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In this Issue

From the Editor

Chemical pesticides have become part of our agriculture since 1960s. Farmers have been exposed to toxic pesticides like DDT and endrin since then. Whenever we ask farmers to recount their experience with pesticides, many of them would tell us that they had never asked for such chemicals and in the nineteen sixties officials from the government departments had to plead and cajole them to start using a pesticide. They would also tell us that it was very difficult to stay in the field while those pesticides were being sprayed and many a times pesticide sprayers had met with problems, some of them losing their precious lives. They would also narrate painfully about the deaths of snakes, frogs, birds and fishes.

They would continue to tell us that the present generation of pesticides is not effective and they have to use more and more quantities, that some of the pests are building resistance to these chemicals, that new pests have emerged and their cost of cultivation is increasing.

Since the '90s agricultural research institutes in the country have been carrying out pesticide residual studies and from every laboratory, very high levels of pesticides like quinalphos, monocrotophos, DDT. BHC, lindane, endosulfan etc.have been detected in vegetables, milk, water and edible oil . However, every consumer in the country starting from the minister to the poor city dweller point at one person for this wrong- the FARMER! The Farmer has suddenly become the culprit. It is said that every problem caused by pesticide is because of overuse and misuse by farmers. Yet, nobody bothers to look at history and how farmers have been forced to use pesticides through subsidies and threats. The farmer has become an instrument for corporate profits and at the same time a victim of pesticides and apathy of policy makers and consumers alike.

In this issue of NewsCAPE we have tried to put together the tragic story of a few villages in Kerala , especially of women and children , who became victims in an experiment done by a government owned corporation and pesticide companies. This experiment was to use the pesticide Endosulfan for increasing the production of cashew nuts for export to earn more foreign exchange. Here no farmer was involved either in the purchase or use of the pesticide ENDOSULFAN. The "Well informed" scientists had recommended this pesticide in the '70s , and the government corporation started using it in their plantation in 1976 and it continued till 2000. Agriculture students in the country are taught that the same pesticide should not be used continuously in an area and such practices are unscientific and ineffective.

Since 1980, people living in the villages near and around the plantation found some abnormalities first in the environment and later in their own body and their new born babies for which they could not find any reason. In the '90s they realised that the spraying of pesticides in the cashew plantations near their homes could be the reason for the strange happenings..

Sridhar in his lead article in this issue describes how this realization by the affected communities was contemptuously and arrogantly attacked by the 'well informed' agriculture scientists of this country and how they attempted to topple the true studies by public health experts. In any case, fortunately since 2000, there is no endosulfan spraying and the health of the environment and people is improving. Many toxicological experts are of the opinion that such clear evidence of the linkage between a particular pesticide and health problems in a community like this are very rare and hence very important.

Farming is the occupation of farmers, developed over thousands of years through continuous learning. Their focus was on sustenance and sharing. Cashew, a crop introduced by the Portuguese in this country is grown almost as a wild crop by thousands of small and marginal farmers of Kerala for over 3-4 centuries. Even now they do not use any fertilizer or even manure or pesticide. The only management practice they undertake is clearing the undergrowth and pruning of dead and decaying branches every year.

Presently, across the country many farmers have started to switch over to non-poisonous and sustainable ways of farming ignoring all the so-called advantages of pesticides. Many organisations and individuals, like Rita and Njal of Auroville, have taken on the responsibility of working with the farmers. On the other side, the pesticide industry is manipulating policies and institutions at will. For this reason, the plant protection policy of the Government of India is under the control of the pesticide industry, despite the knowledge that plant protection does not necessarily mean usage of chemical pesticides. These companies are still able to manipulate agriculture research in this country and use the extension machinery to expand their business and even influence the policy of the financial institutions and thus continue their profit making.

But the Endosulfan tragedy in Kerala has given us a jolt, again after Bhopal, and the struggle has gained momentum. This is a struggle not to merely eliminate a few pesticides but a struggle for survival, a struggle for peace and harmony and a struggle for the continuity of life on this earth.

S. Usha

Main Story

A Will to Kill

Role of Pesticide regulators in the Endosulfan tragedy in Kerala

- Sridhar R.

Kasaragod is the northernmost district in the state of Kerala. The cashew plantations owned by the Plantation Corporation of Kerala (PCK), a public sector undertaking under the state government extends to about 4600 ha all over the district, spreading through habitations, water bodies and hills in about 15 villages. PCK has been aerially spraying the plantations with the chemical pesticide Endosulfan since 1976, on a trial basis and from 1978 till 2001 regularly three times every year. In 2001, following public outcry and the intervention from the lower courts, endosulfan spraying was temporarily stopped and later in 2003, it was permanently stopped following the directions of the Kerala High Court. The aerial spraying of endosulfan, an extremely hazardous pesticide belonging to the organochlorine class was allegedly undertaken to contain the menace of the tea mosquito bug. As early as 1979, stunted growth and deformed limbs were noticed among new born calves and the farmers attributed it to the ill effects of endosulfan spraying. From 1994 onwards the community living near the plantations had been complaining against the spraying and by 1998, health disorders of very serious nature among the human population came to the limelight. Children were found to be the worst affected with congenital anomalies, mental retardation, physical deformities, cerebral palsy, epilepsy, hydrocephalus etc. Men and women were also affected with various chronic ailments, many irreversible and difficult to treat. Since then the struggle of the local people have been going on in the Courts, in the corridors of power and academics and in the streets. The struggle got wide support from many within and outside the country, including all the political parties. The struggle in Kasaragod became a forerunner for many initiatives on pesticide dialogue in India and in other countries as well. More and more studies started revealing the hazards of pesticide use and its impact on the food, water and beverages. The efforts of organisations like the Centre for Science and Environment, Greenpeace, Thanal, Kheti Virasat, Community Health Cell, Toxic Link and many other groups, scientists and activists exposed pesticides and the toxic legacy it had unleashed in forty years of green and intensive agriculture revolution in the country. Also exposed was the unholy and still thriving nexus between the government pesticide regulation machinery run by agriculture scientists in the Ministry of Agriculture, both in the state and the central governments, and the pesticide industry whose target was to sell more and more poisons in the pseudo-claim of increasing crop productivity. Across the globe, the Persistent Organic Pollutants (POPs) Treaty signed in May 2001, was beginning to show its impact, especially with growing awareness about the effects of chemicals which can persist in the environment for long. Many countries shocked by the poisoning episode have moved to restrict pesticide use and in atleast two cases – Columbia and Cambodia, Endosulfan itself has

Marginalised by Cashew, Polluted with Endosulfan

Before the 1960's this plantation land in Kasaragod was mostly common lands, some belonging to the revenue department but used by the landless adivasis, who cultivated the land and produced grains, cereals and other crops for their food. There were a few private lands and forest land as well. But in the 1960's the Department of Agriculture started planting cashew and even acquired the forest and private lands for the same. In the name of managing the cashew more scientifically, in the early 1970's the ownership was transferred to its present owner, the Plantation Corporation of Kerala, a public sector undertaking. When PCK started "managing" the crop, the intensive use of fertilisers and pesticides also followed.

By the middle of 1970's, the scientists from the Central Plantation Crops Research Institute (CPCRI) undertook a research and trial run of aerial spraying of pesticides using helicopters. This was done with the objective of eliminating manual spraying so as to save time and cost. In 1976-78, trial aerial spraying was undertaken in Perla and in 1978, aerial spraying of endosulfan was recommended. But records revealed later by the Government agencies showed some startling violations - that the aerial spraying was standardised, vis-à-vis concentrations of chemicals to be used, only in 1997 ! And in a ffidavit filed in the High Court, the Ministry of Agriculture has stated that aerial spraying was not permitted since 1992, meaning that for 8 years (till 2000), it was done by the PCK illegally.

Incidentally, in a meeting organised in New Delhi to generate awareness about Persistent Organic Pollutants in 2003, DR O P Dubey himself claimed that endosulfan cannot cause any health disorders, and that he himself was instrumental in starting aerial spraying in Kasaragod. Despite repeated protests and warnings from the local community, 25 years of aerial spraying continued. A land, which was so well managed and cultivated, was taken away from its rightful owners - the Adivasis and in 25 years their land has been poisoned with a highly toxic chemical. Now, when the Adivasis are struggling in Kerala, on the issue of land, the Government has appealed to the Central Government to allot forest land for them. The issue has come a full circle. Many of the Adivasis, the rightful owners of this land, are still living on the fringes of the PCK plantations, and are a distressed lot, diseased and with nowhere to turn for sustenance or justice.

