TOXICS DISPATCH
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Toxics Link
for a toxics-free world

NEW POPs LISTED IN STOCKHOLM CONVENTION AND ITS IMPLICATIONS FOR INDIA

Stockholm Convention is a global treaty on Persistent Organic Pollutants (POPs) with an objective to protect human health and environment from chemicals that are persistent in the environment for long periods. It is distributed widely in all geographical locations, accumulated in fatty tissues of human beings and has negative impacts on human health and environment.

Exposure to POPs can lead to serious health effects like cancer, birth defect, dysfunctional immune and reproductive system, greater susceptibility to disease and damage to the central and peripheral nervous system. No one government can act alone to protect its citizens or environment from POPs because of their long-range transport characteristics.

In response to this global problem, the Stockholm Convention, adopted in 2001, entered into force in 2004. It requires its parties to take measures to eliminate or reduce the release of POPs into the environment. The Convention entered into force on 17 May 2004, 90 days after submission of the fiftieth instrument of ratification, acceptance, approval or accession in respect of the Convention.

The targeted chemicals in the Stockholm Convention are listed in the annexes of the convention. **Annex A means Elimination** of production and the use of chemicals listed with specific exemptions available for use in production registered by the parties. **Annex B means Restriction** of production and use of the chemicals listed in light of any applicable acceptable purposes and/or specific exemptions listed in the Annex. **Annex C means unintentional release**. Parties must take measures to reduce the **unintentional release** of chemicals listed with the goal of continuing minimization and where feasible, ultimate elimination.

Since adoption of the Convention, until April 2017, 23 chemicals have been listed in the respective annexes of the Stockholm Convention.

DECISIONS IN STOCKHOLM CONVENTION COPS - 8

The eighth meeting of the Conference of the Parties to the Stockholm Convention (SC COP-8) was held from 24 April to 5 May 2017, in Geneva, Switzerland. The theme of the meetings were "A future detoxi-

IN THIS ISSUE

EDITORIAL

Dear Readers,

The world today is witnessing an increasing trend in production and consumption of chemicals to boost economic growth. These chemicals are being used in agriculture to fight pests, and increase food production to address the issue of food security, also in multiple products to enhance quality all of which finally lands up in waste streams and finally into our environment. However, the down side of this increased and unmindful consumption has led to contamination of soil, pesticide and chemicals runoffs, causing pollution of our water bodies resulting in these chemicals finding their way onto our plates. Many such chemicals and pesticides are synthetic and a significant number of it is being recognised as highly toxic, capable of causing serious health and environmental problems.

Some are responsible for altering the endocrine system resulting in birth defects, early puberty, low sperm count, kidney disorders, etc. and are reasons for huge economic losses to nations, increased expenditure on healthcare and loss of productivity that are intangible and difficult to quantify in terms of actual impacts on the GDP and growth of a nation. Hence, it rarely receives the attention needed from political leadership to seek good data and draw a balance between chemical safety and health issues.

These impacts are also disparate between developed and developing economies, on many accounts ultimately impacting the poor significantly more. Such stark environmental injustice and ecological loss due to improper chemicals management has made the world sit up, and unite in collective action in the form of Basel, Stockholm, Rotterdam and the Minamata Convention. The eighth Conference of Parties (COP) for global action concluded in May in Geneva, wherein the Indian government also participated and made substantial contribution. The Government has ratified both Rotterdam and Stockholm Conventions. It also completed the mandatory process of "National Implementation Plan' (NIP) for Stockholm in 2011. While it may be a good case for firm negotiations to protect our economic interest in these treaties, but it is also critical to identify these chemicals and initiate substantive actions for their safe management and protection of health and ecology.

There has been very little action on the implementation of the measures laid out in the NIP for the first set of chemicals (dirty dozen). The new chemicals added to the list are much longer now, and our country is yet to consider these for desired actions. It is difficult to suggest the reasons for inaction, but perhaps lack of adequate data for health and environmental impacts, complexity of the long supply chain, indifferent attitude of the industry towards transparency of material and its obligation to look at the complete life cycle are possible reasons for such ambivalent response.

Chemicals and chemistry can be little intimidating and complex to breakdown into simple relationship of health and environment. Toxics Link has always attempted to simplify these issues and bring more clarity among readers and catalyze actions towards safer management of such chemicals and push for alternatives. We have continuously engaged in creating more information for general public and also in bringing together all stakeholders on a common platform for consultations and collective action.

I hope you enjoy reading this issue of Dispatch and be more sensitive to chemicals around you.

Satish Sinha
Associate Director

fied: Sound Management of Chemicals and Waste".

In COP - 8, three chemicals were proposed for listing as POPs. These are Decabromodiphenyl ether, Short Chain Chlorinated Paraffin (SCCP) in Annexure -A for elimination and Hexachlorobutadiene (HCBD) in Annexure - C for unintentional release. Deca - BDE is a flame retardant used in electrical and electronic components and in the automobile and textile industry, whereas SCCPs are being used as a plasticizer in plastic (PVC), rubbers, paint and sealants with flame retardant properties.

After several days of hectic negotiation by the parties to the convention, these chemicals were listed as POPs. However, there are specific exemptions that have been granted on the use of these chemicals which may not serve in the best interest of environment and health.

LISTING OF THE CHEMICALS IN STOCKHOLM CONVENTION WITH SPECIFIC EXEMPTIONS

- Deca-BDE has been listed in Annexure A, with specific exemptions for critical spare parts for automotive and aerospace sector, polystyrene and polyurethane foam for housing insulation
- SCCPs have been listed in Annexure A, with specific exemptions for mining and forest industries, leather production and lubricant additives and plasticizer of PVC except toys and children products
- HCBD has been listed in Annexure C and at the same time, there is need of technology transfer and a better cooperation to minimize the unintentional release

IMPLICATIONS FOR INDIA

The chemicals listed in Stockholm Convention have implications for India. Though India has supported the inclusion of these chemicals, it has also asked for specific exemption in spare parts of automobile and textile industries.

