The lecture was attended amongst others by many scientists, medical personnel and journalists.

Dr Rosalie Berteli who is the author of *No Immediate Danger — Prognosis for a Radio-active Earth* is a very famous figure in antinuclear circles all over the world. Two years ago she was awarded <sup>M</sup>"The Right Livelihood Award" — the "Alternative Nobel Prize" for her pioneering work on effects of low level nuclear radiation. She has been a fighter for human rights especially for the rights of the weak and the dispossessed. Trained originally as a statistician she presently is the President of the International Institute of Concern for Public Health. She has a special relationship with India since she is involved in a long-term study of the effects on the naturally occurring (high) low level radiation in the monazite sands of Kerala.

During her talk she sighted many studies in which she herself had been involved to stress the pernicious nature of low level radiation. The point she stressed was that increasing radiation pollution is a form of random murder. What we are actually doing is to deplete the strength of the gene-pool. In the long run we will be producing children who are less able to cope with pollution than were their parents while at the same time we're degrading the environment so that they have more to cope with.

Of special interest were her preliminary findings of the study of 40,000 fisherfolk and a comparable control group living on the sands in Kerala. She confirmed that there had been an increase of three to four times as much in congenital diseases like epilepsy, cleft lip and palate, infertility, Down's syndrome etc.

She also talked on the role of standard setting bodies like ICRP (International Council for Radiological Protection) which though they recognise the various ill effects on biological systems of

radiation like injuries, general lowering of W.B.C. counts, cataracts obesity, impaired fertility, shortened lifespans, increases in cardio-vascular-renal diseases as well as in autoimmune lymphoid diseases; only take into consideration fatal tumours while setting standards.

## Medicos Say No to Nuclear Energy

Medico Friend Circle (MFC) in its XVIth annual meet on "Radiation and Health" held at Gandhigram Rural University from 26th to 28th January resolved to oppose the production and use of nuclear energy as being too hazardous for the health of human beings and to demand that existing nuclear facilities be de-commissioned and no new nuclear plants be built.

The discussion in this meet was divided into four broad areas:

- 1) Basics of radiation and health and the experience of nuclear power plants;
- 2) Health-hazards of common radiological investigations;
- 3) Food irradiation;
- 4) Other sources of radiation from consumer products - Electronic Display screens for instance.

Most of the discussion and background material was focussed on the first area; a clear consensus also emerged.

During this discussion, it was pointed out that authorities all over the world have concluded that the quantum of radiation, how so ever small, invariably cause damage to human issues and that there is no level of radiation that can be considered safe. Production of nuclear energy damages the health of the people through exposure to ionising radiation at all stages of operation. Mining and milling, transport of radioactive material, burning of nuclear fuel in the reactors etc. cause radioactive contamination of the environment. There is enough scientific evidence to this end. Moreover what is of grave concern is the nature of the health hazards caused by ionising radiations which could to the foetus, genetic mutation after many generations and would be carried over to future generations as well.

The MFC meet underlines the special significance of these health hazards which would affect the very quality of human race in the future generations to come. Added to this is the predicted adverse effect on the power to resist infectious organisms and other stresses. These alarming health hazards

are reasons enough to outright reject nuclear power.

The participants of MFC meet emphasised that apart from these major health hazards, there are many other important health problems like increased incidence of allergies, asthma, high blood pressure, hypothyroidism, reduced fertility, spontaneous abortion etc. Thus on health grounds alone, nuclear energy is to be rejected in absolute terms with little need to base our judgement on the comparative analysis of health hazards of different sources of energy. Any source of energy which threatens the very survival and quality of human species has to be rejected and human society must find a model of development compatible with safe energy sources. During the course of the discussion it became clear that the health hazards of nuclear energy cannot be minimized despite claims to the contrary. Above all, the problem of safe disposal of radioactive waste for thousands of years has yet to be solved.

Today, nuclear energy constitutes only 1% of total electricity produced in India, shutting down of nuclear power plants will thus not result in a crisis on the energy front. The 1% deficit for which the nuclear energy is being produced can easily be overcome by saving electricity losses in transmission.

