



## Bio Medical Waste: No time to waste

Biomedical waste in India is a serious health and environmental hazard. Despite having a separate legislation for last ten years to handle this kind of waste, it is surprising to note that most medical facilities have failed to manage their waste in a safe and environmentally sound manner. The article looks at the reasons for this failure and also the role that the government can play in setting it on course.

*"Medical waste disposal in a mess".... "The problem with bio medical waste"-such headlines screaming out of the national dailies regularly must have caught your attention lately. These newspaper reports have been expressing serious concern over the treatment and disposal of bio medical waste in the country. A recent study report by an NGO on the waste disposal mechanism of the high profiled hospitals in Delhi also indicates that the situation is grim in the national capital and needs to be addressed urgently. Plastic syringes and gloves are being recycled by unscrupulous elements while the hospitals and other agencies responsible for its sound disposal are at best silent spectators to this mismanagement.*

This is only an indicator of the ground reality of medical waste management after 10 years of the promulgation of Bio-Medical Waste Rules.

### Bio medical Waste in India

According to the available data the country produces around three million tonnes of biomedical waste annually and every year there is 8% growth in the generation of medical waste. A closer look also makes it clear that not even half of this total waste generated is being treated and disposed off in an environmentally sound manner. This calls for some serious soul searching and should be a cause for concern for all directly connected with its management but unfortunately only a handful of NGOs and media persons are constantly trying to investigate and bring the issue in public domain.

The data published by Central Pollution Control Board (as presented below) noticeably reflects that out of 73, 975 health care facilities in India, over 40000 hospitals/ facilities are not in possession of the required

*Continued on page 2*



### IN THIS ISSUE

#### 1 LEADER

- ▲ Bio Medical Waste: No time to waste

#### 2 EDITORIAL

#### 3 FEATURES

- ▲ E-waste recycling in India: From vicious to virtuous circle!
- ▲ Zero waste Community: Not a dream but a reality

#### 6 UPDATES

- ▲ IPEN General Assembly at Trivandrum: An Overview
- ▲ Workshop on E-Waste and Climate Change
- ▲ Delhi's future citizenry vows to show mercury the door
- ▲ National Workshop on "Emerging issues in Chemical safety and management"
- ▲ 'Quotes from Earth'-Environmental film festival in December

#### 10 INTERVIEW

- ▲ POPS: A threat to the generations to come

#### 12

- ▲ News

#### 13

- ▲ Resources

#### 14

- ▲ Profile

## Medical Waste – The trap of poor implementation

According to data analyzed by Toxics Link, less than 50% of the bio medial waste generated in the country is collected and treated.

Despite over a decade of attention to the issue, new rules and various guidelines, the situation is still dismal even in the more aware urban centers. No doubt there has been a scaling up of new infrastructure like the over 160 common waste treatment plants in operation, their quality of service offered leaves much to be desired. The current policy of the Government discourages incineration as a polluting treatment technology, however often this method is still preferred over other safer ones in an attempt at expediency and dangerous and expensive quick fix solutions. In rural centers, the Central Government has included waste management in its Reproductive and Child Health Program, but again at the primary health centers there is almost no implantation of waste management. Alongside there are several excellent training resources, including an exhaustive training manual developed by Toxics Link and a long distance WHO backed certification course offered by the Indira Gandhi National Open University, however health care workers are yet to receive proper training in many states. Also training has to be an ongoing practice.

Lack of a proper regulatory oversight by the State Pollution Boards has resulted in less than a small number of health care waste generators being even registered in some States, despite this being mandatory under the Rules.

Once again the bottlenecks in implementation are coming up as the main hurdle. It is difficult to pinpoint who is responsible and how this can be improved. Once again poor governance, lack of oversight, poor accountability, poor quality practices offered emerge as issues. It seems that such systemic problems need better leadership for things to move ahead at any acceptable pace. Else it will only slip back to where we began – medical waste lying openly in every garbage bin in the city. In this case the champions have to be from the medical community itself. There is no shortcut or substitute to take pride on doing a job well, and self motivation is key.

**Ravi Agarwal**

*Continued from page 1*

permission or the authority to generate such waste but they continue to function with impunity. The government figure itself indicates that approximately half of the waste generated daily is left untreated, meaning more than **5 lakh tonnes of untreated bio medical waste annually**.

The issue of poor or non-management of medical waste has very serious implication on both human health and environment due to the nature of the waste and its ability to infect any other waste coming into its contact. This can be a potential cause for serious health risk to larger population and in many cases is responsible for an epidemic.

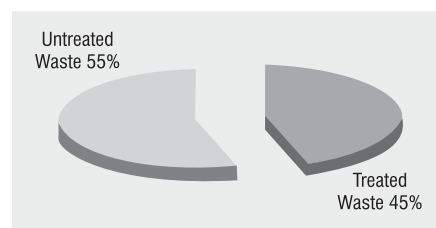
### Where does the legislation fail?

If we step back and take a good look at the rules on biomedical waste, which came in to existence in 1998, we realise that it is perhaps a very concise and enabling regulation dealing with a particular kind of waste. The rules, evolved after wide consultation with many stakeholders, have articulated and assigned responsibilities to all connected with this waste. The Rules have clearly spelt out the roles and responsibilities of the three important functionaries - the generator of the waste (hospitals, nursing homes), operators of centralized facility and the regulators (State Pollution Control Boards). In addition, it also defines the technologies accepted and allowed for treatment of the waste. The mechanism for its effective implementation has been also spelt out clearly but as usual all involved and responsible find escape routes.

Even after the legislation, in many occasion various courts have been required to intervene on the issue of biomedical waste and give directions to the state bodies. Proper and effective implementation of the rules is only possible with increased awareness from grass root level to the top. It is time that health care facilities allocate specific fund for waste management and involved the senior management in formulating systems and changing practices as stipulated in the rules. There is a need for training and continuous updation of knowledge among the health care facility staff members, not only to ensure

### State of Medical waster in India

Total No of Health Care Facilities (HCF)	: 73,975
Total number of Beds	: 912,258
The quantum of waste generated	: 319,493 Kg/day
Total quantity of waste treated	: 143,952 Kg/day
Number of HCF utilizing CBWTF	: 27,317
Number of HCF applied for authorisation	: 33,202
Authorizations Granted	: 28,980



effective waste management but also to safeguard their health. Moving beyond this, we need to work towards creating awareness among any commoner visiting any of the healthcare facilities- this will ensure greater accountability and responsibility.

Though in last few years, we have witnessed private hospitals coming forward and trying to address this issue, government facilities have been mostly found lacking on this aspect. The issue of government hospitals not falling in line and citing resource as a constraint does not hold much water. The inability of the State Pollution Control Boards (SPCBs) to reign in the government hospitals has been an old and perpetual issue. The hierarchy and powers of the SPCBs does not allow them the flexibility to act independently and initiate action on government facilities not conforming to the rules.