In the case of Deca-BDE, India has phased out its usages in the electrical and electronic sectors but during the negotiation process, India has asked for exemption in the automobile (both legacy and new parts) vehicles and textile. Globally, Deca BDE has been phased out from the automobile sectors, but the chemical is still being used for spare parts in large scale. As per the agreed text of the Convention, Deca –BDE has been allowed to be used in the automobile sector until 2036. The Indian auto industry is one of the largest in the world and accounts for 7.1% of the country's Gross Domestic Product (GDP). India is a prominent auto exporter and has strong growth expectations in the coming future; but with the listing of Deca-BDE in Annex A of the Convention, India may have to look for suitable and safer alternatives to continuously grow in the long run. Further going by the present phenomenon, Deca-BDE has been phased out globally by many countries from the automobile sectors, so Indian automobile industries should prepare themselves to brace this change instead of waiting until 2036. India should also come out with a plan to phase out Deca -BDE from the textile industry, both small and medium scale.

India also supports the inclusion of SCCPs as POPs, since some of the industries continue to use this chemical. It is largely used in preparing textile material and PVC based plastic, and is one of the key drivers for seeking exemption in the Convention. Though exemption has been granted for a limited period, India should develop a phase out plan considering the health hazards associated with the chemical.

India was apprehensive about listing of HCBD in the Convention, however finally supported listing of the chemical in SC. There are production processes in India which releases HCBD and efforts are needed to minimise the release by upgrading our technology since this chemical has carcinogenic properties.

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DOUSE THE DECIBEL

"A day will come when man will have to fight merciless noise as the worst enemy of health"- Robert Koch (Nobel Laureate)

Rapid industrialisation and urbanisation, burgeoning populations, unorganised commercial activity and heightened impatience on the roads have made this statement made in the early 19th century come true, more so, in developing nations. A recent report by World Health Organisation (WHO) claims that 360 million people worldwide already suffer from hearing loss out which 32 million are children. Not only does noise have a deleterious effect on our hearing ability, the heart and the nervous system, it can also create cracks in buildings and bridges, thus weakening public infrastructure. Probably because its effects are not as immediate and as visible to the eye as smog or dirty water, the menace is not treated with as much urgency as required.

Be it a metropolis in India, a tier II or a tier III city, noise pollution is reaching deafening levels. Several studies have shown that Delhi has some of the noisiest roads in India, next only to Guangzhou in the world. As a result, citizens of Delhi have been reported to suffer from maximum cases of hearing loss proportionate to their age. It tops the list of 50 cities in the world where hearing is the most degraded. 64 percent of the cases of hearing loss have been attributed to noise pollution. As per WHO's estimates, chronic exposure to more than 85 dB for 8 hours can cause irreversible loss of hearing. Apart from Delhi, maximum violations of prescribed limits of noise emanating from different sources have been observed in Mumbai, Lucknow, Hyderabad and Chennai in comparison to Kolkata and Bengaluru, which fair marginally better, according to Central Pollution Control Board (CPCB). It was in 1986 that the Environment (Protection) Act of India recognised noise as an environmental pollutant and empowered the Central Government to prescribe maximum permissible limits for noise in different areas.

The following limits have been prescribed by the Noise Pollution (Regulation and Control) Rules, 2000 for noise in different areas:

Area Code	Category of Area/ Zone	Limits in dB (decibel)	
		Day Time (6AM to 10 PM)	Night Time (10 PM to 6 AM)
(A)	Industrial Area	75	70
(B)	Commercial Area	65	55
(C)	Residential Area	55	45
(D)	Silence Zone	50	40

(Silence zone is defined as an area comprising not less than 100 meters around hospitals, educational institutions and courts, and are declared as such by the competent authority.)

Vehicles- with their horns, sirens and loud exhaust systems- are the most common sources of noise pollution. Multi-toned and air horns in trucks and buses add to the menace despite being banned by the Central Motor Vehicle rules. The decibel level of such horns can go as high as 160 dB. A noteworthy fact is that a single incident of exposure for 15 minutes to 100 dB can permanently damage one's hearing. One can now understand the impact of incessant honking on drivers and traffic policemen. Noisy commercial or construction activities close to residential areas is also a big source of noise pollution and affects the sleep quality, cognitive and communication abilities of the nearby residents.

Aircraft and industrial machinery are other common sources of noise pollution, especially in developing countries like ours. A jet take-off can actually cause our ear drums to get ruptured! Among various industry types, manufacturing, construction and mining are some of the most dangerous ones with respect to causing hearing disabilities. The tools used tend to be well over the recommended limit of 85 dB, with equipment such as the hammer drill sometimes reaching levels as high as 115 dB. Hence, workers on runways, in industries and on construction sites are at a great risk of developing hearing disorders. In India, occupational permissible exposure limit for 8 hours' time weighted average is 90 dB, but the extent to which it is followed and how protected the workers are is debateable due to lack of monitoring. On the other hand, the European Union (EU) Directive has prescribed a daily noise exposure limit of 87 dB at the workplace, beyond which employees need to be provided with hearing protection if reduction of the noise level is not possible.

An occupation fairly overlooked with respect to degree of vulnerability to hearing impairment is the military. Loss of hearing among military veterans, due to gunshots, explosions and roaring noises from ship and aircraft engines has almost become an epidemic.

Festivals and weddings are also major contributors to noise pollution. Despite rules specifying permissible limits for noise from loudspeakers and timings and banning the sale of firecrackers, violations have continued. Election rallies, cinema halls, concerts, sports stadiums and discotheques can also make us prone to developing severe hearing disorders.