The MFC meet has also drawn attention to the health hazards of repeated exposure of pregnant women for prolonged periods to visual display terminals (Screens) attached to Computers.

The MFC meet, while affirming the well established immense value of radiological investigations has drawn attention to the fact that additional cancers do in fact occur due to exposure to X-rays. The incidence of additional cancers is extremely low and depends upon the age, sex of the person exposed and the quality of radiological apparatus. It has been estimated that in case of adult male persons exposed to these X-rays, there would be 15 additional cancers per million X-rays. Compared to the number of lives saved and diseases diagnosed this risk is extremely low. But nevertheless it follows that X-rays must be kept to as minimum as necessary and secondly all the precautions necessary to maintain the X-rays units properly have to be meticulously followed. On both these counts the situation in India especially in Taluka places etc., is much worse than in the developed countries. Screening machines are much more hazardous because their exposure is many times more and hence it should be restricted

to the absolute minimum. Atomic Energy Regulatory Board must exercise its powers to regulate the quality of radiology units.

## War Resisters Meet

The regional conference of the War Resisters India (West) took place at the Sampurna Kranti Vidyalaya in Vedchhi between 10-13 March 1990. It unanimously adopted the following resolution:

"We the peace activists and constructive workers of the western part of India are deeply concerned about the increasing violence and militarisation in the subcontinent. We firmly believe that it is our responsibility to take such steps that would help in bringing about mutual understanding and peaceful relations between the peoples of this region. Our objective is a world without war, and it is with that spirit that we state the following:

"As the Indian government has repeatedly stated that it is committed to giving priority to friendly relations with her neighbours, we are disturbed to learn now that the Prime Minister has announced an increase in the defense budget whereas the general trend the world over is towards reduction of arms. Therefore, we urge our government to start cutting military expenditure in order to build confidence in South Asia."

"Some recent statements by the government referring to its intention to go to war if necessary as well as the appointment of a defense minister who is a strong protagonist of nuclear weapons are not in keeping with the spirit of the processed policy of reconciliation. This has only served to vitiate the atmosphere in the region.

"We welcome the announcement that at last the Indian troops will now be withdrawn from Sri Lanka and we hope that in future no action will be taken which may be considered a further interference in the affairs of Sri Lanka and for that matter any neighbour country. The future of the people of this region is closely linked with the availability of water. This should encourage the governments to find amicable solutions to water disputes, for example sharing of Ganga waters between India and Bangla Desh."

"We on our part attach the utmost importance to these issues and are determined to continue our struggle for peace and friendship with our neighbours. We hold that the future of India is linked with the future of her neighbours."

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# A Passing Opportunity ?

## Energy situation in the GDR and future possibilities

Times are changing rapidly in Eastern Europe. Today, policies regarding the future are no longer decided by a small group of rulers. The people have demanded their rights and soon in all Eastern European countries there will be elections. The tasks of the new governments in the fields of environment and economy will be hard.

The former government of the German Democratic Republic has left an economic and environmental disaster behind it.

In the south of the GDR lie brown coal deposits. It is the only raw material available in the country for energy production. The quarrying of this has destroyed the surrounding area completely. In 36 coal-mining districts 320 Mio tons are quarried per year. That is more than in any other country of the world. The cost to nature and to the population of the area are enormous: 3,000—4,000 ha dead landscape with huge craters is the result of one year's operations alone. 30,000 people have had to resettle, 75 villages have been exterminated, rivers, roads and railroads have had to give way before the gigantic quarrying machines.

70% of the energy supply in the GDR comes from this brown coal. In 16 mainly obsolete power stations more than 80 % of the delivery is burned. But the bigger part of this amount emits through the chimnies and polluts the environment. There are no dustfilters, no installations to cut the sulphur dioxide emissions.

Sebastian Pflugbeil, member of the opposition group "Neues Forum" and a physicist says that three quarter of these power stations should be pulled down because they are in such catastrophically bad repair. He points out that the GDR has the third highest energy consumption per head in the world - a consequence of the old techniques besides the waste of energy everywhere.