Meanwhile, O P Dubey, who started all this found himself heading the committee to decide whether endosulfan can continue to be used in India. Rejecting all the health studies, which proved the direct link of the health disorders in Kasaragod to endosulfan, Dubey declared that the links are not there. Whither justice ??

been banned. More and more countries have started reviewing the use of endosulfan and other persistent chemicals and in the coming years more countries are expected to ban / restrict the chemical.

While all this were happening, the government seems to go on a different course. It has been highly disturbing to see the Indian Government, led mainly by its bureaucracy, especially its army of agricultural scientists and officials in the Indian Council for Agricultural Research(ICAR), the Ministry of Agriculture and hCo-operation (MoAC), the Central Insecticides Bureau (CIB) and the Pesticide Registration Committee(RC), do anything within their means and outside to prove that endosulfan has nothing to do with the health disorders in Kasaragod.

The latest show of their solidarity with the pesticide industry could be read in the final conclusions of the Dr C D Mayee Committee report. The Chairman of the committee Dr C D Mayee is an Ex-Agriculture Production Commissioner. This committee was appointed by the Central Government under public pressure to review Dr O P Dubey Committee Report. The Mayee Committee refused to acknowledge the link between endosulfan and the health disorders, which all the medical teams appointed to study the issue had unequivocally proven. However, probably fearing repercussions from the political leadership and public in Kerala, Mayee suggested that the endosulfan ban may continue in Kerala, but it need not be banned in India. If endosulfan is dangerous in Kerala, it has to be the same elsewhere. The science of these biased scientists is to allow poisoning of people all over the country, save Kerala. What can be more ironical, more unethical!!

The desperation of the Ministry of Agriculture and Co-operation to save this chemical from any restriction in use has been evident even before the Kasaragod episode. Since 1991, there were several unsuccessful attempts to restrict the use of endosulfan. In 1991, the Central Insecticides Bureau, the agency mandated to regulate pesticide use in India, appointed a committee under the chairmanship of Dr Banerjee to review the continuing use of some of the pesticides. The list had endosulfan also. While giving its nod for continued use, the committee recommended that "the Registration Committee should not allow the use of endosulfan near rivers, lakes, sea and ponds, which are expected to be polluted".

In Kasaragod, every mother and child DO NOT COUNT, only Endosulfan COUNTS !!

"Make every mother and child count" says the theme slogan of the World Health Day celebrations of 2005. The celebrations on April 7th 2005, also marks the release of a World Health Report highlighting the invisible health crisis which results in women and children dying. In Kasaragod, one can see hundreds of such mothers with disabled children - many congenital, many mentally challenged, many lying like vegetables. These are the plights of the living, and the old people there tell so many stories of the many dead, of strange diseases - strange to them, and invisible to the global community. The World Health Day would stride away as another invisible day for these mothers and children and their families. Their plight has not been addressed, and no body has bothered to even look at what their post-impact needs are.

Meanwhile, the desperation of the government, and their officials and scientists are so visible. The lobbying, the blatant violation in setting up committees, the tension that prevails and the overt manner in which the Endosulfan manufacturers have taken on a community by threatening the doctors in the community with law suits and then their triumph - the O P Dubey Committee, and his final verdict - that the chemical Endosulfan is innocent !!

It appears that in this country, the mother and child do not count, before the might of Endosulfan.

The committee also recommended putting this in the certificate of registration as a condition and a warning on the labels and leaflets in the containers. These recommendations were never implemented.

In 1999, the CIB appointed one more committee under the chairmanship of Dr R B Singh to do the same old task of reviewing the use of pesticides including endosulfan. This committee found that none of the recommendations for restrictions on endosulfan by the Banerjee Committee were implemented. Subsequently, the R B Singh committee also recommended that the restrictions on use near water bodies be implemented, and that it be put on the labels. R B Singh also recommended that endosulfan should not be sold in small packets and the minimum container size must be 1kg, so as to avoid misuse. Incidentally, none of these restrictions have been implemented even today. This, despite the fact that both the Registration Committee (195th) and the Inter ministerial committee (10th) to review the use of Insecticides and hazardous chemicals also recommended implementation.

The above-mentioned restrictions were important, considering the ecology of Kasaragod. It is a land full of small ponds, rivulets, streams, wells and water harvesting systems such as surangas and tanks in almost all homes. One can be sure that no aerial spraying would be possible without contaminating these water bodies. Even ordinary hand spraying would be dangerous. Had these recommendations been implemented in 1991, the misery that the people of Kasaragod now suffer could have been avoided to some extent. But the vested interest and callousness of a few scientists, officials and the huge chemical pesticide industry prevailed over the possibility of saving the lives of thousands of villagers.

A decade later, in 2002, the Registration Committee of the CIB appointed an 8 member expert committee under the chairmanship of Dr O P Dubey with the twin goals of examining all the reports of the various committees which studied the endosulfan poisoning issue. The reports included the large scale

Endosulfan is a chemical of serious concern says UNEP reports

Endosulfan has been listed as one among the twenty one priority compounds identified by the United Nations Environment Programme (UNEP) in their Regionally Based Assessment of Persistent Toxic Substances (RBA-PTS) in 2002. These reports have looked at eight regions across the globe and have taken into account the magnitude of use, environment levels and human and ecological effects of these PTS compounds.

The UNEP reports rate endosulfan in various levels of concern in the respective regions studied. These are summarised below

Indian Ocean region : "Regional Concern"
North American region : "Treated as 'Regionally specific PTS', receiving great attention along with HCH, Chlordane, PCB, PAHs"
Mediterranean region : "Local Concern"
Sub Saharan African region : "Ranked as the PTS of highest concern after DDT"
Eastern and Western South America region : "Potentially relevant PTS of emerging concern"
European region : "Proposed possible priority hazardous substance"
South East Asia and Southern Pacific region : "Regional Concern". "Identified as a major PTS which has a continuing effect on the natural ecosystem in the region and long term effect on the structure of aquatic eco systems"
Central America and the Caribbean : "Considered as one of the most important PTS of emerging concern"

From the report on the Indian Ocean region it is seen that eight countries in the region have banned the use of this chemical. India is one of the countries in this region that continues to use this pesticide.

epidemiological study conducted by the doctors of the National Institute of Occupational Health (NIOH), an ICMR institute. The committee was also asked to assess the safety of endosulfan and its links to the health disorders in Kasaragod. This committee was appointed almost at the same time that the High Court of Kerala had invoked the precautionary principle and had banned the sale and use of the endosulfan in Kerala. It was evident that there was immense pressure from the pesticide industry on the Central Government, as both the High Court and the NIOH had given clear verdicts against the pesticide. There was still hope for them in the Ministry of Agriculture and the rest of the events clearly proved this hypothesis. Public interest groups, the affected community and political organisations fighting the issue were shocked to see that the composition of Dr Dubey's Committee itself was a complete violation of ethical and independent conduct. The committee was constituted with two of its members being the major manufacturers of endosulfan – heads of Excel Industries and Aventis. Irked by this, the people of Kasaragod protested against the committee and refused to cooperate. As if to add insult to injury, Dr.Dubey in his first visit to Kasaragod, called the press and declared that endosulfan was not the cause for the disorders and that it could be due to other reasons like betel chewing or consanguineous marriages.

But on the table, there was clear medical evidence quite contrary to his vested inferences. The report of the NIOH clearly pointed out that the higher prevalence of neuro behavioural disorders, congenital malformations in female children and abnormalities related to male reproductive system had no other cause but the continuous aerial spraying of endosulfan. But Dr O P Dubey rejected the study on the most absurd of reasons - "that the findings of the NIOH study are not in conformity with the known and accepted properties, chemistry and toxicology of endosulfan". This single statement is more than enough to demonstrate that the science redefined by the industry and their "establishment" scientists is shortsighted and that they would accept only those conclusions that suit their vested, narrow financial interests.