The inability of the Pollution Control Boards to regulate and enforce also requires understanding and correction. It has been

gradually losing its shine and its capacity to contribute effectively in environmental management on account of lack of technical capacity and adequate resource. The issue of governance and transparency are perhaps most critical for the current state of affairs and its close door policy is one of the issues which needs immediate attention. It certainly is baffling to note that even after making an application for authorization, the hospitals do not get the requisite permission related to Bio medical waste management. Also, the inability of the PCBs to carry out regular mandatory audits of the 157 centralized facilities across the country is a reflection of its lack of capacity and resource. Because of this apathy, the functioning of many of these facilities is a serious cause of concern on various accounts.

As we progressed in time and experience the country should have witnessed consolidation and evolution of better maintenance practices and management systems but unfortunately these standards are absent. The

treatment facilities by their geographical location have gained a monopoly and at times exploit the situation to their advantage.

The existing trend needs to be corrected with involvement of all stakeholders and meaning full dialogue among them. There is also a need to expand and include key players like Ministry of Health which can play a substantial role in addressing this. While the Ministry of Environment and Forest (MOEF) sets out the rules and standards, the Ministry of health being the generator is consciously absent and does not own much responsibility. An inter ministerial forum will perhaps be a good starting point for the issue to receive better attention. NGOs have played an important role in the evolution and formulation of rules, training and capacity building and creating awareness. Some of these are key to success of any program and their involvement will only help improve situation and overall compliance.

*By Satish Sinha*

## FEATURES

### E-waste recycling in India: From vicious to virtuous circle!

In the present era of globalized economy, rapid urbanization and high consumption trend the world confronts a set of new challenges related to sustainable development. While increased production and consumption push growth there are also reasons for rapid depletion of natural resources and larger waste generation. It is to find a solution to the issues of resource conservation and waste management that recycling is fast evolving as an effective solution. The environmental and economic benefits of recycling are better understood by all and is proving to be an important tool contributing to local revenue, job creation and safeguarding of environment. The recycling at the end of life goods, especially electronics, can contribute in saving depleting natural resources and also result in considerable energy savings.

India has had a very long history of recycling, which has continued to be practiced in an informal set up mostly by

urban poor. From paper, old bottles, plastics, clothes to old machineries- all are seen as potential income source and have been reused and recycled to earn revenue. E-waste is relatively new entrant to this long list of profitable, recyclable items. Though currently, as with the other wastes, this is being mainly processed in the informal, unorganized sector in India- there is a gradual shift with formal, authorized recyclers setting up facilities. This has been mainly prompted by two reasons; firstly E-waste recycling is being perceived as good business opportunity and secondly the

environmental and health hazards of processing E-waste in the unorganized sector being recognized and acknowledged as a major concern.

India generated 3.3 lakh tonnes of e-waste in 2007, which is going to touch 4.7 lakh tonnes by 2011, as per a study released by MAIT-GTZ. And the same study also projects that only 19000 tonnes of this generated waste is being recycled, with the formal recyclers processing a paltry 5%. But with aggressive marketing by the formal recyclers, many of them with international partners, this is expected to change.



The formal E-waste recycling operations in India began down south with the first authorized E-waste recycler starting a facility in the IT capital of India- Bangalore in 2005. Since then there have been many entrants in this field. At last count, there were around 10 authorized E-waste recycling facilities in India, with 5 more at various stages of setting up operations. Some of the leading international recyclers are also collaborating with local entrepreneurs to capture this growing E-waste market. With so many recyclers, now spread across the country, it would seem that we have adequate infrastructure in place...but actually this is far from truth.

The existing recycling companies have shown tremendous growth in the last few years but are still operating much below their installed capacity-the main reason being that they are unable to source enough waste from the consumers. The wide network of the informal sector has been a very strong competitor in this regard, especially the traders with their strong and extensive collection network. The informal traders and recyclers are at a further advantage due to their minimal infrastructure and low operational costs. The abysmally low awareness among the consumers regarding the environmental concerns of improper recycling of the electronic and electrical goods has also complicated the problem.

Also, almost all of the currently operating recycling companies do not have end to end recycling and are only doing pre processing in their dismantling and segregation units. None of them are engaged in the refining of metals in India but have tied up with international recyclers to complete that chain. This means sharing of the revenue with these international companies and hence cutting down on their own profit margins. This also implies loss of job opportunity for the skilled labour force in India.

So what is the way ahead...is it impossible for the formal recyclers to compete with the unorganized sector? Is there enough quantity for so many recycling companies to survive? With increasing awareness among the consumers, it is likely that the existing scenario will see a shift. The bulk consumers will be more prone to disposing off their waste in the "Clean Channel". Their concern of data security can also trigger off such a change. The formal recyclers, with better



technology will also be able to recover materials more efficiently and thereby create higher revenue. Some of the recyclers are also planning to start end-to-end recycling, including recovering of precious metals, which would again mean higher profit margins.

So does this mean end of the road for the informal sector? Certainly not. The main strength of the existing informal sector is their wide collection network and their knowledge of materials. This can be effectively utilized in a future system whereby, though they are kept away from the hazardous activities, they can play a significant role in collection and dismantling part of the clean channel.

But there are still some major concerns. The informal sector is currently able to acquire only 6-7% of the total e-waste generated in India; the status of the remaining is presently unknown. For an efficient recycling system on E-waste, the basic

requirement is a robust collection system. And this can only be achieved through support from the Government and the manufacturers. The government with a strong legislative framework can change things on ground. An enabling regulation can ensure development of proper collection and environmentally safe recycling infrastructure and also safeguard the livelihood of the unorganized sector. The producers or the brand owners too will also have to play a strong role. They have to display responsibility towards the product they are putting in the market by not just ensuring a good take back system, but also working towards design for environment.

Sustainable waste management is becoming an important agenda with issues of escalating waste growth, environmental hazards caused due to improper handling as well as implications for greenhouse gas emissions and mitigating climate change. E-waste, specially, assumes greater significance because of the presence of valuable metals like copper, gold and silver etc-recovery of these materials through an efficient and environmentally sound recycling technology would address issues of resource depletion, energy and waste management, which are so crucial in the current environment situation. All stakeholders, especially the government and industry should work towards creating a sustainable model for treating and recycling this waste.

*(If you have e-waste, please make sure that you dispose it off safely to an authorized e-waste recycler)*

Priti Mahesh



## Zero waste Community: Not a dream, but a reality

With the successful completion of three yearlong projects on zero waste management Toxics Link (TL), has proved that waste is not something to waste but to use wisely. And Zero waste is not a textual concept but something the society can implement successfully.

Based on the concept of decentralised waste management the NGO initiated a healthy, hygienic and cost effective method to manage the domestic waste in residential areas including slums. TL initiated this community based waste management practice in some educational institutions too.

Decentralised waste management ensures wide community support and participation and which is the most essential pre requisite for community based waste management practice. It ensures community participation, revenue generation, hygiene and low expenditure.

With the overwhelming support and participation from Resident Welfare Associations (RWA s) and local groups TL introduced E M (Effective Micro Organism) composting in more than 10000 households.