Laxity in implementation of the Noise Pollution Regulation and Control Rules (2000) coupled with the absence of city-wise noise mitigation plans is the root cause of this problem. The key to prevent and control noise pollution lies in making city-specific plans to mitigate noise rather than targeting specific sources of noise. That said, legislations wouldn't help the cause unless we believe that noise is a menace and that it should be curbed. For this issue

to create as much interest as air pollution, awareness campaigns are needed to sensitize people, because it can be largely seen as a consequence of a behavioural problem. People have greater responsibility and ability to take control of the situation. Mumbai, which was the 'noisiest city' till early 2016, is a good example of the success of public participation to reduce noise pollution. After getting such a dubious label, it saw extensive public campaigning, orders being passed by the court and action being taken by the government to get rid of this tag. They were able to reduce noise levels on festivals like Ganesh Chathurthi and Diwali. During Ganesh Chathurthi celebrations, the highest recorded noise level dropped from 123.2 dB in 2013 to 116.4 dB in 2016 and on Dussehra, 103.4 dB (2013) fell to 98.9 dB (2016). Also, thousands of offenders were booked for unnecessary honking and using illegal horns. Noise pollution can be controlled in other cities too by small efforts made every day such as avoiding reckless honking, avoiding firecrackers during Diwali, and by keeping the volume of music low in wedding ceremonies, which can go a long way in improving the situation. One may use noise-cancelling earplugs as often as required to prevent damage to the ears.

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CLOSE ENCOUNTERS

In March this year, a tiger that killed two people in Ramnagar, near Corbett National Park, Uttarakhand, died after forest officials tried to capture it using an earthmover.

As per news reports, the animal succumbed to injuries during its rescue operation. The post-mortem report revealed the causes of death as septicaemia, injuries, asphyxiation. Wildlife experts criticized the manner in which the rescue operation was carried out – use of tranquilizers in addition to the earthmover under which it came and became severely injured.

The Corbett story is telling of the severity of the man-animal conflict in the country. Bloody encounters between man and animal are becoming commonplace, with instances of leopards, elephants, and other wildlife animals straying to human areas being reported often.

This incident sheds light on the larger problem of how shrinking habitats, illegal encroachments, hunting, etc are endangering the lives of wild animals and forcing them to forage for food outside their natural habitats. Territorial interventions by man seem to have come at a cost – and this phenomenon is no longer restricted to small towns or villages, but also witnessed in urban cities – whether it is the gruesome killing of the tiger, a leopard being lynched, or a bear burnt alive. Incidents of conflict or aggression towards animals are largely magnified by existing human-animal tensions.

Although buffer zones or green corridors have been created in and around national parks, and where wild populations live, rapid expansion of forest covers and unauthorized construction of high-rises and buildings, with authorities looking the other away are only worsening the problem.

As per the National Tiger Conservation Authority (NTCA), 113 casualties were reported as a result of man-tiger conflict from 2013-2017. Meanwhile, the death toll as a result of man-elephant conflict during the same period was 1,224. In 2017 alone, 419 people have been killed by elephants and 11 by tigers (Lok Sabha).

In the encounters between man and animals, causalities are on both sides. Not just humans, but animals are caught in the conflict too. Government data points that for every four people killed, an endangered animal is lost. Like the Corbett incident, many times animals are brutally killed or captured and sentenced to a life inside enclosures, the most barbaric form of punishment that can be meted out to animals born free. As many as 189 elephants and around 110 tigers were killed in man-conflict zones between 2012 and 2015, according to latest government data.

The question remains - Is the conflict truly inevitable? Wild animals launch attach on humans only when they feel provoked or threatened. Perhaps with astute handling by government authorities, this complex issue can be addressed. Addressing man-animal conflict will require a holistic approach with the government fostering habitat improvement activities, strengthening infrastructure, capacity building of forest officials, equipping them with sophisticated tranquilizers, and most importantly laying down guidelines and creating awareness among civilians.

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MERCURY FREE DENTISTRY – NEED OF THE HOUR – WHERE ARE WE?

With the signature of India in Minamata Convention- a campaign for mercury free dentistry had started in 2014. Since then we have come a long way. A lot of things have changed owing to the continued efforts in this direction.

Armed Forces Medical Stores Depot (AFMSD) has issued an order to phase out the use of dental amalgam. A change in the dental curriculum has been proposed to include Glass Ionomer Cement (GIC) and composites in practical training for undergraduates and we are continuously following up with the Dental Council of India (DCI), Continuing Dental Education (CDE) programmes and workshops have been planned to empower dentists to do successful GIC and Composite fillings. Meetings with Indian Dental Association (IDA) have also been planned to discuss the issue. A lot of dental colleges were visited to understand the ongoing practices pertaining to dental amalgam and to come up with ideas as to how to change the trends of amalgam usage. We have been in touch with the Ministry of Health to bring about a policy banning the use of dental amalgam in the vulnerable population (children, pregnant and lactating mothers and people with kidney disorder).We are doing a national level media campaign to bring awareness among the general population. Still a lot needs to be done, before we rest our feet.

Toxics Link had also undertaken field work to understand the dental amalgam market. Our team conducted interviews with the dental amalgam manufacturers in India. To our surprise even manufacturers understood the need to move towards mercury free alternatives. Although willingness is there from the manufacturer's side, they face a lot of issues while trying to make the demand shift happen *i.e* to move towards alternate filling materials like GIC and Composites.

Certain backlogs faced by manufacturers due to current dental practices:

1. **Cost:** Alternate filling materials are more costly as compared to the dental amalgam. It is this reason that prompts the use of amalgam more in the rural areas. Although in urban areas, dentists and patients prefer composites and GIC due to the aesthetic appeal.
2. **Ease of use:** Dental amalgam is not technique sensitive (unlike composites which require layered curing and a separate light curing unit), dentists hence, prefer to use amalgam.
3. **Unregulated quackery sector:** Since dental amalgam is cheaper and easily available as compared to GIC and composites, unqualified professionals prefer to use amalgam instead of alternatives.
4. **Availability:** As mercury is easily available at a cheaper rate in the chemical market, dental practitioners don't need to buy it at a higher rate from manufacturers. Instead they just get the silver alloy powder from the manufacturers of dental products and procure free mercury elsewhere at cheaper rate.

In order to overcome these challenges, manufacturers need to market alternative filling materials at a cheaper rate. And that can only happen, when India itself starts to manufacture the alternative filling materials. However, there are several challenges to achieve this as well:

1. **Machinery:** the huge machinery needed for in-house manufacturing of GIC and Composites is not available.
2. **Technology:** the technology needed to test the compressive strength of the filling material (a must before the filling material can come into the market), is not yet available in India.
3. **Government support:** funding and political support is needed for the research and development of such filling material.
4. **Psychology:** Indian mentality that "foreign products are only better" needs to change, if we are to market Indian alternative filling materials.

