

# Roadmap for Sound Management of E-waste in Kerala

## State Level Workshop

8<sup>th</sup> August 2013  
Thiruvananthapuram

# Report



## Overview

As we transition from old to new, we leave behind heaps of discarded, obsolete, and sometimes archaic machines. As we increase our knowledge in technology, the lifespan of electronic products continues to diminish forcing the aged devices to rapidly assemble in volume. This large, growing mass of unwanted electronics is known as E-Waste.

E-waste is a term used to cover almost all types of electrical and electronic equipment (EEE) that has or could enter the waste stream. Although e-waste is a general term, it can be considered to cover TVs, computers, mobile phones, goods like fridges, washing machines, dryers etc, home entertainment and stereo systems, toys, toasters, kettles – almost any household or business item with circuitry or electrical components with power or battery supply.

E-waste is growing exponentially simply because the markets in which these products are produced are also growing rapidly. Rapid product innovations and replacement, especially in ICT and office equipment, combined with the migration from analogue to digital technologies, for example, flat-screen TVs and monitors, are fuelling the increase. Additionally, economies of scale have given way to lower prices for many electrical goods which has increased global demand for many products that eventually end up as e-waste.

In addition to various hazardous materials, e-waste also

contains many valuable and precious materials. Using the personal computer (PC) as an example – a normal Cathode Ray Tube (CRT) computer monitor contains many valuable but also many toxic substances. One of these toxic substances is cadmium which is used in rechargeable computer batteries and contacts and switches in older CRT monitors.

Cadmium can bioaccumulate in the environment and is extremely toxic to humans, in particular, adversely affecting kidneys and bones. It is also one of the six toxic substances that have been banned in many countries. Beyond CRT monitors, plastics including PVC cabling is used for printed circuit boards, connectors, plastic covers and cables. When burnt or land-filled, these PVCs release dioxins that have harmful effects on human reproductive and immune systems. Mercury, which is used in lighting devices in flat screen displays, can cause damage to the nervous system, kidneys and brain, and can even be passed on to infants through breast milk. Electrical goods contain a range of other toxic substances such as lead. This illustrates the need for a holistic view to be taken in analyzing the e-waste situation for working out possible solutions.

In summary one can clearly grasp and understand the e-waste problem is of global concern because of the nature of production and disposal of waste in a globalized world. Large amounts of this waste are ending up in places where



processing occurs at a very rudimentary level. This raises concerns about resource efficiency and also the immediate concerns of the dangers to humans and the environment.

In India also the growth rate of discarded electronic waste is very high since the country has emerged as an Information Technology giant and also due to modernization of lifestyle. The main sources of electronic waste in India are the government, public and private (industrial) sectors, which account for almost 70 per cent of total waste generation. The contribution of individual households is relatively small at about 15 per cent; the rest being contributed by manufacturers. Though individual households are not large contributors to waste, they consume large quantities of consumer durables and are, therefore, potential creators of waste.

Although no definite official data exist on how much waste is generated in India or how much is disposed of, there are estimations based on independent studies conducted by

several agencies. According to the Comptroller and Auditor-General's (CAG) report, over 7.2 MT of industrial hazardous waste, 4 lakh tonnes of electronic waste, 1.5 MT of plastic waste, 1.7 MT of medical waste, 48 MT of municipal waste are generated in the country annually.

Considering the future scenario, it is imperative that the safe management of waste is done in an organized manner with sufficient resources and sustainable recycling technologies on the one hand and effective legislations and monitoring mechanisms on the other. It is, therefore, important that viable solutions are found to address the problem of the e-waste. Even though many States have initiated various steps in this regard, Kerala is yet to gear up its initiatives. This workshop, organised by *TOXICS LINK* and *CISSA*, is primarily intended to have a serious discussion on the status quo and measures for improvement of the situation in the State.

## THE WORKSHOP



Inaugurating the one-day workshop titled *Roadmap for Sound Management of E-waste in Kerala* at the Park centre in Technopark, **Mr Satish Sinha**, Associate Director



Mr Satish Sinha

Toxics Link, said that the exponential manner in which e-waste has been piling up in Kerala currently makes it imperative that management of such hazardous waste should have the involvement of all the citizens both from urban as well as rural areas. Mr Sinha said the process needs to have effective interventions from multiple stakeholders such as the industry and manufacturers, regulators and the citizens. Pointing out that the Pollution Control Board and the people, who are consumers of electronic products, have a greater role in kick-starting a result oriented process on e-waste management, he added that dealing with waste collection assumes prime importance in such a process. Every citizen is a consumer and all consumers have the responsibility to ensure that e-waste is recycled/managed in a very effective manner. The industry and the manufacturers of electronic products do have the knowhow and the capacity to deal with e-waste so as to move well towards effective management, he pointed out, saying that earlier on the industry was reluctant to discuss or address the issue of e-waste management. When the issue of e-waste management came up initially, there wasn't any move towards processing, disposal or recycling. Historically speaking, the e-waste generated found themselves dumped in landfills and water bodies. However, it is a good sign that efforts aimed at recycling and management of e-waste are catching up.