Here it is important to understand what Dubey would have meant by "known and accepted" properties. The CIB while registering pesticides in India requires the applicant company to submit information regarding the properties, chemistry and toxicity of the pesticide. Most of the information thus submitted are generated by the applicant company themselves or the original producer company, in their labs or by their sponsored scientists in sponsored universities. In the case of endosulfan this was a major controversy, because in most countries where endosulfan was registered the same information was submitted and this toxicity information was challenged in the WHO, which classified endosulfan on a lesser toxicity scale (as moderately hazardous – read box on classification dilemma). But studies by thousands of scientists in universities all over the world and fact sheets by many independent agencies and government agencies such as the ATSDR in the United States, the NIOSH Pocket Guide to Chemical safety, IPCS, NRA of Australia, EXTOXNET, and the latest by RBA-PTS of the UNEP have shown without any doubt that the data that the Indian pesticide regulatory authorities (and committees) prefers to "know and accept" is actually outdated, inadequate and even downright misinterpretation. Even though this massive knowledge base was made

Ban Endosulfan and it can still be sold!!

In Kerala, when Endosulfan was banned by a High Court order in August 2002, it was a welcome relief for the people of Kasaragod. But soon it was found that Endosulfan was being sold all over the state. On enquiry it was found that Endosulfan was being sold as Thiodan and in other names as well. Endosulfan is available in the market in a number of trade names. In India it is known to be sold in 47 different brand names. It is available as formulations of emulsifiable concentrate (EC), wettable powder (WP), ultra low volume liquid (ULV), granules (G), dust (D) and smoke tablets. The Fact sheet available at www.thanal.org has a list of brand names in which Endosulfan is sold in India.

available to Dr Dubey and Dr Mayee through the NIOH study and the other committee reports including a detailed compilation by Thanal, a public interest research group, it was unacceptable to them, because their "knowledge" and their "acceptance" of the knowledge was narrow and specifically meant to help the endosulfan manufacturers continue their selling, poisoning and profiting. All this was part of a saga of corruption and deliberate distortion of facts, subversion of evidence and abatement of mass homicide.

Dubey Committee even as they rejected the NIOH study, preferred to rely on a residue analysis conducted by FIPPAT, a Tamilnadu based accredited private lab, now known as the Institute of Biotechnology and Toxicology. In April 2004, the Centre for Science and Environment, through their magazine "Down to Earth" scooped out yet another piece of evidence. They obtained a copy of the original FIPPAT report, conducted a detailed scrutiny of it and found that there were serious inconsistencies in the report. They revealed that FIPPAT had actually found higher levels of endosulfan but chose not to disclose it. FIPPAT, it was found, had fudged the findings so that it could confirm with the "known and accepted" properties of endosulfan. Incidentally, the study was commissioned to FIPPAT by the accused company PCK and the results of the study was released in Kerala at a press conference by the Pesticide Manufacturers and Formulators Association of India (PMFAI). It was with the backing of this study that Dubey committee reached the final conclusion - "that there is no link between the use of endosulfan in PCK plantation and the health problems reported from Padre". There were dissenting voices in the committee, all through its meetings, and the available records of the meetings show that there was tremendous pressure put on the Member secretary and Chairman before they submitted such a report to the central government.

A Classification dilemma

Right from the beginning of the poisoning issue in Kasaragod, the industry and its "establishment" scientists attempted to protect its product with many frivolous claims, the "best" among them was that Endosulfan is not an Organochlorine chemical and that it is not toxic. So they preferred to call the chemical "soft", "safe" etc. But IUPAC clearly states that Endosulfan belongs to the organochlorine group of pesticides, and under this it was classified as a cyclodiene. But there were moments when the community struggling against the poisoning were confused when scientists told them that the chemical could not cause harm as it was only a cyclodiene. The Ministry even states that "endosulfan acts more like an organophosphate pesticide". This was not just twisting of facts but twisting it to actually perpetuate harm. Interestingly, the classification drama was not just a local matter. The US Environmental Protection Agency (EPA) and the European Union classifies Endosulfan as Category Ib - Highly hazardous, even while the World Health Organisation classifies it only as Category II - moderately hazardous. The WHO classification was found to be inappropriate considering the classification followed in many countries and the available toxicity information. The WHO classification was based on the toxicity information generated by the producer company. All attempts to rectify this anomaly did not succeed. The Industrial Toxicological Research Centre (ITRC), at Lucknow, the nodal centre for the regional based assessment of Persistent Toxic Substance for the Indian Ocean region by the UNEP-GEF also classifies endosulfan as extremely hazardous.

Toxicity of Endosulfan

Endosulfan is highly toxic and can be fatal if inhaled, swallowed or absorbed through the skin. Ingestion or breathing high levels of endosulfan may lead to convulsion and death. Endosulfan is known to severely damage the endocrine system, nervous system, circulatory system, reproductive system, respiratory system and the excretory system and even causes irreversible harm to the developing foetus in the mother's womb. The two isomers of endosulfan are alpha and beta - and beta endosulfan is more persistent than its alpha isomer. Endosulfan sulphate is the main degradation product of both isomers, which is equally toxic and is itself more persistent in the environment than its parent compounds. Endosulfan is fairly immobile in soil. Reports of endosulfan residues in food, soil, air, body tissues, etc. are available from all parts of the globe. Endosulfan has been detected in human tissues and in food samples from all over the world. High levels of endosulfan residues were found in human blood and in breast milk in Kasargod by studies conducted by Centre for Science and Environment and the National Institute of Occupational Health.

The Dubey committee report was denounced by the local community and many sensible people, even within the government and the ministry was finally forced to set up another committee under Dr C D Mayee. The Mayee committee proved to be more adept than Dubey in continuing the legacy. The committee neither visited Kasaragod nor did it hold discussions with any of the community groups, or NGO's. Because of this, the committee report was rejected by the Panchayats, political parties and the public. In February this year, as soon as news of the Mayee committee appeared in the media, a public meeting was called in Kasaragod by the struggling community groups and they burnt symbolic copies of the publicly unavailable report.

Meanwhile, the state government in Kerala, have to much public astonishment made a complete u-turn in the issue. Earlier the Agriculture Minister Smt Gowri Amma and her department, were as vehement in the opposition to the struggling population as were their central government counterparts. But intervention from the then Chief Minister Sri A K Antony's office, and pressure from the Opposition leader Sri V S Achuthanandhan had forced the state government to take a more people centric stance in the issue. Many committees appointed under the state government studied the issue, and invariably as in the case of the Central Government, all the committees led by agriculture experts (like the Dr Abdul Salam Committee appointed by the University of Agriculture) failed to pin point

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Article

Medical Experts led studies pin point cause of health disorders in Kasaragod to Endosulfan

- Elizabeth Chandy.

There has been one pertinent question asked in the whole of the Endosulfan Tragedy in Kasaragod. Even after 11 different committees / groups have studied the issue, why is there such a difference of opinion on the matter of whether endosulfan is the cause for the health disorders ? A close look at the various committee reports show that all the studies that were led by Agriculture experts, or initiated by the scientists of the Agricultural university / department / Ministry or commissioned by the company which conducted the spraying have concluded that endosulfan cannot / may not be the cause of the disorders, and some have even recommended looking for other causes. Those committees, like Dr Achuthan Committee, which had a more independent status failed to arrive at a conclusion. But atleast four studies by the medical fraternity, with teams led by doctors, who are actually qualified to look at health and toxicity issues have unequivocally concluded that endosulfan is the cause for the health disorders. All these committees have gone to the extent of eliminating the chances of all other confounding possibilities. Let us look at what these studies tell us.

Report of the National Institute of Occupational Health (NIOH), an ICMR study

A team of doctors led by Dr H N Saiyed, Director of NIOH, Ahmedabad carried out a detailed epidemiological investigation in 2001 at the request of the National Human Rights Commission (NHRC). The report included data on the medical findings in the children as well as their families living in the study area (Padre village of Enmakaje Panchayat) as well as those in the reference area (Miyapavadu Village of Meenja Panchayat). Higher prevalence of neurobehavioural disorders, congenital malformations in female children and abnormalities related to male reproductive system in the study group as compared to the reference group were found. Various aetiological factors were compared and it was found that the two groups differed mainly with respect to the aerial spraying of endosulfan. Continued exposures to endosulfan through food, water, air and soil were identified as the only reason for the health disorders observed. The study identified a close similarity between the spectrum of health effects observed in the study and the supporting literature on endosulfan toxicity. This supported the hypothesis of endosulfan as a causative factor. This study showed that even at lower doses, endosulfan could result in adverse health effects. There are studies that show that low doses of endosulfan can manifest as functional or organic disorders in later life if the exposure took place during the early developmental phase.

