

## Factsheet 1: CSE's Pollution Monitoring Laboratory over the years: a decade of public science

The study	Why and what	Resulting action
Analysis of endosulfan in environmental and human samples from Padre village in Kasaragod district, Kerala -- 2001	Unusually large number of health anomalies reported from one single village (ranging from cancer to mental disorders to physical and neurological deformities). Evidence clearly links the poisoning of entire village to the use of endosulfan in the area.	After the release, the Union government ordered its own scientific institutions to study the problem. National Institute of Occupational Health, Ahmedabad confirmed endosulfan was the cause of poisoning. Union agriculture ministry banned use of endosulfan in Kerala in 2005.
Analysis of pesticide residues in bottled water -- February 2003	No regulations on water being sold at a premium in Indian markets. Samples tested contained a deadly cocktail of pesticide residues. What is worse most of the samples contained as many as five different pesticide residues, in levels far exceeding the standards specified as safe for drinking water.	Health ministry responds by proposing mandatory regulations. India's first ever bottled water standard promulgated. Every bottle sold in the market must meet the standard. The norms state that pesticide residues considered individually should not be more than 0.0001 mg/litre while total pesticide residues were capped at not more than 0.0005 mg/litre.
Analysis of pesticide residues in soft drinks -- August 2003 and August 2006	Another sector left unregulated. We found high levels of toxic pesticides and insecticides, high enough to cause cancer, damage to the nervous and reproductive systems, birth defects and severe disruption of the immune system. Market leaders Coca-Cola and Pepsi had almost similar concentrations of pesticide residues...tested twice.	Startling facts forced the government to constitute a Joint Parliamentary Committee, only the fourth in independent India and the first on health and safety of Indians. The JPC report vindicated CSE's findings and said it is prudent to seek complete freedom from pesticide residues in sweetened aerated water.  <b>After prevaricating for five years, Union health ministry was forced to set up mandatory standards for pesticide residues in soft drinks, World's first ever.</b>

		CSE is now engaged with Bureau of Indian Standards to finalise health-based standards for soft drinks.
Analysis of pesticide residues in blood samples from Punjab farmers --June 2005	Pesticides are commonly used in agriculture but this comes at great cost to human health. We decided to investigate the matter and looked at the agricultural heartland of Punjab. We found deadly cocktails of 6-13 different pesticides in all the blood samples tested.	Punjab government ordered a study and immediate health remediation measures. Later, the government formulated organic farming policy for the area. Recently, the government has asked the ICMR to look into the health concerns in the region and come up with solutions.
Transfats in oil --February 2009	Oil is essential for our body but we cannot take for granted the cooking mediums we use in our food. Our lab results revealed that our branded edible oils are full of unhealthy transfats. The results showed transfats in seven leading vanaspati brands were five to 12 times the 2 per cent standard set by Denmark.	Since the release of this study several government agencies took steps to set up standards for transfats in our cooking oil. Union health ministry is finalising draft standards for transfats to be notified under PFA. The BIS is in advanced stages of finalising a standard. The Food Safety and Standards Authority of India has also got involved in the process of regulating transfats in edible oils.
Lead in paints --August 2009	Modern houses are full of harmful chemicals. One of them is lead, present in paints. Though several countries have banned the use of this substance India is yet to do so, which is why paint makers use them. Young children are particularly vulnerable to lead as it can damage the central nervous system and the brain. Lab results reveal that Indian paints contain high amounts of lead – breaching the voluntary standard set by BIS. 72 per cent of samples tested do not meet the voluntary standard.	Minister of consumer affairs immediately instructed the Department of Industrial Policy and Promotion to make mandatory standards for lead in paints in consultation with BIS. Leading paint manufacturers like Kansai Nerolac wrote to CSE that they are taking steps to voluntarily remove lead from their household paints. Industry associations also contacted CSE saying that they were in favour of complete removal of lead from paints used in household and paints to which children are likely to get in touch with. BIS is in the advanced stages of finalising a mandatory standard.
Bhopal: a toxic legacy -December 2009	For more than 25 years, the Union Carbide (UCIL) factory has been contaminating the land and water of Bhopal. We tested water and soil samples from in and around the factory, and found high concentrations	Importantly, the Central Pollution Control Board, which had collected samples with CSE, also confirmed the contamination. This was the first-ever study that clearly revealed continued

	<p>of pesticides and heavy metals inside the factory as well as in the groundwater outside. Our tests show that groundwater in areas even three km away from the factory contains almost 40 times more pesticides than Indian standards.</p>	<p>contamination of surrounding areas from waste stored at UCIL factory. This led to re-opening of the entire Bhopal case and for the first time there was serious focus on clean-up. The government of India has ordered cleaning up of site and asked different institutions to come up with plans for remediation. Also led to renewed debate on the liability issues and senior Union ministers came out in support of CSE saying that Dow Chemicals should be held liable for clean-up.</p>
<p>Toxic toys --January 2010</p>	<p>We generally take toys for granted but this may no longer be the case, at least not if we are concerned about the health of our young children. Our lab results showed the presence of phthalates, a highly toxic chemical, in toys sold in the Indian market. Worse -- these toxic chemicals are not regulated or monitored by the government, putting children at risk. Over 45 per cent of the samples exceeded the internationally accepted safe limit for phthalates. India has no standards.</p>	<p>There was immediate response from the very top. In a meeting the joint secretary of DIPP said that the Prime Minister's Office was taking keen interest in setting standards for toys. Recently, the department of consumer affairs has issued a draft notification to make it mandatory for all toy manufacturers to register with BIS. The BIS certificate will ensure that companies registered with BIS will get tested in the BIS recognised labs. BIS is also actively engaged in finalising the mandatory standards for phthalates in toys.</p>