



About

2.01 billion
metric tons
of municipal
solid waste is
produced annually
worldwide

MINIMALIST LIVING

A path to a sustainable world

Do you know how many pairs of trousers or kurtas you own? Ok, maybe you remember the number of pairs of shoes you have amassed over the years? Or number of toys you have bought for your child? Any idea about the number of bedsheets or curtains you have in the house?

The answer to these questions for most of us is a big 'NO'. And honestly, most of us own each of these items more than we need or will ever need. Don't despair- it is not because you are careless about your things or it is a flaw in the way you live. It is because from the moment we are born, we are made to believe by society that our success is proportionate to the things we own. As we grow older, advertisements from every television and radio channel, newspaper, magazine, hoarding and website loudly tell us that we should have more and that is a sign of being 'well off'. So, if you have a wardrobe full of clothes, you are well off; if you have many cars, you are successful; if you have more houses than you can live in, you have arrived in life! And worse, if you don't change your phone or car or clothes often, you are really not living your life.

Do all these 'things' that we own give us 'JOY' or make our lives more 'MEANINGFUL'? Though at a superficial level, we do believe that; we all know deep down that happiness cannot be bought at a store—or this 'possession of things' kind of happiness is really momentary...more is not necessarily better. Many people are now discovering that the dream of ever-increasing affluence, unbridled consumerism is a never-ending grind – and is actually a nightmare from which there seems to be no escape. Minimalist living, many people find, is the solution to the puzzle. And it is not just a solution to finding happiness but also a way to a SUSTAINABLE PLANET.

Minimalism, also known as 'simple living' is a very rarely heard of term in India, but probably known best to us through our ancestors who practiced it. It is about living with less and using what you have to its maximum ability. Minimalism is a lifestyle that rejects excess in favour of simplicity in one's possessions. The idea is to declutter your life (not just physical but also emotional) and better connect with what really matters- your family, friendships, experiences, hobbies and your inner being. Simple enough? Now you must be wondering how it contributes to making the planet more sustainable...

Though we love to call ourselves living in an age of technology, in reality we are living in an age of CONSUMPTION. Approximately 1.7 billion people worldwide now belong to the 'consumer class'—the group of people characterized by diets of highly processed food, desire for bigger houses, more and bigger cars, higher levels of debt, and lifestyles devoted to the accumulation of non-essential goods¹. And most of the environmental issues we see today can be linked to this new lifestyle of consumption or rather overconsumption—especially the concerns of humungous amounts of WASTE. Currently, about 2.01 billion

¹ <https://www.nationalgeographic.com/environment/2004/01/consumerism-earth-suffers/>



1. **LEAD ARTICLE**
RIGHT TO REPAIR: A RECIPE FOR SUSTAINABLE DEVELOPMENT
2. **EDITORIAL**
3. **GUEST ARTICLE**
A GREEN MANIFESTO

4. **FEATURES**
DENTALLY TOXIC SMART WORLD
DICOFOL: A POP UNDER ELIMINATION
CLIMATE CHANGE ACTIVISM:
YOUNGSTERS EDITION
VOICE FROM THE FIELD
IS THERE MORE THAN WHAT MEETS THE EYE?

5. **INTERVIEW**
6. **STUDENTS' CORNER**
BREATHE IN OR NOT?
7. **NEWS**
8. **RESOURCES**

The situation arising out of this pandemic is unprecedented and never before witnessed by humans, the impacts of which are deep-rooted with long-term and far-reaching consequences. It is difficult to hazard a guess on the extent of the damage indicative of both a social and economic fallout with disproportionate impacts, poorer nations and the marginalised population bearing a larger share of the burden. With mandatory lockdowns being imposed around the world not many are complaining over giving up on their personal liberties and freedom to flatten the curve and slowdown the contagion.

The world has certainly changed in multiple ways, it has slowed down in many ways and it does indicate that it may not be same for many years now. Long supply chains, production and consumption systems, globalization, trade travel, leisure

hospitality will hold new meaning for all of us or simply it will be a new global order post-corona. The slowing down of the planet has had a healing effect on the planet which was so badly brutalized. This healing is so well-evidenced by several environmental parameters. The river Ganges that we just couldn't clean up having spent thousands of crores is now clean carrying water that is nearly drinkable, I hear birds chirping early morning and find peacocks walking down metalled roads of my colony and have been breathing clean air for over a month now. Wish we all could do something to preserve this state of environment.

The pandemic has changed life for all of us starting from a new concept of WFH (work from home), taking care of household chores all by ourselves, shopping for survival only and learning new things every day. In many ways we have started to develop a liking for this lifestyle too, in many ways it has transformed

our lives to minimalistic living and made us so comfortable in this lifestyle when we don't have to stress about what should be the dress code for the day, which car, rushing to keep appointments etc. Overall it has reduced the everyday stress from our lives and also taught us that as humans our requirements are so minimal but in many ways we have made our lives so complex and stressful.

We will soon get out of this situation as we find a cure to this pandemic but the larger learning from this will be to recalibrate our lives in many ways, explore the larger benefits for cooperation, interdependence and responsible behavior that is inclusive in spirit.

Hope you enjoy this edition of Dispatch and please send us your feedback.

Satish Sinha

Associate Director, Toxics Link

metric tons of municipal solid waste is produced annually worldwide. The World Bank estimates that the overall waste generation will increase to 3.40 billion metric tons by 2050- an increase by 70%, if current conditions persist.

Minimalism can change this as a minimalist lifestyle means that you will buy less, use less and therefore discard less! Minimalists aim to live more through their experiences rather than their 'material possessions'...it is about cutting yourself away from the materialistic, consumerist mindset and value people and experiences more than things. It is in a way moving towards ZERO WASTE, which is based on minimal waste production and the maximization of our resources. The final goal in zero waste is to achieve a closed cycle where we will stop exploiting nature for resources and use what we have and Minimalism is a way to get there. For many, Minimalism and Zero waste may seem different ...but if you look closely, they go hand-in-hand and have the same principle. Both minimalist and zero waste lifestyles are about reduction in consumption, using what you have, and living a simpler life.

Refuse – As mentioned above, we live in a system that prods us to buy and amass things. We believe that 'things' are what give us joy and we fill everything with 'things'- Items that we don't need or which don't give us joy and hence those end up in a landfill easily. Most times, we end up buying without thinking.

Putting a stop to impulse shopping or refusing is the first step of Minimalism and of reducing your impact on the environment. And it is not just limited to the product you bought. For example, just think of the amount of packaging that comes with everything you buy- not just the plastic packing, but labels, tags- even though they may seem small, they form a significant chunk of our garbage.

