

T O X I C S DISPATCH

A newsletter from *Toxics Link*

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FOR PRIVATE CIRCULATION ONLY

Heavy metal contamination of vegetables in Delhi

Vegetable crops are often grown and sold in polluted and degraded environmental conditions in the peri-urban (or urban fringe) zone and are subject to further pollution from vehicles and industries. During marketing. There is, therefore, significant cause for concern regarding contamination of vegetables.

In the the dietary pattern of India, vegetables play an important role as they are a major source of protein, nutrients, vitamins, iron etc, with a large number of the population being vegetarian. In India, dietary intake of protein and iron rich food is limited – the average Indian taking 60-80 per cent of the recommended levels. Intake of vitamin A is mainly in the form of green leafy vegetables and yellow and orange fruits. In addition, vegetables supply iron, vitamin C and folic

acid. Thus, increased intake of fresh healthy vegetables will be necessary for improved nutritional status of people. This is also acknowledged by the Government of India's policy which recognises the long-term preventative need for sustained increased consumption of fresh vegetables and fruits, rather than supply of iron and vitamin supplements in tablets.

Whilst increased consumption of fresh vegetables is an important goal, it is also important to ensure that vegetables are prepared in such a way that they are safe to eat, i.e. any impurities or contamination are removed prior to consumption. Chemical contamination from sources such as industries, vehicles and pesticides can affect the safety of food; degraded

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Silence is self-violence

Two new studies released over the past couple of months are significant in their implications. One, that the widespread loss of vultures is being caused by an antibiotic, Diclofenac, very widely used as a painkiller for people and for livestock, but causes kidney damage to nature's scavengers. Another, which shows high levels of heavy metals like lead in our everyday vegetables such as 'palak' and cauliflower.

All residue in food studies done over the past decade reveal high levels of pesticide in our daily diet. Groundwater contamination too reveals a similar dismal trend. They confirm what we have come to know, that we are slowly but surely destroying the complex web of nature we are only a part of and it is coming back to haunt us.

On the other hand, while the industry is in denial, we, as consumers, are quiet, too dazzled by our growing choices to be able to see below the sheen. Only last week, the chemical industry in India, one of the largest in the world and constantly growing, smugly asked the government not to ratify the Stockholm Treaty, which seeks to ban the most dangerous 'dirty dozen' chemicals and set a framework for chemical safety in the world.

The asbestos industry is wishing away the health effects of this killer material, and stymies any effort towards producing alternatives, even though worldwide this industry has had to pay liability compensation amounts second only to the tobacco industry.



Dow refuses to accept liability for Union Carbide in India. Urban waste is being handed over by more than 12 municipalities to one company in Australia, using gasification technology, which is disastrously polluting and inappropriate for Indian waste. The company does not even have a fully functional plant of a fraction of the capacity it promises to deliver here.

It is obvious that each one of us is being violated. Is it not time to assert, and speak out, and show the power of one? Silence now is self-violence.

Ravi Agarwal

environmental conditions in peri-urban areas, from where a large proportion of fresh vegetables consumed by city dwellers are sourced, are a leading cause for concern in this respect.

A study carried out for over three years by the Imperial College London, in partnership with Toxics Link, Delhi University, Indian Agricultural Research Institute, and Banaras Hindu University has found vegetables such as *palak*, *bhindi* and *gobhi* contaminated with heavy metals. The samples were taken from a wide range of field production sites in, and around, cities as well as marketing and retailing sites for vegetables. The samples were later tested for the concentration of lead (Pb), copper (Cu), zinc (Zn) and cadmium (Cd).

In Delhi, the research indicates that the consumers are purchasing vegetables with levels of heavy metals in excess of the legally permissible limits, as defined by the Indian Prevention of Food Adulteration Act, 1954. These norms are less strict than international food safety norms such as the Codex standards. However, there is no regular testing of heavy metals in vegetables by the designated authorities in India.

Seventy two percent of 222 samples of *palak* contained lead concentrations that exceeded the Indian (Prevention of Food Adulteration) Act permissible limit of 2.5 mg/kg. If the more stringent Codex limit of 0.3 mg/kg is used, then 100 per cent of the *palak* samples exceeded safe limits. 24 per cent of the samples exceeded the PFA's permissible limit by more than two-fold.

Of 609 *palak* samples analysed, 21 per cent showed zinc concentrations that exceeded Indian PFA limits (50 mg/kg). Three per cent had concentrations twice the PFA limit.

All of the 260 samples of *palak* had concentrations of cadmium within the PFA limits (1.5 mg/kg), but 70 per cent exceeded the much more stringent EU standard (0.2 mg/kg). The copper levels found in *palak* were within safe limits in all samples.

Heavy metal accumulation gives rise to toxic concentrations in the body. While some elements (arsenic, cadmium, chromium) act as carcinogens, others such as mercury and lead are associated with developmental abnormalities in children.

Heavy metal contamination occurs from a wide range of sources such as small-scale industries (including battery production, metal products, metal smelting and cable coating industries); brick kilns; vehicular emissions; re-suspended road dust and diesel generator sets. These can all be significant contributors to the contamination found in vegetables as well as irrigation water contaminated by sewage and industrial effluent leading to contaminated soils and vegetables. Other sources can include unsafe or excess application of (sometimes banned) pesticides, fungicides and fertilisers such as sewage sludge.

Heavy metals may be present as a deposit on the surface of the vegetable or may be absorbed by the crop roots and incorporated into the plant tissue. In either case, the original source of the pollution may be from water borne



sources (such as industrial effluents) or from industrial or vehicular air pollution. This distinction is very important, because consumers can often wash off metal deposited on the surface of the crop prior to consumption.