Completing the project much ahead of the target number of total 3000 households, TL brings out a significant point that if there are alternatives, proper guidance, financial assistance, any society can do without stinking dhalaos in their premises. But hurdles are many. It needs constant effort to create awareness, a lot of commitment, financial assistance and community support.

Expressing his happiness over the success of the project, Mohammed Tariq Gaur, a senior programme officer with the project said, once we can convince the audience of the importance of healthy waste management the rest is easy.

### **Municipal Solid waste: An overview of Indian scenario**

Municipal solid waste is an ever-growing problem in India. Urban population generates tonnes and tonnes of waste everyday. The problem will have no let up and will further worsen with the expansion of cities. In many of the upcoming cities in the country, there is no proper waste management system.

The civil authorities with their age-old techniques and practices proved to be a failure in managing these waste. The result

is overflowing dhalaos and clogged drainages in the cities

Incineration and landfills are no more a solution especially in expanding cities. Incineration is being ruled out as it is not environmental friendly and it emits lot furans and dioxin causing health hazards. It is also not cost effective. Landfills are becoming nearly impossible in a city, as it needs wide uninhabited area and also contaminates ground water and soil. In most of the cities, the scenario is grim. But still the governments have not experimented the Alternatives methods.

It is here the decentralised waste management becomes important. NGOs like Toxics Link has always been advocating decentralised waste management. The 1999 Burman committee appointed by the Supreme Court to assess the issue of municipal waste also recommended composting mandatory in every municipality. But so far, no municipal authorities have not spent much time and energy on it.

### **EM composting: A solution for solid waste**

Toxics Link started the Zero waste project in June 2005. The three year long Ford Foundation supported project picked up slums, middle class colonies and posh residential areas sometimes on request and sometimes on random basis. "Availability of water and land are the two prerequisites for the project we would ensure those before initiating the project," said Tariq

What were the field experiences of the team during this community intervention? "We got a warm welcome from middle class colonies. In the posh areas, initially many were not willing to spend time to listen. In the slums, they just couldn't make any sense in all these exercises", Recalls Usha, a community mobiliser with TL. "But Gradually all were willing to listen and participate and the people overwhelmed when they saw the trash mints money", she added.

The composting not only provides a clean and healthy way to treat the waste but also helps make money by selling compost, which is good, organic manure.

Citing the example of Defence colony where the zero waste management projects implemented with the help of Resident



Welfare Association, Usha said the RWA is selling 1 tonne of compost per month for Rs 10 per Kg.

### The Project

Before initiating the project in a particular locality the project team held assessment surveys and considered the availability of water, land and other infrastructure apart from community support.

For spreading the awareness, they held cluster meeting and door-to-door awareness in the slum areas besides, rallies and poster campaigns. According to the team members creating awareness especially making 'an attitudinal change' is the real task.

TL, with years of research and advocacy on communities and waste gave thrust to the economic sustainability of this model. There are three modes of revenue generation in this system, the user fee from the residents, sale of compost and sale of recyclables segregated from the trash.

Initial establishment cost includes buying rikshaws and other equipments, making compost pits and the cost involved in training and capacity building. The establishment cost is for one time. But expenses for EM solution and labour charge for monitoring composting is recurring.

The user fee from the residents and the income from compost selling will meet these

### EM composting: A few tips

Toxics Link project used EM solution (Effective Micro Organism) for its community based composting. The solution is totally chemical free and would do no harm even if it is put in the mouth unknowingly. It is a technology developed at the university of Ryukus, Okinawa, Japan by professor horticulture Dr. Teruo Higa. It is a brownish liquid suspension made by collecting and growing natural micro organisms like Lactobacillus, Photosynthetic bacteria, Yeast and Filamentous fungi.

### How to prepare the EM solution

For preparing the solution you need 2 barrels of 125 lts with tight lids, one litre of EM liquid, 2 KG jaggery, 100 ltr water.

Steps to follow:

Mix the jaggery and water well. Add the EM solution. Cover it with the lid tightly, on 3rd and 5th day stir it properly to release the gas and cover it again. The solution is ready to use on the 7th day.

Segregation of waste is mandatory in this method. After segregating the domestic waste, it should be sent to the compost pit and treated with EM solution and water everyday. The waste will undergo a fermentation process and within two weeks the compost will be ready.

charges. They can add their income by selling the recyclables from the waste. This economic aspect is important in the sustainability of the system.

What about the sustainability of this method in the areas where it was introduced? In the upper, middle class colonies it is functioning well, says Tariq. "But we are not sure of the slum areas. Still we are sure that our project helped

them learn the basic lesson that not to litter waste."

The project team elated over the announcement by Delhi chief minister Shiela Dikshit on the environment day that the government will provide a financial support of Rs 20000 to the RWAs which initiate composting in their locality. "We consider it as a recognition of our work," says Tariq.

By Bindu Milton

## UPDATES

### IPEN General Assembly at Trivandrum: An Overview

The International PoPs Elimination Network (IPEN) annual general assembly was held From August 12-15 at Hotel Mascot in Trivandrum. The four-day general assembly was represented by NGOs from forty countries across the globe.

The general assembly was inaugurated with lighting of the traditional traditional lamp. Jayan Chelaton of Thanal, the local host of the general assembly welcomed the gathering. The former IPEN co-chair Mr. Jack Weinberg briefed about the importance of Stockholm Convention, SAICM and the role of IPEN to mobilize

NGOs. Than Bjorn Beeler introduced the participants from different parts of the country.

In this general assembly, the discussion was held on new candidate PoPs/POPRC, DDT, Dioxin, Low PoPs etc. Other issues

discussed were global action on mercury, Malaria-DDT policy challenges, waste incineration; cement kilns and waste to energy challenges. However, the main focus was on global SAICM NGO out reach cam-

Continued on page 9



## Workshop on E-Waste and Climate Change

The workshop on E-waste and climate change organised by Toxics Link in collaboration with Bakul Foundation on August 22 turned out to be a novel experience for the students of Loyola School, Bhubaneswar.

About 225 students of classes 8 and 9 from Ruchika High School, Sai International School, Delhi Public School- Kalinga and St. Joseph's High School apart from Loyola School participated in the workshop.

Father Sunny of Loyola School welcomed the students. After which Sujit Mahapatra explained the mission of Bakul Foundation that Bakul was a movement for volunteerism, and the children's library was a manifestation of that volunteerism. At the same time, the attempt of Bakul has been to inspire individuals, particularly children into becoming agents of the change in the environment and society they wanted.

Bakul and Toxics Link, were organizing this workshop because of the urgency of the two environmental problems of Climate Change and E-Waste and to show the children that they were themselves part of the problem, and the solutions, therefore, lay in them as well.

Priti Mahesh of Toxics link then talked about the research and activism of her organization in the field of Toxic waste in general and E-waste in particular. This was followed by a screening of the film, "A Second Hand Life" by Nutan Manmohan. Manmohan who had earlier produced a children's serial, "Zara hat ke" obviously knew how to connect with children as was evident from the rapt attention with which the 225 children watched the film.