Reduce- A Minimalist lifestyle means that you buy less things- at times prompting you to buy higher quality items so they last longer and you can own less. Choosing quality over quantity helps the environment in multiple ways. How long does the cheap toy you bought on the traffic signal last? Did it not seem like designed to fall apart quickly or designed for dump? We have more things than ever and keep them for shorter periods than at any time in history. So, when we buy quality stuff, it lasts longer and reduces the amount of waste.

Reuse, Repair - One of the most sustainable things you can do is to use what you already have. Clothes, electronics have become so cheap that very few people bother repairing them. Before you make a purchase, look around your house and see if there is another item you can use instead. Repair or reuse what you have. By doing this, you are not contributing to the waste stream or using excess resources, because you are using/consuming something that is already in existence. This is in line with

minimalist living, because you are not bringing in more clutter.

As you discover Minimalistic living, you will see it will take you closer to a sustainable lifestyle and will help you reduce your carbon footprint. By using less, you decrease the demand for materials that would typically end up in a landfill after use, and reduce the carbon emissions that would be used to produce those materials. Naomi Klein, a Canadian author, social activist, and filmmaker known for criticism of corporate globalization and of capitalism, states in her book, 'This Changes Everything', "the truth is that if we want to live within ecological limits, we would need to return to a lifestyle similar to the one we had in the 1970's, before consumption levels went crazy in the 1980's." And for us in India, it is not really so difficult; we just need to look closely at the lifestyle of our parents or grandparents.

Minimalism is a great way to help the environment — and yourself. If you feel drawn to this, then go and read Marie Kondo's book "The Life Changing Magic of Tidying Up" and her KonMari method — a method of decluttering and organising the home. Since then, many have sworn to the Kondo's method of holding only onto things that "spark joy." Believe me; you will be taking your first step towards a SUSTAINABLE LIFE.

Priti Mahesh

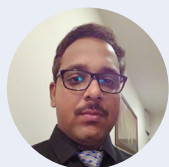
priti@toxicslink.org

GUEST ARTICLE

SHORT DOCUMENTARY FILMS

AN IDEA TO CONNECT COMMUNITIES AND INDIVIDUALS TO FIGHT FOR CLIMATE JUSTICE

By Makarand Purohit | Documentary Filmmaker



A good visual has the capacity to tell a story in a couple of minutes and a short documentary film has the potential to

present the perspective that connects communities and individuals to the social and environmental issues in a short duration that concerns our environment and our existence.

Over the last few years, environmental documentary filmmakers have been raising critical concerns over environmental issues that are ruining the planet and choking the life out of land, air and sea.

Climate change and environment protection is still an extremely abstract concept for a country like India. It is difficult to completely understand its complexity in detail, and many people find it hard to differentiate and realize that global warming is a natural process which has however been dramatically hastened by the influences of human beings. Short documentaries are an effective medium that could be used as educational tools to raise awareness among masses to protect our planet from further degradation by presenting different perspectives on climate and our environment.

As a filmmaker, during my tenure with India Water Portal, a web portal dedicated to water and environment in India, I observed that visual stories have a strong impact on communities, trainers and professionals and they have the power to bridge the communication

gap between researchers, planners and the citizens. I've used several of my short films in training and capacity building of professionals, researchers and field workers and I found it extremely effective as a communication tool. I also found that when the common man sees himself on the silver screen he gets inspired and then sets out to inspire others to do good work.

Short documentary films have the potential to explore and tell many untold stories of unsung heroes in the community and about their struggles for environmental justice. It is only due to these struggles that a filmmaker is spurred by ideas to do something about issues that concerns the larger masses.

For example, **Laxmi Chauhan**, a senior lawyer and an environmental activist in Korba is one of the unsung heroes who has inspired me to make my film **"Ashes of Power Land--A story of the impact of fly ash in Korba"**. The film not only provides an overview of the violation of environmental laws by the power plants and the impact of fly ash on the community living around them but also has inspired many others to fight for environmental justice in Korba.

While filming documentary in 2018, I found that the health of the children of Korba was severely affected due to the fly ash content in the environment. They suffer from skin irritation and respiratory problems. Even after repeated complaints from the residents about the proper disposal of the fly ash, the state government seemed to ignore these health and environmental problems

for more than three decades. Instead, they continue to open new avenues for public sector companies by expanding coal mines in the area. These new projects will further displace people from other villages and will also affect the environment by polluting the air and water in the area.

IMPACT OF DOCUMENTARY FILMS

After screening of the film "Ashes of the Powerland" in Toxics Link's biennial film festival **'Quotes From The Earth'** held in Delhi in December 2018, some active members of environmental voluntary groups in Chhattisgarh went on to contact the Chhattisgarh government senior officials and requested them to follow the environmental guidelines religiously to solve the current environmental issues in Korba.

The lawyers' association in Chhattisgarh has also filed several cases against the senior authorities related to environment negligence in the National Green Tribunal.

THE WAY AHEAD

Short documentaries could trigger a social movement and could be used as powerful content for environmental education. More and more filmmakers should make environmental films to support the ground movements to fight the legal battle. As documentary films gain popularity, the key messages will reach the wider audience and help in strengthening of the democratic system.

VOICE
FROM THE
FIELD

Through the eyes of our researchers and field workers, Toxics Link's 'Voice from the Field' presents on-the-ground perspectives and first-hand insights of our work for environmental justice and freedom from toxics.

GHAZIPUR LANDFILL:
INDIA'S TALLEST
GARBAGE MOUNTAIN

By Vinod Kumar

Toxics Link recently released a study on single-use plastics and during the

INTERVIEW

course of its survey it discovered some shocking revelations regarding the Ghazipur landfill in East Delhi whose height is about 65 metres merely 8 metres shorter than the historical Qutub Minar.

After being in operation since 1984 the landfill reached its saturation period in 2002 when it should have ideally halted operations. However, despite that truckloads of Delhi's detritus continued to be dumped in Ghazipur with no end in sight. The illegal dumping going on in the landfill only came under scrutiny a few years back when 50 tonnes of waste hurtled down India's tallest mountain of waste resulting in the death of two people and injuring several others. It was only after the accident that garbage dumping was banned in Ghazipur, something which should have been done long back. In 2019 the Prime Minister's office intervened in the matter and sought help from experts to tackle the challenge and remediate the dumpyard. A parliamentary committee has also recommended converting the landfill into a park.