The research highlights that poorer urban consumers could be affected to a greater extent by the heavy metals present in vegetables purchased, as they wash their vegetables less thoroughly than better-off consumers. They also purchase vegetables that have been in the market for a longer time at a lower price, thus increasing the risk of longer exposure times of the vegetable to aerial deposition of heavy metals.

The only way out, besides washing, is to check and reduce pollution at source. Reduced industrial and vehicular pollution of water, soil and air will prevent high concentrations of heavy metal traces such as cadmium and lead from entering the food chain.

Currently, there is no regular testing for heavy metals in vegetables by the designated health authorities. Thorough and transparent food testing inspections and dissemination of results by well-qualified government and non-government organisations is the need of the hour. Regular monitoring will also help in raising awareness about the food safety issue and will strengthen consumer demand for anti-pollution measures and better quality of food.

The study has found that flows of information and incentives through the mass market are limited by the focus on the price-appearance relationship. It is evident from consumer research that there is a positive relationship between income and education levels on the one hand, and awareness of food safety hazards on the other. That is to say, poor consum-

ers who are more likely to be subject to environmental health hazards, are not only less able to pay a price premium, but are also less aware of the potential health hazards of food contamination.

The outcome of the study is that with the limited information available to them, poorer consumers are unlikely to demand vegetables that are quality-assured in respect of food safety such as freedom from contaminants (be they heavy metals from air pollution, or from agrochemical or microbial sources). Moreover, the mass assembly and distribution system through the wholesale markets is not able to convey signals about food quality other than freshness, nor mechanisms of quality assurance other than visual inspection of produce.

Experimental programmes by the research team have highlighted that a simple, low cost opportunity for people to reduce heavy metal contamination is by thorough washing of vegetables in clean water. In Delhi, generally heavy metal levels in municipal tap water are well within safe limits

and exposing vegetables to this water does not pose an additional threat of contamination.

Clearly, the potential to reduce heavy metal contamination by thorough washing depends on the access that people have to clean water sources, and competing needs for this scarce commodity. However, this may be a barrier for some of the poorest communities. The capacity to reduce food contamination will be an added advantage of improved water supply and sanitation, which is already recognised as an important poverty alleviation tool.

Existing tools for increasing awareness could be well applied to enhance awareness about simple food safety interventions. For instance, the Municipal Corporation of Delhi raises awareness about public health through advertised messages in English and Hindi newspapers, cinema slides and hoardings on buses and at the roadside. The Government of Delhi also uses innovative awareness raising means such as short messages broadcast through the telephone.

Kishore Wankhade

FEATURES

Citizens reject proposal for interlinking of rivers

Traditional water conservation efforts have succeeded where modern ones have failed. On 9 April, 2003 leading Gandhian Anupam Mishra explained the water conservation and harvesting methods of people of Rajasthan at Rajendra Bhawan in New Delhi. It was followed by a brainstorming session on the proposed river-linking project.

Dr. Sudhirendra Sharma said, "We are being subjected to repetitive conditioning so that we may accept river-linking without questioning". If there is no accountability how can we possibly entrust all our rivers to an unaccountable taskforce. He cited the case of Punjab to illustrate how states are unwilling to share water for



it could trigger re-emergence of terrorist movement in the state.

He mentioned that even glaciologists wonder if the project will ever meet its intended objective of reducing water scarcity across the country. The politically buoyant government is not giving ears to such scientific observations and this is likely to open floodgates of economic, environmental and political contradictions that Suresh Prabhu will find



Supreme Court admits writ against unsafe food

On the eve of Earth Day, the Supreme Court has admitted a civil writ petition filed by Srishti, an environmental group. The petition brings to fore the trends and statistics emerging over the past two decades which show an increase in contamination of everyday food items. The food included farm gate vegetables, milk, grains, water etc. Much of the contamination is through chemicals like pesticides and insecticides, besides heavy metals and other toxics. Currently, there is no recourse for a consumer of such food to protect herself/himself from such contamination.

hard to plug.

Andhra Pradesh, in the recent past, had rejected the National Water Development Agency's proposal to link Mahanadi, Godavari, Krishna and Cauveri on the ground that there was no surplus water in Godavari. However, the same government makes a political turnabout when it comes to drawing water from rivers in other states.

The order was passed by Justice Kirpal only a day before his retirement. Himanshu Thakkar said that there is no question of contempt of court as Justice Kirpal, soon after his retirement in Bangalore, iterated that the river linking proposal was not an order but a mere suggestion. The confusion about this so-called order needs to be addressed with urgency. Himanshu said that we are witness to a political character where we have 3,600 dams throughout the country but we do not have *post facto* evaluation of a single one. Since 1982, National Water Development Authority (NWDA) has been working on the project with an annual budget of Rs 20 crore but they do not have any information to share with the citizens. Just as Narmada's waters promised to Kutch will never reach there, so will be the case with the promises made by this project. He said that we must go for the least-cost option based on democratic decision.

Prabir Purkayastha began by saying that common sense is remarkably uncommon. He raised the issue of equity, saying that there are places which grow three crops in a year while other places go without drinking water. Water distribution through interlinking of rivers is a fraudulent solution to an artificial problem.

Arun Kumar Pani Baba was critical of the way in which values and systems are imposed on countries like India and within the country by the ruling establishment on the citizens. He pointed out that the Kyoto Protocol money is likely to be used for the interlinking of rivers.

Anupam Mishra expressed his worries about the mono-culture which is being promoted. He showed how Rajasthan has conserved its rainwater harvesting structures. He narrated the traditional conservation methods of regions near India-Pakistan border, of Jaisalmer, Alwar and many others.