Students asked many doubts on E-waste and were answered by Priti and the session continued for more than one hour. Students were found so involved and the organisers had to cut short the session due to time constraint.

It was followed by a short presentation prepared by Rudra Mahapatra of Bakul on E-Waste in the Chandaka Forest adjacent to Infocity and how it was affecting the wildlife there. But we decided to cancel it for paucity of time.



*Ravi Agarwal Director Toxics Link receiving IFCS award*

## Ravi Agarwal bags international award on Chemical safety

Ravi Agarwal, Director of Toxics Link bags the Special Recognition award –2008 instituted by Intergovernmental Forum on Chemical Safety (IFCS) for his contributions to chemical safety. The other recipient of the reputed award is Dr Lilian Corra, international secretary of international Society of Doctors for the Environment.

The award will be presented at the VI session of the Forum at Dakar in Senegal from 15 –19 September.

IFCS is a unique mechanism to develop and promote strategies and partnership among national governments

The Special Recognition Award recognizes those contributing in an exceptional way on a chemical topic or activity.

Ravi Agarwal is a renowned photographer and environmentalist working on issues of waste, recycling and Chemical safety. He is the founder of Toxics Link, which has been usefully disseminate information toxicity and chemical safety for the last fifteen years.

The session on Climate Change did not have a separate presentation because the film being screened, the Oscar winning 'An Inconvenient Truth' featured arguably the greatest presentation on the subject by Al Gore.

The post lunch session was dedicated for quiz competition. Since the Ruchika

school had to leave early only four teams participated In the quiz. St. Joseph's emerged as winners. They were presented with a trophy, which was made of E-waste.

Prizes were distributed to every student participated in the workshop.

*By Sujit Mahapatra*

## Delhi's future citizenry vows to show mercury the door

Considering the health and environmental consequences of mercury exposure to the children and community and the need for the awareness raising amongst the people especially children to reduce the usage of mercury in their day to day life, Toxics Link, an Environmental NGO in support of Department of Environment, Govt of Delhi has been conducting the Mercury awareness programme in secondary and senior secondary schools of Delhi. It is important to have such awareness about the hazards of Mercury in schools as the children, which is future generation, can act as change agent for other children and community to spread the knowledge about the hazards of mercury.

To address the Mercury issue Toxics Link in partnership with Department of Environment, Govt of NCT of Delhi initiated the project to increase knowledge and awareness of school children and teachers on harmful effects of mercury; the project started in July 2008 and has covered 24 schools so far. In total, fifty government schools are to be covered under this project. So far **4388 students** (Boys - 1875 and Girls - 2513) and 118 teachers have been reached through various sessions on Mercury. The experts from Toxics Link conduct lecture-based discussion, screening of films on the usage and hazards of Mercury, animated film on spill management. The



schools were also provided with various kinds of Information and communication material like Mercury posters, handbills and CD of movies. The interactive sessions made this programme effective and interesting.

The students in these sessions were told about incidences of spilling of Mercury, which may happen at household, hospitals, and science laboratories of schools. And they were told about spill clean up procedures.

The students were explained that spilled mercury can evaporate at room temperature and easily be inhaled by the individuals. It can spread long distances in the atmosphere

Mercury is a silvery liquid metal at room temperature. Mercury conducts electricity, expands uniformly with temperature and easily forms alloys with other metals. For these reasons, it is used in many products found in homes and schools like thermometer, sphygmomanometer (Blood Pressure Instrument), fluorescent tube lights & bulbs and electric switches etc. and as a dental filling. Mercury is also an element that occurs naturally in the earth's surface. It does not degrade and is not destroyed by combustion. Besides, mercury changes into a vapour that can travel long distances when volatilized. Mercury is a toxic metal, which can endanger living organisms and harm health of human beings adversely



and settle down in cracks and porous materials like cloth, carpet or wood, slowly emitting vapors over a long period of time.

The session also covers specific health impacts of mercury, which occur in various forms. Like, short-term exposure of mercury vapour may cause nausea, shortness of breath, bronchitis, migraine headaches and fatigue. And long-term exposure may lead to damage to the nervous system, kidneys and liver. The exposed person may have the symptoms like tremors, numbness in the fingers and toes, loss of muscle control, memory loss and kidney disease. The children, fetuses, and women of childbearing



## What can you do?

- Use Mercury free product
- We should use the mercury free instrument in place of Mercury containing Thermometer and Blood Pressure Instruments
- Ensure that you properly dispose of any mercury-containing item in your home like thermometer, florescent lamps.
- Don't mix mercury-containing waste with household waste (Broken CFL Therms etc)
- Use non-silvery dental fillings (Ceramic etc).

age are the most vulnerable to mercury poisoning.

The programme is being appreciated as a very positively and informative activity. Commenting on the programme Ms Meera Yadav, Eco teacher of senior Secondary school palam Enclave said "The awareness programme about the harmful effects of mercury on health & environment was really an eye opener for students. The topic was very effectively communicated with students. Toxics Link's work is highly appreciable." Mr. M K. Tyagi of Govt. Boys Senior Secondary School, Mandoli also supports this, "Students of our school will definitely will get benefit of this knowledge and will share this information among other students also. Such programme should be arranged in the schools in future also".

*By Mohammad Tariq*

*Continued from page 6*

paign. Other than these few workshops were devoted on practical and tactical skills for NGO training.

Moreover there was a special session on heavy metals that is on emerging global policy issues, opportunities and activities initiated by Toxics Link.

The general assembly was also provided an opportunity for the participant regional NGOs to meet and interact with NGOs from South Asian countries, where the discussion was held to chart out the NGOs regional action plan on chemical safety for the South Asia.

Overall the general assembly was also marked by the field trip to the zero waste Kovalam Community and traditional Kathakali dance.

*By Piyush Mahapatra*

## National Workshop on "Emerging issues in Chemical safety and management"

Toxics link conducted a one-day National Workshop on Emerging issues in chemical safety and management on 8<sup>th</sup> August 2008 at India Habitat Centre. The rationale for holding this workshop was to bring a holistic response to the issues of chemical safety and management from people's perspectives and also to provide an opportunity for all stakeholders including experts and academia to share a common platform on the issue.

There were eminent speakers from different fields who spoke on diverse issues concerning chemicals. About 70 participants from all walks of life who had a keen interest in the subject participated in the workshop. The programme began with the Welcome Address by Ravi Agarwal, Director Toxics Link, followed by the Inaugural Address by Mr. Jack Weinberg, Sr. Policy Advisor, IPEN. Jack spoke about the hazards caused due to human exposure to the chemicals. The Key Note Address was delivered by Dr. Jamaidu Katima, Co-Chair, IPEN. Jamaidu focused on climate change and sound management of chemicals, an emerging issue of concern.