Expert Committee appointed by the Government of Kerala – Report in August '03

The Government of Kerala appointed a Committee under Dr. P.K. Sivaraman, Additional Director of Health Services (Public Health) as Chairman and members from related departments to study the health related issues in the endosulfan affected area. The Committee conducted house visits, consultation with local doctors, Public health centres, local hospitals and studied the available records and registers. Medical camps were conducted in all the affected areas and the Committee arrived at conclusions based on the data generated. The Committee found more cases of congenital anomalies among the school children in Vani Nagar (in Padre village). They observed that PCK had not followed the guidelines for the use of aerial spraying of endosulfan in the plantations. Specialist medical camps organised at Vani Nagar also showed more number of people with central nervous system anomalies and skeletal problems. As people lived in and around the plantations, water sources seen in plenty in the plantation areas and in the border areas, were found to be a major medium of contamination. The Committee noted that PCK had not conducted regular medical examination for its workers. The Committee could not find any technically qualified or skilled persons among the plantation staff. Workers involved in mixing the insecticide, did not know how to handle or prepare the solution. All safety regulations such as providing prior information before spraying, protecting water sources etc were completely missing. In all the houses that were visited, it was observed that at least one member was affected either with mental

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Photo:ESPAC

Subramanian of Muliyar - One of the many victims of endosulfan. Passed away in 2004

Article

Alternatives to Endosulfan Use

- S. Usha

Even as we enquire into alternatives for pesticide use, we should not forget that for centuries, cropping did not need toxic chemical pesticides, and its introduction was not a farmers demand, but driven by the multi-national chemical companies who profited by helping kill the pests. Half a century of chemical use in agriculture has shown that pesticide killed pests first, followed by other creatures and now human beings stand challenged. Nevertheless, we come back to the question – is there evidence of non-chemical alternatives being effective in pest control?

Cotton is one of the important crops on which endosulfan is used. In fact, in India cotton consumes atleast 50% of the total pesticide used in the country. Endosulfan is also used on vegetables, cashew, coffee, paddy, tea, etc. In India endosulfan was recommended for controlling the tea mosquito bug found in cashew and tea until 2000. Following the Kasargod tragedy, the National Research Centre for Cashew (NRCC) withdrew its recommendation for endosulfan use in cashew. Many cashew farmers tried organic methods and application of neem oil and pongamia leaf extract from then on and were found to be successful. Some farmers have completely abstained from using any pesticides and their results are encouraging. In demonstration plots raised by the NRCC, farmers have grown cashew without any chemical control measures, and in a plot of a farmer namely Mr Kumbady Ventakataramana (planted 1988), no plant protection measures have been followed for the last six years, and there is no adverse effects on yield even after the withdrawal of insecticides. The NRCC reports this case in a note sent to Dr Dubey during his investigation of the endosulfan issue. There are tea plantations in South India that have adopted biodynamic farming and have completely eliminated the use of chemical pesticides including endosulfan. In coffee plantations, Integrated Pest Management (IPM) is encouraged as an alternative to endosulfan to control coffee berry borer and other pests. Organic farmers are of the opinion that if we take care of soil, pest problems are less. Hence the focus should be on agro-ecosystem management and not on pest management or crop management.

There are numerous documented benefits from the adoption of IPM programme for cotton from different cotton growing areas all over the world. The focus of IPM is on cultural and biological control of pests rather than depending on pesticides. Similarly in vegetable cultivation a lot of field trials have been done on alternative pest control methods focussing on herbal pesticides. In the Asian region, farmers have developed their own combinations and methods of pest control using chillies, garlic, asafoetida, cow urine and many other plant materials. If governments and research institutions can support such work, use of endosulfan can be totally eliminated in agriculture and other sectors.

Experiments with IPM in Cashew

Given below is an account of two individuals who took up organic farming to educate the cashew farmers in Auroville, Pondicherry. It was newspaper reports about the endosulfan tragedy in Kasargod that got Njal and Rita started on this cause. They took up one acre of land as a trial plot and started implementing methods of organic farming and IPM practices. They have since then harvested three crops, starting 2002. In the first year they sprayed neem oil on three occasions (flushing, flowering, fruiting) and closely monitored the insect population. Most of the pests were easily controlled by the timely and proper application of neem oil. Even the farmers who had been under the spell of chemical pesticides realised that no chemical pesticide was effective in ridding the tree of certain pests. They manually removed the grub from the base of the

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Medical experts .... from #6

retardation, epilepsy, stunted growth, physical deformity, history of repeated abortions, psychiatric illness or sterility. However in such houses no elderly persons were noticed with similar diseases. Clustering of cases of mental retardation, epilepsy, infertility, repeated abortions, psychiatric illnesses and cancer cases along the banks of the stream “Swarga” was noted. A number of Affected cases were reported among the families of the plantation workers. All the above health problems were seen irrespective of socio-economic status. The children of lower primary school were found to be more affected than the high school students. The Committee found that the only reason that could explain the health hazards seen in the area, was aerial spraying of endosulfan.

Two other medical teams who had done a fact finding study also clearly concluded that endosulfan is the cause for the health disorders. A team of doctors led by the Indian Medical Association studied the issue and recommended long term rehabilitation measures in the area. Another team led by Dr Romeo Quijano , a professor in Pharmacology and an expert in toxicology from Philippines along with the doctors of the Community Health Cell of Bangalore conducted a study on the request of the local community. They visited and examined the affected people, especially children, interacted with the local community leaders and farmers. They had ocular inspection of the physical and topographical characteristics of the area, the plantation areas, and conducted detailed house visits. The team concluded that there couldn’t be any other reason than endosulfan that caused the diseases seen in the area. The report asked for a permanent ban of endosulfan. The report recommended a comprehensive health and environmental survey, immediate remediation measures, clean up of the environment and setting up a community health and environmental monitoring for atleast 10 years. The report also recommended including endosulfan in the list of POPs targeted for global elimination.

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air and water and has been found in high levels in the Arctic. Lindane, a neurotoxin is banned in 52 countries and restricted in 33 countries. The US position on Lindane was denounced as "downright shameful" by NGOs, Public health experts and indigenous and environmental groups.

Lindane as a pesticide and a hazardous chemical is already on the Prior Informed Consent (PIC) list of hazardous chemicals in the Rotterdam Convention and is all set to be one among the top candidates considered for addition to the list of chemicals slated for a global phaseout under the Stockholm Convention on Perstsistent Organic Pollutants (POPs).

(Source : Global Pesticide Campaigner, Dec 2004)

CAMBODIA BANS ENDOSULFAN

In March 2003, Cambodia joined the growing list of countries banning the highly toxic pesticide endosulfan. The Cambodian Minister of Agriculture, Fisheries and Forests banned the pesticide, which was responsible for accidental deaths, widespread illnesses and environmental contamination around the world.

(Source Global Pesticide Campaigner Vol: 13, No: 2)

FRANCE BANS USE OF FIPRONIL

France banned the use of 6 fipronil insecticides containing Fipronil, an active ingredient notably used in the Regent TS insecticide produced by BASF Agro as it was suspected of killing bees. Fipronil was marketed under the trade name Regent for use against major pests on a wide range of field and horticultural crops but it is also marketed under other names for insecticides against fleas, ticks or mites.

(Source : Christina Kamp, www.alertnet.org , February 26, '04)

NORTH AMERICAN COUNTRIES DECIDE LINDANE PHASE OUT: USA DISAGREES

In late September 2004, United States representatives refused to go along with Canada and Mexico to draft a North American Regional Action Plan (NARAP) for eliminating / full phase out of Lindane, a highly toxic organochlorine pesticide. Canada plans to eliminate agricultural use of lindane by the end of 2004 and Mexico anticipates a full phase out of this chemical from agricultural, veterinary and pharmaceutical use. Contrarily, the US announced plans to continue use of Lindane that is known to persist in

14 MORE CHEMICALS ADDED TO PIC LIST

The 74 countries that signed and ratified the Rotterdam Convention on Prior Informed Consent (PIC treaty) added another 14 new chemicals to the treaty's international list. The PIC treaty is seen as an early warning system for sharing information among the countries on banned and severely restricted pesticides and chemicals. According to Barbara Dinham of the Pesticide Action Network UK, the information will help governments evaluate the risks to their workers and citizens and this could help save lives.