While it's a business-as-usual scenario in The Bhalaswa and Okhla landfills in the city, closure of the Ghazipur landfill has impacted the livelihood of the plastic waste segregators in the vicinity. Officials keep constant vigil on the site thus barring their entry there. Still undeterred these waste pickers venture into the landfill at night, where they get often assaulted by animals or face risk of injury from sharp objects lying in the mound of trash. Furthermore, to make matters worse if they get caught by officials they are subject to hefty fines and challans.

About around three million people live within 10 km radius of Ghazipur and its nearest residential settlement is just 200 metres away. The residents continue to suffer and say that the garbage mountain is spreading disease and makes breathing virtually impossible. Fires, sparked by methane gas from the dump release poisonous gases to the atmosphere thus endangering the health of the residents and environment.

INTERVIEW WITH DR. RAJENDRA SINGH

Dr. Rajendra Singh, better known as The Waterman of India (Jalpurush) and a recipient of The Ramon Magsaysay Award and Stockholm Water Prize, has transformed drought-prone Rajasthan by rejuvenating the rivers of the state. Believing in a community-driven water management system, he has helped villagers to take the charge of water management in their areas through various techniques. From quitting a government job to being a water activist, he has travelled a long way. Toxics Link's Ruby Rani interviewed him while he was in Delhi recently during the 'Ma Ganga Sammelan'. Following are few excerpts from his interview:

Q: HOW DID YOU SHIFT FROM TREATING PEOPLE'S HEALTH TO ADDRESSING THE WATER PROBLEM OF THE NATION?

A: While coming from Ayurveda, I was initially treating people for their illness, providing medical care. But the people told me that their real problem lies in water scarcity. They were clueless in finding solutions for this. They requested me to help them to solve the water scarcity issue. It was difficult for me as I wasn't an expert in that domain. But I realized that it was more important and I started reading and doing work for water conservation.

Q: WHAT IS THE FUTURE OF WATER IN INDIA?

A: At present, the future of water in India is really in an emergency state (the water emergency). The government is looking at the water issue as urgency not as emergency. The government will have to understand the reality of water scarcity and consider it as an emergency. When I ask the government when will it take the issue of water scarcity as an emergency, they remain silent. If the country is really interested in facing the water-related challenges, they can start the community-driven decentralized water management system. It is the

only solution which can make water available for this country. Otherwise, we can't do anything. We don't need commercialization or marketization but our government is interested in the same. They are creating challenges for future.

Q: HOW DO YOU SEE THE CHALLENGES INDIA IS FACING ON WATER SCARCITY AND HOW CAN WE RESOLVE IT?

The challenges ahead are- the wells are getting dried, canals are without water. At one end, we are wasting water (not spending judiciously) recklessly and at the other end, we are facing water crisis. Both are interconnected. We can't solve the water scarcity problem until we use water judiciously. The struggle lies between the two. If the government doesn't take note of it, the future of water is gripped in darkness. Around 365 districts are suffering from water scarcity. The level of water in wells is going down. The farmers are facing dearth of water for irrigation. Community driven decentralized water management is the only solution to cope with this challenge.

Q: WHAT IS THE BIGGEST ACHIEVEMENT TARUN BHARAT SANGH HAS ACHIEVED?

A: Tarun Bharat Sangh has been working for over 1200 villages. We are working towards making a change via addressing various issues related to water. We have recharged around 2500 wells which has positively impacted the lives of lakhs of residents. Around 17 lakh people have returned to their lands for cultivation after their villages were destroyed. Rajasthan which is a place that witnesses minimum rainfall, has now addressed its water scarcity problem. If Rajasthan can do it, why not other states.

WHAT WE INHALE

INDOOR AIR POLLUTION – A SLOW POISON

Air Pollution has become the new “talk of town”, with WHO estimating 4.2 million premature deaths annually, linked to ambient air quality. Though air pollution is causing concerns through the country, in the northern plains of India, through the months between October to January, the AQI monitors blare red and the general public can be seen scouting for pollution masks and air purifiers. Since the particulate matter in the air is soaring at an all-time high, people are advised to stay indoors and avoid heavy physical activities. People feel safe inside their walled environment, not knowing that contained spaces can have build-up of more pollutants, compared to open areas. Out of the 4.2 million deaths globally, 3.8 million deaths are associated with household air pollution¹.

WHO has identified more than 60 sources of household air pollution that are associated with grave effects on our health, with particulate matter (PM), ozone (O₃), nitrogen dioxide (NO₂) and sulphur dioxide (SO₂) having strongest evidence for public health concerns. Indoor PM can be generated through cooking, combustion activities (including burning of candles, use of fireplaces, use of unvented space heaters or kerosene heaters, cigarette smoking)², chemicals, paint and even pets! These indoor pollutants are known allergens, carcinogens, neurotoxins, immunotoxins or irritants, and may contribute to sick building syndrome (SBS)³. The sick building syndrome comprises of various non-specific symptoms that occur in the occupants of a building.

A UNEP report on air pollution states that in India the contribution of indoor air pollution to ambient air pollution varies between 22 and 52 per cent. The contribution of cook stoves to air pollution is significant. Among 70% of the country's rural population, about 80% households rely on biomass fuel (fire wood, cow dung cake)⁴. Cooking stoves, specially using wood fire (chulha) for cooking, lead to production of NO_x and CO_x.

Another major cause for indoor air pollution are Volatile Organic Compounds (VOCs), which find their way into our homes through commonly used

household products⁵. Many insecticides and pesticides used in our homes, mosquito repellent being a prominent example, produce VOCs, whose exposure has been linked to Parkinson's disease (PD)⁶.

Phthalates, which have been identified as an allergen, are a common contaminant in the indoor environment, occurring both in house dust and in indoor air. Formaldehyde, another chemical used widely by the industry to manufacture building materials and numerous household products like laundry and dish detergent, synthetic building material, and hair straightening treatment, can cause irritation of the skin, eyes, nose and throat and can be carcinogenic as well.⁷

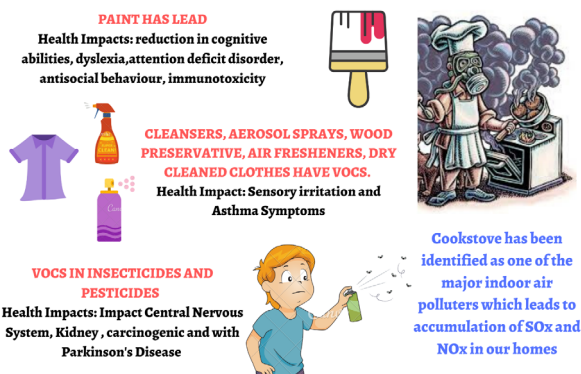
A surprising inclusion are incense products, commonly used in Indian households for religious reasons, which is also considered as a potential source of indoor air pollution⁸.