The first session encompassed key aspects concerning Policy issues in Chemical



safety and Regulations. Sanchita Jindal, Add. Director, MoEF, Government of India gave an overview of chemical safety in India and apprised the audience on the policy issues in chemical safety. The next speaker was Mr. Vinnie Mehta from Manufacturers' Association for Information Technology (MAIT) briefed about E-waste and its Guidelines. He referred to E-waste as an alarming concern to India. He also mentioned that the guidelines are insufficient to manage e-waste by IT or consumer product industry. Followed by this was Dr. Usha Ramanathan's presentation, which was on the lessons learnt from Bhopal Gas Tragedy. She substantiated it with a number of

day-to-day problems that are caused by different chemicals. She spoke about this incident in the context of chemical safety and management and legal ramifications.

The next session dealt with the Emerging issues in chemical safety and management. In this session the first speaker was Prof. Subramanian from School of Environmental Sciences (SES), JNU. He apprised the audience on the environmental and health issues of heavy metals. He also discussed their toxicity. The next presenter was Chandrabhushan from Centre for Science and Environment (CSE). He discussed the issue of pesticides in India. He asserted that the only way to curb this



problem is through effective implementation of the existing rules and regulations. Followed by this was the issue of the present scenario of chemical safety and regulations, which was presented by Dr. Chandraprakash who is a Senior Environmental Engineer in Delhi Pollution Control Committee. He gave an insight into the different rules pertaining to chemicals safety and also shared his experience of a blast that took place in an industry in Delhi. He also gave importance to the fact that it is very pertinent to have awareness about different

heavy metals and especially how to tackle them.

The last session focused on the Global perspectives on chemical safety and management. Dr. Mariann Lloyd-Smith, the Co-chair of IPEN gave a briefing on the Persistent Organic Pollutants Review Committee (POPRC). She also enlightened the participants about the Stockholm Convention on POPs 2001. The next presenter in this session was Dr. Joe Digangi from Environmental Health Fund who discussed REACH and India. It was learnt that the

key features of REACH are **R**egistration, **E**valuation, **A**uthorisation and **R**estriction of **C**hemical substances. He also mentioned the relevance of REACH to India from the perspective of awareness about the laws and new data on hazards and health. He cited two key things to India that are information and control of chemicals. The last speaker in this session was Jack who put light on Strategic Approach to International Chemicals Management (SAICM) and International Conference on Chemicals management (ICCM). He told the audience that SAICM is a very comprehensive approach to chemicals management. It was learnt that India has ratified SAICM but it is yet to be implemented. He also told the audiences that all of us could play a crucial role to influence the government to act on it.

Each session was followed by intensive discussions. The participants raised queries on different issues concerning chemicals, which were answered by the speakers. The experience sharing and diverse knowledge of the speakers enlightened them immensely. Thus this Workshop served as a platform to discuss key aspects in chemicals safety and management. People from various sectors could be brought together, which really helped in getting different perspectives on this important issue. Further it also helped in sensitizing and disseminating information on the toxicity of chemicals.

*By Ragini Kumar*

## INTERVIEW

Dr Mariann Lloyd-Smith is the Co-chair of International POPs Elimination Network (IPEN). She has been working against POPs for decades. In this interview with Bindu Milton she shares her views on POPs

### Q 1. Could you briefly explain the mission of IPEN to our readers?

The 600 public interest non-governmental organisations that make up International POPs Elimination Network (IPEN) are committed to working towards and achieving a toxic free future. We aim to ensure all chemicals are produced and used in ways that eliminate significant adverse effects on human health and the environment. We envisage a time where persistent organic pollutants (POPs) and chemicals



of equivalent concern no longer pollute our local and global environments, no longer contaminate our communities, our food, our bodies, and most importantly, the bodies of our children and future generations.

### 2. Could you tell us what made you to start your campaign against POPs?

While IPEN was formed by NGOs in

1998, campaigning on POPs started much earlier. In Australia we started to work on POPs in the early 1980s. Many of us became aware of devastating effects that pesticides like DDT, dieldrin and heptachlor were having on wildlife, the environment and people's health. By the late 1980s, we had uncovered many hundreds of DDT contaminated sites associated with agriculture. Test had shown high POPs contamination in the breast milk of women living in the region. Wildlife living in the area as well the cetaceans along the neighbouring coastline all carried horrendous levels of POPs in their bodies. Throughout the 1990s we worked with the government and industry to ban the POPs pesticides from the Australian environment, as well as rid ourselves of the industrial PCB..

### **3. POP is an emerging issue and the common public is not that aware about it. Could you explain it? What is its impact on environment and human being?**

It is often hard to explain to the general public the full ramifications of our use of POPs in agriculture and in industry. As the impacts of POPs are not always immediate and their contamination invisible, people find it difficult to understand the full effects.

I like to explain the impacts of POPs using the term 'poisons without passports'. That is POPs secretly enter uninvited into our homes, our environments and our bodies. They are then passed silently from mother to baby in utero and via breastmilk. Yet, POPs can have terrible reproductive effects and also disrupt the hormones that are essential to healthy development. They can affect a child's development many years after exposure or give a worker cancer long after his job is finished. Exposure to POPs can damage the organs of humans and wildlife, particularly the liver and kidneys and are linked with many different cancers. Recently they have also been identified as a cause in obesity and diabetes.

### **4. What are the characteristics of POPs?**

The original 12 POPs and the new ones currently being assessed, all have the same POPs characteristics. They are Persistence, in that they do not break down easily and can last many years in the soil and sediment; Transboundary movement, in that they respect no national borders and travel the world freely on air and water currents ending up many thousands of miles from where they were used or released; Bioaccumulation, resulting in all living organisms being contaminated with POPs chemicals. POPs are ingested by fish and other species, and then travel up the food chain, accumulating in the fatty tissue of animals, including people. In humans, POPs are now found in blood, fat, breast milk, umbilical cord blood, placenta and baby meconium. Toxicity; all POPs damage human health, vulnerable wildlife and the wider environment.

### **5. Which are the most toxic POPs?**

All POPs are toxic and causing a range of diseases and adverse effects. However, the POPs byproducts dioxins, furans and PCBs

are often described as of the most toxic of all manmade chemicals. They last for many decades and affect generations to come. Children exposed in the womb and through breast milk may demonstrate adverse development for many years. Most worryingly, we know so little about the toxic interactions of POPs in our bodies, yet we are all exposed to a wide mixture of POPs chemicals.

### **6. Could you briefly state about Stockholm Convention on Persistent Organic Pollutants (2001)**

The Stockholm Convention was established by the countries of the world in order to protect human health and the environment from POPs. The Convention text lists the action a country must take to eliminate the production, use, trade and emissions of POPs while preventing the introduction of new chemicals with POP-like characteristics and ensuring the environmentally sound destruction of POPs waste stockpiles.

The Convention originally covered 12 POPs including the organochlorine pesticides; DDT, endrin, dieldrin, aldrin, chlordane, toxaphene, heptachlor, mirex, hexachlorobenzene; and the industrial chemicals and by-products; PCBs, dioxins and furans. These were chosen because of their common hazardous characteristics of toxicity, persistence and bioaccumulation, and because they are capable of travelling vast distances via water and air. This meant no country could deal with their impacts on their own. POPs required a global commitment and effective international action. Since 2001, countries have nominated a further 13 POPs chemicals for inclusion in the Convention.