Prof Sasi Kumar



Dr H Lekshmi Kantha

**Prof Sasi Kumar**, Principal MET College of Engineering, Mala, in his keynote address, dwelt upon the hazards of e-waste generation and voiced apprehensions over the desire of the people towards owning newer electronic gadgets without realizing the ill effects of dumping older products. Calling upon the multiple stakeholders, who deliberated on how to create an effective roadmap towards better management of e-waste in Kerala to urge the government to seriously consider the recommendations that are being put forward so as to translate them into actions, Prof Sasi Kumar said what Kerala needs at the moment is investment in hazardous waste treatment and recycling plants.

Voicing concern over the exponential rise in desire to own latest gadgets that are unveiled on a regular basis and dumping of older products, he said that our slogan needs to be “Recycle or Perish”. It is a must that efforts aimed at recycling and e-waste management need to be taken seriously, he added.

**Dr H Lekshmi Kantha**, Senior Environmental Engineer, Karnataka Pollution Control Board, in his presidential

address, made his point by elaborating on the e-waste management efforts taken in his State and the results that have come about.

The deliberations focused on topics such as E-waste issues and perspectives, Rules and regulations, Initiatives taken in Kerala towards e-waste management, Learning from Karnataka, Role of municipalities, Producer take back, Bulk consumer perspective, Recycling solutions in Kerala and health hazard and other issues as well as potential of e-waste management.

**Ms. Priti Mahesh** and **Ms. Ankita Jena** from Toxics Link, **Smt. Revathy Rajan** from Techno Park and **Shri G. Pramod** from Earth Sense Recycle Ltd were the other important speakers in the programme. There were two interactive sessions which witnessed active participation by all. Shri G. Pramod co ordinated the entire proceedings.

The workshop which began at 10.30 am ended at 4.30 pm. **Dr. C.K. Peethambaran**, Director, CISSA made the welcome speech and **Dr. R. Harikumar**, Secretary, CISSA expressed the vote of thanks.



Ms. Priti Mahesh



Ms. Ankita Jena



Smt. Revathy Rajan



Shri G. Pramod



K. Peethambaran



Dr. R. Harikumar



## The organisers

### Toxics Link

**Toxics Link**, a not-for-profit initiative of The Just Environment Charitable Trust emerged from a critical need to address a vacuum that existed on the issue of toxicity and its impact on life and environment. Since its inception in 1994, Toxics Link's role has revolved around the basic function of generating and disseminating credible information on waste and toxic substances across diverse social, economic and political groupings. It attempts to continuously assess the issue of toxicity as it plays out on the ground in everyday life. Food safety, Persistent Organic Pollutants, Chemical management and safety, Persistent Toxic Substances and Pesticides are the areas that Toxics Link is currently working on. <http://toxicslink.org/>

### CISSA

**The Centre for Innovation in Science and Social Action (CISSA)** is a collective of dedicated professionals from all walks of life who share a passion for saner environmental and developmental interventions. With illustrious backgrounds in their own chosen fields members of the CISSA team trigger informed debates and action to address the pressing needs of modern times. Working on the voluntary principle the CISSA team also has a full time group of professionals, from disciplines like Environment and Sustainable Development, Food & Agriculture, Clean Technologies, Traditional Knowledge and Ayurveda, Disaster Management etc. with adequate infrastructure and support staff.

## Recommendations of the workshop

- 1. Inventorization study-** The State agency has to do e-waste assessment to assess the amount of E-waste generated in the state. The civil society organizations can help the agency in the study. This is mandatory under the E-waste Rules, 2011 and will also help in understanding the scale of problem and major generation points.
- 2. Compliance system-** The State PCB to draw up a list of Producers operating in the state and check if all of them have set up take back systems in major generation points.
- 3. Public Awareness-** State Pollution Control Board to create awareness: extend the school education program already initiated by the organizers to wider region and audience. Also, public advertisement, highlighting the hazards and importance of recycling may be arranged.
- 4. Bulk consumers Notice-** PCB can send notices to hospitals, hotels, educational institutions, large companies, all government departments directing them to dispose off their e-waste according to the Rules in force.
- 5. Monitoring of authorized facilities-** The state agency should check if the authorized facilities have adequate equipments, space and occupation health and environment safety controls in place.



