

# Environmental Information System (ENVIS) Resource Partner (RP) Centre NORTH EASTERN HILL UNIVERSITY (NEHU) SHILLONG, MEGHALAYA

## *Newsletter*

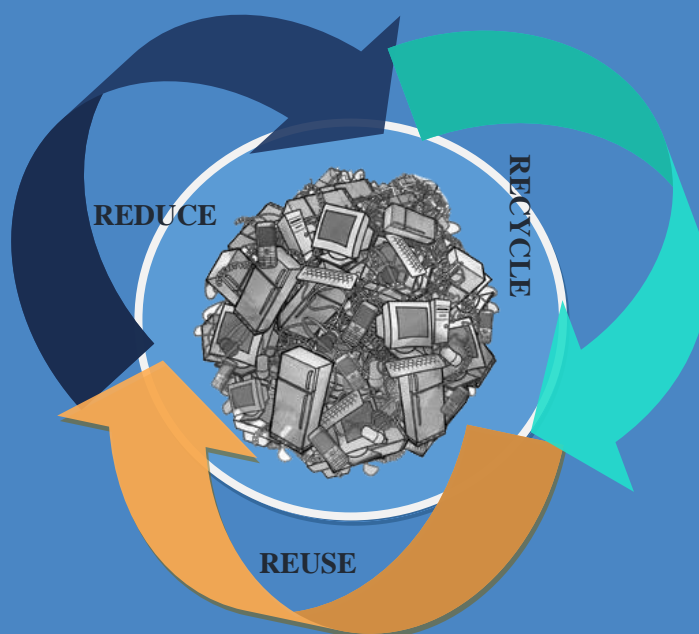
### E-Waste Management in India and North-East India

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### Editorial

Electronic waste or E-waste is broadly described as loosely discarded or obsolete devices connected to the power grid which are destined for reuse, resale, recycling, or disposal. These devices include mobile phones and charging adapters; computer and its accessories such as monitors, printers, keyboards and central processing units, remotes, CDs, headphones, batteries, LCD TVs, air conditioners, refrigerators and other household appliances. E-waste has many harmful metals/elements like lead, mercury, arsenic and cadmium present which require immediate and specialized treatment which can adversely affect living things including human health and the environment.

E-waste problem in India is a twofold problem. First is the growing demand for electronic products each year with increasing mobile phone penetration and rapid change in technology, low initial and planned obsolescence which have resulted in a fast-growing surplus around the globe. Second, India like other developing countries has become dumping grounds for e-waste and improper management in disposing off the electronic waste. Due to presence of precious metals, like gold, aluminium, copper and silver, many of these discarded e-waste products are recycled by informal recyclers in unsafe manner which are likely to create adverse impact on environment and health. E-waste, on the other hand, can also become a great source of rare metals. If there is a proper recycler, 90% of E-waste can be useful in terms of generating electricity or power energy. It can also prevent the biggest and most prevalent pollutants in our society.

*-Dr. Dinesh Bhatia*

### Introduction

E-waste could be a complex mix of hazardous and non-hazardous waste requiring specialized segregation, collection, transport, treatment and transfer. E-waste is a global issue and is relatively a new segment. It has emerged as one of the fastest growing waste stream worldwide today both in terms of production and exports and most people are probably unaware of its reach.

E-waste has become a global issue. A large number of E-wastes is being illegally dumped by developed countries in the developing countries like India. A large number of E-wastes ends up every year in the country. Some studies reported that E- waste was produced over 2 million metric tonnes (MT) in 2016. The number is increasing rapidly as the use of electronics increases. Almost 70 per cent of e-waste handled in India is produced elsewhere in spite of a reported import ban on e-waste. Only 2 percent of the E-waste is recycled. Most of the remaining wastes remains in landfills or informal dumps, leading to health and environmental concerns on account of the toxic material found in such waste. In fact, e-waste constitutes, by far, the largest fraction of toxic waste in a landfill in India. Even for the small fraction of e-waste that is being recycled, the informal sector handles over 90 per cent of the recycling. The lack of tools, training and resources makes this sector - one million strong with over 50 per cent children - particularly vulnerable.



The government has attempted to address the issue in the last few years. Number of actions/steps has been taken by the Government in the country to enhance awareness about environmentally sound management of e-waste. Regulations were introduced in 2008 and 2011 for the formal sector. In 2016, revised E-waste management rules, called the E-Waste (Management) Rules, 2016 were notified by the Union Ministry of Environment Forest and Climate Change (MoEF&CC) to implement effectively an environmentally sound management of e-waste. On 22nd March 2018, these Rules have been amended, that were published in the Official Gazette and came into force on the same day with the objective to channelize the E-waste generated in the country towards authorized dismantlers and recyclers in order to formalize the e-waste recycling sector (Source: MoEF&CC).