In order to reduce indoor air pollution the Government of India has introduced several cook stove programmes to encourage people to switch to cleaner cook fuel alternatives⁹. Reducing emissions from household cooking and heating would substantially improve the air quality levels, especially in Asia¹⁰. Regulation on Lead in Paints in India, where the concentration of lead in paints is to be less than 90 ppm, is also a step towards cleaner air. But the focus of regulation and policy for combating indoor air pollution have, till now, been majorly on cook stoves. However there is a dire need to fill the lacuna in research on human health effects of VOCs, Formaldehyde, Organophosphate pesticides, DDT and phthalates and other allergens commonly used in households.

While the government works on its policies and regulations to improve ambient air quality, there are certain steps that we can take to reduce air pollutants in our homes.

- Instead of mosquito repellent, diluted neem oil or lemon eucalyptus oil can be used.
- As an alternative of incense sticks and air fresheners, one can use diffusers

Are we safe inside our homes?



with essential oils which have health benefits as well.

- Our kitchens need to be well-ventilated and chimneys need to be cleaned regularly.
- We have to be careful when we choose paint for our homes (LEAD-FREE) and not stay indoors 48 hours after its application.
- One should avoid using pesticides and insecticides indoors, but in case of usage, people should not remain indoors after few hours of application and the house should be ventilated before reoccupying the space.
- Use of Indoor plants can also significantly affect the air quality in the house.

Kopal Dixit
kopal@toxicslink.org

REFERENCES

- 1 <https://www.who.int/airpollution/household/en/>
- 2 <https://www.epa.gov/indoor-air-quality-iaq/indoor-particulate-matter>
- 3 <https://copublications.greenfacts.org/en/indoor-air-pollution/-3/6-harmful-chemicals.htm>
- 4 <http://www.businessworld.in/article/1-3-Million-Deaths-Every-Year-In-India-Due-To-Indoor-Air-Pollution/09-09-2017-125739/>
- 5 <https://www.epa.gov/indoor-air-quality-iaq/volatile-organic-compounds-impact-indoor-air-quality>
- 6 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3807617/>
- 7 <https://www.epa.gov/indoor-air-quality-iaq/formaldehydes-impact-indoor-air-quality>
- 8 Rana, S. (2018). Incense Sticks : A Potential Source of Indoor Air Pollution. 9(1), 1–6.
- 9 United Nations Environment Programme (UNEP). (2019). Summary: Air Pollution in Asia and the Pacific: Science-based Solutions identifies. In United Nations Environment Programme (UNEP).
- 10 United Nations Environment Programme (UNEP). (2019). Summary: Air Pollution in Asia and the Pacific: Science-based Solutions identifies. In United Nations Environment Programme (UNEP).

METHOXYCHLOR

A POTENTIAL POP

Methoxychlor ($C_{16}H_{15}Cl_3O_2$) is an organochlorine insecticide. Its common name is 1, 1, 1-trichloro-2, 2-bis (4methoxyphenyl) ethane.¹¹ Methoxychlor was introduced as a replacement for DDT. It is also known as methoxy-DDT or DMDT.

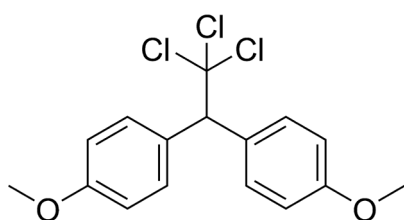


Figure 5. 1,1,1-trichloro-2,2-bis (p-methoxyphenyl) ethane

APPLICATIONS

Methoxychlor has commonly been used in both agricultural and veterinary practices, for treating field crops, vegetables, fruits, stored grains, livestock, pets, homes, gardens, lakes, and marshes.¹²

PROBABLE ROUTES OF HUMAN EXPOSURE

Human exposure to methoxychlor occurs via air, soil, and water.¹³ Occupational exposure to methoxychlor may occur during its manufacture or use as a pesticide.

The USEPA has indicated that levels above the maximum contaminant level of 40 ppb causes central nervous depression, diarrhea, and damage to liver, kidney, & heart, and - by chronic exposure - growth retardation.¹⁴

METHOXYCHLOR AS A CANDIDATE POP: STOCKHOLM CONVENTION

The half-life year of methoxychlor in rivers is estimated to be 1 year while in distilled water it is 37-46 days.¹⁵ Methoxychlor meets the criteria for bioaccumulation as its BCF>5000 and KOW>5, and its potential for long-range environmental transport, and persistence

in water, soil and sediments.ⁱ

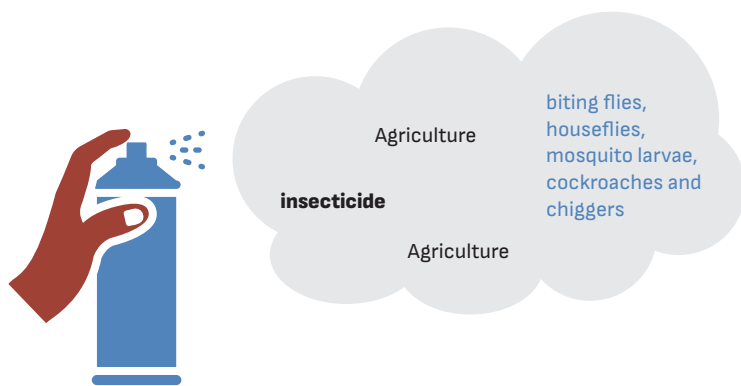
Because of this on 20th March, 2019, the European Union proposed to list methoxychlor in Annex A to the Stockholm Convention on Persistent Organic Pollutants. The Committee will evaluate a draft risk profile to determine whether methoxychlor meets the specific thresholds necessary for categorization as a POP.