Under the PIC treaty, which came into force in February 2004, a chemical that has been banned or severely restricted in two regions of the world is considered for addition to the Prior Informed Consent list. When such a chemical is listed, all countries that have signed and ratified the treaty (India is also a Party to the treaty) must indicate whether they consent, or prohibit the import. These decisions are circulated every six months, and all exporting countries must ensure their exporters comply. The treaty also has such restrictions on importers. The new list of chemicals includes 9 pesticides which will be added to the already listed 22 pesticides. In the new addition some common pesticides such as monocrotophos, parathion, toxaphene, and certain formulations of carbofuran, thiram etc have been included. The PIC Rotterdam Convention website is http:/www.pic.int. *(Source : Global pesticide Campaigner, December 2004)*

"CHEMICAL TRESSPASS: PESTICIDES IN OUR BODY AND CORPORATE ACCOUNTABILITY" SHOCKS U.S. CITIZENS

All is not well in the Unites States of America, where per hectare use of pesticide is as high as 3 kg/ha. A report "Chemical tresspass : Pesticides in our body and corporate accountability" released in May 2004 by Pesticide Action Network North America (PANNA) analyses the report of the US Center for Disease Control and Prevention (CDC) and the conclusions derived were shocking. It was found that the U.S residents carry body burdens of toxic pesticides above levels considered "safe" by government regulations. The report presented a system for quantifying the responsibility of individual pesticide manufacturers for their chemical's tresspass into human bodies. The report documents that children – the most vulnerable members of the population are exposed to the highest levels of organophosphate family of pesticides, which damage the nervous system. It also found that Mexican Americans had significantly higher body burden of many agricultural pesticides than other ethnic groups. It was also found that among those subjects tested for pesticide residue in both blood and urine, the average person had 13 pesticides in his or her body. The report gives a number of recommendations that ought to be implemented by the US EPA, the US Congress, the CDC and the Pesticides manufacturers. A copy of this report can be downloaded from www.panna.org

(Source : Global Pesticide Campaigner, August 2004)

POPS TREATY COMES INTO FORCE

The Stockholm Convention on Persistent Organic Pollutants (POPs) came into force on May 17th 2004. The POPs treaty is a landmark treaty for protecting environmental health globally. The treaty targets for phaseout of an entire class of chemicals which are organic in nature and are persistent pollutants. Initially a list of 12 chemicals is slated for elimination, 9 of them being pesticides. POPs are global pollutants that not only pollute environment and life in the region where they are generated (produced or used), but also travel great distances, are toxic at very low levels and bioaccumulate and biomagnify. The POPs treaty was signed into existence on May 23rd 2001 by more than 100 nations. France was the 50th country to ratify the Convention and following 90 days from the day France signed it, the treaty came into force. As of now 97 countries have ratified the treaty. India is yet to ratify the treaty.

One of the most powerful pressure group, whose vast network of NGOs and scientists led to the swift and successful ratification of the POPs treaty was the International POPs Elimination Network (IPEN). The role of IPEN in the negotiations ensured that affected communities were adequately represented and the treaty had a language unprecedented in the history of environmental treaties.

(Information on the Stockholm Convention can be found at http:/www.pops.int. Information on the activities of IPEN can be had from http:/www.ipen.org.)

WIll India seize the Opportunity ??

The first meeting of the parties of the Stockholm Convention will be held within an year of it coming into force (ie.. in May 2005). All the countries that ratify the treaty before the first meeting will be eligible to participate in crucial implementation discussions at the Conference of Parties (COP). Ironically India which participated in the treaty process and signed the treaty has not yet ratified it. The U.S, which was one of the first countries to press for the treaty has also not ratified it. While countries like the U.S are bent on disapproving and violating the treaty by their own "federal" means, for a country like India, the best option would have been to actively participate in the treaty and be part of the implementation negotiations. But in the Ministry of Environment who cares ?? who bothers??

India - News

INDUSTRY DRIVES NATIONAL IMPLEMENTATION PLAN FOR INDIA

As part of the Stockholm Convention implementation, every country is to prepare a National Implementation Plan with active participation from all the stake holders including civil society representations and affected community representation. As part of the enabling activity under the National Implementation Plan process of the Stockholm Convention, to which India is a signatory, the Ministry of Environment and Forests had commissioned Indian Toxicology Research Centre, Lucknow (ITRC) to carry out Preliminary assessment to identify the requirements for developing a National Implementation Plan in India. One of the agreed upon clauses of the Stockholm convention is enshrined in the Article 7 of Stockholm Convention which says "*The Parties shall, where appropriate, cooperate directly or through global, regional and sub regional organizations, and consult their national stakeholders, including women's groups and groups involved in the health of children, in order to facilitate the development, implementation and updating of their implementation plans."* ITRC, which has been given the responsibility to develop the plan, has "subcontracted"the task to industry "stakeholders" like Associated Environmental Engineers Pvt. Ltd. (AEEPL), Vadodara (Gujarat) and Bharuch Enviro Infrastructure Ltd. (BEIL), Ankleshwar (Gujarat) and Confederation of Indian Industries. The above groups are assisting ITRC to collect data for "Preliminary assessment to identify the requirements for developing a national implementation plan in India as a first step to implement the Stockholm Convention on POPs". Quite contrary to the fundamental principles of the treaty, civil society groups have been largely left out in the process. In the regional workshops that were organised to develop the plan the organisers confessed that NGO's and civil society as well as affected community representatives were not consulted. Interestingly, the draft report seems to have completely left out hot spots like Eloor where the only DDT manufacturing facility in the country still operates, and is a global toxic hot spot. It was too obvious that the whole process was industry-driven and deliberate, which eventually would reflect in the National Implementation Plan for India. Interestingly however the Indian Chemical Manufacturer's Association has been boycotting the process, and have so far not attended the workshops that are being organised by ITRC and its partner agencies in different cities. The whole process reflects a serious flaw and impinges upon open and democratic process of participation as envisioned by the Stockholm Convention.

CHESS – 3

The 3rd National Community Health and Environmental Survey Skill Share (CHESS) took place from August 13, 2004 to August 15, 2004 at Hyderabad. CHESS, which was started as a process in 2002 was primarily meant to bring the various pollution impacted communities together with doctors and scientists working on these issues and develop methods and strategies to study, understand and act on community health and environment health issues. The efforts have borne much fruit in the last two years, and in 2004, CHESS-3 was hosted by Samata / MMP and focussed on 'Mining and Health'. The skill share was attended by 75 participants from 12 states. 40 of the participants were women. There were 6 doctors and 14 community groups. There were detailed presentations on the issues and the work / studies being done by the different groups, NGO's and individuals. Pollution from cement industries, mining of coal, uranium, mica, iron ore, manganese, asbestos were presented. There were detailed presentations on the industrial pollution issues, especially in Eloor, Cuddalore and Kancheepuram,

The impact of pesticide use on agriculture community was also

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considered with importance, as there were three presentations. Kheti Virasat, an NGO based in Punjab, along with Greenpeace presented the extensive degradation of biodiversity and the increase in cancer in the villages of Punjab. Thanal, a Kerala based group briefly updated the workshop on the Endosulfan spraying case in Kasaragod. The participant from Tamilnadu Women's Collective from Nilgiris detailed the problems faced by the people due to pesticide usage in the tea plantations.

THOUSANDS MARCH DEMANDING "ENDOSULFAN -QUIT INDIA"

Braving heavy rains that drenched the Kerala Coast, about 7000 protesters, including children and the common public marched to the Kasargod District Collectorate shouting "Endosulfan Quit India" on Aug 7, 2004 in Kasargod. The march was organised in connection with the Quit India celebrations in the country to commemorate the major milestone in India's freedom struggle. The march was organised to protest against the continuing neglect of the authorities towards the victims of the Endosulfan tragedy. The leader of the Opposition in State Legislative Assembly Sri. V.S. Achuthanandan, lead the march. Sri P.Karunakaran, Member of Parliament, other MLA's and panchayath representatives were the main speakers on the occasion. The marchers forming a one-kilometre line were in high spirits inspite of the tragedy and the public meeting that ensued adopted a motion asking

Silent Killer Endosulfan - Quit India" Rally in Kasargod on August 7th 2004 Courtesy: Madhyamam Daily

the government to ban endosulfan in India. 25 years of spraying this chemical in the cashew plantations in Kasaragod had wrecked irreparable damages to the lives of people and the environment.