### **7. Which part of world is facing the maximum threat from POPs?**

While all regions of the world are threatened by POPs, the most vulnerable are the cold remote areas of the Arctic regions. This is due to the 'grasshopper affect'. POPs evaporate out of the soil in warmer countries where they are still used, and travel in the atmosphere toward cooler areas, condensing out again when the temperature drops. The process, repeated in "hops," can carry them thousands of kilometres in a matter of days.

Countries like Canada and Russia are at the receiving end of this process. The

Inuit people who have never used many of the POPs chemicals are now some of the most highly contaminated humans in the world. Also the remote southern state of Tasmania in Australia, once thought to be pristine, is showing evidence of these unwanted POPs travelers.

### **8. How we can save the environment and human being from POPs?**

NGOs across the globe need to work to ensure their national governments implement their obligations under the Stockholm Convention. They can also help governments and industry with information on alternative chemicals and processes to speed up the elimination of POPs chemicals. NGOs can help spread the word to the general public, to farmers and the media about the dangers of POPs and provide information on how to avoid them.

Countries also need to be encouraged to nominate even more chemicals with POPs characteristics for assessment under the Stockholm Convention. Through this process we can achieve effective international bans across the globe and help protect humans, the environment and future generations from the dangers of POPs.

### **'Nasty nine' is added to 'Dirty dozen'**

The toxicity of Persistent Organic Pollutants (POPs) can pass from mother to child through breast milk and it can risk the health of generations so silently. Experts explain POPs using a term 'poisons without passport' that means it can enter uninvited in our premises and body. It terribly affects the reproductive system and disrupts the hormones that are essential to a healthy development. Earlier twelve such chemicals have been identified and named as 'dirty dozen' and now nine more added to it, which is called by 'nasty nine'.

Given below are the nasty nine.

1. Alpha HCH
2. Beta HCH
3. Chlordecone
4. HBB
5. PeCB
6. Lindane
7. Penta BDE
8. PFOS

## No e-waste, vows MMRDA

After municipal solid waste, electronic waste stands as the biggest worry for the civic administration in near future. With advancement in technology, electronic gadgets become obsolete very fast, thereby adding to the e-waste.

The environment protection society of MMRDA has initiated a process to establish coordination among various government agencies like BMC, Maharashtra Pollution Control Board (MPCB) and some private parties for effective management of e-waste generated in the metropolitan region. The process to tackle the problem has already begun and will soon be finalised.

“The waste from electrical and electronic equipment was envisaged in the usual waste streams since the use of electronic and electrical appliances for household and commercial purposes registered a steep rise in the 20th century,” said MR Shah, principal adviser, Solid Waste Management cell of MMRDA.

According to Shah, not being actively involved in solid waste management of the region MMRDA will play a nodal role to establish desired coordination among government agencies and private parties for e-waste management in the region.

*www.dnaindia.com*

## Solution to arsenic poisoning in India found

British scientists claim to have found a solution to the world's worst case of poisoning through exposure to arsenic in rice and water in eastern India. According to an estimate over 70 million people in Eastern India and Bangladesh experience involuntary arsenic exposure from consuming water and rice.

This includes farmers who have to use contaminated groundwater from minor irrigation schemes. It is estimated that for every random sample of 100 people in the Bengal Delta, at least one person will be near death as a result of arsenic poisoning, while five in 100 will be experiencing other symptoms.

Now scientists at the Queens University Belfast have created a new low-cost technology to provide arsenic-free water to millions of people in South Asia who are exposed to high levels of poison in groundwater.

Leading an international team, Queen's researchers have also developed a trial plant in Kasimpore, near Kolkata, which offers chemical-free groundwater treatment technology to rural communities for all their drinking and farming needs.

The technology is based on recharging a part of the groundwater, after aeration, into a subterranean aquifer (permeable rock) able to hold water. Increased levels of oxygen in the groundwater slow down the arsenic release from the soil.

Arsenic poisoning is behind many instances of ill health in Southern Asia, including a rising number of cancer cases. Developing a low cost method of decontaminating ground water that is laced with high levels of arsenic is a key challenge for sustainable agriculture there,” said Bhaskar Sen Gupta, scientist at the university and coordinator of the project.

*Source: Times of India*

## Use Of Waste Water For Irrigation Poses Threat Of Epidemic: Study

People in developing countries are facing growing health risks caused by the widespread use of raw sewage to irrigate crops, according to a study unveiled on Monday at a global water conference in Sweden. The report, by the International Water Management Institute, says more than half of farmland near 70% of cities in Third World countries is watered with sewage that threatens to spread epidemics. “Irrigating with waste water isn't a rare practice limited to a few of the poorest countries,” said Liqa Raschid-Sally, a researcher at the institute. “It's a widespread phenomenon, occurring on 20 million hectares (50 million acres) across the developing world, especially in Asian countries, like China, India and Vietnam, but also around nearly every city of sub-Saharan Africa and in many Latin American cities.”

She was speaking Sunday at the start of World Water Week, a conference attended by 2,500 scientists, politicians and officials from 140 countries. The United Nations has named 2008 the International Year of Sanitation. Experts said that 1.4 million children die every year from diarrhoea-related diseases and poor hygiene, and described the global sanitation crisis as “the world's largest environmental problem.” An increasing demand for water and food

has spurred the use of sewage to water crops but in many cases is the only form of irrigation for farmers who lack clean water, the study showed.

It is mostly used to produce vegetables and cereals, and poses a major health risk to consumers of uncooked vegetables. However, the report said sewage also provides a livelihood for many by making possible the cultivation of land, and it recommends an increase in purifying water supplies rather than a total ban on the use of waste water. In Accra, Ghana, some 200,000 people depend on vegetables produced on agricultural land near the city which is watered with sewage, Raschid-Sally said. “That gives you an idea of the large potential of waste water agriculture for both helping and hurting great numbers of urban consumers,” she said.

*Source: The Times of India*

## Delhi an e-waste dumping yard?

Delhi, which is already reeling under high pollution, has now to deal with another environmental challenge - e-wastes. According to an industry lobby's estimate, over 2,000 trucks dump around 12,000 tonnes of e-waste in the city per day.

“Maharashtra, Tamil Nadu and Karnataka generate over 25,000 tonnes of e-waste per day through various industrial activities and dump around 50 per cent of it at different places in Delhi, particularly at Turkman Gate, Shastri Park, Loni, Seelampur and Mandavali,” Sajjan Jindal, president of the Associated Chambers of Commerce and Industry of India (Assocham), said here on Monday.

“The e-waste sent to Mumbai, Chennai, Bangalore mostly makes its way to Delhi as there is a ready market for glass and plastic in the NCR (National Capital Region). In fact, wastes from Mumbai constitute a bulk of the 60-70 tonnes of discarded electronics that land in Delhi's scrap yards everyday,” he said in a statement.

Estimates also reveal that Delhi alone gets 25 per cent of the total e-waste generated in the developed world, which comes through cheaper imports. Nearly 30,000 people are working in the city's various scrap yards and unauthorised recycling units.