So, what to do? The intermediate government had recently made first attempts for a change and reduced the mining of brown coal by about 50-70 Mio tons. But this alone can not be the solution.

In the Federal Republic of Germany the nucleocrats and businessmen of the atomic industry are already on the stage hoping to sell a product which has seemed to be "out" in their own country. In the West it has become more and more difficult to install new atomic power plants: the raised awareness of the population, the opposition movement,

the Chernobyl-accident, the increasing costs of this energy resource have all led to a situation where no politician wants to take the risk of ordering new constructions. Now the atomic industry sees its chance in the East. Talks between nuclear experts in the GDR and the West German companies have already taken place.

Today, in the GDR at most 10% of the energy output comes from nuclear plants. Five reactors are on line, four of which are Soviet 440 MW reactors installed at Greifswald. Three others near Stendal are still under construction after 17 years. Recently it has become known that there was a near core meltdown at the new fifth block of Greifswald in November 1989 and a very severe accident in 1976 (see following story).

There has hardly been any resistance against the reactors in the GDR. The pressure from security forces and the ruling party was too strong and the existing environmental groups were faced with more evident abuses: air pollution, dirty rivers and destroyed environment. But if the new elected government decides to extend the nuclear programme there will be probably be more turmoil - the government has to calculate that the times of a quiet citizenry have passed.

It is ironical that just the members of the former government party SED got support of the conservative federal government of West Germany on this issue. In the case of atomic energy the old rulers seem to be the most reliable partners for the western enthusiasts of atomic power.

The common man in East Germany would perhaps prefer some radiation to the terribly bad air but for the environmentalists and most of the opposition groups in the country the choice between the alternatives "brown coal" or "atomic power" is like "the choice between plague and cholera".

The environmentalists have other ideas about future energy politics: they want to overhaul the existing brown coal power stations, improve the industrial and household techniques and put the main emphasis on energy saving possibilities. According to Mr Pflugbeil an extensive energy saving programme is the solution because the opportunities to save energy are more than good. Besides, the brown coal resources are becoming less and less, their quality becomes worse and the quarrying gets more difficult. On the other hand the construc-

tion of new nuclear power plants takes a long time (about 10-20 years) - too much time and too much money for an economy in difficulties. The huge expenditures which are necessary for the construction of atomic power plants would divert money from more sensible and urgent activities.

On the 18th of March the first free election in the GDR have taken place. The conservatives have

won. This means that the unification of Germany will be quickly forced. Whether the new government with the help of the conservative government in Bonn will be willing to start a reasonable energy policy without nuclear power plants is now again in question. But, the environmentalists too will unite. And they have the better arguments...

*Carolyn Bender, Bonn, West-Germany*

## Notice Board

### "Safe Energy and Environment"

A new quarterly journal "Safe Energy & Environment" will be coming up from April, 1990.

In Calcutta, a citizen's convention on April 30, 1989, to commemorate the Chernobyl Day, stressed the need for an organised effort for the collection and dissemination of information on the dangers of nuclear power and people's movement against it in particular, and environmental and energy issues in general. The journal 'Safe Energy and Environment' is a step towards the realisation of the demand of the convention. At present, we are working with a handful of activists, greatly limited resources and a tiny network. What we want to make is a modest beginning. The future depends on your active co-operation and support.

Yearly subscription rate:

Personal Rs. 20/- ; Institutional Rs 40/-

*Contact: Pradip Datta,  
Publisher Safe Energy & Environment,  
28, Nazrul Park, P.O.: Aswininagar,  
Calcutta-700059*

### Trichur Antinuclear Convention

The recent session of the Indian Science Congress has endorsed the demand that two 500 MW nuclear reactors be located in Kerala. There is vigorous campaigning canvassing for it in the political arena also. Hence we are organising an anti-nuclear convention in Trichur on 26th April to inform the public and form a strong and united resistance to the proposed project.