The motion further demanded compensation to the victims and the affected. The people also demanded that the Dr Dubey Central Committee report, which according to them hid the truth, be rejected and a judicial enquiry be ordered to expose the alleged nexus of Dr. Dubey, the Chairman of the Committee with the Pesticide Industry. The people asked the Plantation Corporation to stop the vengeance on the local people. The march then presented the submission to the District Collector. A play "Kunje Mulapal Kudikkaruthe" (Little child, Drink not your mothers milk) - a play directed by noted writer and poet Sri. Civic Chandran was acted out by the theatre group Souparnika, Kannur. This march followed the Hiroshima day(August 6th) commemoration in schools and colleges in Kasargod District, where thousands of children remembered the victims of the Nuclear Holocaust and the victims of the Endosulfan spray and took an oath that they will keep away from all pesticides affecting Mother Earth and their lives. The commemoration was marked by reading out the oath to the children by the mothers of two children who fell victim to the chemical.

KUMBALANGHI DECLARATION ON "SAVE RICE" SAYS NO TO PESTICIDES

The Indian Workshop on Rice organised at Kumbalangi in Kochi (Kerala) in December 9th to 11th 2004, brought out a declaration on the theme Save Rice in India. Notable among the conclusions arrived at in the conference, was that the Indigenous and traditional seeds and methods of rice production was sufficient to feed the country, contrary to claims of the modern agriculture scientists and policy makers. The declaration specifically noted that chemical pesticides and fertilisers should be banned in rice production, as it was proven that they are not needed at all for rice production. Many groups presented their successes in producing rice with natural pest control methods. The 'Indian Workshop on Rice' attended by more than 100 people representing 57 organizations from rice-growing areas was organized by Thanal, Self-Employed Women's Association (SEWA) and the Pesticide Action Network Asia Pacific (PANAP) as part of the International Year of Rice celebrations. *(Source :www.thanal.org)*

STUDY FINDS GROWTH OF INDIAN CHILDREN AFFECTED BY PESTICIDES

A large scale study among children living in rural areas in India with intensive pesticide use has found increased risk of impairment of mental development. The study was conducted by researchers in Greenpeace India and the report, *Arrested Development* released in April 2004. In the study, 899 children aged 4 to 5 years and 9 to 13 years from Punjab, Karnataka and Andhra Pradesh were evaluated for their development with simple mental and physical exercise tests and the results were compared with a control area population of children with lesser pesticide exposure. The study found that more than two-thirds of the tests, children in the study area performed significantly worse than the control area subjects. The research was carried out in various places in India and the results showed that quite consistently there were significant differences in the mental and physical abilities of children between the exposed and less-exposed.

(Source : Arrested Development, www.greenpeaceindia.org)

Update

Bhopal

20 years have passed since the Bhopal gas leak disaster. On the night of the December 3, 1984, the outlook of the world towards the big chemical spewing factories changed, and communities all over the world woke up to the reality that factories surrounding them could kill them and impair their future to irreparable extents. Industries that were monuments of development suddenly became feared and many governments all over the world started serious measures to make industrial operations safe and hazard free. On its anniversary remembrance on 3rd December 2004 – the Global Day of Action for Bhopal – worldwide protests against the Dow Chemical Company (present owners of the Union Carbide Company) was organised , coordinated by the International Campaign for Justice in Bhopal. Actions, events, awareness campaigns were organised all over the world. The Campaigns call to action declares that "*We never want to see another Bhopal. To ensure this, it is vital that Dow Chemical and other corporate offenders are not allowed to get away with their crimes*".

The year 2004, was also an year of victories and hope for the struggling community in Bhopal. In March 2004, the Indian Supreme Court ordered the state government of Madhya Pradesh to begin supplying safe drinking water to the 20,000 Bhopal residents whose ground water was contaminated by the Carbide's deadly chemicals. In July, the Supreme Court in a land mark decision ordered the immediate distribution of $370 million (Rs. 1503 crores) in compensation to the survivors. This amount had been with the government for fifteen years, even as the people were struggling with their medical needs and the cost of the same. Court has directed this money to be distributed among the victims including close relations to those dead or injured. Hailing the Supreme Court's order, the victims of the tragedy said that it would give them a new lease of life but demanded adequate safeguards to prevent misuse of money. Describing the apex Court's order as historic, Rashida Bi, President, Gas Peedit Mahila Stationery Karamchari Sangh said that if the amount lying with the RBI is actually going to be distributed among the people, their lives would be transformed. Though popular opinion hails this order, some believe that the settlement amount has come too late and too little.

In another significant thrust for the struggle, in April Rashida Bi and Champa Devi Shukla, two leaders of the Gas Peedit Mahila Stationary Karmachari Sangh were awarded the prestigous Goldman Environmental Prize, known as the "Nobel Prize for the environment", for their pioneering work among the Bhopal victims. The most significant of justice came in June when the new government in India under Dr Manmohan Singh was forced to buckle under huge national and international pressure and issued a "no objection" statement, that allows the Southern District Court of New York to order Union Carbide to clean up the factory site.

As such victories keep coming, movements all over the world are struggling along with the community in Bhopal to see to it that Bhopals do not happen anymore. The struggle needs to continue...

(More information on the International Campaign for Justice in Bhopal can be had from http://www.bhopal.net, http://www.studentsforbhopal.org, http://www.bhopal.org)

Update

Kasaragod

After Bhopal, no chemical disaster has been as big as the Endosulfan spraying tragedy in Kasaragod. The government sponsored cover up that followed the exposure of the tragedy has also been remarkable. In 2004, the Central Ministry of Agriculture and Cooperation, continued to deliberately protect the chemical endosulfan. The O P Dubey Committee recommendations caused much embarrassment for the Government and they appointed the Dr Mayee Committee. In January 2005, the Mayee Committee repeated the recommendations of Dubey Committee and has drawn much flak from the community in Kasaragod. (see lead article for details). The year 2004, saw some remarkable public efforts to address and highlight the issue. The most significant of them was the involvement of the political parties and their senior leaders in the issue. In January 2004, the then Chief Minister of Kerala, A K Antony in a public meeting declared that Kerala would maintain the ban on Endosulfan, even if the Centre allows the use of the chemical. He promised remediation and symbolically started the process of remedial treatment to two of the affected children. In December, the new Chief Minister Sri Oommen Chandy also reiterated the same, and initated remediation work in Kasargod. In the last six months the

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Exorcising Endosulfan Effect - Says the news. Chief Minister A.K. Antony promises rehabilitation and permanent ban on endosulfan - courtesy New Indian Experss

Corporate Disasters ! More Bhopals

The last two years saw some of the worst industrial and chemical disasters – many that almost became a Bhopal – feared and fumed over. The warnings of such possibilities were there for many years now, and there is very little that is being done responsibly about it. We are bringing you here two such accidents that could have been averted, only if we had a better corporate accountability and a more sensible industries, health and environment departments in our Governments.

Excel plant, Gujarat

Madhumitta Dutta, Community Environmental Monitoring, New Delhi

On 3rd June 2003 around 7.30am, Ruapuri village was engulfed in nauseous gas emanating from the large chemical factory in front of the society in Bhavnagar, Gujarat. Activists visited Ganesh Society after the gas leak and found out from the villagers that incidents like these were common. According to the villagers, for the last 30 years or so, since the Excel plant came into operation, people have been constantly exposed day and night, to noxious fumes from the factory, which produces endosulfan, chlorpyriphos and butandiol. Incidentally the villagers were not aware of the products being manufactured in the factory. This is a clear violation of the Factories Act as under Section 41 B, mandating industries to disclose to the community about its products, manufacturing processes, dangers in case of accidents, leaks and disasters etc.

Besides the gas leak, the villagers complained of black soot coming out from a stack located inside a small plant in the backyard of the factory. It seemed highly likely that the black soot was coming from the Excel plant's onsite incineration facility within their premises. Villagers also claimed that the natural pond located behind the factory was filled with wastes by the company.