Only when these challenges are met, can India see the much needed demand shift from amalgam towards GIC and Composites and we will be able to move towards a mercury free world.

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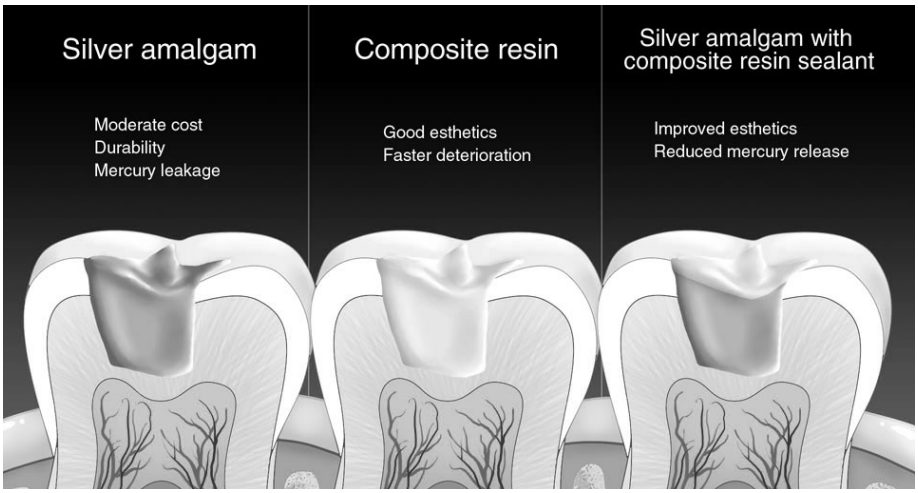

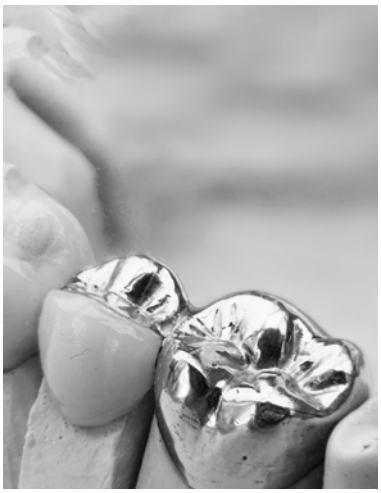

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INTERNATIONAL MEETING BY SAICM ON SOUND MANAGEMENT OF CHEMICALS IN BRAZIL

Sound management of chemicals and waste are critical challenges for the future of the world. The Strategic Approach to International Chemicals Management (SAICM) is an important platform to achieve the goals for waste and chemical management.

Although SAICM has set a goal of 2020 to achieve its objective, there is a need to look beyond 2020 and chalk out a future roadmap to achieve desired results. In this context, the first international meeting was conducted in Brasilia, Brazil, from February 7-9, 2017. Piyush Mohapatra, Senior Programme Co-ordinator, Toxics Link attended the meeting. Toxics Link is one of the few organisations in India working on SAICM and is the South Asian hub of its regional interventions.

The discussion points of the meeting were: prioritise chemical and waste issues at the global level and link it with Sustainable Development Goals, impacts of chemical exposure on women, children and indigenous population, review SAICM's impact, etc. The outcomes that came out of the meeting are as follows – develop a National Action Plan to address chemical management, strengthen institutional research on chemicals and key role civil society, government and other stakeholders can play to address the issue.

ROUND TABLE MEETING ON ENDOCRINE DISRUPTING CHEMICALS IN CHENNAI

Toxics Link conducted a round table meeting on Endocrine Disrupting Chemicals (EDCs) in association with University of Madras, Chennai, on February 17, 2017. The meeting was attended by academicians, researchers, medical doctors, industries and plastic manufacturers. The objective of the meeting was to gather and collate information regarding the health impact of EDCs on human beings and environment, spread awareness on the issue and look forward to safer substitutes in consumer products. The outcomes of the workshop were to identify the direct impact of EDCs on human health and environment, and carry out Research and Development of the suggested alternatives to these chemicals.

E-WASTE WORKSHOP IN BANGALORE

State Pollution Control Boards (SPCBs) have a key role in the implementation of the E-waste Rules 2016, and will be the principle agency responsible for enforcement of the Rules. Hence, it is important that they understand the framework and plan out possible measures to make the Rules effective. In order to help SPCBs and other agencies comprehend the Rules well and map out possible steps, Toxics Link organised a capacity building workshop on March 3 and March 4, 2017, in Bengaluru. The workshop was held in collaboration with the Karnataka State Pollution Control Board, and was attended by officers from the SPCBs of Karnataka, Andhra Pradesh, Telengana and Kerala, and by civil society organisations and municipalities.

The two- day capacity building programme included a field visit to a Treatment, Storage and Disposal Facility (TSDF) and an authorised e-waste recycling unit. The participants felt that the workshop was timely and will help them in strengthening the existing Rules.

PROPONENT OF MERCURY FREE DENTISTRY, CHARLIE BROWN, VISITS INDIA

Charlie Brown, President of World Alliance for Mercury free Dentistry, an international coalition of organisations from six continents dedicated to ending dental mercury use, visited Toxics Link in April.

Toxics Link has been working with Mr Brown on the issue of mercury usage in India's dental sector, and its subsequent health and environmental impacts. During his four-day visit, Mr Brown met with the Ministry of Health and Family Welfare, to raise the issue of phase down of mercury in India's dental sector.

He also met dental product manufacturers, Dean of Sharda Dental College, New Delhi, and Lt. General Vimal Arora (Retd), who played a key role in phasing out the use of dental amalgam in the armed forces. The meetings were productive as it helped device new strategies to work on the issue of mercury in India. In this regard, a letter to the Dental Council of India was sent and a white paper report was prepared to rally for ban on the usage of amalgam in dentistry.

A media interaction of Mr Brown with the financial newspaper - *The Hindu Business Line* also took place during his visit.