*Contact: K. Aravindakshan  
Walden Post Eravu 680620  
Dist: Trichur, Kerala*

### India's Nuclear Options

*27,28 & 29 April Bangalore*

The National Front government's budget provide for further increases in allocation for defense

and the Department of Atomic Energy.

When tensions are fast disappearing in Europe, in our region the threat of war and momentum towards the building up of large arsenals continues despite glaring poverty and unemployment. The basic priorities are side-stepped due to a misconception of our real security needs.

From time to time there are newspaper reports about exercising the nuclear option - pointing towards the alleged secret weapons programme of Pakistan, while conveniently overlooking the fact that the Minister of State for Defense, Dr. Raja Ramanna along with the present chairman of the Department of Atomic Energy was responsible for the 1974 Indian nuclear explosion.

In August the United Nations will be reviewing the Nuclear Non-Proliferation Treaty. What ought to be India's position on it?

SAARC has become a reality. But the peoples of South Asia are being kept apart - in the interest/defense of their nations.

When most countries with nuclear power as a major part of their energy source are abandoning nuclear energy, India is planning to expand in a massive way. This expansion involves abandonment of long professed goals of self reliance and importing of reactors from Soviet Union and France.

To discuss these and other related issues, it is proposed to hold a three day seminar near Bangalore at the Ecumenical Christian Centre at Whitefield. The seminar which will be residential is being jointly organised by the following organisations:

Documentation & Dissemination Centre for Disarmament Information, Bangalore;  
Ecumenical Christian Centre, Whitefield;  
Friends Rural Centre, Rasulia, Hoshangabad;  
Institute for Development Education, Madras

*Contact: Hemachandra Bassappa.  
21. Railway Parallel Rd.,  
Nehrunagar, Bangalore 560020*

# Will Koodankulam Be Known as "Chernobyl South"?

On 24th of November 1989, Central Europe stood at the edge of a nuclear disaster comparable to the Chernobyl disaster of 1986. Recently released reports, suppressed by the East German authorities, reveal that a nuclear power plant in Greifswald suffered a near core melt-down.

In order to test the emergency switch-off system of the new fifth block of the reactor, three out of the six cooling water pumps were switched off. Instead of the expected automatic switch-off, the fourth pump broke down and the reactor went out of control. When the crew finally succeeded in switching the reactor off manually, ten fuel elements were damaged - a local meltdown. The triggers to the automatic switch-off were, according to an official investigating commission, sticky contacts of relays which were sloppily constructed, as was the rest of the Russian built reactor.

This accident is only the latest in a series of dangerous and highly dangerous incidents:

In 1974, only hastily spread jumping-sheet prevented some control rods from falling into the fully loaded centre of the reactor.

In the mid seventies all main water pumps broke down. Workers had forgotten to reinstall six small iron lids during a checkup.

In 1981, de-ionized water got into the active zone of the reactor. The speed of the fission reaction

increased and the temperature rose out of control.

In 1976, following a fire within the reactor, the complete cooling system of block 1 broke down. Only the coincidence that one of the six emergency cooling pumps was connected to the neighbouring reactor prevented a core meltdown.

The everyday conditions prevailing in the plant present an even more impressive list. The plant was kept connected to the grid under nearly all circumstances. Drunken staff, a leaking and unstable reactor building, paint covered finger-wide welding seams, missing containments, missing replacement and construction materials, chaos in cable connections, sinking foundations and radiation levels 10,000 times in excess of design specifications. In order to keep all these skeletons under cover, some 40 people from the Stasi (the dreaded secret police) were posted at Greifswald. Workers and staff were intimidated, while at the same time wages were twice as high as compared to other industries. For decontamination work soldiers were often used. Chromosome damage was discovered in six workers. Workers at the plant were conversant with its obsolete equipment that often broke down. Privately they referred to the plant as "Chernobyl North".

Editors Note: The reactors to be installed at Koodankulam are the very same VVER reactors as at Greifswald.