Excel officials initially dismissed all reports of any gas leak from the factory but later admitted to a runway reaction in its Chlorpyriphos plant on the night of May 28th, 2003 that lead to the gas leak on June 3, 2003. On the night of October 8, at around 9.30pm there was another gas leak from the factory. Villagers reported intense irritation in the throat and a burning sensation in the eyes. No action appears to have been taken by the Government agencies against the polluting factory. Besides Excel factory, Nirma Chemical complex has also come up in the vicinity in the last 4 years, worsening the situation.

HIL, Eloor, Kochi

On July 6, 2004, a little after 2 am, a fire broke out in the Endosulfan plant in the HIL factory in Eloor, Cochin, Kerala. The fire raged for more than three hours and gutted most of the five storey plant. A westerly breeze carried the thick grey smoke over at least 250 dwelling units in Pallipuramchal and all the way across the river to the Varapuzha Panchayat. Smoky conditions prevailed in Varapuzha as late as 7am, well after the fire was put out. Many families with children decided to flee the area and crossed the river to the Varapuzha Panchayat by ferry. By the time they had crossed over the smoke plume too had crossed the river and people could smell and feel the smoke on the other side. Neither HIL nor the district authorities initiated any off site emergency response procedures. The community under the banner of the Periyar Malineekarana Virudha Samithi (PMVS) had been demanding Right to Information on the hazardous chemicals used, processed and manufactured by the factories in the area and had also been demanding that factories implement a disaster management plan and an emergency response system.

The Eloor Industrial Area hosts about 250 industries of which more than a dozen are large chemical factories. The HIL is the only plant in India that produces DDT (a Persistent Organic

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The Burnt Endosulfan Plant

Photograph taken on 8th July 2004

Corporate Irresponsibility

While hazardous chemicals are inherently dangerous and there are laws to regulate their handling and use, in 2004 India continues to be a country where these laws are blatantly violated simply because human lives and environment are still much cheaper than the objectives and profit motives of companies. NewsCAPE received two reports – that showed that we have a long way to go in getting the law on hazardous waste properly implemented and the companies made responsible and accountable for illegal storage, dumping and disposing of hazardous waste.

A report of the Hindustan Insecticide Limited Site Visit In New Delhi

P. Madhavan, photo-journalist / activist

On July 3rd, 2004, following an inspection by the Supreme Court Monitoring Committee on Hazardous Wastes and Chemicals, two officials from Delhi Pollution Control Committee (DPCC) and myself as member of the NGO team assisting the Committee in Delhi, went for a site inspection of a closed factory owned by the Hindustan Insecticide Limited (HIL), a public sector undertaking. The factory was closed down in 1996 as part of a Supreme Court order for relocation of hazardous industries out of Delhi and was relocated in Bhatinda, Punjab. Incidentally, HIL is the sole producer of DDT in India and the world besides China. The brief site inspection revealed haphazardly stored chemicals in the factory premises along with the rotting and rusting manufacturing plant. The whole place had a pungent chemical smell. No attempt appears to have been made by HIL to contain the toxic chemicals or dismantle the plant over the last 8 years. The factory premises were strewn with boxes and bottles filled with chemicals without any visible name of chemicals and huge corroded tanks of DDT, from which chemicals were leaching out. A sludge bed was seen adjacent to the tanks. Throughout the industry compound a substance that was referred to as “China Clay” by the HIL officials was lying strewn. The team was informed that about 700 tonnes of this material was lying in the factory. In the staff canteen, huge quantity of sacks full of white coloured material were found which HIL representative said were ‘detergents and silica’. Aluminium containers were found all over the place.

Interestingly, DPCC officials did not take any samples to ascertain the nature of these chemicals. In all these years after the factory closure, this was apparently the first time the pollution control agency had visited the abandoned factory. There appears to be no record with the agency as to how much toxic material was lying in the premises, how much had leached out, what was the extent of migration or spread of these toxic chemicals into surrounding water and soil in the last 8 years. So far no action appears to have been taken by DPCC against HIL for this negligence that poses tremendous public health threat.

Illegal dumping and burning of expired drugs and pesticides by Hindustan Antibiotics Limited, Pimpri, Maharashtra.

Madhumita Dutta, Shweta Narayan, Corporate Accountability Desk

The Bhopal based Sales Depot of Government-owned Hindustan Antibiotics Limited based in Pimpri, Maharashtr illegally dumped and burnt unspecified quantities of date-expired drugs and pesticides on a private farm near Saliya-Sankheri village in Bhopal, Madhya Pradesh.

On 29th July 2004, around 4 p.m., two matador trucks carried cartons of date-expired drugs (antibiotics-penicillin, other medicines) and pesticides (endosulphan, chloryriphos, monocrotophos) accompanied by HAL officials which were dumped and set ablaze on a farm in Sankheri village. All these products are marketed by HAL and the company also manufactures some of them.

Within few hours of the fire, villagers around the area, residing within 200 meters started complaining of severe breathing problem, stomach ache, diarrhoea, nausea and vomiting. All members of the family of Shri. Amar Singh, a farm labourer, living within 20 meters of the dumpsite, fell unconscious and was admitted in Jai Prakash hospital the next morning. On 30th July evening and 31st July morning, villagers who complained of dizziness and nausea were taken to local doctors.

On 30th July, an FIR was filed in the Kolar police station, based on which four officials from HAL Bhopal office were arrested and later released on bail. A complaint was also lodged with the District Collector on 31st July, who immediately intervened and promised solatium under Public Liability Insurance Act, and to take action against HAL.

Till 1st August, no action or inspection of the spot was carried out by the Madhya Pradesh State Pollution Control Board. The Kolar Police Station and the District Collector’s office sent repeated intimations to them.

Meanwhile, the smouldering toxic waste, lying in open, was easily accessible to the public. Cattle grazing on nearby fields could be seen straying near the toxic pile. Due to incessant rains, the half burnt waste, especially pesticides, had run off into the surrounding area possibly contaminating it.

It was later known from media reports that this was a common practice by the company to dump and burn date-expired drugs and pesticides on vacant land. Even residents of Sankheri village complained of illegal waste dumping in rivers/streams (which had led to fish kill a few years back) and farms.

This act is not just corporate irresponsibility but amounts to a deliberate criminal act that exposed people to toxic wastes and fumes and contaminated the environment. Given that the company has been in the business for several years, it goes without saying that they are well

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"A Will to Kill.. " from # 5

the cause for the health disorders. Even the government appointed committee under Dr Achuthan, a well known environmental scientist could not pin point the cause for the disorders. In 2003, following further pressure from the public, the state government appointed a committee under Dr P K Sivaraman, Additional Director of Public Health, with members from the Agriculture Department, Kerala State Pollution Control Board and other doctors. This committee made a thorough study of the ground situation and the report finds that endosulfan could be the cause of the health disorders in the area. In November 2004, the State Pollution Control Board finally banned the pesticide endosulfan in the State following the directions of the High Court, under the Water Act and the Air Act.

Interestingly, this is under the same State government which refrained from banning the chemical on the pretext that it could not do so, as the Insecticides Act only empowers the central government to ban a chemical.

The lessons are clear as crystal. One is reminded of the old saying - Where there is a will there is a way. The ways of the Ministry of Agriculture are well written and clear. They do have a will and their will is to let the polluters - the manufacturers and applicators of poisons such as endosulfan continue their business and in the process thousands of farmers, consumers and ordinary vulnerable mothers and children are killed or maimed. And then there is a government, which does not have the will to act against such perpetuators of poisons. Because the government, though elected by the will of millions end up as "irresponsible faces" implementing what the hidden hands of the bureaucracy will ask them to do.

But in this case of Endosulfan and the poisoned people of Kasaragod, this will of the government have to change, because the suffering children and youth and their ill-fated mothers will not tolerate the injustice for long. Regulating pesticides in the country can no longer be "safely" left in the hands of a few in the Ministry of Agriculture, for they have proven to be working too much in tandem with the pesticide industry. And regulating pesticides is a matter of protecting public health, environment and biodiversity. This cannot be left "safely" in the hands of the polluters and the agriculture scientists. It is high time that regulating pesticides be brought under the Environmental Ministry and the Health Ministry and the real stakes of farmers, consumers, women, environment and the larger civil society be recognised and their participation ensured. The outdated insecticides law, that fails to protect public health from pesticide use and contamination should be fully dismantled and reconstructed with the clear intention of ensuring a safer future for our farmers, consumers, mothers and children.