Charlie Brown is the key legal player in the world-wide movement to eliminate mercury amalgams. In a well-organised, multiyear campaign in the US, he brought mercury-free dentistry into the mainstream by challenging the three main agencies that protect the use of toxic metals in the mouth: the state dental boards, the American Dental Association and the FDA. In 2008, he bested the FDA in court, forcing it to include warnings on its website about the neurological risks of silver amalgams and to agree to write, under a deadline, an amalgam regulation. When the FDA reneged on the agreement, Mr Brown led a powerful grassroots campaign that forced the FDA to reconsider its rule.

Mr Brown is also the head of National Counsel of Consumers for Dental Choice, with a truly informative website, www.toxicteeth.org. He is president of the World Alliance for Mercury-Free Dentistry, an assembly of non-governmental organisations from all over the world united to phase out amalgam across the planet. He is responsible for bringing the policy ban on the use of mercury in vulnerable population in the European Union.

Mr Brown in an interview with Lavanya Padhi, Programme Officer at Toxics Link talks about how mercury and its usage in the dental sector is causing harm to health and environment.

Q What is the global scenario of Mercury in Dentistry?

Mr Brown: We are going in the right direction for mercury free dentistry. We have a guiding document by Minamata on mercury free dentistry and it mandates that every signing nation must start phasing down the use of amalgam. The Minamata Convention provides a road map that each country can act the phase down of mercury and we hope that they phase down to zero.

Q What motivated you to work on this issue in India?

Mr Brown: India is three times the population in comparison to United States and the third biggest country in the world. We wanted to work in India and we had the advantage of strategic partnership with Toxics Link in India. The organisation expressed interest to work on the issue and had already done some work for quite some time.

Q From your point of view, how does dental amalgam affect health and environment?

Mr Brown: Dental amalgam has major problems, and we know mercury is toxic. It is one of the most toxic heavy metals and is the most vaporous too. Mercury is never safe – it is a neurotoxin, a reproductive toxin. When you put something which is 2cms away from the brain, and especially a developing brain, like that of a child's or of an expecting mother, it can enter the body through breast milk and through the placenta of the pregnant women and affect the baby in the womb. And for the environment, it's a huge risk for dental workers. The harm of breathing mercury vapors in a workplace for hours can be hazardous to the health of dental workers. 8-10% mercury in our environment comes from dentistry which is a huge amount and is unnecessary. The European Union scientists group called Scientific Committee on Health and Environmental Risks (SCHER) said that amalgam is secondary poisoning which enters the fishes in our oceans and seas, and eventually is consumed by our children.

Q In India, cases of Mercury toxicity from dental amalgam hardly comes to the lime light. Can you quote few cases of mercury poisoning due to dental amalgam fillings?

Mr Brown: Yes, there are number of alternatives which are superior to amalgam, which are tooth friendly, minimally invasive and less likely to cause harm. It fits into two categories – composite or resin, and GIC. Amalgam is destructive to the tooth. If the child's cavity isn't big enough, the dentist makes a bigger cavity, so that they can get the mercury in it. Amalgam is a primitive, pollutant which has no role in 21st Century in dentistry.

Charlie Brown
Founder of World Alliance for Mercury Free Dentistry (WAMFD)

Q Can you state a few cases where the person has been affected because of mercury poisoning?

Mr Brown: Mercury is bio-accumulative, and its affect is not a particular illness, its effect is mercury toxicity which in turn has that effect. We have trouble linking it. To prove cause and effect of toxin is really difficult. Our governments in the US and governments around the world have not wanted to find an answer. If they had studied and found the answer, people would panic and turn on against their government. It is a good argument that it is dangerous, and there is no doubt about it. But in terms of public policy, our public policy strength is environment first, workplace second, and third is the environmental injustice going on today. Basically as a representative of America's leading African-American civil rights group said in a testimony to Congress – "We have choice for the rich and mercury for the poor." And we should not have two-tier dentistry that has emerged in the world where only those who have the money are able to go mercury free. Everyone should be able to go mercury-free.

Q What is the stake of developed and developing countries in this aspect? How are they moving forward towards mercury free alternatives in the dental sector?

Mr Brown: We are moving towards mercury free dentistry. I am delighted with the progress. The Dakar resolution for mercury free dentistry for Asia calls for amalgam free Asia and has massive support from civil society similar to the Abuja declaration for mercury free dentistry for Africa (It declares Africa shall be the first continent to phase out amalgam). Africa has the shortest distance to go, the least use of amalgam and they want to be first

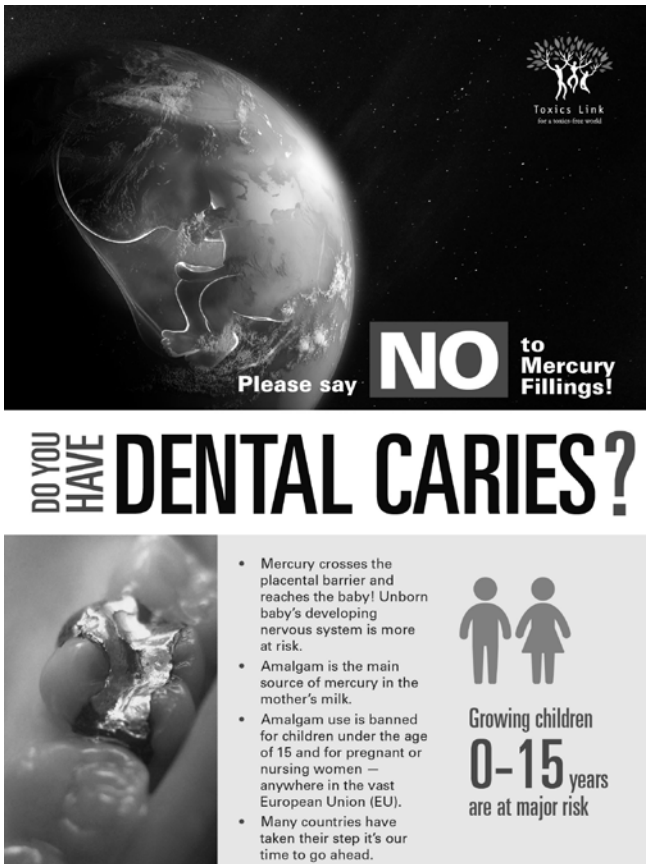
to end dental amalgam. This resolution was signed by 40 civil society organisations across Africa. We are seeing very specific episodes of success in places like Bangladesh, and also in India with the armed forces. Bangladesh with the Memorandum of Understanding (MoU) with the dental society and the NGOs saying it will end amalgam in 2018. In Nigeria, there is a change in the dental school curriculum, with a factsheet that will go to consumers. They also have both a national programme and a state based model programme, much like the progamme here in India. I am convinced that the actual barriers to victory in developing countries is less. One word that keeps amalgam in the western countries more than anything else is Insurance - that is a system that froze up how we are going to deliver dental care in places like Germany and all through Europe. Germany is the best example, because Germany ended most of the amalgam, and now they don't want to take any step forward because it would disrupt their insurance system. Amazingly, we are at a much faster pace to shift when there are just two players involved - (dentist and patient).