## Reviews

### Narora - The Untold Story

We have often lamented the paucity of information regarding the Indian nuclear programme. *Narora — The Untold Story* is an attempt to bridge this great chasm in information. It is published by the Network to Oust Nuclear Energy (NONE)— a group of young activists from Delhi who have made sincere efforts at educating public opinion by conducting slide shows and workshops in a number of colleges in Delhi, Aligarh, Bulandshahar and other towns surrounding Narora. This 24 page booklet contains many pictures of the people displaced by the plant and maps of the surrounding areas. The price at Rs 10 might seem somewhat excessive at first glance but as a small token of one's support for the movement it is indeed a very reasonable price.

### Extract

#### Knowledge of the plant and of nuclear hazards

The knowledge the villagers have about the plant is partial and in many cases, distorted. Evidently, Those who bear the brunt of dislocation are not considered important enough to be briefed about the kind of work the plant does. Worse still, they have not been given any information at all about what they are to do in case of an accident.

Some who work in the plant have a clearer idea about nuclear energy. These are also the ones who mention accidents, and incidents of workers being exposed to radiation. We cannot verify these stories since the DAE does not give the public access to such information. However, we have retained reports of such incidents simply to point to the

workers' knowledge about the issues involved.

Name: Om Prakash, Village: Ramghat

They told us that electricity generated in the plant releases a poisonous gas. The gas will harm us, our grains will get spoiled, water will get affected, we will die..."

Name: Yadiram, Village: Ramghat

"Buffaloes grazing near the plant had died..."

Name: Rambharose, Village: Ramghat

"DM Sahib told us that gas will be released from the plant so we should leave our houses. What type of gas it is we don't know..."

Name: Kalawati, Village: Ramghat

"We were told that our grains will get poisoned, grass will dry up due to the poison, animals, plants all will die... But our cattle still graze near the plant. What to do? There is no other place where they can get anything to eat..."

Name: Kumkum, Age: 10 yrs.,

Colony: Bijaun Nayi Basti

"Our village has been abandoned, that is why we are here. A power house was being made there. When it started working, we would have died. My father told me this."

Name: Unknown (Woman),

Colony: Bijaun Nayi Basti

"They told us that a power house was being built. The electricity will be made from the rays of the sun god. What these rays are we don't know... We were told that if we get exposed to radiation our limbs will be deformed, or our babies will be born deformed. That is why we were settled 3 miles away from the plant..."

Name: Ramwati, Colony: Bijaun Nayi Basti

"We have not been told what we are to do in case of an accident in the plant. They said that if something happens we will be taken out of the area in buses."

Name: Jaisingh, Colony: Bijaun Nayi Basti

"...To make us leave the village they told us that there can be an explosion like Bhopal."

Name: Bankelal, Colony: Bijaun Nayi Basti

"Some men in the plant have got radiated. Pukhraj's whole body is useless. He becomes like a statue and starts shivering."

Name: Unknown, Colony: Ambedkar Basti

"In this plant, electricity will be generated through the eclipse of the sun and the gas which will be produced inside can harm us if it is released."

Name: Unknown (worker at the plant),

Colony: Ambedkar Nagar

"The boiler line taking heavy water to the turbine burst recently. We welded it... The plant was shut down for a month. When the Prime Minister came to inaugurate the plant it was not working..."

Many workers have died because of radiation. When the contractors get letters from their homes, they reply that these men have left the plant and their accounts have been cleared."

Name: Gulab Singh, Colony: Ambedkar Nagar

"I work in the plant, I do inspection work. When the plant starts, radiation can spread in the nearby areas and the villagers will suffer... because of radiation there can be a loss of blood in the body, pain in arms and legs and if a person gets a large dose of radiation he can die too... There are many labourers in the plant who do not know anything about radiation. .. one man got radiated and as soon as he stood up, he started shivering."

Name: Ranvir Singh, Colony: Ambedkar Nagar

"I have been working in the plant since the past 5 years... About a month before Rajiv Gandhi came here, there was a heavy water leakage. The heavy water was in a tank, which was opened by mistake. When we learnt about the leakage everyone ran away from there... There was no one in the control room... Finally to clear it up, labourers from outside were called in, on daily wages, they were paid around 20 to 25 rupees."