The best cure for Pesticide Poisoning is PREVENTION"

Alternatives to endosulfan .. " from # 7

trees and treated them with neem seed powder or neem oil in mudpack or both. Regular application of compost, regular checking and removing of grubs, digging out dead trees including roots and removing them away from the field, composting the harvested fruits, pruning dead branches are some other things they practice. The second year's yield has been almost double than that of the first year. Initiatives like this are the foundation for a sustainable farming policy in India.

Medical experts .... from #7

It is worthwhile to note that the High Court of Kerala taking cognisance of the information from the studies and reports on the health effects of endosulfan had ordered a ban on the use of the pesticide in the state using the tenets of the Precautionary principle, till a final decision was taken by the Central Government in this matter. But none of this evidence was convincing to the Ministry of Agriculture of the Government of India. Ironically neither the agriculturists nor the pesticide industry are health experts to lay claims on the safety of the chemical. And the Government all the while prefers to rely on them for taking decisions on what is a clear case of a public health disaster.

HIL- Kochi from # 12

Pollutant), and also Endosulfan and Dicofol. HIL is a public sector undertaking fully owned by the Government of India and it operates 4 plants at Eloor. Hindustan Insecticides Limited has been in the eye of the storm for quite some time now. In 1999, Greenpeace surveyed and sampled the factory outskirts, especially a stream coming out of the factory into the community water body and the river and found 111 chemicals of which 39 were hazardous organochlorine compounds including DDT and its metabolites, Endosulfan and metabolites and their degradation products. This resulted in declaring the area as a global toxic hotspot. The authorities particularly the KSPCB and the Factories and Boilers Inspectorate sought to treat community demands for information about the hazardous chemicals and processes as unnecessary interference rather than legitimate concerns. Eloor is surrounded by the Periyar River amidst factories and the 30,000 odd people living in the area has literally no way of escape except to jump into the river or get ferries (if they are the lucky ones) if such incidents occur. Repeated requests for information on emergency preparedness and for the building a bridge across the Periyar river at the Eloor ferry point to escape the island during emergencies fell on deaf ears. In the last three years there has been quite frequent gas leaks and accidents, especially from Merchem, a privately owned factory producing some fungicides and FACT, a major fertilizer company.

The thermal degradation products of Endosulfan, HCCP and Toluene are highly corrosive. It is also learnt that burning of Organochlorine products could be producing Dioxins and Furans, which could make matters worse. The absence of emergency response procedures and the casual attitude of the district authorities as well as the industry is a shocking reminder that no lessons have been learnt from the 1984 Union Carbide disaster in Bhopal.

(Source : Fact Finding Mission Report available at www.thanal.org)

In the Next Issue

The World Health Organisation this year has called for the safety of every Mother and Child. While their vulnerability has been globally understood , the impact of pesticide and unsafe food has been seldom highlighted. In the next issue we propose to focus on the impact of Pesticides on Children. We request all readers to contribute to this issue, with whatever information, news, research findings you know. Even local news of your area would be important. Please use this forum as a medium for sharing your concerns in the matter of pesticides.

Update-Kasaragod from #11

Department of Health in the State has organised many camps in all the affected regions, and gave identification cards for the affected. Meanwhile, the Opposition Leader of the State, V S Achuthanandhan has been the most vehement in supporting the cause of the endosulfan affected people. His relentless torrent of attack has been directed against the State's Minister of Agriculture Smt Gowri Amma. On Quit India day, the Opposition leader led a massive rally and a public protest along with all the other political parties for this common cause. The demand was "Endosulfan Quit India".

In August , the newly appointed Managing Director of the PCK, Dr V K Raju, in a press meet declared the PCK's intentions to shift the cashew plantation to organic. This was in lieu of the ban on endosulfan. Dr Raju also declared that they would allow Women SHG's to use the plantation area for farming on lease. In December, the Kerala State Pollution Control Board gave the final blow to endosulfan, when they issued a ban order on the chemical and warns to take action against those who violates the order under Section 33A of the Water Act and 31A of the Air Act.

illegal dumping ... from # 13

acquainted with the potential threats posed by indiscriminate disposal of hazardous wastes to human health and the environment. What is needed now as an immediate measure is to contain the waste in a safe manner and make an assessment of the extent of contamination. It s also imperative that in such cases criminal proceedings be initiated against the criminal companies (here HAL) and quick and immediate remediation be done and the cost recovered from the polluting company.

"We have the right to take preventive precautions against chemicals that threaten our health and safety even if science has not yet established conclusive evidence"

Appeal

Is Biotechnology the answer for the problems in farming ?

Government of India , Department of Biotechnology has recently published a 'Draft National Biotech Development Strategy' and has called for inputs from the public. The report says that for a country like India, biotechnology is a powerful enabling technology that can revolutionize agriculture, healthcare, industrial processing and environmental sustainability. They have calculated that India has the potential of generating revenues to the tune of US 5 billion dollars. It is also written that biotechnology has the potential to overcome the challenge to ensure the livelihood security of 110 million farming families in our country.

The farmers and the consumers of the country is presently reeling under the poisons that are a fall out of the Green revolution, which ironically had similar goals, in its inception years. While going through the report one wonders why the government is taking so much pain to develop a strategy for biotechnology while it has not tried to develop one for the comprehensive development of organic farming. Since the 1980s there is an expanding sphere of organic farming movement in the country, which was developed without much governmental support, but in the present context it really needs support for its expansion. The experience shows that it can generate safe employment opportunities in the rural sector, especially for women and at the same time produce diverse and good nutritious food. This can help farmers economically also since there is growing demand for organic food inside and outside the country. It is also true that Genetically Modified (GM) food is increasingly rejected in the developed world as apprehended in the biotech strategy report itself. We also would love to feed ourselves and our children with good food and not GM food.

In this context we wish to raise this doubt why this haste to develop biotechnology, especially in Agriculture, which is already known to cause problems to the farmers, consumers and the environment. The hype about productivity of Bt seeds is also facing serious setbacks. Let us start planning in a more sensible manner, both economically and ecologically. Let us not dwell more into such risky technologies when other safe and reliable methods and processes are available in our country.

We appeal to our readers to send your protests and critiques to this draft report, which is available at www.dbtindia.org .

Please do write to
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New Delhi - 110011.

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About CAPE

CAPE evolved as a network in October 2002, when farmers, activist groups, public health professionals, researchers, voluntary organisations came together with many pesticide impacted communities and formed a platform – the Community Action for Pesticide Elimination (CAPE) to take forward the joint struggle to keep our fields, food and lives free from pesticides. It was launched on a workshop on Pesticides and Health organised in Bangalore.

Pesticides and its impact on the system have become too ominous and threatening in the country and yet little considered when matters of health and environment are discussed. In the last two or three years we have seen that many communities all over the country have realised that they have been enslaved by pesticide use and driven to suicides or have been living contaminated lives. Pesticide as a major source of health crisis came to be seriously recognised with the tragedy in Kasaragod due to Endosulfan spraying, and now we see such poisoning happening in other areas as well. Even while the food safety, the life of the villages and the future of soil and water in the country is being affected, it is quite an irony that the environment and health planning in the country do not consider pesticides and its impact.

CAPE feels that a realistic and better understanding of the impact of pesticides on the health of the public and the environment need to be researched as well as considered in both planning and implementation. CAPE also recognises farmers were enslaved into technology, chemicals and hybrid seeds in the name of increasing productivity, which eventually failed the farmer and led them to losses and suicides. Food Sovereignty is a fundamental issue and cannot be achieved with policies that make more and more farmers slaves of MNC's and Pesticide Corporates. Food Safety (from chemicals and manipulated seeds) cannot also be achieved by continuing the policy of poison production and use.

CAPE also believes that it must respond to the changes happening all over the globe. The Rotterdam Convention, the Stockholm Convention, the Basel Convention and the PIC, the Inter-governmental Forum for Chemical Safety (IFCS) are a few of such International efforts to address public health priorities. In such forums we see that the NGO's, and Voluntary Agencies and Independent Research findings are getting more and better spaces and consideration. In India, these global efforts are seldom reflected in the policies and decisions.

Community Action for Pesticide Elimination (CAPE) believes that much work is needed to achieve the aim of pesticide elimination, with the single goal of ensuring safe food and clean environment. NewsCAPE, a newsletter to help share information, research and news about pesticides is produced by the network, and is presently published from its secretariat, Thanal.

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