Country	Regulation	Year of notification
EU ¹⁶	0.01 ppm maximum residue levels	2008
FDA EPA ¹⁷	100ppm MRL in various agricultural products 0.04ppm MRL in drinking water	2002
Australia ¹⁸	ADI is 0.1 mg/kg bw/d	

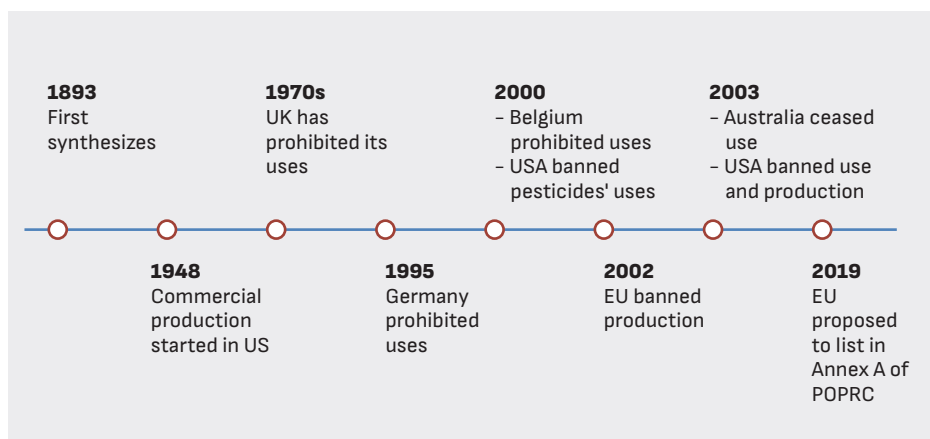
INTERNATIONAL ADMINISTRATIVE ACTIONS

The use of methoxychlor as a pesticide is banned in the United States since 2003¹⁹ and in the European Union from 2002.²⁰

Alka Dubey
alka@toxicslink.org



GLOBAL SCENARIO



REFERENCES

- <https://pubchem.ncbi.nlm.nih.gov/compound/Methoxychlor>
- METHOXYCHLOR/UNEP-POPS-PUB-Factsheets-Methoxychlor-20190715. English%20(1).pdf
- ATSDR (September 2002). "Public Health Statement about Methoxychlor" (PDF)., accessed 08-22-2008
- United States Environmental Protection Agency (2006-11-26). "Consumer Factsheet on: METHOXYCHLOR".
- <http://extoxnet.orst.edu/pips/methoxyc.htm>
- <https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:32008R0149>
- <https://www.atsdr.cdc.gov/phs/phs.asp?id=776&tid=151>
- <https://apvma.gov.au/sites/default/files/publication/26796-adi.pdf>
- U.S. Environmental Protection Agency (June 30, 2004). "Methoxychlor Reregistration Eligibility Decision (RED) EPA Publication No. EPA 738-R-04-010". Retrieved 2009-10-02.
- European Union - DG SANCO. "EU Pesticides Database". Retrieved 2009-10-02.

FROTH AND FIRE

AN URBAN MISMANAGEMENT

An important aspect of major human settlements has been that they were always near water sources. This highlights our dependence on water for carrying out our various day-to-day activities and ultimately as a key to our survival.

In this aspect, Bangalore is a special case as it is a landlocked city with no proximity to any water body. Back in the mid-sixteenth century, Bangalore found a solution to this problem by developing a system of interconnected tanks or lakes. These water reservoirs were dependent on harvested rainwater for their water content. This turned out to be a very sustainable solution for providing water for various domestic requirements and livelihood options such as agriculture and fishing, and also a good way of utilising the otherwise to be run-off water. As these man-made lakes were dependent on the community for its upkeep and maintenance, it also helped strengthen a sense of community and belongingness among the residents.. Today, Bangalore is widely acknowledged as the Silicon Valley of India. To accommodate this title, the city underwent rapid and unplanned urbanization. This has led to a loss of wetlands (lakes) and green spaces in the city (79% and 78% respectively) which has also been accompanied by a decline in ground-water levels. The city is also a victim of the heat wave island syndrome due to the anthropogenic interventions such as concretisation of most of its structures and high energy consumption.¹

But starting in 2015 and multiple times later, the phenomenon of frothing was observed from the remaining lakes. The lakes also caught fire. These lakes have been subjected to sewage discharge, industrial effluents and encroachments. The assimilative capacity of the lakes was crossed as the inflow of pollutants had been constant. The lakes were enriched with nutrients [nitrogen (N), phosphorous (P) and carbon (C)] from the untreated sewage. The nitrogen led to macrophytic growth and eutrophication



Figure 1: Frothing and fire in Bellandur Lake, Bangalore (Source: The News Minute and DTE)

while the rest of the nutrients were deposited in the sediments.

High winds with large quantity of rain helped churn the lake sediments. Phosphorous in the sediments was the main cause for the formation of froth. The source of phosphorous in the lakes was from domestic sewage which was mostly contributed from the usage of detergents and soaps.² Phosphorous is added to detergents to enhance its effectiveness by reducing water hardness. In the west, phosphorous content in detergents is regulated and mandated to be free from it but in India, detergents are not phosphate-free due to lack of mandatory legislations.³ The fire was caused due to accident such as throwing a lit cigarette, etc.⁴ Due to its overflowing nature, the foam caused public nuisance and fatalities.⁵

There have been lots of remedial measures that have been suggested which can be taken up and implemented to recover and restore the system. These measures include: not letting untreated sewage flow directly into the lake which can be accomplished by decentralised sewage treatment; banning of industrial

effluent discharge by enforcing 'Polluter pays principle'; removal and ensuring that no further encroachments take place; regular cleaning of the lake surface; and banning, regulating phosphorous content in detergents available in the market.⁶

The incident may have taken place in a particular city but that doesn't imply that the above-mentioned conditions do not exist elsewhere and cannot be repeated again. This is a wakeup call and should be taken as a lesson of how when a resource is over-exploited and unkempt, it can lead to the breakdown of an ecosystem.

Sherry Pande
sherry@toxicslink.org

1 Mundoli, S., Nagendra, H., & Premji, A. (2018). *Lakes of Bengaluru: The Once Living, But Now Endangered Peri-Urban Commons*. (10).

2 <https://www.downtoearth.org.in/news/water/bengaluru-lakes-are-frothing-and-a-household-item-may-be-the-cause-58492>

3 Status, A., Wetlands, O. F., & Inefficient, O. F. (2015). *P ATHETIC STATUS OF WETLANDS IN B ANGALORE : E PITOME ENVIS Technical Report 93 Centre for Ecological Sciences , Indian Institute of Science ,. (June).*

4 Status, A., Wetlands, O. F., & Inefficient, O. F. (2015). *P ATHETIC STATUS OF WETLANDS IN B ANGALORE : E PITOME ENVIS Technical Report 93 Centre for Ecological Sciences , Indian Institute of Science ,. (June).*

5 <http://bengaluru.citizenmatters.in/foam-in-varthur-lake-bellandur-lake-causes-effect-problems-solution-7322>

6 <https://www.nationalgeographic.com/news/2018/02/bangalore-india-lake-bellandur-catches-fire-pollution/>

WHERE ARE WE HEADING?