Name: Unknown (worker at plant),

Colony: Ambedkar Nagar

"When someone is exposed to radiation, then if he is normal he is put into hospital, if he is seriously affected he is put behind a glass sheet. If his family comes to see him, they look at him through the glass and come away."

Name: Unknown, Colony: Sundamagar

"We were told that the plant makes papads, and smoke comes out of these. This smoke can damage your eyes."

Name: Mir Kasim (worker at the plant),

Colony: Sundamagar

"The day after Rajiv Gandhi came to start the plant, there was a fire in part of the plant. I was working inside, welding something.. I came away. A friend who was there is in hospital now."

### Strategy for Survival

"What is the relevance of a peace movement for India?" This was one of the most challenging questions during the recent regional meeting of the War Resisters of India in Vedchhi. The question was occasionally raised, but more often it was inherent in remarks concerning the priority of work on sustainable energies, organic farming, environmental protection, etc. "We have got so much to struggle within our daily sphere of work that there is little scope for a national or international peace initiative," was the consensus among some of the activists. Only slowly it became clear that exactly these daily struggles are steps towards a liberating peace.

*Towards a Liberating Peace* is also the title of a new book trying to provide a "coherent shared theory which illuminates hidden intolinkages in dear and understandable terms." An international team of scholars under the direction of social scientist Rajni Kothari and within the framework of the United Nations University's Programme on Peace and Global Transformation has prepared the study. It focusses on the issues of militarisation, worldwide economic crisis, conflicts over resources and human and cultural rights.

It is interesting to read the publication and to know more than the authors possibly could have known: The group's work was completed in 1989 and only the last months' developments have opened new perspectives on the dynamics of world history. Much of what is said in *Liberating Peace* anticipates the recent developments, for example the strong influence which consumerism exerts on non-Western societies, or the impossibility of maintaining economic and political independence in the neighbourhood of a superpower (see Nicaragua).

Other hopes for tendencies in favour of sustainable and peace promoting life styles have been disappointed, as for instance the defeat into near irrelevance of the ecologically and socially conscious dissidents in East Germany's polls or the rising conservatism and chauvinism in Europe and South Asia. The political and economic failure of the socialist systems, which the authors recommend as positive solutions to some aspects of the economic crisis, makes the reader doubt the assessment. But it is easy to know better now.

The book at times, reminds one of the style of the Brandt report: long enumeration of global problems and lists of recommendations for a re-orientation. Here the critical reader will not find much new information.

But the authors do more than that when they show how militarisation is one cause behind the distortion of the economy as well as of the political process. An elite which has accepted violence as a means to defend its way of life, would prefer to allot government funds to research and production relevant to the military not regarding their long term destructiveness. A large military apparatus, nuclear weapons and arms industry even in peace times breed secrecy and curtailment of civil and democratic liberties.

The authors demand a global reduction of military spending and arms production as the only way to counter the economic and ecological crisis. They point out that the North only can produce new weapon systems because the South buys its products and thus contributes to the market feasibility of the industry. However, one wishes that they also had discussed the contribution to the arms bazaar of countries like India, Argentina or South Korea.

Prof. Kothari's well-known pen is felt throughout the book: issues of peace and global transformation are analysed in relation to the role of the State. The nationalist State is denounced and hope is sought from efforts at the grassroots. If the movements give up their regional and national isolation they would be able to develop strategies for a transformation of the State. *Liberating Peace* is meant for them and hopefully would stimulate the discussion about the critical movement's role in politics and society.

*Rajni Kothari, Richard Falk, Mary Kaldor, Lim Teck Ghee et al.*

*Towards a Liberating Peace*

New Delhi: Lokvani: Tokyo :

The United Nations University 1989

## LETTER BOX

There are just a few general remarks I would like to make about Anumukti. Of course the magazine is informative. The piece on the French nuclear programme was one such. But there are finer, more intangible reasons that speak for Anumukti. After all information can be gathered from other sources too.