Dr Sharma narrated how 20 villages in the Western ghats have formed a Water Users' Association to protest privatisation of the 110 km *Agnasni* (meaning *Paapnasni*, or sin destroying) river near Sirsi town where an effort is being made by vested interests to create rural-urban rift. The discussion was moderated by Vijay Pratap and Suresh Nautiyal.

Gopal Krishna

Contamination occurs owing to various types of practices on the ground. Overuse of insecticides and chemicals, poor transport and delivery systems, use of contaminated irrigation water, and widespread industrial pollution are some causes. Policies are making the situation worse. Industries are being pushed from urban areas to rural areas, while their impact on agriculture is not being accounted for. Chemical use on crops is increasing, with farmers either not being provided proper information or being forced by companies to open use of pesticides. Banned in other countries, some pesticides continue to find use here due to pressure from the pesticide lobby.

The petition seeks a ban on pesticides and insecticides in India, which have already been banned in other countries. It seeks a prescription of maximum residue levels of registered pesticides according to international standards. The petition also asks for the setting up of an expert body for prevention, control and monitoring of toxics for their effect on environment and human health.

The Indian Council of Medical Research report shows that of the 51 per cent of food commodities contaminated with pesticides, 20 per cent had levels of pesticides exceeding the maximum tolerance limits. The All India Co-ordinated Research Project

on Pesticides Residue of 1999 sponsored by the Indian Council of Agricultural Research shows that as much as 60 percent of food commodities were contaminated with pesticides, of which 14 percent showed contamination over the Maximum Tolerance Limit. The study revealed the level of state wise contamination of farm gate vegetables and fruit samples collected from 16 states in India. Tamil Nadu, Uttar Pradesh, Kerala and Madhya Pradesh showed 90 to 100 percent of the samples being contaminated with pesticides. Haryana, West Bengal, Punjab, Orissa, Delhi, Rajasthan, Maharashtra and Assam had pesticide contamination in 45 to 80 percent of the samples. Himachal Pradesh, Andhra Pradesh and Karnataka had pesticide contamination in less than 30 percent of the samples.

Infants and children are sensitive to health risks posed by pesticides for several reasons: their internal organs are still developing and maturing. Also, in relation to their body weight, infants and children eat and drink more than adults, possibly increasing their exposure to pesticides in food and water. The right to life enshrined under Article 21 of the Constitution of India guarantees protection of life and personal liberty. Further, to realise the guarantees under Chapter II

of the Constitution, the State is to be guided by the fundamental duties under Chapter III of the Constitution of the State under Article 47, 48-A and 51-A (g) of the Constitution.

Article 48-A of the Constitution, states "Protection and improvement of environment and safeguarding of forest and wildlife. The state shall endeavour to protect and improve the environment and to safeguard the forests and wildlife of the country" and Article 51-A (g) of the Constitution, states that it is the state's duty "to protect and improve the natural environment including forests, lakes, rivers and wildlife, and to have compassion for living creatures".

The apex court in Indian Council for Enviro-legal Action v/s Union of India (1996) 3 SCC 212 held the 'Polluter Pays' principle to be a sound one. The Court ruled that "once the activity carried on is hazardous or inherently dangerous, the person carrying on such activity is liable to make good the loss caused to any other person by his activity irrespective of the fact whether he took reasonable care while carrying on his activity. The rule is premised upon the very nature of the activity carried on".

The right to health and medical care is a fundamental right under Article 21 read with Articles 39(e), 41 and 43 of the Constitution and make life of the workman meaningful and purposeful with dignity of the person. Right to life includes protection of the health and strength of the worker and is a minimum requirement to enable a person to live with human dignity". Every farmer and consumer is assured of the health and medical aid to protect his /her health and vigour from pesticide contamination in food.

Since increasing the yield and protecting the crops from pests, are at the cost of contaminating food, compromising health of humans and the environment, further the non-tariff trade barriers and unfair practices of developed nations

the whole logic of the government of increase in production of food commodities and other benefits is defeated, therefore the petitioner has sought issuance of a writ of mandamus or any other appropriate writ, order or direction to ban pesticides and insecticides which have been banned in developed as well as developing countries. It has also sought a direction to set up a body of experts called Food Safety Council to ensure that all food, farm fresh vegetables, fruits, water, oil, milk, fish poultry products, etc are free from pesticide residues empowered for proper implementation of the proposed functions.

Gopal Krishna

Biodegradable wisdom

How will banning only small plastic bags save us from this toxic menace? The thin plastic carry bags can be seen everywhere. They are light, fluffy, and they fly around with the breeze, littering the landscape. They can be found along railway tracks in the countryside, on high hill-tops and even in bird's nests and cow's bellies. They are eyesores and they are toxic for the environment. No wonder the use of plastic bags has driven both nature lovers and environmentalists to passionate activism.

It is fitting that the government has sought to curb the menace through legislation. Not once (first in 1999), but twice (now again in 2003, under the Recycled Plastic Manufacture and Usage (Amendment) Rules, 2003). Henceforth, no plastic bags which are thinner than 20 microns and smaller than eight-by-twelve inches shall be manufactured. The question is, does this then solve the problem of plastic wastes?

The multinational plastic industry in India contributes over two million tonnes of plastic to our waste stream each year. One billion bottles, food packaging, cement bags, medical disposals, all become waste after being used only once. The Rs 25,000 crore "sunrise" industry, growing at 12-15 per cent annually, hates it if anyone even mentions the words "en-



vironmental impact". They spend time telling schoolchildren how "essential" plastic is and ways in which it has changed our lives for the better. They avoid talking about issues of livelihood of local potters, basket makers, jute farmers and craftsmen now displaced. They also do not talk about cows who choke on plastic bags, or how incinerating chlorinated plastics like PVC leads to some of the most toxic emissions known to man. They resist any moves by the government to impose a collection or recycling tax on them. In short, they run the show. For them environmentalists are just trouble mongers.