Arjun Yadav | Student at Delhi School of Social Work, University of Delhi



“There ain’t any such thing like free lunches available in this market”.

This famous phrase elucidates that things appearing free always have a cost attached to them and describes the cost of decision and consumption. Today there’s a critical need to understand that, in the above context, our ecosystem which comprises of all living and non-living things including the natural resources aren’t free in any sense, rather their use bears a huge cost in multi-dimensions. Since forager’s period of around thousands of years ago, when homo sapiens left other creatures behind the race to create hegemony over the terrestrial portion of the earth, we saw depletion of natural resources and wildlife at an unprecedented rate. After agricultural revolution at around 10,000 B.C., the rate at which extinction of wildlife took place is a bit of a concern. But all these attributes are then justified

over the notion of ‘survival of the fittest’ theory. With the industrial revolution, we were capable of exploiting those hitherto untapped resources too which were earlier quite impossible to breach like ground water, soil, air and oceanic bodies. From barter system to coinage and thus digital currency, we are able to create that imagined reality as per Yuval Noah Harari that even ignored the very balanced chain of survival and headed towards so called self-destruction. Acute poverty, exponential increase in health-related issues, violence and similar other phenomena are some of the indicators of our actions which are going good for none at all. Rampant unplanned production and thus consumption in the environmental context is leading us to the issues of climate change like green house gases, untimely rainfall, increased cyclonic activities, extinction of wildlife, increase in invasive species and so on and so forth. The population explosion of human beings is resulting in the depletion of our natural resources, alarming the situation for our future.

Let’s take the example of waste management in India. Waste generation is but a natural process of our day-to-day activities but its management is a bit of concern. Its unplanned and imbalanced disposition leads to severe impacts over our ecosystem.

“There are enough resources for everyone’s need but not for anybody’s greed”. This quote by none other than Mahatma Gandhi emphasizes upon the fact that our actions should be as per our actual basic needs and not the ones created by avarice and imagined reality.

Nature doesn’t understand our imagined myths, beliefs, norms and values. It only understands the basic life cycle which involves a balanced role for every creature on mother Earth. This is the time we all must understand this perspective of Nature and should act accordingly in terms of our production and consumption. All this damage and destruction which we have caused to our ecosystem is almost irreversible. Therefore it’s high time to think rationally and adopt a sustainable lifestyle lest it gets too late.

WORKSHOP AND EVENTS

1) ROUND-TABLE MEETING ON THE STATUS OF BIO-MEDICAL WASTE IN DELHI

Toxics Link organized a round-table meeting on 17th December, 2019 to evaluate the status of implementation of Bio-Medical Waste Rules, 2016 in Delhi and discuss the way forward with the stakeholders present for the meeting. The roundtable was attended by various stakeholders from the government, healthcare facilities, policy groups, associations and bio medical waste management companies. The findings of Toxics Link’s report ‘Spreading infections?’ were also presented in the meeting.

2) WORKSHOP ON MERCURY-FREE DENTISTRY

Toxics Link, in association with Indian Dental Association- Gujarat, organized a workshop on ‘Mercury-Free Dentistry’ to discuss the ways to eliminate silver amalgam and the barriers the dentists face in practicing Mercury free dentistry on 22nd December, 2019 in Ahmedabad. It was attended by different stakeholders from medical institutions, consumer education and research centre, dental clinics.

The workshop witnessed wide discussions on consumer safety, alternatives of amalgam fillings, health risk of women who are the most vulnerable, loopholes in the curriculum and many more.

3) STAKEHOLDERS CONSULTATION MEETING TO PHASE OUT NONYLPHENOL

Toxics Link organized a stakeholders’ consultation meeting to phase out Nonylphenol on 21st December, 2019 in Ahmedabad. The meeting discussed the issues and concerns of the presence of Nonylphenol in detergents which was found in a study, titled Dirty Trail: Detergent to Water Bodies by Toxics Link.

4) AN ENVIRONMENTAL FILM FESTIVAL IN RANCHI

In order to create environmental awareness among the masses, Toxics Link organized a film festival on 5th December, 2019 in Ranchi, Jharkhand. More than ten environmental films were screened for the audience comprising school and college students, environmentalists representatives of different social organizations and other people. Mr. Nitish Priyadarshi, a noted environmentalist, was the chief guest of the event.

PUBLICATIONS



DIRTY TRAIL: DETERGENT TO WATER BODIES

Dirty Trail: Detergent to Water Bodies, a study by Toxics Link and Department of Chemical Engineering, IIT, Guwahati, reveals the wide presence of Nonylphenol in detergent and river water. The detergent samples were taken from the local market of Delhi and the water samples were collected from rivers and lakes across the country. Nonylphenol has various environmental and health impacts.



LEAD IN PAINTS IN INDIA

Toxics Link released a report titled 'Lead in Paint in India' to get an overview of the present compliance status of lead-safe paints available in India, in the context of lead in paints regulations. The compliance of lead in paints regulations is critical considering children's health and the environment. The report was released marking the occasion of International Lead Poisoning Prevention Week of Action.



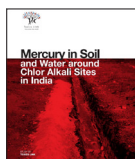
STATUS OF DICOFO L

DicofoL, which has the characteristics of Persistent Organic Pollutants (POPs), is widely used on variety of crops like cotton, apples, citrus fruits, vegetables. Toxics Link carried out a study titled 'Status of DicofoL' to understand farmers' perspective towards DicofoL.



SPREADING INFECTIONS?

A report titled 'Spreading Infections?' was released by Toxics Link to evaluate the current status of Bio-medical Waste Management (BMWM) in Delhi. Covering 38 bedded healthcare facilities (25 private and 13 government) in all the 11 districts of Delhi, the study finds the healthcare facilities are flouting the bio-medical waste management rules and spreading infections in Delhi.



MERCURY IN SOIL AND WATER AROUND CHLOR ALKALI SITES IN INDIA

'Mercury in Soil and Water around Chlor Alkali Sites in India' is a study by Toxics Link which assesses the levels of Mercury and methyl Mercury in water, soil and sediments in the industrial sites. It also aims to bring policy attention for regulation of Mercury contaminated sites as per the provisions of the Minamata Convention.



INFORMAL E-WASTE RECYCLING IN DELHI

A study by Toxics Link, Informal E-waste Recycling in Delhi, finds crude processing of e-waste in 15 informal hotspots of Delhi, functioning without any health or environmental safeguards. This is after seven years of first e-waste management rules (2011) and two years of e-waste management rules, 2016.