The ever-increasing amount of E-waste is a huge and growing problem in the world which is largely ignored or misunderstood. It is becoming a major threat and thus, it creates a need to realize the importance of managing e-waste by developing and implementing systems that effectively utilize and recycle the discarded equipment.

### E-waste in India

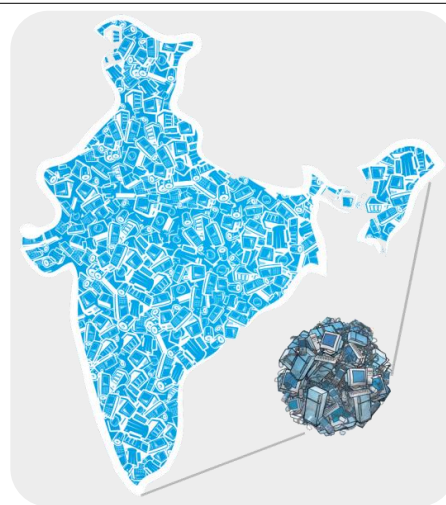
Due to the advancement of technology, many of electronic products become obsolete within a short time span, creating a huge amount of unwanted electronic products. According to the Global E-waste Monitor 2017, published by the United Nations University, India was ranked as the fifth largest generator of e-waste in the world besides the US, China, Japan and Germany with an estimated of 2 million tonnes of e-waste generated annually. However, there is no proper or clear government record on e-waste generated in the country.

According to the Associated Chambers of Commerce & Industry of India (ASSOCHAM) joint study, much of the e-waste generated is recyclable. Computer equipment such as monitors and printed circuit boards has a number of base metals which can be reused after melting. Unfortunately, India is highly ill-equipped in terms of skilled labour, infrastructure, legislation and framework to handle e-waste recycling.

Out of the total e-waste generated, only 1.5 per cent gets recycled. Most of the remaining part ends up in landfill or informal dumpsite. In fact, e-waste constitutes, by far, the largest fraction of toxic waste in a landfill in India. Even for the small fraction of e-waste that is being recycled, the informal sector handles over 90 per cent of the recycling. The informal sector consists of mostly of shops and industries which engage contract labourers and are dealers of electronic equipment. Recycling by informal sector is mainly carried out by unskilled employees and manages toxic materials without any regards to occupational health and safety requirements. Knowledge of e-waste recycling is also not prevalent among either organizations or workers, thus allowing them to opt for the easier path of dumping or dismantling the waste.

Most of the e-waste generated from this sector is often dumped or dismantled, instead of being recycled properly. E-waste is sold in the market to scrap dealers who dismantle it instead of recycling.

Dismantling e-waste products releases further toxic emissions in the air, causing further pollution. Most of the e-waste is dumped in rivers, lakes or canals, causing irreparable damage to the environment.



#### Child Labour – Informal E-waste Re-Cycling Sector.

According to the ASSOCHAM study on 'Earth Day', 2016, about 5lakhs of children (10 to 14 years of age) was engaged in various e-waste activities, without personal protection equipment.

#### Harmful effects of E-waste

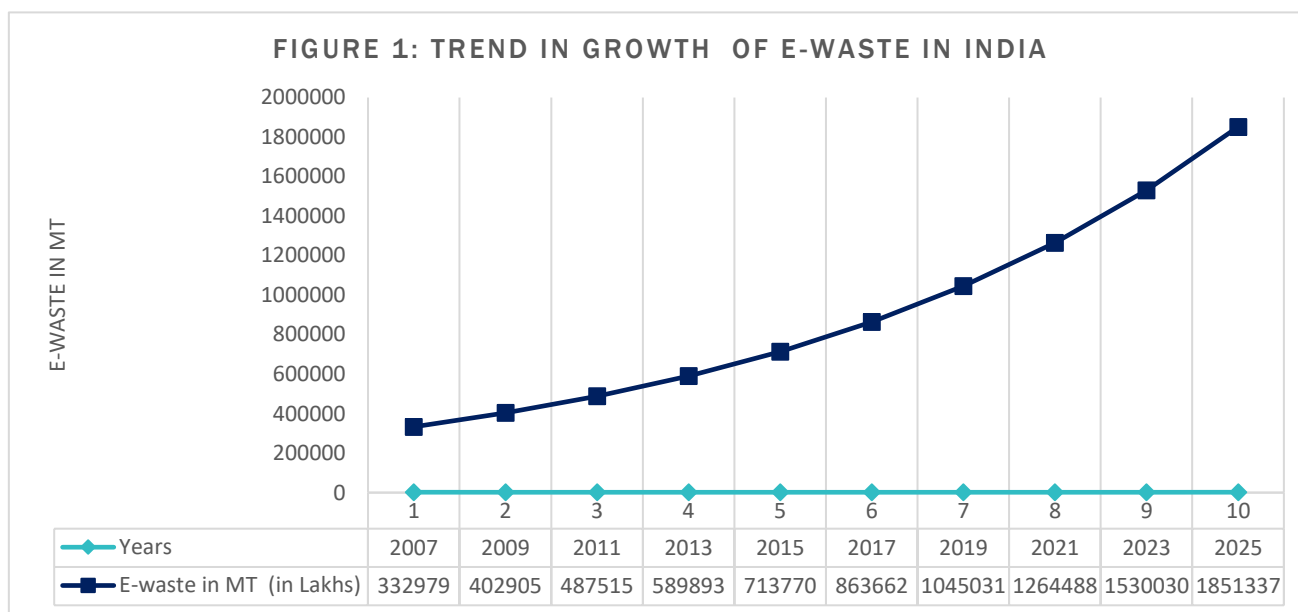
Long term exposure to the e-waste toxic substances emitted during unsafe e-waste recycling can damage the nervous system, kidney, liver, brain, the reproductive and endocrine systems and some of them are carcinogenic to humans.