Internationally, the plastic industry has come under many types of environmental legislation. Laws in Sweden, Norway and Germany have forced packaging manufacturers to collect plastic waste and recycle it. "Producers are responsible," says the European Union. If you make plastic packaging, then ensure that it does not pollute. However, as a contrast, last year when the government's Ranganathan Mishra committee tried to have our plastic industry collect its 15,000 tonnes of bottle waste by setting up 1,000 collection centres nationally and paying a measly Rs 0.25 tax, they raised a hue and cry! Even today, no one knows the fate of this directive.

So, is it enough to say that small, thin carry bags are henceforth banned? Instead of taking on plastic as a material, and trying to formulate laws and taxes to manage and minimise the waste from plastic *per se*, the government is content with this minuscule measure. It is also doubtful if this law itself will work. No small bags? No problem, let's just use larger ones! The rationale for banning small thin bags is that they do not get collected and recycled. Over 800 small bags make a kilo, which fetches the wastepicker a mere two rupees. How will this change with the slightly larger bags? Collection will still take hours, time better spent garnering more lucrative items like bottles, tumblers and plates. It is unlikely that plastic carry bags will even now be collected instead of ending up in a cow's belly.

Ravi Agarwal

White Asbestos and our Union Ministries

The issue of white asbestos is not a question of one ministry alone – there are several ministries involved. Therefore, an initiative to address the question of coordination between ministries involved is germane to the issue. The response of government of India to the dumping of toxic asbestos by countries such as Canada, which have a "no home-use policy" is illustrated by the following anecdotes.

LABOUR MINISTRY

Volte-face on policy

There are about 100,000 people engaged in the asbestos industry. Experts fear that the world over, 550,000 workers will be affected by asbestos related diseases in the next 10 years; – 240,000 of these will be in India. There is going to be a steady rise in the frequency of asbestos-linked cancers until at least 2010 or 2020 because they take years to manifest themselves. These figures send shivers up the spine, for they make it clear that any level of exposure can increase the risk of developing a cancer of the lungs.

On 26 February, 2003 Union Labour Minister Sahib Singh Verma, at a meeting with civil society representatives, agreed to look into the serious health hazards from all forms of cancer causing asbestos. On 20 March, 2003 the representatives met Verma again to discuss the constitution of the committee but the minister did a volte face and asked whether there are Indian studies saying asbestos causes cancer. In the Lok Sabha, on 11 March, 2003 Md. Saiduzzama questioned Minister of State for Science and Technology, Bachi Singh Rawat regarding research on safety of asbestos. Rawat replied, "ITRC and

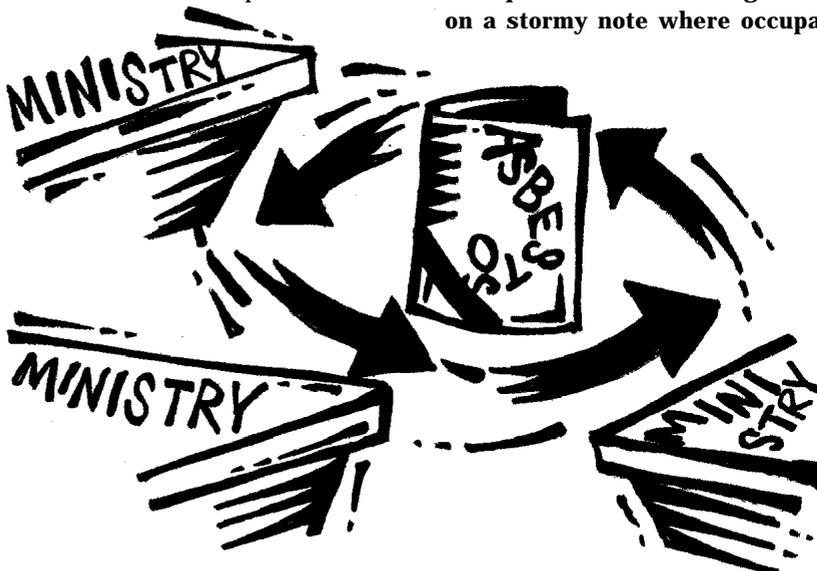
NIOH have carried out health and environmental monitoring related studies on asbestos. The efforts have led to working out mechanisms of toxicity of asbestos using in-vitro and in-vivo models; highlighting populations that may be occupationally vulnerable." On several other occasions members in both the houses of parliament have been raising the issue but the response from the government leaves a lot to be desired.

CONSUMER AFFAIRS MINISTRY

Passing the buck

Occupational health experts have called for banning asbestos material at a meeting of the Bureau of Indian Standards (BIS) called by the Ministry of Consumer Affairs on 18 and 19 February, 2003. Several occupational health experts who participated in the meeting demanded a ban as they believed that there was no such thing as safe asbestos, while representatives from the industrial sector insisted that there were ways of enforcing and ensuring safety standards in its use.

The ad hoc group/panel on issues related to safety in the use of asbestos fibres/products met on 18 and 19 February, 2003 at the Bureau of Indian Standards (BIS) headquarter but the meeting ended on a stormy note where occupa-



tional health experts called for an immediate ban on asbestos. The meeting was called at the behest of the Consumer Affairs Ministry. According to the International Labour Organisation, one lakh workers are dying due to asbestos related cancers every year. Asbestos poisoning reaches everyone from the worker mining it to the ultimate consumer, says Dr T K Joshi, occupational health expert, member of the BIS committee.