1) CONVERTING WASTE TO ENERGY IS GREAT, BUT ALSO DISASTROUS IF DONE AS HERE IN DELHI

Source: *The Print*, New Delhi; September 1, 2019

In Tajpur Pahadi, located in the nether regions of Delhi's Badarpur area, lies a large pit half-filled with grey ash. It stands 28 acres in area and at least 15 meters deep, and if you look over the edge of the cliff-like drop, pigs and dogs can be seen inside the pit, scavenging for unburnt garbage to eat. On its surface, at ground level, children play cricket and a dilapidated makeshift house of plastic shelters a family of metal pickers.

Unlike Delhi's three towering landfills – in Okhla, Bhalaswa and Ghazipur – the pit at Tajpur Pahadi is used specifically to hold the ashes of burnt trash from a nearby waste-to-energy (WTE)

incinerator that is owned by Jindal Urban Infrastructure Limited. Waste is dumped into it without regulation from the Municipal Corporation of Delhi (MCD), which is in charge of the city's waste management.

<https://theprint.in/india/converting-waste-to-energy-is-great-but-it-can-have-disastrous-consequences/284310/>

2) ENVIRONMENT PLAN: RAILWAYS TO GO GREEN, ADOPT CLEAN ENERGY

Source: *The New Indian Express*, New Delhi; September 2, 2019

The Indian Railways has chalked out a slew of measures through an Environment Sustainability Plan for the next 10 years. According to the plan, the national transporter will promote the use of energy conservation methods and maximise the use of alternative forms of clean energy to reduce its carbon footprint.

"The railways is a large network and to keep it operational requires a lot of fuel which in turn leads to a lot of emissions. The first step is to blend diesel with biodiesel. This significantly reduces our carbon footprint," a railway ministry official said.

<https://www.newindianexpress.com/nation/2019/sep/02/environment-plan-railways-to-go-green-adopt-clean-energy-2027693.html>

3) UGC ASKS VARSITIES TO BAN SINGLE-USE PLASTIC

Source: *India Today*, New Delhi; September 3, 2019

The University Grants Commission (UGC) has issued guidelines to higher education institutions across the country to impose a ban on single-use plastic. The move comes ahead of Prime Minister Narendra Modi launching a mass

revolution against single-use plastic from October 2, which will mark the 150th birth anniversary of Mahatma Gandhi.

It also mandates that every higher education institution in the country should ban single-use plastics in canteens, hostels and shopping complexes in the institution's premises.

<https://www.indiatoday.in/education-today/news/story/ugc-asks-varsities-to-ban-single-use-plastic-1595001-2019-09-03>

4) ODISHA: WASTE MANAGEMENT, RS 10 PER HOME IN GANJAM DISTRICT

Source: *The Indian Express*, Bhubaneswar; September 9, 2019

Odisha's Ganjam district is witnessing a pioneering effort to implement solid waste management in rural areas. The move comes in the wake of a National Green Tribunal order, asking Solid Waste Management Rules (2016) being employed beyond the urban areas. As such, in the first phase, the sanitation regulations will be enforced in 10 Gram Panchayats of Ganjam by September 30, while the whole district will be covered by March 31, 2020. The GPs included in the initial phase are Chamakhandi in Chhatrapur block, Malada in Ganjam, Nandika in Hinjili, Langaleswar, Pathara, Kanheipur, Keshpur, Srikrushnasaranpur, Kairasi and Bikrapur in Khallikote block.

Each GP will prepare an action plan for the management of solid waste after evaluating local practices. A levy will be imposed to collect revenue to implement the entire programme. While Rs 10 per month will be collected from each rural household for garbage disposal, hotels, lodgings, banks, police stations, government and private offices, hospitals and educational institutions will be charged with Rs 500. A sum between Rs 100 to Rs 500 will be collected from business establishments. Residential schools and colleges, village haats, bus stands, railway stations and meeting venues will be charged with Rs 2,000 per month.

<https://indianexpress.com/article/india/odisha-waste-management-rs-10-per-home-5978257/>

5) FARIDABAD TO GET 30-ACRE LANDFILL

Source: *Hindustan Times*, Gurugram; September 17, 2019

Haryana government has instructed the Municipal Corporation of Faridabad (MCF) to allot 30 acres of land near Pali village for establishing an alternative dumping site to Gurugram's Bandhwari landfill.

According to an internal correspondence accessed by HT, the new dumping site has been proposed as a "temporary land usage until the land is reclaimed at the present site (Bandhwari)".

The development follows strict orders passed by the National Green Tribunal (NGT) in July this year, instructing the state government to treat and remove 25 lakh tonnes of legacy waste accumulated over the last decade at Bandhwari landfill within six months. On September 14, a meeting to discuss the same was held among MCG and MCF officials, and Anand Mohan Sharan, principal secretary, Urban Local Bodies (ULBs).

<https://www.hindustantimes.com/gurugram/faridabad-to-get-30-acre-landfill/story-pPBdXxUuAdwnA7kLdiv7ZN.html>

6) MUMBAI METRO COMMUTERS CAN NOW BUY CARRY BAGS MADE BY TIHAR INMATES FROM PET BOTTLES

Source: *The Hindu*, Mumbai; September 23, 2019

Carry bags made by inmates of Tihar jail are now available at select stations of Mumbai Metro 1, connecting Versova to Ghatkopar. Part of a bid to promote the government's Swachh Bharat Mission, the city's only operational Metro line has opened kiosks selling bags made from recycled polyethylene terephthalate (PET) bottles.

The Mumbai Metro One Pvt. Ltd. (MMOPL) has tied up with Bag Forever, a green start-up, to sell bags at Andheri, Ghatkopar, and Marol Naka stations.

<https://www.thehindu.com/news/cities/mumbai/metro-commuters-can-now-buy-carry-bags-made-by-tihar-inmates-from-pet-bottles/article29485034.ece>

7) NEW GUIDELINES TO PUT RECYCLING ONUS ON PLASTIC MANUFACTURERS

Source: *Hindustan Times*, New Delhi; October 7, 2019

The Union government is working on new guidelines for extended producer responsibility (EPR), a globally standardised plastic pollution policy under which the manufacturer is responsible for recycling or disposing of plastics, officials and industry representatives told HT.

Prime Minister Narendra Modi has called for freeing the country of single-use plastic items by 2022.

To this end, the government is pushing manufacturers to put in place evidence-based mechanisms so that authorities can track what recycling firms undertake as EPR obligations, one of the officials cited above said.