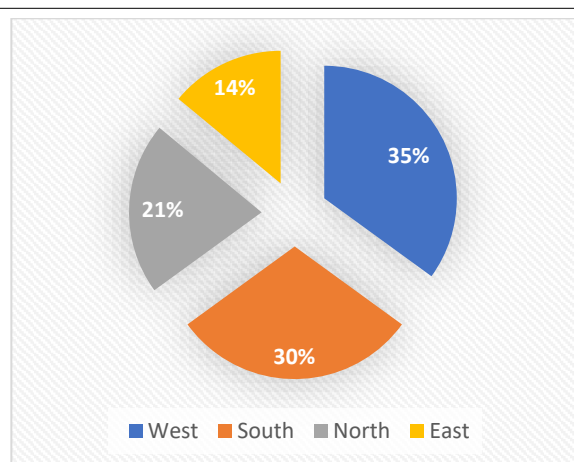


## E-waste generated in India

**Projection of E-waste generation in India:** Figure1 shows the growing trend in demand of e-wastes in India from 2007 to 2025 as reported by The German Technical Cooperation Agency (GTZ) and Manufacturer's Association for Information Technology Industry (MAIT) press release on date December 13, 2007. From the figure, generation of e-waste increases rapidly every year and is likely to increase by nearly four times, from the existing metric tons (MT) in 2015 by the year 2025. The predictions highlighted the urgent need to address the problem of E-Waste in India.



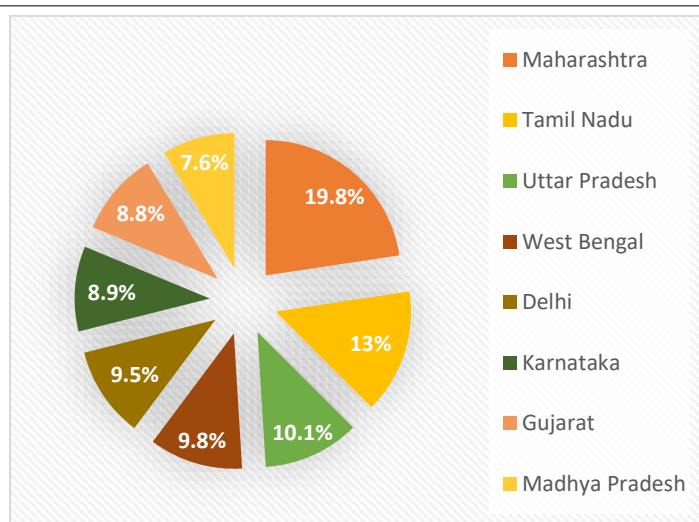
**FIGURE 2: REGION WISE GENERATION OF E-WASTE IN INDIA (%)**



**Figure 2:** Of the total E-waste generated in the country, Western India accounts the largest volume at 35%.

(Source: Rajiv Ganguly, Department of Civil engineering, JUIT University, Wagnaghat, District Solan, Himachal Pradesh India)

**FIGURE 3: GENERATION OF E-WASTE IN TOP STATES IN INDIA (%)**



**Figure 3** shows that the State of Maharashtra ranked first in e-waste generation in terms of percentage of 19.8% but recycles only about 47,810 TPA (tonnes per annum) followed by Tamil Nadu (13%) which recycles about 52,427, Uttar Pradesh (10.1%) recycles about 86,130, West Bengal (9.8%), Delhi (9.5%), Karnataka (8.9%), Gujarat (8.8%) and Madhya Pradesh (7.6%).