Mesothelioma and asbestosis caused from asbestos currently kill more people than any other single work-related illness. Diseases like asbestosis have no cure. The threat from inhalation of asbestos fibre was known as far back as 1924. The profound tragedy of the asbestos epidemic is that asbestos related death is entirely prevented by simply not using asbestos, says Professor K J Nath, who attended the BIS meeting as a special invitee.

The experts have denounced the questionable recommendations of the ad hoc group/panel. In fact, the Consumer Affairs Ministry did not even bother to take the consent of the panel members. On the question of whether any recommendation is to be made to the concerned authorities regarding the banning of asbestos and its products, the recommendation says, "banning the use of asbestos/ and its products is not recommended." It seeks a review of existing safety standards as well as the need of any additional safety standards".

The fact that "the work of reviewing existing safety standards based on the latest available ILO recommendations, international practices and relevant literature was entrusted to the Asbestos Information Centre with a request to submit reviewed standards within three months so that the same could be widely circulated with approval of the Sectional Committee" is alarming because this is a classic case of criminals and violators being entrusted the responsibility of setting up laws and rules. These recommendations do not have signatures of the ad hoc group/panel members. Two of the members, Dr Joshi and Dr Qamar

Rehman, and other experts have severely criticised these recommendations because the Asbestos Information Centre is an industry body. BIS stands for Bureau of Indian Standards which is a misnomer for Bureau of Indian Guidelines. BIS comes under Consumer Affairs Ministry and the Secretary to the Ministry, Wajahat Habibullah says BIS standards are just guidelines which are recommendatory, instead of being mandatory. If there are health hazards from asbestos the Health Ministry is supposed to look into it, he added.

Gopal Krishna

MINISTRY OF COMMERCE Influenced by industry

Union Ministry of Commerce held an informal consultation on 10 April, 2003 regarding the legal implications of WTO Appellate Body asbestos order. There were discussions about Article 3.4 of GATT and Article 20 of GATT. They focused on four aspects of the order, one of which was likeness of the alternative products with white asbestos. The participants included lawyers from Luthra and Luthra, IIFT, TERI, Environment Ministry officials, CII and others. There was a fear of using asbestos as a second environment and health issue in WTO after the turtle shrimp case. A technical committee was appointed by Ministry of Industry, Government of India, to go into the question of the facts of asbestos. The said committee submitted a report in January 1995. The technical committee, consisting of 11 mem-

bers, considered various aspects of exposure to asbestos: directly in the industry, in the mines, and passive exposure through the use of asbestos products by consumers. The committee also considered the restrictions on the use of asbestos and asbestos products by 43 countries including India and submitted a report. They came to a startling conclusion that in India there is no prohibition on the use of asbestos and its products. From the findings of the technical committee about the situation prevailing in India, it was revealed that there was no restriction in the use of asbestos related products.

In 1995, Canada exported 5,09,575 metric tonnes (MT) of chrysotile. Of this, 42,936 MT came to India, making it the fourth largest consumer of Canadian white asbestos in the world. There are too many ministries involved in resolving the issue of import and impact of white asbestos. There is callousness and lack of coordination between the Environment ministry, Labour Ministry, Consumer Affairs Ministry, Health Ministry and the Commerce and Industry Ministry. They are all under the influence of the Rs 2,000 crore asbestos industry. The asbestos makers argue that it is a cheap material, ideal for use in developing countries. Asbestos attracts only 8 per cent government duty while steel attracts 15 per cent. Ramco Industries, for instance, is raising its asbestos capacity at Arakkonam to 1.20 lakh tonnes from one lakh tonnes.

Of the total sales of asbestos cement products, more than 50 per cent

Indian Studies

The fact is that there are numerous studies contradicting the minister's claim.

"From workers exposed to processing of asbestos mostly chrysotile, we studied X rays of 789 asbestos workers," says Dr S R Kamat, Professor of Respiratory Medicine and Chief, Environmental Pollution Research Centre, K.E.M. Hospital and Seth G.S. College, Bombay in his papers published in *Ecology*, February 1987, *Lung India*, 1987 and *Indian Journal of Occupational Health*, April 1983.

"There were 2.4 per cent scars due to T.B. and 36.6 per cent abnormalities due to asbestos. We have studied 91 asbestos cases that had moderate to advanced lung deposits. The majority are symptomatic after mean exposure of 13 years with various respiratory complaints and restrictive lung functional disability.

Certainly this industry has a large respiratory disability."

is in rural areas, while 30 and 20 per cent are in the industrial and urban sectors respectively. These are being used for over 50 years because they are fire-proof, corrosion-proof, good insulators for sound and heat and have many other benefits. Asbestos cement products contain not more than 10 per cent of the total raw material mix which include up to 27 per cent of flyash and recycled pulp.

India has been reducing the customs duty on asbestos fibre in recent years (from 78 per cent in 1995-96 to 25 per cent in 1999-2000). This, at a time when there is a need to evolve a comprehensive policy on the asbestos sector as more and more countries are phasing out the manufacture and use of asbestos products and replacing them with alternatives. A report of the working group of the sub-committee of the development panel for asbestos industry for the small-scale sector estimated that around 673 reg-

istered small units are engaged in the manufacture of various asbestos-based products.

MINISTRY OF ENVIRONMENT AND FORESTS Head in the sand

The Central government had constituted an eight-member expert committee under the Chairmanship of V. Rajagopalan, Joint Secretary, Union Ministry of Environment and Forests. The committee was to formulate a long-term policy and strategy to deal with issues related to asbestos: imports, mining, manufacturing, safety aspects of miners, use of products, health and environmental considerations. The committee, which was set up in August 2001 to find out whether asbestos should be banned, is now defunct. The committee was scheduled to report to the policy implementation cell of the commerce and industry ministry by November 15, 2001.