*Source: The Times of India*

## Global warming creating 'environmental refugees'

Global warming and consequent rise in sea level is posing a threat to humans, turning them into 'environmental refugees' in the Sunderbans, the largest delta region in the world.

Ocean scientists say the islands of Lohachara and Suparibhanga or Bedford have been submerged and erosion and submergence have been taking place in 12 sea-facing southern Islands of the Sunderbans, putting at risk the lives of thousands of people and wildlife. A research team led by Prof Sugata Hazra, Director, School of Oceanographic Studies in Jadavpur University in Kolkata, has found that 82 square km land has been inundated over the past three decades.

Hazra estimates that 70,000 people, out of 4.1 million people living in the islands, would be rendered homeless by 2020 from the Indian part of the Sunderbans. People living in the islands of Ghoramara, Dublat GP of Sagar Island, G-Plot and Mousuni are extremely vulnerable, Hazra says.

Source: PTI

## Garbage dump leaves no space to walk

Residents in this part of town not only have to bear with irregular waste disposal, but disappearing roads too. While garbage is collected from some areas only once a week or so, it is left to rot in other parts, thus eating into road space.

Last week, Pottery Town and Fraser Town were choked with undisposed garbage. The trucks that collect waste every morning could not enter the area for various reasons. As a result, garbage collected from households was left to rot on the streets, blocking the narrow lanes. It was not cleared for five days.

But this is not a one-off case. Residents of Williams Town, Cleveland Road and Coles Road are accustomed to stink by now. Williams Town, II Main, has a government school, temple and church. But heaps of waste is piled up on the street corner. "This attracts cows, dogs and crows, making the area unhygienic and unsafe for children," the school watchman says. Heaps of waste is seen right next to 'Do Not Litter' messages on the walls. The residents are frustrated and desperate for a solution

## RESOURCES

### Easy Green Living: The Ultimate Guide to Simple, Eco-Friendly Choices for You and Your Home

Author: Renee Loux

Publisher: Rodale Books

Publishing date: April 1, 2008

'Easy Green Living' is the book of the present time when the earth is becoming more and more unfit for a healthy living due to human actions. The author Renee Loux, the award winning writer elaborately discusses the ways and means to remain green through out life. In her new book, *Easy Green Living*, she applies her whole-foods philosophy to home, garden, and beauty routines.

Renée Loux demonstrates that being green at home is easy, affordable, and better in every sense of the word. She discusses the daily choices we face that can keep the home, personal care, and beauty routines free of toxins. She exposes the dirt on cleaning products and common hazardous ingredients and reveals her recommendations for greener options, including her "Green Thumb Guides" for choosing non-toxic, eco-smart, and human-friendly products. Peppered with compelling and inspiring facts, *Easy Green Living* is full of "5 Step" lists, products and recipes for green cleaning, helpful charts, safer choices for every room, and inspirational advice so we can save the planet—one cleaning sprit at a time.

As recent special issues of *Vanity Fair*, *Time*, *Newsweek*, and other major publications have demonstrated, going green is an idea whose time has come. Whether addressing big-picture topics like renewable energy, or offering simple suggestions for everyday living, this complete lifestyle guide shows that healthier choices don't mean a radical or complicated life change—it is, after all, easy to be green.

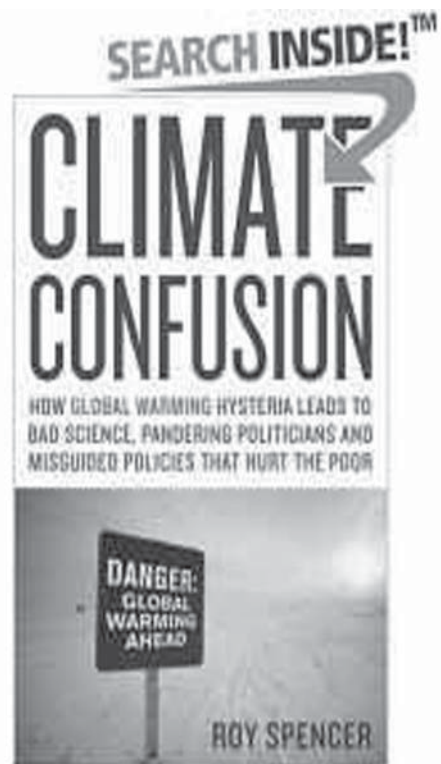
### Climate Confusion

Author: Roy Spencer

Published by: Encounter Books

Publishing Date: 27/ 03/ 2008

Climate Confusion is unique in the way it handles the burning issue of Global



warming. Observing the issue in a different angle the author explores the political, philosophical, and religious underpinnings of beliefs in catastrophic global warming, helping the reader to better appreciate why scientific research in this area has become tainted and untrustworthy.

Roy Spencer also highlights the media hype and exaggeration on the issue and underlines its observations that it is rather hysteria. Roy Spencer shows that fears about global warming are vastly exaggerated and are driven by politics, not truth. He shows that a global super storm has already arrived—but it is a storm of hype and hysteria. *Climate Confusion* is a groundbreaking book that combines impeccable scientific authority with great wit and literary panache to expose the hysteria surrounding the myths of global warming and climate change. Spencer shows that the earth is far more resilient than expessimists pretend and that increasing wealth and technology ingenuity, far from being the enemies of the environment, are the only means we possess to solve environmental problems as they arise.

He criticizes currently proposed policy solutions to tackle global warming on the ground that it will have devastating effects on the world's poor.

## Skelton Lake

**Duration : 50 minutes**

**Produced by : Miditech**

The documentary, Skeleton Lake unravels the mystery behind the hundreds of skeletons strewn around the Roopkund Lake at a height of over 16,000 feet in the Garhwal Himalayas. The Roopkund riddle started in 1942, when a forest ranger accidentally unearthed a mass grave in Roopkund Lake. The mystery of Roopkund has intrigued sociologists, historians and anthropologists



as well as local people for years. It has become the stuff of myth and legend. Fact and fiction have blended into religious

folklore and been carried down the ages. With hundreds of skeletons strewn on the slopes of the Himalayas this colossal tragedy has shaken people worldwide. The cause of this tragedy remains a mystery till now. Eventually, the riddle has been cracked. It

started out as a regular excavation where the team retrieves several hundreds of bones and artifacts strewn on the slopes.

## Paradise Lost and Found

**Duration : 30 minutes**

**Produced by : National Geographic channel**

'Paradise lost and found' is a documentary on the Nicobar Islands that looks at life in the aftermath of the Tsunami that hit on December 26th 2004. The camera takes you through worst hit areas. Through the case studies of a few survivors, the film highlights life before and after the Tsunami in a few of the worst affected areas such as Katchal, Kamorta and Campbell Bay. It also details the different relief measures and support offered by both government bodies as well as international agencies, and how it has helped rebuild the lives of many who survived this natural disaster.



## PROFILE

### Students Relief Society: For sustainable development

Student Relief Society (SRS) is a non – political, non –profit and a secular voluntary organization registered under the Societies Registration Act, 1958 has its base at Jaipur.