WATCH OUT FOR THE MERCURY IN YOUR MOUTH

When did you last visit a dentist? If your answer is affirmative, the experience may not have been very pleasing. In our fast paced lives and drastic changes in our eating habits, we often tend to ignore our dental health, especially that of our child's. Research articles on the issue have found that India's school going population is recording a high number of dental caries. On an average 50-75% of school going children in India have reported cavities.

But, as parents do we ask the doctor what is being filled in our child's mouth? The doctor is the best judge, and surely they are. But as consumers, it is also our responsibility to ask the right questions and be informed about the dental filling used in our teeth.

Recently, the European Parliament banned the use of mercury amalgam in the susceptible/ vulnerable population. This group includes children under the age of 12 and pregnant or nursing women. In India too, the Ministry of Health might contemplate such a move for the sake of our children's health, as their growing brains are prone to the detrimental effects of mercury.



India signed the Minamata Convention for mercury pollution prevention in 2014. Mercury is used in various sectors, and dentistry is one of its largest users. Dental amalgams are 50% mercury. So, when a mercury filling is put in your mouth, almost the same amount of mercury gets wasted, which eventually enters our environment and the food chain.

The World Health Organisation (WHO) considers mercury as one of the top 10 chemicals or groups of chemicals of major public health concern.

Though many dental practitioners feel that mercury is the hardest dental filling material available, another set of dentists lobbying against mercury fillings are of the opinion that – the tooth preparation for mercury fillings lead to loss of tooth structure in comparison to alternatives. Expansion of mercury can also lead to cracking of restored teeth.

Remember, mercury fillings are a bit cheaper than non-mercury fillings in India because dentists do not have to pay for the environmental release of mercury. If dentists have to adopt Best Management Practices (BMPs) to avoid mercury release into the environment, the cost of fillings might double.

Besides the environmental impact of mercury, many studies have showed that a single amalgam filling on an average may release as much as 10 micrograms of mercury per day. According to WHO, exposure to mercury – even small amounts – may cause serious health problems, and is a threat to the development of the child in *utero* and early in life. Mercury may have toxic effects on the nervous, digestive and immune systems, and on lungs, kidneys, skin and eyes.

The world is changing and its time we change too. So next time you go to a dentist, do not forget to ask him which filling material s/he is using.

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(The above article was published in Zee News online)

"INDIANS LARGELY IGNORANT OF E-WASTE RULES FOR DISPOSAL"

Source: National Herald India, Feb 14, 2017

While e-waste is a global concern, not too many Indians seem to be aware of either e-waste or about the rules notified by the Government in October, 2016 for disposal of e-waste, reveals a survey conducted by Toxics Link, an environmental research and advocacy organisation.

The survey shows a high level of ignorance with 93, 90, 74 and 52% of respondents in Kolkata, Delhi, Chennai and Bengaluru respectively professing ignorance of the rules. Not surprisingly, therefore, much of the electronic and electrical equipment continue to be sold to the kabaadiwala and not to the authorised recyclers of e-waste.

While India is the fifth largest producer of e-waste in the world, estimated at 1.7 million tonnes in 2014, 90% of it is recycled in sweat shops by the informal sector. E-waste, explains Priti Mahesh of Toxics Link, is both hazardous and valuable; hazardous because it is toxic and can lead to arsenic or mercury poisoning and valuable because one can find gold, silver, platinum and copper.

The sweatshops at Seelampur in north east Delhi, and on the outskirts of Moradabad in Uttar Pradesh are dealing illegally with thousands of tonnes of e-waste. But people seem to be unaware of the adverse impact it can have on both environment and health.

Read More:https://www.nationalheraldindia.com/news/2017/02/14/e-waste-disposal-a-global-concern-survey-reveals-few-indians-aware-disposal-rules-notified-by-government

E-WASTE CONCENTRATION IN INDIAN SOIL IS TWICE THE GLOBAL AVERAGE, CLAIMS STUDY

Source: Hindustan Times, Mumbai, March 14, 2017

India may have issued directives to ban the use and manufacture of polychlorinated biphenyls (PCBs) to reduce pollution, but decades of using these toxic industrial chemicals in electrical and electronic equipments have contaminated the country's soil, air, and possibly water as well.

Analysis of soil samples from seven cities, including New Delhi and Mumbai, by SRM University, Chennai, and UK and Chinese institutes discovered that the average concentration of PCBs in Indian soil was almost twice the amount found in global background soil — at 12 ng/g (nanogram per gram) dry weight as against 6ng/g — but as much as that recorded in Pakistan and urban areas of China.

These persistent organic pollutants (POP) stay in the environment for longer periods, get dispersed over long distances, and accumulate in the fatty tissue of humans, land and marine animals.

On Tuesday, evidence proving the presence of PCB came to the fore even after more than four decades of banning its manufacture in the US. Results of a study lead by the UK-based University of New Castle revealed high concentrations of PCBs and polybrominated diphenyl ethers (PBDEs) in the fatty tissue of amphipods (a type of crustacean) from deep below the Pacific Ocean surface.