<https://www.hindustantimes.com/india-news/new-guidelines-to-put-recycling-onus-on-plastic-manufacturers/story-kQ4n9pOTq6x6o5sAa24y5K.html>

8) COCA-COLA YET AGAIN TOP GLOBAL PLASTIC POLLUTER

Source: *Down To Earth*; October 23, 2019

The Coca-Cola Co has emerged as the No.1 global plastic polluter for the second consecutive year, according to a report on the top 10 plastic polluting companies in the world. The beverages brand was followed by Nestlé SA and PepsiCo Inc.

Break Free From Plastic, a global movement against plastic, organised 484 cleanups and brand audits in 51 countries spanning six continents. It collected 476,423 pieces of plastic waste, claimed the report *Branded Volume II: Identifying the World's Top Corporate Plastic Polluters*.

Coke-branded plastic pollution emerged highest with 11,732 pieces of waste from 37 countries spanning across four continents. In 2018, the beverages brand had accounted for [9,216 pieces of plastic waste](#) from 40 countries.

<https://www.downtoearth.org.in/news/waste/coca-cola-yet-again-top-global-plastic-polluter-67390>

9) BIOMEDICAL WASTE: 70 PRIVATE CLINICS FACE CLOSURE IN CHANDIGARH

Source: *The Times of India, Chandigarh; October 31, 2019*

Seventy private clinics in the city face closure as they have failed to register themselves under the Biomedical Waste Management Rules, 2016, with the Chandigarh Pollution Control Committee (CPCC)

The CPCC had recently issued notices to 180 private clinics and they were told to comply with the rules otherwise strict action would be initiated against them. CPCC member secretary TC Nautiyal said around 70 clinics have failed to register themselves. "We will start issuing closure orders from November 1. Failure to comply with the norms can lead to sealing and disconnection of electricity and water supplies," he added.

<https://timesofindia.indiatimes.com/city/chandigarh/biomedical-waste-70-private-clinics-face-closure-in-chandigarh/articleshow/71828994.cms>

10) INDIAN SHIPS TO BAN POTATO CHIPS BAGS, BOTTLES, OTHER SINGLE-USE PLASTICS ON BOARD FROM JAN 1

Source: *Business Today; November 3, 2019*

From January 1, Indian ships will prohibit on board a large number of single-use plastic products, including ice cream containers, hot dish cups, microwave dishes and potato chips bags. The decision has been taken in larger public interest by the Directorate General of Shipping following an appeal by Prime Minister Narendra Modi on August 15 to "take the first big step" towards freeing India of single-use plastics.

Not only a large number of single-use plastics will be prohibited to be used on board Indian ships but will also be banned in foreign ships when in Indian waters.

<https://www.businesstoday.in/current/economy-politics/indian-ships-to-ban-potato-chips-bags-bottles-other-single-use-plastics-on-board-from-jan-1/story/388223.html>

11) KANPUR WASTE FORCING VILLAGE YOUTH INTO BACHELORHOOD

Source: *Indiatvnews, Kanpur; November 3, 2019*

The Swachh Bharat Abhiyan pitch may have touched a high in the country but villages in an around Kanpur are still forced to live in filthy surroundings. The Kanpur Municipal Corporation's solid waste management plant is close to Panki Padao, Jamui, Baduapur Saraymira villages and the extent of filth and malodour around is such that it is not only making residents ill but is also sending its young men into 'forced bachelorhood'.

Eligible youngsters in the village are apparently not getting marriage proposals as they are afflicted with communicable diseases. Santosh Rajput, a resident of Baduapur village, said a pond full of water was filled up and converted into waste dump about five years ago.

<https://www.indiatvnews.com/news/india/kanpur-waste-forcing-village-youth-into-bachelorhood-560970>

12) NO WRITTEN TEST FOR ENVIRONMENTAL STUDIES IN CLASS 12

Source: *Hindustan Times; November 14, 2019*

The education department has revised the exam pattern for the subject 'Environment Studies and Water Conservation' for Class 12 students. In a government resolution (GR) issued on Monday, the state education department has stated that there will be no written exam for the subject in the Class 12 board exam, scheduled to be held in March-April. "As per the revised rules, 30 marks will be allotted to project-based work, while 20 marks will be reserved for seminars/journal completion of the subject," read the circular.

Until now, students had to write a 30-mark exam, while 20 marks were allotted for practical exams. With the revised pattern, students will be graded on the basis of the total marks they secure for their projects and seminars/journals. Students, who get 'D' grade, will be considered 'failed'. The GR also mentions

that students in the science stream, who have chosen physics, chemistry and biology, will only have one practical exam as against the previous two.

<https://www.hindustantimes.com/mumbai-news/no-written-test-for-environmental-studies-in-class-12/story-Dg5N8EHPEgnHyBDknuQBdk.html>

13) NGO EXPOSES POOR SANITATION AT CIVIL HOSPITAL

Source: *The Tribune India, Ludhiana; November 24, 2019*

An NGO today conducted a 'Swachh' rally to highlight various issues, including alleged poor sanitary conditions and problems being faced by patients at the local Civil Hospital. The members of Yuva (NGO), social activists and schoolchildren visited the hospital and demanded early redressal of the issues.

Kumar Gaurav of Yuva said: "We saw the bio-medical waste scattered at the hospital. The heaps of garbage and litter welcome patients at the hospital. There is no check on wrong practices being followed there. The objective of the rally was to highlight various issues and problems at the hospital. We found one of the toilets for women locked."

<https://www.tribuneindia.com/news/archive/ngo-exposes-poor-sanitation-at-civil-hospital-865389>

14) PREPARE ACTION PLAN TO CLEAR WASTE AT BHALSWA, GHAZIPUR AND OKHLA: NATIONAL GREEN TRIBUNAL

Source: *The Hans India, New Delhi; November 25, 2019*

The National Green Tribunal has directed the Delhi government to prepare an action plan to clear the legacy waste lying at the Bhalswa, Ghazipur and Okhla landfill sites within a year. The green panel said according to the statistics furnished to it, about 1,500 tones per day (TPD) of garbage is being bio-mined as against addition of more than 5,000 TPD in Delhi.

Read more: <https://www.thehansindia.com/new-delhi/prepare-action-plan-to-clear-waste-at-bhalswa-ghazipur-and-okhla-national-green-tribunal-584425>

TRAVELLING 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.



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



/toxicslink



/toxicslink



toxics_link

EDITED BY

Ipsita Baishya and Ruby Rani

Toxics Link

H-2, (Ground Floor), Jangpura
Extension, New Delhi - 110014

T: +91-11-24328006, 24320711

F: +91-11-24321747

E: info@toxicslink.org

www.toxicslink.org