The organization envisions to strengthen the bonds of community spirit, bring good social justice, security, and peace, mobilises resources and strives for sustainable development. The organization works with the objective to integrate

development of rural areas to achieve quantitative and qualitative growth along with sustained positive change by utilizing the principles of self-development, unity and self-reliance along with optimum utilization of available resources.

SRS has wide range of activities and ambitions for different clientele groups. The shift in its approach from relief to help to empowerment to rights assertion is expression of its good intentions and positive thinking and thrust for growth. The main thrust areas of the organization are:

- Health, Sanitation and Environment
- Water Harvesting
- Income Generation

- Relief Work
- Education
- Women empowerment
- Revival of traditional health systems
- Energy Conservation
- Poverty Initiative

In EEJP programme, the SRF has been provided grant of Rs. 2, 00, 000 to improve environment through community participation and sustainable development.

Few villages have been selected for this programme. The implementation of the project has been done through self help groups constituted from village community.

*By Piyush Mahapatra*



## 'Quotes from the Earth'- Environmental film festival in December

Toxics Link is hosting the third environmental documentary film festival "Quotes from the Earth" from 19th & 20th December 2008 at India International Centre, New Delhi. The exposition will showcase 20 films, dealing with various environmental issues over a period of 2 days. It addresses important environmental issues of our time – from the debate over global warming, to water issues currently faced by India, hunger & food security, and the impact of the changing climate on life on earth.

The festival opens with the screening of "An Inconvenient truth", Oscar winning film by Davis Guggenheim. It offers a passionate and inspirational look at one man's commitment to expose the myths and misconceptions that surround global warming and inspire actions to prevent it. Films like 'Fable on climate change' by Nitin Das, 'Kamla and her magic lantern', 'Future beneath our feet' and 'In their elements' also deal with the same issue.

The festival will also focus on water issues that are of paramount importance in today's world. Yask Desai's 'The Rising Wave' and K. Bikram Singh's 'Marble Mutton with slurry water' are being screened in this category.

In today's world of empty stomachs and soaring prices, food security is a daunting challenge in spite of technological advancements taking place at an exponential rate. National award winning "Mere ki dharti", a Sumit Khanna product explores in depth the problem of falling agro production and food poisoning of the food chain due to introduction of chemicals and pesticides. "Apna Aloo bazaar becha" by Pankaj H. Gupta is another intriguing story told through the voices of three generations of its women who have



turned this hope into a living realization through local self - governance.

The festival ends with the screening of Wall-E, an environmental cautionary tale, as well as a delightful and almost heartbreaking story of budding love between two robots.

Quotes from the Earth is an attempt to increase awareness about environmental issues by bringing forth films that do not paint a rosy picture but actually portrays reality as it is. It is an eclectic mix of award-winning feature films, inspirational short films, documentaries, and panel discussions. The festival witnesses coming together of people from various strata of society for greater good. It is only if we are well aware and have a complete



understanding of these issues, can we attack the problem and mitigate it, if not expunge.

Films to be screened in the festival

1. An Inconvenient Truth – Davis Guggenheim – 100 min -2008 – 10.30 a.m.
2. Fable on climate change – Nitin Das (director's details awaited) – 8 min – 12.20 p.m.
3. Kamla and her magic lantern – Naazish Husaini and Atul Kumar – 2007 – 30 min – 12.38 p.m.





4. In their elements – Inder Khaturia – 2007 – 14 min -2 p.m.
5. The Future beneath our feet–Praveen Singh–2007–15 min–2.24 p.m.
6. Inferno: Jharia's Underground Fires – 2007–60 min–Paranjy Guha Thakurata – 3 p.m.
7. Tiger – the death chronicles – Krishnendu Bose–2007–68 min–5.15 p.m.
8. Once there was a butterfly–Sonya V. Kapoor–2006–11 min–6.48 p.m.
9. Leopards in the lurch – Gurmeet Sapal – 2007–15 min–7.10 p.m.

10. A life with slate–Dipesh Kharel–59 mins– 2006–Nepal–7.35 p.m.

#### DAY 2 – 20th December

11. Mere Desh Ki Dharti – Sumit Khanna – 2006 - 60 min – 10.00 a.m.
12. Bullets flow from bauxite – KNT Sastry – 2007 – 30 min - 11.10 a.m.
13. Slash and burn dialogues – Partha Sarkar – 2007 – 30 min – 11.50 a.m.
14. Apna aloo bazaar becha – Pankaj Gupta – 2008 – 30 min – 12.30 p.m.
15. Beyond the mirage – Nutan Manmohan – 2006 – 30 min – 2.00 p.m.



16. Work in progress – Krishnendu Bose – 2008 – 38 min – 2.40 p.m.
17. The Rising wave – Yask Desai – 2008 – 60 min – 3.20 p.m.
18. Village of Dust, City of Water – Sanjay Barnela – 2006 – 30 min – 5.45 p.m.
19. Marble Mutton with slurry water – K. Bikram Singh – 2007 – 30 min – 6.25 p.m.
20. Wall e – Andrew Stanton – 2008 – 90 min – 7.15 pm.



### 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 [tl@delhi@toxicslink.org](mailto:tl@delhi@toxicslink.org)

### Silicosis victims: NHRC co petitions with PRASAR

In a fresh development in Silicosis victims case National Human Rights Commission decided to co petition with PRASAR, the NGO fighting for the cause of labourers in the silica mines in the country.

Earlier the Human Rights commission sent notices to all state governments asking the status of Silicosis victims and measures they have taken to rehabilitate the victims. In its earlier sitting the Commission rejected the arguments of the government representative about the steps taken to help those workers in Silica producing units.

The Commission also observed that the occupational hazard of Silicosis is preventable if the working conditions are properly regulated and proper equipments used.

According to PRASAR neither any state government nor central government has any data of Silicosis victims. The government also has no idea about the industry too. This apathy makes the condition of Silicosis victims worse.

It is in this circumstance the NHRC decided to co petition with PRASAR in the Supreme Court.

## Quotes from the Earth

Quotes from the Earth is a compilation of films on the themes of Hunger, Water and Survival. To screen the films in your city, please get in touch with Pragya Majumder at [pragya@toxicslink.org](mailto:pragya@toxicslink.org). The films are available against a nominal security deposit. You can view details about the films at <http://www.toxicslink.org/filmfestival/2006/>

*If you have suggestions or require information, please contact:*

#### Toxics Link – Delhi

H2 (Ground Floor)  
Jungpura Extension  
New Delhi 110 014  
T: +91-(0)11-24328006, 24320711  
E: [tl@delhi@toxicslink.org](mailto:tl@delhi@toxicslink.org)

#### Toxics Link – Chennai

9/5 (2nd Floor), Second Street,  
Padmanabha Nagar, Adyar,  
Chennai 600 020  
T: 91-44- 42607642  
E: [tlchennai@toxicslink.org](mailto:tlchennai@toxicslink.org)

**I: [www.toxicslink.org](http://www.toxicslink.org)**