Magazines like Anumukti are precious fragile things that need all the care that humanity is capable of mustering, to be bestowed on them. Anumukti's battle is a losing battle. I don't think that any government in the world either cares or dares to uphold environmentalism or denuclearisation against the claims of industry and capital, aided as both are by

science. This combine is ruthless and invincible I think, and it is going to see to it that it remains invincible. Power after all has never been given up for idealist or ideological considerations.

But every doomed battle represents a worthy cause. In today's world environmentalism has the only rhetoric that makes sense. All the known causes - culture, religion, nationalism, communism, feminism etc. -- are based on exclusiveness of one kind or another - geographical, territorial, sectional and so on. This kind of exclusiveness has become out of date in today's world of time-compressing locomotion.

Environmentalism has no totems. It upholds the biological foundation of life, in which every division brought about by man-made civilizations and cultures, disappears. We need this sweep of vision today, and the breadth and spaciousness it spells, to regain the wholeness taken from us by exploitative and undisciplined technological growth.

It is unlikely, as I said, that this vision and spaciousness will be given for the asking, or that they would pass into unconscious and established ways of thought and being or that they would ever be anything more than concepts. But that is precisely why Anumukti and magazines like it have to be supported. The saying of unrealizable truths is important. I would like to be amongst those who at least clap for the sayers even if they can't be sayers themselves.

*Raji Narasimhan*  
*B107 Gulmohur Park, New Delhi 110049*

In the last issue of PPST Bulletin, there was a long article indicating that the Indian nuclear energy programme was costly, inefficient and made no provision for the disposal of wastes. I had sent this article to a friend of mine in the United States and he disagrees strongly with this view. (His comments are enclosed)

As you know this is a very disputed matter and it is not easy to understand, why when nuclear energy can save fossil fuel and is yet being followed all the world over, India should take a stand against its introduction and continuance. The late Sir Homi Bhabha, and our scientists like Dr Raja Ramanna and Dr Srinivasan also hold the same view. Perhaps you might like to consider all these facts and not take a completely one sided view of this disputed matter.

*R.K.Patil*  
*Civil Lines, Nagpur*

I am from Kutch. Kutch is in comparison to other parts of Gujarat a very dry and thirsty area. To such an arid land the gift of water would indeed be a great blessing.

But our tiny planet Earth has suffered much from the deprivations of the pleasure-seeking 'developers'. They have polluted entire creation and are still continuing to do so today. Any attempt to halt this plunder is welcome and those who raise their voice are only performing their sacred duty.

There can be honest differences of opinion on issues but amongst those who protest this terrible disbalancing of the harmony of nature there are many who are honest and pro-humanity. I myself personally know some of them.

I believe that seeing the high level of feeling raised on this issue let the dam be built and whatever

be the outcome we shall share the benefits and the harm equally.

But those farmers who shall be receiving water from the dam, why cannot the rich amongst them share half their land for those who are being displaced by the dam? It is only in this atmosphere of sacrifice that the passions of the protestors can be calmed.

The waters of the Narmada belong to the nation. It is only when their distribution is on the basis of social justice that a new and healthy atmosphere can be built up.

It is only when we (the supporters of Sardar Sarovar) can listen with respect and an open mind to the opponents, that the passions of 'WAR' can be converted and the Narmada Abhiyan can become a new beginning.

*(Translated from Gujarati)*  
*Manibhai Sanghavi,*  
*Shri Gram Swaraj Sadaneelpar, Kutch 370165*

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Rs.25/-per year South Asia

U.S.\$ 15/-per year air mail overseas  
(Rs.2007-per year if paid for in India)

Please add Rs.6 for cheques

Editor: Surendra Gadekar

Subscription, donations, manuscripts, enquiries regarding circulation should all be addressed to

Editor Anumukti,  
Sampoorna Kranti Vidyalaya  
Vedchhi, Dist: Surat, 394641 INDIA

Published by S.Gadekar for Sampoorna Kranti Vidyalaya and printed by him at The Parijat Printery, Ahmedabad.

**PRINTED MATTER BOOK POST**