On 13 March, 2003, when Dr Rajgopalan was asked about the status of the Rajgopalan Committee report, he said that the norms for the asbestos industry had been finalised. When he was asked that if the Environment Ministry was looking into the norms what was BIS doing, he said that while BIS sets up norms for asbestos products, the Environment Ministry does the same for the asbestos industry. We have not recommended any ban on asbestos, he added. When Environment Secretary, Mishra was asked about his reaction to white asbestos being banned the world over, he said that white asbestos does not cause cancer.

Later, when an attempt was made to contact Dr Rajgopalan to enquire about the norms set up, Dr P.L. Ahuja, Additional Director informed that the Rajgopalan Committee is non-existent as no extension was given to it after the expiry of its term.

Gopal Krishna

The ship-breaking yards of Darukhana

Located towards the southern part of Mumbai, the ship breaking yards stretch from Sewree to Darukhana (Reay Road). There are a total of 19 ship-breaking yards occupying the area over 23541 sq mts.

All kinds of shipwrecks lie on the beach: there are ships with square holes in their hulls and then there are

ships from which only the stern is left. The yards are about 50 metres wide, marked off by steel plates, gas cylinders and pieces of ship's skin.

The labour employed here are mostly migrant from Uttar Pradesh, Bihar and Orissa. These workers cut steel plates from the ship with a large torch cutter in the most archaic and

crude manner. Dozens of men twist their bodies in impossible angles to torch-cut the steel into little pieces. It's hard, physical, dangerous and unhealthy labour. They constantly breathe in the toxic fumes that are released by the torch cutting. Steel plates and pieces fall off the ships and shears. Some protect their eyes against the steel fragments flying about with sunglasses or an old fashioned pair of goggles. Others put a rag before their mouths and noses against the toxic and stinking fumes that are released in torch cutting. Yet, none of the workers have helmets or any protective gear. Only one or two wear gloves or boots.

There are at least two women employed on each shipwreck and their task is to collect small pieces of hot steel waste. All over the place waste is burned in open fires.

The water is covered with thick cake of oil, pieces of driftwood and other waste floating around each shipwreck. Though the authorities strictly forbid the leakage of oil into the water yet the reality is something different in these yards!

Shweta Narayan

Source: Bombay Port Trust



Raising its hood again! EDL Chennai WTE project

After Toxics Link along with CAG in Chennai raised objections to setting up a SWERF (Solid Waste Energy Recycling Facility) plant by an Australian company Energy Development Limited (EDL) which claims to recover energy from Municipal Solid Waste, the TNPCB, in late 2002, dropped the project from consideration. The chequered track record of EDL (formerly Brightstar Environmental Ltd) and its 'trial-and-error' technology (capable of releasing hazardous emissions, including dioxins) being tested at its only facility at Wollongong in Australia had sown the seeds of doubt in many minds.

Recent information reveals that EDL is not doing well in the Australian business environment with its share prices plummeting and it being rated as one of the 20 poorest performers of 2003 by the Australian Shareholders Association. The primary reason is the repeated failure of a key component of SWERF, the 'char-gasifier', which EDL's management itself admits to (www.edl.com).

In spite of the developments in Australia, EDL made a fresh bid for

The story so far...

Mid-1999: EDL signs MoU with DMK Government to setup SWERF project at Perungudi, Chennai

Late 1999: CAG and Toxics Link step up campaign against EDL (main bones of contention: unsuitable for Chennai waste, incinerator-like technology, capable of serious hazardous emissions, high cost of power tariff)

2000: EDL's pilot plant at Whytes Gully, Wollongong in Australia conducts trials. Australian Environment Protection Agency repeatedly closes down EDL pilot plant for emission violations. Government of India passes Municipal Solid Waste (Management and Handling) Rules 1998 codifying segregation and prohibition of mixed waste treatment

2001: EDL signs MoU with the new State Government

Jan 2002: CAG and Toxics Link launch campaign against burn-disposal of MSW raising statewide awareness on technologies similar to EDL's.

Aug 2002: EDL presents its technology at CAG's workshop and is critically evaluated by participants which include Government agencies involved.

Oct 2002: EDL's share prices drop. Char gasifier still undergoes change. TNPCB drops the project from consideration.

Jan 2003: EDL makes presentation on "improved" technology to TNPCB; Chief Minister announces that the project will be pursued.

Chennai, making a presentation on its "much-improved" technology to the TNPCB on January 7. Oblivious to the facts, the State Government announced that it is keen on pursuing the project, making Chennai residents guinea pigs for this polluting incinerator-like technology.

It is suspected that the technolo-

gy's emissions will be in violation of the Kyoto Protocol on climate change (though it is being touted as low-carbon emitting).

In other countries too where EDL plants are proposed, the company is facing active public and government opposition.

Rajesh Rangarajan

Consultative Meeting on Hazardous Waste Management

The UN Asia Pacific Centre for Transfer of Technology (UNAPCTT) organised a consultative meeting with the regulatory authority and industrial groups involved in hazardous waste management. The meeting was sponsored by Canada International Development Agency (CIDA), and supported by the Ministry of Environment and Forests, Government of India and Environment Canada.

The main objective of the meeting was the establishment of the Basel Convention Regional Centre in New Delhi, India. The main aim of the cen-

tre would be promoting the implementation of the Basel Convention and to enhance capacity for environmentally sound management of hazardous wastes in the South Asian region. The process was initiated in the MoEF, Government of India in the year 1997 in order to contribute to India's capacity to promote environmentally sound development.

The regional center is to be hosted by UNAPCTT and will be provided technical and financial support by Environment Canada.