Read More: http://www.hindustantimes.com/mumbai-news/e-waste-concentration-in-indian-soil-is-twice-the-global-average-claims-study/story-qfO46MATcFDzb5b1pELL9O.html

"CPCB NORMS SEEK TO CAP LEAD CONTENT IN PAINTS AT 90 PPM"

Source: Hindustan Times, New Delhi, Mar 31, 2017

By Diwali this year, paints in India will be sold with less than one percent of lead that causes indoor pollution and is harmful for children.

The Central Pollution Control Board (CPCB) has prescribed new draft rules that allows maximum of 90 particles per million (ppm) or .09% in the paints to be sold for both domestic and industrial purposes across India.

"It is a standard similar to international level," said Ravi Aggarwal of non-government advocacy group, Toxic Link. It meant that paints will not contain any added lead. "In case of added lead, the toxic level rises to 500 ppm," he said.

According to studies, high lead content in paints leads to indoor air pollution and affects children the most. "Exposure to lead can hamper brain development in children. High exposure can even lead to neurological problems," the World Health Organisation (WHO) said recently.

The new guidelines will impact small and medium scale paint industry, which contributes to about 40% of the estimated business of Rs 40,600 crore in 2015-16. The organised sector already meets the standard.

The officials said big paint companies were pushing the government to have a national norm to ensure a level playing field. The paints manufactured by unorganised sector is 20-30% cheaper than that by the organised sector.

Read More: http://www.hindustantimes.com/india-news/this-diwali-lead-free-paint-will-be-a-national-norm/story-ANb4JmX-Q8dXJ7j3BOr6uUL.html

DAMAGING CHEMICALS FOUND IN TOYS GLOBALLY: STUDY

Source: The New Indian Express, New Delhi, April 17th, 2017

There is presence of highly toxic flame retardants chemicals in children's toys and related products made from recycled plastics generated from e-waste, said a global study.

According to the study, chemical contaminants that can damage the nervous system and reduce intellectual capacity were found in Rubik's Cubes – a puzzle toy usually made of recycled plastic, designed to exercise the mind.

Surprisingly, some of the toxic chemical levels in children's products in this study exceeded proposed hazardous waste limits.

The global survey of products from 26 countries, including India, found that 90 percent of the samples contained toxic substances. Nearly half of them (43 percent) contained hexabromocyclododecane (HBCD), globally banned by the Stockholm Convention.

In the study, six samples from India were analysed and found that four samples has elevated concentrations of toxic chemicals. These chemicals are persistent in the environment and known to harm the reproductive system and disrupt hormone systems, adversely impacting intelligence, attention, learning and memory.

"These toxic chemicals should not be present in children's toys. The problem needs to be addressed immediately," said Satish Sinha, Associate Director of Toxics Link.

Read More: http://www.newindianexpress.com/nation/2017/apr/17/damaging-chemicals-found-in-toys-globally-study-1594614.html

'INDIA SHOULD BAN USE OF MERCURY AT EARLIEST'

Source: Sunday Guardian, New Delhi, April 22nd, 2017

Experts want India to speed up the process of banning mercury in light of the landmark Minamata convention of 2014 for prevention of mercury pollution, while describing the element as "the most lethal chemical known to the human kind in the world today".

The world focused on the evident health hazards and environmental hazards due to exposure to mercury during the Minamata convention, which strongly advocated ending the demand and supply chain of mercury in a phased manner.

In the convention, 149 countries came together to initiate steps to curb mercury pollution. The signatories, including India, decided to phase out this neuro-toxic element, pledging to address both supply and the demand of mercury. On the supply side, all the mines that had been producing mercury or the secondary sources, from where mercury was acquired, have been closed down. By 2025, all the global mines of mercury are expected to be closed down.

On the demand side, all the products or instruments in which mercury is used have to be phased out by stopping their manufacture.

India, though a signatory to the treaty, is yet to ratify it.

"India has signed the treaty but not ratified it yet. The Parliament has to approve it and the process is on. The treaty comes into effect only when at least 50 countries sign it. We are hoping that to happen in the next one month or so," said Satish Sinha, associate director, Toxics Link, an environmental NGO, while talking to this newspaper.

Read More: http://www.sundayguardianlive.com/news/9187-india-should-ban-use-mercury-earliest

GAS LEAK COMES DAYS AFTER UN MEET ON TOXIC CHEMICALS

Source: DNA, New Delhi, May 7th, 2017

The chemical leak from the Tughlaqabad container depot in Delhi on Saturday, that affected over 200 students from Rani Jhansi School for Girls, does not bode well for India's record in handling hazardous substances.

The chemical — Chloromethyl Pyridine — is an organic compound used as a raw material to make pesticides and is hazardous and toxic in nature, experts said.

Ironically, the incident comes just days after India participated in a global meet at Geneva, Switzerland, to discuss and amend international treaties on the safe use and disposal of hazardous and toxic substances.

The meet — United Nations Conference of Parties (CoP) to the Basel, Rotterdam and Stockholm Conventions — concluded on Friday. India was represented by an inter-ministerial delegation, led by the environment ministry. Of the three conventions, the Rotterdam Convention, an international agreement, prescribes obligations on importers and exporters of hazardous chemicals and promote sound use of chemicals.

Read More: http://www.dnaindia.com/india/report-gas-leak-comes-days-after-un-meet-on-toxic-chemicals-2429825

'MAKE NOISE OVER DECIBEL LEVELS'

Source: The Times of India, New Delhi, May 27th, 2017

Experts from NGO, Toxic Link, on Friday held a public hearing on noise pollution. While norms and standards for both silence zone and residential areas have been set, they said that most people were unaware of the decibel standards.

The silence zones permit 50 decibels (dB) during the day and 45 decibels at night. Similarly, in the residential areas 55 decibels are permitted during the day and 45 decibels at night.

"People are unaware that they can complain if the levels are 10 decibels above the permissible limit. Not just implementation, but public awareness is also lacking, which allows violators to get away easily," said Dr K K Agarwal, national president, Indian Medical Association.