(Source: ASSOCHAM, joint study, 2018)

FIGURE 4: GENERATION OF E-WASTE IN TOP CITIES IN INDIA in (MT)

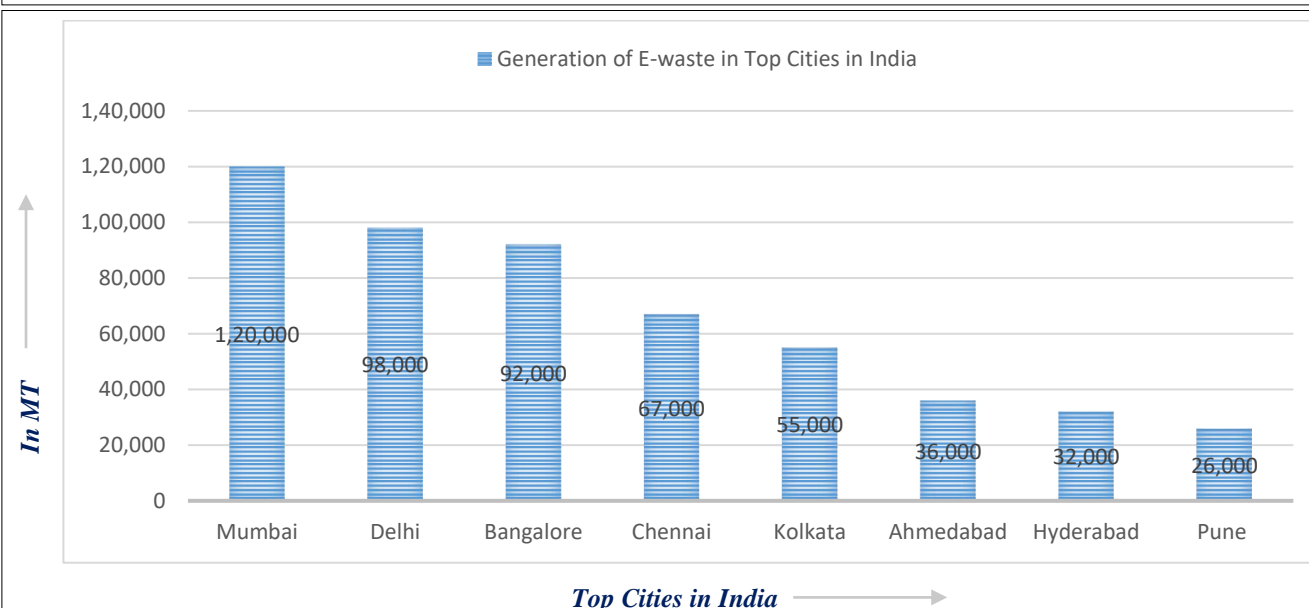


Figure 4 shows the top producers of e-waste in India based on annual e-waste generation. Among the top cities of the country, Mumbai leads the major cities in generating E-waste contributing of 1,20,000 MT per year followed by Delhi, Bangalore, Chennai, Kolkata, Ahmadabad, Hyderabad and Pune.

(Source: Report released by ASSOCHAM and Frost & Sullivan, 2016.)

### Worldwide E-waste

Every year, **50 MT** of E-waste generated



Only **12.5%** is recycled



In 2014, **41.8 MT** of e-waste shipped to developing countries.

Trace materials from **E-waste** account for **70%** of toxic waste in landfills.

These can leach out and contaminate the soil and water.



**100 Million** recycled cell phones = enough energy to power **18,500** homes per year.



**7.2 billion** cell Phones are used

And

**350,000** are thrown away every day.



“

Although, in India, awareness and readiness for implementing improvements is increasing rapidly, the major obstacles to manage e-wastes safely and effectively remain.

- The lack of reliable e-waste data that poses a challenge to policy makers and to an industry
- Only a fraction of the e-waste (estimated 10%) finds its way to recyclers due to absence of an efficient take back scheme for consumers
- The lack of a safe e-waste recycling infrastructure in the formal sector and thus reliance on the capacities of the informal sector pose severe risks to the environment and human health
- The existing e-waste recycling systems are purely business-driven that have come about without any government intervention. Any development in these e waste sectors will have to be built on the existing set-up as the waste collection and pre-processing can be handled efficiently by the informal sector, at the same time offer numerous job opportunities.

”

Source: Confederation of Indian Industry, Delhi (CII) (2006).