The key partners of this whole exercise will be:

▲ Secretariat of the Basel Convention (on the control of transboundary movements of hazardous waste and its disposal)

▲ Basel convention regional centers (e.g., Jakarta, Beijing, Cairo)

▲ Stockholm Convention on Persistent Organic Pollutants, other UNEP Conventions and bodies.

▲ National Cleaner Production Centres (UNEP/UNDP)

▲ South Asian Cooperative Environment Program

▲ IMO, ILO

▲ Industry associations

The common consensus reached by the expert groups meetings in Bangladesh, Bhutan, India, Maldives Nepal and Sri Lanka, supported the establishment of regional center in New Delhi, as there is a commonality and complementarities of needs in these countries.

The priority sectors have been

identified as:

- ▲ Ship breaking industry
- ▲ Lead acid batteries
- ▲ Electronics industry
- ▲ Chemicals and pesticides industry
- ▲ Others

The process will involve sharing of expertise and resources from various stakeholders that include partner organisations, local expertise, south-south exchanges, knowledge-based organisations, Canadian resources and Secretariat of the Basel Convention.

US \$ 1 million has been assured to sustain the project till 2005. There will also be access to the Basel Convention Trust Fund. A business plan will be developed to ensure cost recovery of services. Industry, Government and NGOs have a stake in the Basel Convention so it needs to be addressed in all perspectives.

By now, 29 projects have already been submitted. While this round of approval ends in April the next approval will happen in October 2003.

Kishore Wankhede

Cuddalore says 'No to PVC'!

Chemplast-Sanmar PVC plant shifted to Andhra Pradesh

After constant public opposition to the PVC facility at Cuddalore, promoted by Chemplast, the project has now been shifted out and is proposed to be setup at Krishnapatnam, near Nellore in Andhra Pradesh. The facility was slated to manufacture 1.7 lakh tonnes of PVC, considered a highly toxic plastic.

With the awaited report from the Indian Peoples Tribunal (which conducted its investigations in November last year), expected to add further evidence to the environmental and human rights violation in the region, the Cuddalore communities can breathe a sigh of relief. However, it has not pleased them to know that another community like theirs is going to bear the brunt. Toxics Link, along with local groups, will visit the proposed site at Krishnapatnam in the coming months to interact with and sensitise the villagers and communities about the environmental and health hazards of such a plant if it is situated there.

NEWS

Safe toy standards in Japan

The Japanese Toys Association has introduced new safe-toy standards from April, 2003. As per these new regulations, any toy company that makes toys of PVC is refrained from using the symbol ST (ST stands for safe toys certified by Japanese Toy Association).

Even small toy producers managed to decline from the use of PVC. This sets an astounding example of technical and financial feasibility of substitution of PVC by other products.

Japan, also known as the home of the world's biggest PVC company has opted for not using any PVC in chewing purpose toys made for children. This regulation has come into effect from this April while there are another two regulations that will come into force by August 2003. These two regulations are more stringent than what EU had devised. The regulation states that:

1. Any synthetic resin toys (such as pacifiers) which come into direct contact with the mouth of infants and young children (six years and below) may not be made of polyvinyl chloride including di(2-ethylhexyl) phthalate (DEHP) or diisononyl phthalate (DINP).
2. Any other synthetic resin toys (not only chewing purpose toys) for infants and young children may not



be made of polyvinyl chloride including di(2-ethylhexyl) phthalate (DEHP).

Prior to this, almost eight EU member states had adopted national bans since 1998, covering all toys for children under three. This is in contrast to the fact that none of the Indian government agencies has been monitoring toys, whether manufactured locally or imported ones, for toxicity. The Bureau of Indian standards (BIS) does have standards for toy safety, relating to their mechanical and physical form as well as toxicity, but there is little enforcement. According to BIS, in the absence of a facility to check PVC constituents, they check for the presence of mercury, cadmium and arsenic. There is no denying the fact that shopkeepers and their customers are totally unaware of the risk of using soft PVC toys.

Source: Greenpeace, Japan

India sends back US waste

In the first ever case of 'reverse dumping', 1,416 drums containing 290 tonnes of hazardous mercury wastes from the Hindustan Lever Ltd (HLL) thermometer factory at Kodaikanal in Tamil Nadu were sent back to the United States.

The transfer marks the end of a long struggle by local people and environmental activists across India. There were allegations that mercury vapours released from the factory owned by Hindustan Lever Ltd (HLL) — a subsidiary of the multinational Unilever — ruined the health of the workers and community and caused lasting damage to the environment during its 18 years of operation.

HLL has at last arranged to ship the hazardous mercury and related wastes from its now defunct thermometer factory in Kodaikanal back to US. The consignment left the Tuticorin Port on Thursday 17 April 2003 aboard the ship Indmax Dalian.

Source: ENS, February 24, 2003

California grocers warn of mercury in fish

California's five largest grocery retailers have begun displaying caution signs about health risks of consuming fish containing mercury, as part of one of the biggest public information campaigns. These warning signs are hung near fish counters with special warning messages for women and children. The campaign is being appreciated as one of the biggest steps ever taken by any state health agencies. Public health agencies have gone a step further by advising pregnant women about not eating swordfish and shark as their mercury content is very high. Mercury and its compounds have long been listed as reproductive toxins.

The warning message is a clear indication to pregnant and nursing women and also young children to keep away from certain types of fish including swordfish, shark, king mackerel, tile fish and tuna.

The grocery chains are liable of stiff penalties of up to \$ 2,500 per day in case of violation of not putting these warning messages.

The decision has come through after numerous medical studies reported high incidence of after impacts, from low levels of mercury exposure, to unborn babies and young children. One of the research data from US Center for Disease Control indicates that one in 12 women of childbearing age has blood mercury levels much above the ones considered safe by US Environmental Protection Agency (EPA). Similar recommendations on warning of pregnant women to consume tuna were also issued by US Food and Drug Administration last year.