Read More: http://timesofindia.indiatimes.com/city/delhi/make-noise-over-decibel-levels/articleshow/58875705.cms

RESOURCES

Toxics Link brought out a poster on the usage of dental amalgam in dentistry. The poster was brought out to make the general population aware of the ill-effects of mercury and inform them about safer alternatives available, like composites and GIC.

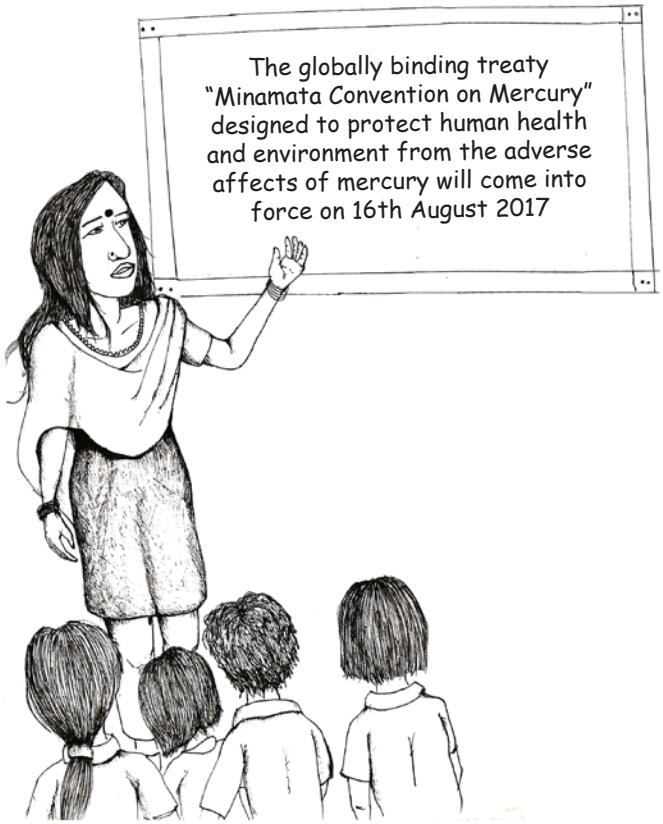
Toxics Link brought out a second poster on mercury in dentistry keeping in mind the vulnerable population as an audience. The poster is meant to create awareness among the vulnerable population (pregnant and lactating mothers and children below 15yrs of age) about the ill effects of mercury.

TEETHER FACTSHEET

Toxics Link conducted and published its research study on presence of Bisphenol A (BPA), an Endocrine Disrupting Chemical found in baby teethers. The results revealed that BPA is present in 12 out of 15 samples collected from Delhi markets. BPA was also found in samples marked as safe and BPA free. BPA exposure can cause breast and prostate cancer, infertlity in males, obesity etc. It was distributed among the concerned stakeholders to spread awareness about its exposure and potential harm it can cause.

MOTHBALL FACTSHEET

Toxics Link published another factsheet called Naphthalene Mothballs: Health Hazard. Direct usage of naphthalene mothballs is harmful in many ways since the likely routes of exposure will include ingestion, inhalation or absorption. Small children are likely to swallow them thinking them as sweet candies. This can lead to immediate death and several other complications. It is persistent in environment. It was distributed among the concerned stakeholders to spread awareness about its exposure and potential harm it can cause.



TRAVELING FILM FESTIVAL- "QUOTES FROM THE EARTH"

Along with the biennial "Quotes from the Earth", Toxics Link also organises travelling film festival at cities, towns and remote locations of our country. The purpose is to provide a platform for local residents/institutes to connect their surrounding issues with that of larger global environmental concerns, to further enhance awareness and strengthen the policy advocacy initiatives at all levels. The travelling film festival is organised with support of local civil society organisations or schools or any other environment based institution. If you are interested in organising "Quotes from the Earth" in your area, please write to us or call us at our office numbers.

PHASING OUT BPA!

It's almost impossible to find a product that does not have synthetic chemical added into it, and one of them is the commonly used baby feeding bottle containing the chemical BPA in it. BPA or Bisphenol-A found in baby feeding bottles play the role of Endocrine Disruptive Chemicals (EDCs) that are capable of harming infants and newborn babies. Many countries have banned it as a precautionary measure. Toxics Link has been campaigning against the chemical and released a lab tested report titled "Bottles can Be Toxic" that received considerable attention from all stakeholders including the media. The report was also discussed during winter session of the Indian Parliament. Currently, we are having dialogues with Bureau of Indian Standards to completely phase out BPA from India. Join us in our campaign against BPA.

TOXICS LINK LIBRARY-A TREASURE HOUSE OF KNOWLEDGE

The library of Toxics Link houses a variety of books, magazines and reports which are well-stocked, classified and indexed, for the benefit of the readers. One can also get the entire collection of around 520 documentary films from around the world on various issues concerning environment. It has over 4900 books and research based reports; and new books, magazines and periodicals are added from time to time. One can also find media coverage on environment that are updated on a regular basis. Besides, the library also has stock of parliament questions that are raised on the research based studies on environment done by Toxics Link. The readers can find all the studies done by Toxics Link on its website.

TOXICS ALERT (E-NEWS)

An environment news bulletin

Visit: http://enews.toxicslink.org/, for our monthly e-newsletter on environment related news, articles, policy interventions, events on toxicity and its management. You can also subscribe to receive its update via e-mail.

Edited by: Prerna Changkakati and Aastha Elawadhi

KEEP YOUR HOSPITALS CLEAN & GREEN WITH TOXICS LINK

The Clean & Green Hospitals (CGH), an initiative of Toxics Link, in association with STENUM Asia Sustainable Development Society, is aimed at supporting and facilitating health care facilities in the country to provide environmentally sustainable healthcare to the masses. It also offers handholding support for hospitals to implement its suggestions which includes capacity building of internal resources. Besides, CGH has an array of training and awareness materials meant at aiding the process of greening the hospital. Please write to us or call us to get detail information about the support that we provide.

Toxics Link
for a toxics-free world

STAY CONNECTED

For more information materials, invitations and updates on environmental issues please write to us at info@toxicslink.org

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