## E-waste in North-East India

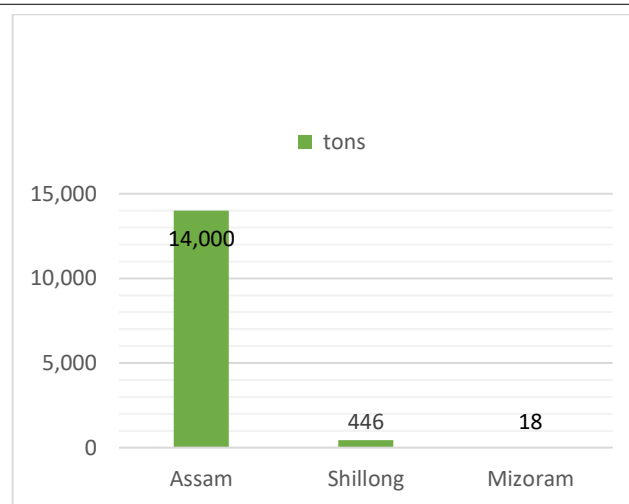
E-waste has started to create huge problems in the North- Eastern parts of India also. North-east India comprises of eight states – Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim and Tripura. With the lack of awareness and the increasing usage of electronics in these regions, the toxic waste stream has the potential to damage the natural beauty and resources of the nature. What concerns the most is the toxic material waste which is largely being collected by the scrap dealers, mixed with municipal waste and dumped in the landfills and mostly burn openly or leaches out and contaminates the water, soil and air. Lack of proper recycling unit adds to the bleak scenario.

A report released by Toxic Link, an environmental NGO, 2013, indicated that e-waste is increasing at an alarming rate in the North-east. In Assam, e-waste was generated approximately 14,000 tons, Shillong, the capital city of Meghalaya, generated roughly 446 tons annually and approximately 18 tons of E-waste was generated in Mizoram. These approximated figures, as shown in figure 5, indicated the growing of E-waste in the Northeast.

Even after the E-waste (Management and Handling) Rules has been notified by The Ministry of Environment and Forest notified, there is still no bigger change on ground. Besides the large number of e-waste generated, huge inflow of imported inferior quality of electronics from neighbouring countries like Nepal, Bangladesh, Myanmar and China is largely mauling the region. (Source: Toxic Link, 2013)

Most of the people are unaware of the harmful effects associated with e- waste. The Government along with a few concerned organizations need to implement the e-waste management rules and strict actions may be taken against defaulters. There is an immediate need of an efficient system to tackle the rising problem of e-waste generation and to increase awareness among the people. A joint effort by the policy makers, various public and private organizations, the informal sector, formal sector and the concerned citizens will surely lead to an efficient system to restrict and manage this growing menace the regions.

**FIGURE 5: E-WASTE WAS GENERATED (APPROXIMATE FIGURE) IN NORTHEAST INDIA**



### E-waste in Assam

Assam has become the sixth largest e-waste producer in India. Most of these electronic wastes are chucked and burned together in the informal scrap yards. This led to the emissions of hazardous gases into the atmosphere which could lead to severely negative impact on both the environment and health.

In Guwahati, which is the capital city of Assam, around 90 per cent of e-waste was disposed-off in an unscientific manner. According to the study report of International Journal of Innovative Research in Science, Engineering and Technology (IJIRSET), most of the obsolete equipment is collected by the ragpickers from household and manufacturers. These products end up in the hands of the informal recyclers where recycling is done in a risky way. The obsolete electronics collected by the scrap dealers are dismantled into different components, where useful components are being collected and the rest are being dumped directly to landfill or open space. The toxic substances which are released during the extraction processes are mixed with municipal waste and thus contaminate the water, soil and air posing severe threat to the environment. Few formal e-waste collecting centres in Guwahati are Redington India Limited, Carrier Media India Pvt. Ltd., Zebrionics India Pvt. Ltd. and Bir Electronics Pvt. Ltd. As per the study report of IJIRSET,

Assam Pollution Control Board reported that in 2014, 23.274 MT of e-waste was collected by the e-waste drop points all over Assam. These collected wastes were sent for recycling to Roorkee, Bangalore and Hoogly.

In 2016 in Guwahati, officials from the State Pollution Control Boards (SPCBs) of all the seven states of Northeast India came together in a collaborative workshop and explained why e-waste is a rising threat in this part of the country. The e-waste problem in Assam is more prominent as there is a lack of awareness among electronic good sellers and garbage collector. Also, most of the garbage collection in Assam is an informal sector, from the employment of collectors to the scrap yard. This has resulted in the dumping of both e-waste and other wastes in the same place to be burnt together.

However, despite the rising problem, with the revision of the E-waste Management Rules in 2016 the State Government is planning to set up more e-waste collection centres which will act as exclusive places for e-waste collection. People will be able to discard or dispose of their worn out electronic and electrical machines in these collection centres and the e-waste collected from these collection centres will be transported directly to recycling centres. The State Government will also tie up with the municipalities to ensure that garbage collectors would deposit e-wastes in the e-waste collection centres and not to take them to landfills. Awareness campaigns were conducted by the State Government for garbage collectors to help them identify what qualifies as e-waste so as to help them differentiate between e-waste and other types of waste. Similar types of campaign were also conducted in Guwahati to spread awareness on the problems of e-waste and on its proper disposal. In the first awareness campaign held at Guwahati in May 2017, over 1,250 school students from 15 schools in Guwahati, along with the teachers attended the program. Apart from this Assam could become the Chief Co-ordinator among north-eastern states when it comes to tackling e-waste. They also have a Vision 2020 which focuses on setting up of e-waste collection centres across major cities in the state, collaborating with civic bodies to collect e-waste and set up exclusive e-waste recycling plant.