Mercury finds its way into the atmosphere from various sources like coal fires, power plants, mining, waste disposal, industrial processes and trash incinerators which are known to emit increasingly high amounts of mercury into the atmosphere. This mercury released into the air finds its way into the water from where it enters the food chain after being consumed by aquatic organisms that later form part of our food.

Compiled by **Ruchita Khurana**

RESOURCES

INDIA: HUB OF E-WASTE RECYCLING

Information Technology today permeates almost every sphere of human endeavour. Investment in it has the largest multiplier effect, rippling through the economy more than any other sector. The rapid growth of the electronics industry and the present consumer culture of increasing rates of consumption of electronic products have led to disastrous environmental consequences. This is because existing management options for electronic waste are extremely polluting and hence are of grave concern. This problem has assumed a global dimension, of which India is an integral and affected part. Toxics Link recently published a Delhi based report "Scraping the Hi-Tech Myth: Computer Waste in India" to understand the dynamics involved in terms of production, internal consumption and trade of electronics. It also looks into the disposal practices of the waste and the relative legislation fitting in the agenda. The report specially focuses on computer waste, which, in India, is generated from individual households, the government, public and private sectors, computer retailers, manufacturers, foreign embassies, secondary markets of old computers and computer waste dumped from overseas. Of these, the biggest source of PC scrap are foreign countries that export huge quantities of computer waste in the form of monitors, printers, keyboards, CPUs, typewriters, PVC wires, etc.

In India, computer scrap is managed through various management alternatives such as product reuse, conventional disposal in landfills, incineration and recycling. However, the disposal and recycling of computer waste in the country has become a serious problem since the methods of disposal are very

rudimentary and pose grave environmental and health hazards. In addition, besides handling its own computer waste, India now also has to manage the waste being dumped by other countries. Solid waste management, which is already a mammoth task in India, has become more complicated by the invasion of e-waste, particularly computer waste. The study in Delhi was carried out in recycling hubs of Mandaoli, Turkman gate, Old Seelampur, Mayapuri etc. To view/download the full report: <http://www.toxicslink.org/backend/images/publications/publications-1-31.pdf>
Kishore Wankhede

THE FIRE WITHIN

Hindi with English subtitles, 2002, 57 minutes

A film on the impact of the coal mine industry in Central India, *The Fire Within* draws a painful portrait of the transformation of the land of the 'Tana Bhagats', a sect of the Oraon Tribe who were believers of non-violence and Gandhian philosophy, to the site of the violent Naxalite movement today. It also talks about the corruption, energy politics and displacement issues of tribal identity in the area, where coal mining has been in progress for 150 years.

The film gains significance in the background of recent reports which hold irresponsible fossil fuel combustion as a major contributor towards climate change. The film has been screened at various film festivals and has won Special Jury Mention at the Earth Vision Film Festival 2002, USA.

Editing – **Sekha Sen**, Edit script – **Sanjay Matto**, Camera – **Pankaj, Mansingh, Shriprakash**, Script & Direction – **Shriprakash**

For more details write to: [Shriprakash at kritikashri@yahoo.com](mailto:Shriprakash@kritikashri@yahoo.com)

Von wins Goldman Environmental Prize for Anti-incinerator Campaign

Von Hernandez, coordinator of Global Anti-Incinerator Alliance (GAIA) has won the Goldman Environmental Prize, the world's most prestigious environmental award for grassroots environmentalists. On 14 April, 2003 Hernandez became the first Filipino to win the prize.

This award is a sad comment on the Indian Ministry of Non-Conventional Energy Sources, and Chief Ministers of Madhya Pradesh and Tamil Nadu because they are promoting ecologically destructive incinerator technologies through Resource Incinera-



tion Projects, which they call, waste-to-energy projects.

Von is of the opinion that "developing countries of Asia should avoid repeating the mistakes of industrialised countries. Incineration is one such mistake, which generates toxic pollution and perpetuates the wastage of finite resources."

Anybody listening?



E-toxic listserve

Toxics Link coordinates an electronic discussion group for sharing and disseminating information. If you would like to join the group, please e-mail us at

tldelhi@vsnl.com

FACT FILE

Flavour at the cost of health

Monosodium Glutamate (MSG) more commonly known as Ajinomoto has been in use as a flavour enhancer in a variety of foods at home or restaurants. Not many people are aware of the health implications posed by it. In recent research done at Hiroasaki University in Japan researchers have discovered that an excessive dietary intake of MSG can damage the retina. The experiments were done on rats that were fed with three different types of diets – containing high and low levels of MSG and none for six months. The following set of results were observed:

- ▼ The rats with high MSG diets showed thinning of retinal nerve layers by around 75 per cent.
- ▼ A moderate damage was also noticed among the ones fed with low levels of MSG. MSG concentrates in the vitreous fluid, where the retina lies. It binds with receptors on retinal cells,

destroying them to cause secondary reactions that reduce the ability of the remaining cells to relay electrical signals.

Prior to the study, another report submitted by the Federation of American Societies for Experimental Biology (FASEB) in 1995, stated that an unknown percentage of the population may react to MSG and show MSG symptom complex characterised by symptoms like: Burning sensation in the back of the neck, forearms and chest; numbness in the back of the neck; tingling, warmth and weakness in the face, temples, upper back, neck and arms; chest pain; headache; nausea; rapid heartbeat; bronchospasm (difficulty in breathing) in MSG-intolerant people. The Food and Drug Administration also reaffirmed the report saying that it provides the basis to require glutamate labeling.

Source: New Scientist, 26 Oct 2002

Compiled by Ruchita

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