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

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

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

As we progressed in time and experience the country should have witnessed consolidation and evolution of better maintenance practices and management systems but unfortunately these standards are absent. The treatment facilities by their geographical location have gained a monopoly and at times exploit the situation to their advantage.

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

By Satish Sinha

FEATURES

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

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

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

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

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

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

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

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

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

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

But there are still some major concerns. The informal sector is currently able to acquire only 6-7% of the total e-waste generated in India; the status of the remaining is presently unknown. For an efficient recycling system on E-waste, the basic requirement is a robust collection system. And this can only be achieved through support from the Government and the manufacturers. The government with a strong legislative framework can change things on ground. An enabling regulation can ensure development of proper collection and environmentally safe recycling infrastructure and also safeguard the livelihood of the unorganized sector. The producers or the brand owners too will also have to play a strong role. They have to display responsibility towards the product they are putting in the market by not just ensuring a good take back system, but also working towards design for environment.

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

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

Priti Mahesh