In Assam, the pollution control board had issued notices restricting the sale of e-waste to ordinary waste collectors.

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### Predicted e-waste in Guwahati

Based on the study made by IJRSET on selected electronic products, figure below shows the rising tendency in the total amount of potential e-waste to be generated in the upcoming years in the city of Guwahati, which has been estimated using the e-waste calculation method (Robinson, 2009), first being used in Germany.

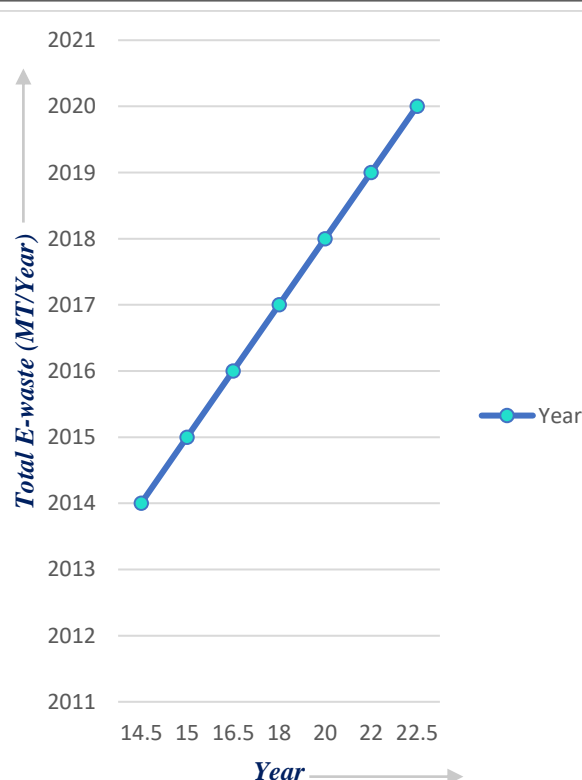
$$E = MN/L$$

Where:

- i. *E is the annual e-waste of a certain electronic item (kg/year)*
- ii. *M is the mass of the selected item (kg)*
- iii. *N is the number of items*
- iv. *L is the average lifespan of the item (years)*

They found that the total amount of e-waste will increase from 16.72 MT in 2016 to 22.60 MT in 2020 (figure 6). Thus, a 35% rise is expected in the amount of e-waste collected in the upcoming five (5) years in Guwahati. The e-waste generation in the city is considerably dependent on sales data and the average life span of electronic items.

**FIGURE 6: TOTAL E-WASTE PROJECTION IN GUWAHATI TILL 2020**





## E-waste in Meghalaya

Like other parts of the world, Meghalaya has started facing the problems of e-waste generation and management. With the high demand on electronic goods like mobile phones, televisions, computers, etc. the state import of these devices are also increasing. With the increase of electronic and electrical gadgets in the state there is also an increase of electronic waste which was estimated to be about over two tonnes. In the past few years these e-wastes were eventually sold as scrap or dumped in the landfills along with other waste materials. However, being in par with the other states in the country, Meghalaya had taken a quick initiative in processing e-waste before it turns hazardous. The Meghalaya State Pollution Control Board (MSPCB) is also working on a plan to ensure systematic collection of e-waste in the state. These initiatives were taken so as to ensure that the state would not undergo the threat of improper e-waste disposal that can harm the environment and also have a negative impact on the health of the residents. Although Meghalaya does not have any formal e-waste recyclers, the states is coming up with an initiative to set up recycling plants and formal e-waste collectors and are tie-up with authorized collection centres from outside the states. No proper government data has been documented by the state to date but the process has been initiated and underway now.

### **MSPCB: Plans a systematic collection and disposal of e-waste in the state**

On 28th August, 2017, MSPCB was working on a plan to ensure efficient collection and transfer of electronic squander (e-waste) within the state. The move came within the wake of developing environment concerns over collection and management of e-waste, which contain among others, disposed of electronic appliances such as portable phones, computers and TV sets.

The Chairman of MSPCB said that the collection and disposal of E-waste has to be done in a systematic manner so that it does not go into the Municipal landfill or any unauthorized dealers which will affect or harm the Environment.

The board's Chairman further informed of a proposal to set up an incubation centre where people can donate obsolete electronic parts. The three agencies that intend to promote the incubation centre are Meghalaya Basin Development Authority (MBDA), State Council of Science, Technology and Environment (SCSTE) and MSPCB.

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The status of e-waste in Meghalaya, it was not channelized properly. As of now, a mechanism needs to be set up to facilitate the incubation centre with authorized collectors for e-waste generated for not just Shillong but other towns as well.

*Source: The Shillong Times*

### **Sensitisation Programme on E-waste: undertaken at NEHU Shillong**

NEHU ENVIS RP Centre, Shillong in collaboration with Ronjeng Technologies, Guwahati, organized a Sensitisation programme on Electronic Waste (e-waste) Management Rules, 2016 at NEHU, Shillong on 25th June, 2018. The programme started with a Presentation by from M/s Ronjeng Technologies, Guwahati on E-waste scenario in India and the North East.



Participants from IIM Shillong, MSPCB, Karo Sambhav, IT & Communication Department and different independent institutions inside NEHU campus attended the programme which focused on e-waste compliance.

Professor T. K. Giri from IIM Shillong talked about the issues of E-Waste compliance in Meghalaya and the need for strong penalization of any Organisation/Institutions/Government by the State Pollution Board if ignoring the rules. He also stressed on the need of skilled manpower working on E waste. The challenges and difficulties regarding consumers not coming forth to dispose their e-waste and the issues of e-waste compliance in Meghalaya were discussed. MSPCB acknowledged their readiness to help ENVIS and Rongjeng Technologies in the process of Inventorization and collection of e-waste in the state. Rongjeng also announced their willingness to buy back discarded electronics products on behalf of authorized representatives M/s Karo Sambhav, Haryana. The Regional Manager of Karo Sambhav also acknowledged that Rongjeng Technologies will be the authorized collector of e-waste in the region.



Form II and Form III, provided in the E-waste Management Rules, 2016 was discussed upon. The importance of these forms was highlighted to all present in the programme.

The programme was stressed for creating awareness which could be spread to the common people, institutions and government offices on the importance of developing proper e-waste management rules for a safe and healthy environment.

### **On-field visit for practical exposure to Samsung e-waste collection unit at Barik point: Shillong**

On 21st August, 2018 the trainees of GSDP course on Waste Management and staff of ENVIS RP Centre visited Samsung Service Centre at Barik Point, Shillong, Meghalaya to understand how E-waste Collection is being done by the company. The objective was to make the trainees get a proper idea of how e-waste is collected and treated further in the establishment. The trainees were explained about the hazardous waste that comes out from disposed electronics like mobiles phones, TV sets and so on. The Collection Centre also explained how the e-waste are packed in electro-static proof pouch to avoid any accidents during the transportation to disposal sites. There various collection boxes were placed in the centre so that customers can drop off any damaged or worn out electronic and electrical items.



## Conclusion

The need for awareness in the handling of e-waste has proven important as the e-waste emissions could adversely affect the health of people exposed to such wastes material. In society today, the demand for the modern newest and most high-tech gadgets are contributing to huge amount of e-waste and policy governing safe transfer, disposal, recycle and reuse of e-waste is lacking. The existing system for managing e-waste is generally not sustainable. An immediate change needs to be carried out with effective E-waste management. A proper measure needs to be followed and people should impose more measures to secure IT disposals and strict regulations against dumping e-waste should be enforced by the Government.

By managing the informal sector, a number of employment can be generated for the poor. A proper government-public collaboration can help restricting if not eliminating this E-waste menace which can lead to a better environment management and enhance resource recovery. Unless proper awareness is instilled among people, dumping of e-waste will continue, which leads to contamination of the waters, thereby affecting the air, land and water thereafter.

## News in North-East India

### Helpline for e-waste disposal

February 2018: Assam and the other North-eastern states will now have a systematic approach to mitigate e-waste, with the launch of a helpline recently. The helpline, 9706542016, was launched by M/s Ronjeng Technologies Private Ltd, a private firm here working as an e-waste management agency under the agency of International Finance Corporation of the World Bank group in a developing an ecosystem of e-waste management in the eight north-eastern states. According to the Centre's new guidelines, all companies in the country will have to submit e-waste return details to the pollution control boards of the respective states along with the state-level e-waste management plans. In Assam, the pollution control board had issued notices restricting the sale of e-waste to ordinary waste collectors. All e-waste should be sold to only authorized e-waste collection centres, recycler, dismantler and refurbishers according to the provisions of the e-waste (management) rule, the notice, issued last November, said. With the helpline, anyone can inform the firm about availability of e-waste in their households or office. The e-waste will be disposed of in three plants, the TES-AMM (India) Private Ltd in Tamil Nadu, AER Worldwide in Chennai and Eco Centric Management Private Ltd in Mumbai. Mr. B. Gogoi also said that all NGOs of the city who are working for Guwahati Municipal Corporation for garbage collection and management projects will be engaged and awareness drives have already been carried in more than 200 schools of the state," Gogoi said.

*Source: The telegraphindia.com*

### E-waste management/collection drive: Meghalaya

Shillong: On 9th May, 2018 Karo Sambhav which is an e-waste Producer Responsibility Organization (PRO), launched an e-waste collection drive in Meghalaya to spread awareness on the harmful effects of e-waste and how to recycle it. PRO is working closely with MSPCB on reaching out to bulk consumers specially the government departments. Karo Sambhav has collected more than 1100 tonnes of e-waste from across the country as part of countrywide collection programme. In Meghalaya, the collection is about 2,000 kgs. The government is the biggest bulk consumer in Meghalaya; e-waste is lying with different departments of the government. The MSPCB issued a notification informing all stake holders for compliance back in early 2017. However, only 2-3 bulk consumers filed their e-waste return.

Karo Sambhav has trained the school teacher through the school programme of 25 high schools in which the program consists of three phases divided over a period of four months. In the initial phase, based on Circular Economy, Understanding Waste, Design for environment, e-waste introduction and Collection, Petitions and Potential career options in the field of Environment teachers were given a training on specially designed toolkit for the consisting of six exercises purpose. Thereafter, teachers worked in their schools with the students on various activities, community projects, and practical fieldwork.

*Source: The Shillong Times*



### More Activities undertaken by ENVIS RP Centre, NEHU Shillong

#### On World Environment Day, 2018

7th June, 2018: The ECO-Club in collaboration with ENVIS RP Centre, NEHU, Shillong and Shillong Chapter, Indian Science Congress Association, Kolkata organized a programme on the Theme BEAT PLASTIC POLLUTION at Department of Environmental Studies, NEHU Shillong in which Cleaning drive was carried out in the morning by the students in and around the Department of Environmental Studies. The programme started with a welcome speech by a student of the Department of Environmental Studies.

Prof. Tiwari, Prof. Paul, Prof. O.P. Singh and Prof. Chaturvedi of the Department of Environmental Studies highlighted and expressed their views on the theme "Beat Plastic Pollution" and suggested measures for less plastic consumption in our day to day life. They also talked about the harmful effects of usage of plastic related products in our society.

Ms. Karan Donoghue, Department of Journalism and Mass Communication, NEHU, Shillong talked about the power of pictures in our lives and the role photographs play in giving out messages. She also judged the winners of the Photography Competition. Prizes were given to the winners.

Prof. Sharma, Department of Philosophy, NEHU, Shillong talked about how philosophical values can aid in solving environmental problems and he also adjudged the winners of the Slogan Competition. Prizes were given for the same.

Dr. Dinesh Bhatia, the Co-ordinator of the ENVIS RP Centre, NEHU, Shillong gave a power point presentation on the objectives, development and progress of the ENVIS RP Centre. He highlighted the various work and collaborations carried out by the centre since its inception and how people can help and join in the activities of the Centre. He also highlighted the various work and collaborations carried out by the centre since its inception and how people can help and join in the activities of the Centre.

Prof. Devesh Walia, Head, Department of Environmental Studies talked about the role and the programmes undertaken by the Shillong Chapter of the Indian Science Congress Association, Kolkata. He also shared his views on the Environmental problems and its condition at the present time.

Mr. Langshailang G. Blah, Guest Lecturer of the Department of Education, NEHU, Shillong gave a presentation of 'Recycling of Non Biodegradable Waste' He also demonstrated ways of recycling plastics into useful items like book covers, bags, mats etc...

Mr. Kitboklang Sun, Research Scholar of the Department of Environmental Studies talks on the impact plastics can have on the environment and also the need and contribution of plastics in daily life. He also mentioned about ways and means how people can contribute to controlling plastic pollution.

An open quiz was held for everyone present. The programme ended with a vote of thanks.



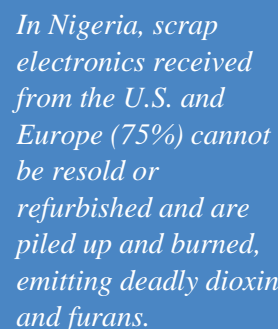


ENVIS RP Centre, NEHU, Shillong organized an event on the occasion of World Environment Day, 2018 on the topic “My Life as a Plastic Bag”. The notification, poster and invitation were sent to many schools in the State of Meghalaya. The announcement was made through Radio RedFM 93.5 and the advertisement was also published in the local newspapers and in the ENVIS website of NEHU.

Cash awards were presented to the Winner: Rs 10,000/-, 1st Runner: Rs. 5,000/-, 2nd Runner-up: Rs. 3,000/-.

## International News

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A black car is engulfed in flames and thick black smoke, with a fire extinguisher nearby.

Source: *Exporting Re-use and Abuse To Africa*,  
Basel Action Network.

Dr. Dinesh Bhatia

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